CENTER FOR GLOBAL DEVELOPMENT

China as a Provider of International Climate Finance

BEATA CICHOCKA · IAN MITCHELL

Abstract

This paper quantifies and evaluates China's bilateral, regional, and multilateral climate-related development finance from the Belt and Road Initiative's inception in 2013 until 2021, shedding light on its substantial but often opaque contributions. Our analysis suggests that China has provided an annual average of nearly $4 billion for climate to developing countries since 2013, totalling over $34 billion by 2021, primarily through bilateral channels through lending from its policy banks. Recently, China's climate finance through multilateral institutions has substantially increased. However, this increase has been coupled with declines in China's bilateral climate-relevant finance, which fell from over $6 billion in 2017 to under $1 billion in 2021, out-pacing the decline of China's overall development finance. Separately, we find China has made significant ongoing fossil fuel investments in developing countries, amounting to over double its climate-relevant finance over the period. Since 2017, the Chinese government has made commitments to "green" its outward cooperation, and outbound fossil fuel finance fell below climate-related finance for the first time in 2021. Although China remains a "developing" country and recipient of climate finance, it is now a net provider of climate support, suggesting it is already positioned to contribute to a new UN climate finance goal to be agreed for beyond 2025. Overall, this paper seeks to contribute to debates on China's role in the international climate finance architecture and emphasizes the potential for other development actors to further engage China in multilateral climate cooperation.

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Contents

Figures

Tables

Boxes

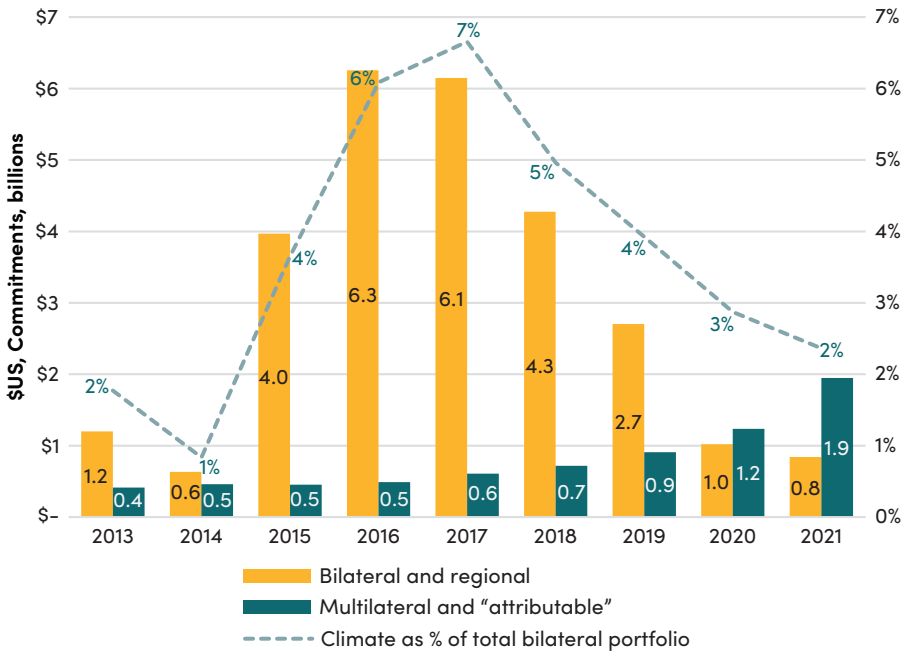
Executive summary

This paper examines China's climate-related development finance since the launch of its Belt and Road Initiative (BRI) in 2013, up until 2021. China is not currently required to provide or report on its international climate finance in the same way as "developed countries" under the United Nations Framework Convention on Climate Change (UNFCCC). China provides a significant amount of global development finance, and many of the projects it funds already contribute to global climate change mitigation and adaptation. Our analysis aims to increase transparency around China as an international climate, development, and fossil fuel financier and inform debates on its role in the international climate finance architecture ahead of COP29 and the upcoming agreement of a New Collective Quantified Goal (NCQG).

How much finance does China already contribute to global climate objectives?

China has contributed on average $3.8 billion per year in climate-related finance to developing countries since the launch of the BRI in 2013, with total climate contributions through bilateral, regional, and multilateral channels up until 2021 amounting to some $34.3 billion. Still, annual figures have varied widely across this period, and – for a variety of possible reasons also addressed in this paper – appear to have markedly declined in recent years.

FIGURE 1. China's climate-related finance to developing countries



Over three-quarters of this—$27 billion, or CNY167 billion—has come through bilateral and regional finance. Of this, roughly two-thirds were financed by "public" agencies – chiefly, Exim Bank and the China Development Bank (CDB) – and the rest by government-owned but commercial funders. China also contributed $7.2 billion through the multilateral system via its shareholding in multilateral

development banks (MDBs) and contributions to multilateral climate funds. More recently, China's substantial shareholding within the Asian Infrastructure Investment Bank (AIIB) and New Development Bank (NDB), combined with the increasing climate focus of MDBs where China is a shareholder, saw its "attributable" finance rising sharply, approaching $2 billion by 2021.

To put these volumes in context, **China's bilateral climate-related finance has been almost double the level of bilateral climate finance reported by the United States** in the most recently available five-year period to 2021. Although these are measured slightly differently,[1] and China's finance is much more loan-based, we estimate that Chinese funders provided $3.0 billion per year for climate projects, relative to $1.5 billion from the US. Taking into account contributions through multilaterals, however, China has provided an annual average of $4.1 billion, compared to $7.3 billion from the US in the five years to 2021 (see also below on "fair shares").

A leaner and not necessarily greener post-pandemic BRI?

Most recently, **China's climate-related finance has fallen** – not only in value, but also as a share of its total bilateral finance to developing countries – from over $6 billion in 2017 (and 7 percent of the total) to under $1 billion in 2021 (and 2 percent). While recent Chinese policy statements suggest climate is likely to be a priority in China's future development engagement, our analysis also suggests that prior commitments to "green" the BRI since 2017 had not yet materialised in practice by 2021.

We also find that **China has spent over twice as much on bilateral and regional fossil fuel investments** in developing countries as it has on climate-friendly projects between 2013 and 2021 ($57 billion as compared to $27 billion), with over three-quarters of this being coal-related. It is not yet clear to what extent China's 2021 pledge to stop funding new coal-based power abroad will change previous trends, but, promisingly, in 2021 the share of its climate-friendly development finance surpassed the share supporting fossil fuel projects for the first time since the BRI launch.

China in context of global "fair shares," the NCQG, and other climate finance providers

China has so far resisted calls to formally provide or report on the potential value of its international climate finance within the collective UN framework. Even so, our analysis shows that **China's contributions are already making progress towards meeting assessments of its "fair share" of global climate finance**. China's "climate-related finance" was equivalent to 5 percent of the aggregate value of "climate finance" reported and mobilised by all "developed" countries in the most recent five-year period (though it would be lower on a grant-equivalent basis). In recent CGD analysis,

1 For further details on comparisons with the US, including alternative scenarios excluding Chinese "commercial" state-owned actors, see Box 2 at the end of section 2.

one scenario which accounts for China's relatively low income-level suggests a "fair share" of global climate finance would be over 10 percent by 2030 given projected emissions and income levels.[2]

We also find that, even as China remains an eligible recipient and a "developing country" under the current UNFCCC and OECD regimes, it is now **a net *provider* of climate-related development finance to other developing countries**.

Instruments and concessionality of China's bilateral and regional climate projects

We also examine in more detail China's approach to bilateral and regional climate projects, including comparisons with its wider development portfolio, and, where relevant, with other OECD climate finance providers. We find:

- **Just under a quarter of Chinese climate-related finance would qualify as official development assistance** under OECD rules, contrasting with OECD providers, for whom over three-quarters of recent climate finance reported to the UNFCCC has come from ODA budgets.
- **Only 3 percent of China's bilateral climate-related finance since 2013 has been grant-based** – less than a tenth of the share for "developed" country providers. Meanwhile, 97 percent of China's climate-friendly finance has come as loans, with only a fifth of these meeting ODA criteria, and a further 72 percent meeting the lower concessionality thresholds for "other official flows." In addition to financial cooperation, roughly a third of recent Chinese climate projects have included non-financial modalities like capacity building, trainings, technical cooperation, or in-kind donations.
- Although climate finance under the UN system is reported at face value, we and many advocates argue for using grant-equivalent terms to better assess relative fiscal effort based on the concessionality of finance. For China, **the grant-equivalent value of the $27 billion committed from 2013 to 2021 was $6 billion** – or, on average, 22 percent of the face value. This is higher than the grant-equivalent value of non-climate related finance, which was 15 percent of the face value. However, the concessionality of China's climate-related projects has steadily declined since 2018, with the grant-equivalent dropping to just 10 percent of the face value in 2021.

2 In CGD analysis (Beynon, 2023; Beynon and Wickstead, 2024), the US should contribute over 40 percent of climate finance. Still, other models (when applied to all countries) suggest Chinese shares nearer to 20 percent. US climate finance contributions are widely recognised to be well-short of its "fair share." Note also that the CGD analysis refers to a share of global climate finance, which is broader than "developed countries." See section 2.3 of this report.

Where does China's climate-aligned development finance go and how is it implemented?

- China's climate-related contributions have been heavily concentrated in **mitigation-relevant activities, with energy and transportation being the most prominent sectors**.
- Similarly to its wider development finance, Asia, followed by Africa were the largest regional recipients of China's climate-aligned finance.
- The largest share of climate-related finance targeted lower middle-income countries (55 percent), followed by upper-middle-income countries (33 percent), with **only 10 percent flowing to low-income countries (LICs)**. Although the share of China's climate-related finance going to the poorest was lower than for most bilateral OECD providers, it was comparable to that of overall climate finance when accounting for finance provided and mobilised through the MDBs and the private sector.[3] **The share of China's climate-related finance channelled to the "local" level is higher than that for most OECD providers**, in spite of commitments from many OECD countries to support "localisation" or local ownership in their climate and development finance. Over 60 percent of China's climate-aligned finance was channelled directly to recipient-based agencies, with the majority going to national or subnational recipient governments.
- **The majority, or over 85 percent, of China's climate-related finance projects were implemented by Chinese companies**. In roughly half these cases, Chinese companies acted alone, while in the other half, they worked with stakeholders such as recipient-based companies or multilaterals. Only 11 percent of climate-related finance did not involve implementation through a Chinese company.
- Our findings suggest that **for OECD countries seeking to engage China on wider global issues, climate-related development cooperation presents a particularly promising avenue.** Over 40 percent of China's bilateral or regional climate-related finance involved partnership with non-Chinese entities through co-financing or other forms of multilateral partnership. China's statements on the Global Development Initiative indicate it is likely to continue working within the multilateral system for climate and development issues.

3 Bilateral comparisons are based on authors' analysis of the OECD CRS, see also Section 3 in this report; comparison with overall climate finance is based on OECD, 2024, p. 18.

1. Introduction

China has long been recognised as a major provider of development finance, including under its Belt and Road Initiative and through its South-South Cooperation mechanisms. Although China has resisted formally reporting on its climate and development finance in the past, Chinese investment in projects with implications for climate change mitigation and adaptation in developing countries has already been significant. In this report, we examine China's commitments to supporting both "greener" overseas investments, as well as comparing its role as a major financier of fossil-fuel based energy projects in developing countries. We measure the volume and focus of China's climate-aligned finance using the latest available data on its bilateral activities, as well as analysing its efforts through the multilateral system.

Shedding a light on China's climate finance is crucial because it is not officially reported. While China is not required to provide climate finance under the current UNFCCC framework like "developed" countries, and remains a potential "recipient" of international climate finance, there have been ongoing discussions about how China should contribute to climate targets in light of its growing international footprint and the economic growth it has experienced over the past three decades.[4] Meanwhile, negotiators on collective climate finance commitments from "developed" countries have increasingly brought up the need to ensure commitments from major emerging economies like China and to broaden the contributor base towards new climate target. At the same time, recipients of China's climate finance face challenges due to a lack of transparency and predictability around China's existing development projects.

Scope and key aims

This report has three main aims. Firstly, we seek to expand and update prior analysis on China's climate contributions to allow greater comparability with other providers. To do so, we expand sectoral coverage of activities in line with other governments' reporting approach, and expand annual coverage up until 2021.[5] We wish to provide a more current and in-depth understanding of China's climate finance contributions, and in doing so, encourage debate on China's role in the international climate finance architecture ahead of COP29 and the NCQG announcement by 2025. Secondly, we hope to provide contextual information to recipients of Chinese climate finance, and for non-Chinese development actors – including both OECD-DAC providers and multilateral agencies – to inform their strategic engagement with China on climate-related and global development issues. Third, we shed light on China's progress towards its commitments to "green" its outward investments since 2017, and encourage debate and accountability on its role as both an existing international climate finance provider, as well as a major fossil fuel financier.

4 UNFCCC, 2024a; Beynon, 2024a.

5 An E3G report from Tsang, Schäpe, and Hackbarth (2023) estimates China's bilateral and regional climate-related finance, but only covers up to 2017. Meanwhile, an ODI report (Colenbrander et al., 2023) only looks at China's multilateral and "attributable" contributions in one year.

Approach, data, limitations, and definitions

This section sets out our approach to estimating China's climate-related finance before moving on to examining its bilateral and multilateral contributions in the next chapter.

Our aim is to provide an up-to-date analysis of China's climate-relevant finance covering both bilateral and multilateral contributions in the context of its wider development finance. As we describe below, we focus on "climate-relevant" finance, that is, finance that contributes meaningfully targets climate change and its impacts. This recognises that there is no agreed definition of "climate finance" and that many (OECD) countries use of Rio Markers' as a measure is inconsistent and problematic.

Data sources used and the difference between commitments and disbursements

For estimating China's bilateral and regional climate-related finance, our report relies on projects reported within AidData's Global Chinese Development Finance dataset (GCDF, Version 3.0),[6] which was then screened and categorised for climate-relevance, mainly in accordance with OECD Guidance on Rio Markers[7] (see also the fuller methodology on sectoral inclusion set out in this report's Annex). Throughout this report, we use US dollars, in constant 2021 prices, rather than Chinese Yuan as the currency of analysis, although additional figures for CNY are also provided in the annex.

Due to inherent limitations of the dataset, our report only covers bilateral and regional "commitments", rather than actual disbursements (see also note under Figure 2 in the next chapter). We also exclude any "pledges", which differ from "commitments", in that the latter include more formal arrangements towards financing particular projects, usually involving the signature of official contracts. While this currently available data leaves a certain margin of uncertainty around the levels of finance which have actually reached recipient countries to date, it is important to note that most other providers – including Annex II countries, most of which report to the OECD as well as the UNFCCC – only report on their climate finance in the form of commitments. Previous CGD analysis has highlighted that substantial disparities may exist between the level of commitments made which actually materialises as disbursements in climate finance from these "developed" country providers.[8] Further, to avoid potential double-counting of projects, we also chose not to supplement project data from any other sources for bilateral or regional climate-related finance. Such supplemental sources could have included China's pledges towards dedicated nationally

6 AidData's GCDF 3.0 was released in 2023 and includes data on commitments until the end of 2021. See also: Custer et al., 2023; Dreher et al., 2022. Ultimately, we chose to use AidData over other sources which cover China's bilateral or regional finance to developing countries due to its wider coverage and granular project-level focus. For instance, in contrast to Boston University's China's Overseas Development Finance (CODF), which only covers loans from China's state-owned policy banks, the GCDF also covers grant-based finance and a wider range of funding agencies.

7 OECD-DAC Rio Markers for Climate Handbook.

8 ONE Climate Finance Files, 2024; Cichocka and Mitchell, 2022.

mandated climate funds (such as, potentially, the South South Cooperation Fund or the Kunming Biodiversity Fund), or regional cooperation initiatives.

In estimating China's multilateral climate finance, data sources include the joint annual climate finance reports from the MDBs, the ODI's Climate Funds Update, and annual reports or financial statements to key climate multilateral agencies. In contrast to bilateral and regional data, this portion of the report describes actual "disbursements", or China's direct or "attributable" flows to or via multilateral financial institutions. We rely on a similar methodology to the ODI's 2023 report to assess China's "attributable" contributions via MDBs, while for Multilateral Climate Funds, we rely on annual financial statements from MCFs deemed relevant by first looking at the Climate Funds Update.[9]

Definitions of climate finance and "climate-related" finance and comparability with other providers

The fact that no official definition of climate finance exists is a key issue for comparability across providers, not only making it impossible to consistently track and report progress on the commitment from "developed" countries to provide and mobilise $US100 billion in annual climate finance by 2020, but also complicating external assessments of potential climate finance contributions from non-Annex II climate finance providers.[10] The 2009 Copenhagen Accord – from which the US$100 billion goal originates – states that climate finance should be 'scaled-up, new and additional, predictable and adequate' and that it can encompass 'public and private, bilateral and multilateral, [and] alternative sources of finance'.[11] Consequently, assessments of progress towards the collective climate finance target so far have relied on self-reporting – or on aggregations of such self-reporting. Although the OECD has no formal role for defining, monitoring, or assessing the provision of climate finance under the UN framework, in practice, it has adopted a key role in the measurement of climate finance, including through the development of an extensive methodology for calculating bilateral and multilateral public and "mobilised" climate finance.[12]

While the work of MDBs to define climate-eligible mitigation and adaptation activities, harmonise greenhouse gas accounting standards, and create a joint accounting framework for calculating the "climate components" of projects has been promising, no equivalent standard exists for bilateral development agencies.[13] Instead, many other development agencies – including bilaterals and many multilateral providers under the UN system – rely on a system of Rio markers for tagging their projects as having either a "principal" or "significant" climate change adaptation or mitigation objective.[14]

9 Colenbrander et al., 2023; ODI Climate Funds Update, 2024.
10 Ritchie and Getachew Bekele, 2024; Cichocka and Mitchell, 2024.
11 UNFCCC, 2009.
12 Ritchie, 2024, p. 28.
13 UNFCCC International Financial Institutions Technical Working Group, 2024; NDB, 2023; NDB, 2023; World Bank, 2021.
14 Cichocka and Mitchell, 2022.

The use of these markers has widely been noted as problematic, not least because they are inconsistently applied. These inconsistencies apply both across different providers – who apply different coefficients to their Rio-marked ODA to determine the proportion of projects' value which will contribute to collective UN climate finance targets[15] – as well as, sometimes, over time within the same provider.[16]

Overall then, in our report, to avoid attribution of percentages of each project which meaningfully target climate opposite other development objectives, in the case of MDBs – China's attributable finance is discussed as "climate" finance, but for bilateral and regional data, we call this "climate-relevant" or "climate-aligned" finance. While we have included only bilateral and regional projects which are meaningfully linked to climate objectives, and we have also attempted to synchronise our classification with the Rio marker handbook, we have not attempted to differentiate between "significant" and "principal" climate targets across individual projects. Hence, our analysis of China's bilateral and regional finance is closer to the OECD/DAC's assessment of "climate-related" development finance than to the approach used when reporting climate finance that counts towards the $100 billion goal.[17]

Adaptation, mitigation, and loss and damage finance

Definitions of climate finance haven proven particularly challenging for adaptation finance over mitigation, given the high variation in adaptation interventions which require different responses specific to different local contexts and needs.[18] Under the Paris Agreement, providers of climate finance should aim to achieve a "balance" between adaptation and mitigation efforts.[19] Adaptation action is understood as enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, while the goal of climate change mitigation is the reduction of greenhouse gas emissions. Although loss and damage is seen as a crucial "third pillar" of climate action, no official definition for this exists under the UN, and, in practice, providers have often struggled to differentiate their loss and damage finance – which should aim to provide support *after* climate-related disasters – from their adaptation efforts.[20]

Accordingly, we do not include loss and damage activities in our scope of China's "climate-related" finance – although its potential contributions to loss and damage finance are discussed separately within Box 3.

15 OECD/DAC Working Party on Development Finance Statistics, 2022, p. 8.
16 Ritchie, 2024; Rumney et al., 2023.
17 Weikmans et al., 2017.
18 International Institute for Environment and Development, 2022.
19 UNFCCC Paris Agreement, 2015, Article 9.
20 Chhetri, Schäfer, and Watson, 2021.

Concessionality and grant equivalents

Climate finance is reported by "developed countries" in their Biennial Reports to the UNFCCC according to the face value of their finance, rather than its grant equivalent.[21] Similarly, in this paper our headline figures are on the total value of finance, but we also consider the grant-equivalent of Chinese loans in the next chapter. More broadly, while we acknowledge that climate and development finance under the OECD's "official development assistance" (ODA) regime have significant overlaps, we also recognise that "climate finance" reported to the UNFCCC also includes non-ODA elements, and that when ODA is used for climate objectives, it should be demonstrably "new and additional" over existing resources. Our report therefore covers both concessional and non-concessional types of flows originating with Chinese funding agencies.

Accounting for public, commercial, and "mixed" funding sources in China's climate-related finance

Although the 2009 Copenhagen Accord states that climate finance could come from a wide variety of sources – including public, private and "alternative" sources of finance – in practice, most Annex II providers have only reported on their private climate finance when this is "mobilised" by public funds. Similarly, the Paris Agreement mandates "developed countries" to take the lead on mobilising climate finance from "a wide variety of sources, instruments and channels", and notes "the significant role of public funds". Still, to date, OECD reports on progress towards the climate finance target have only included private finance which is "mobilised" by public sources.[22]

Further complicating comparability with other providers, in China's case, distinguishing between "private" and "public" finance is not always a clear-cut matter. To borrow from other authors, China's wider international development finance has been supported by three state-led pillars: state-owned financial institutions which provide capital, state-owned enterprises which provide services and implement projects, and a state-backed insurer – China Export and Credit Insurance Corporation, or Sinosure – which underwrites risks and makes "unbankable" projects tenable.[23] While OECD countries tend to have a clearer separation between their commercial and development-focussed activities abroad, China's financing model integrates aid with trade and investment, providing blended finance packages that may mix market rate loans with concessional loans and grant foreign aid.[24] In this model, Chinese creditors, whether they are policy or commercial banks, do not generally receive subsidies from the state, but the government still plays a vital role as the guarantor of official finance.[25]

21 "Developed countries" in this context refers to 23 countries defined as "Annex II" countries under the UNFCCC.
22 UNFCCC Paris Agreement, 2015, Article 9.3; OECD, 2015.
23 Chen and Liu, 2023.
24 For more on why "the ontological scope of Chinese development finance needs to be expanded conceptually" to include the activities of commercial state-owned banks, see also Chin and Gallagher (2019, p. 259) on coordinated credit spaces.
25 Wang and Simpson, 2021.

This financing model, which relies on the activities of commercial but majority government-owned actors, does not align well with existing norms and structures for OECD accounting for "official" development assistance and other flows.[26] Given these difficulties, in our report we have chosen to include government-owned commercial actors as "mixed" but official Chinese finance, although we also provide further details on scale of contributions from these funding agencies opposite other "public" agencies in more detail (see also Figure 5 in the next chapter).

2. Overall volumes of China's climate-related finance

This section draws on the analysis of the bilateral and multilateral sections below to provide an overview of the total volumes of China's climate-related finance.

China contributes to international climate-related finance in three ways: bilaterally, through its shareholding in Multilateral Development Banks (MDBs), and via its contributions to Multilateral Climate Funds (MCFs). Since the launch of the BRI, and the nine years between 2013 and 2021, China's total contributions through bilateral, regional, and multilateral channels jointly amounted to some $34.3 billion in climate-aligned development finance, or, on average, $3.8 billion in flows every year.

The largest proportion of this finance has flown through China's bilateral and regional programmes to developing countries, including those which form a part of its flagship Belt and Road Initiative (BRI), accounting for some $27 billion of the $34 billion total. Although – in line with a broader slowdown in China's outbound investment volumes – the volume of bilateral commitments has steadily declined since 2016,[27] it has still reached a total of $15 billion in the most five-year recent period since 2017, and an annual average of nearly $3 billion.

Still, a significant and growing proportion of China's climate-related contributions has come via its attributable shares of MDB's climate outflows, amounting to $7.2 billion between 2013 and 2021. As China continues to increase its shareholding in key MDBs, the proportion of MDB climate-related outflows which are attributable to China has grown sharply, from just over $600 million in 2017, to nearly $2 billion by 2021. Finally, China contributes a small share of its international climate effort through donations to Multilateral Climate Funds, notably the Global Environment Facility (GEF).

2.1 China's bilateral and regional climate-related finance

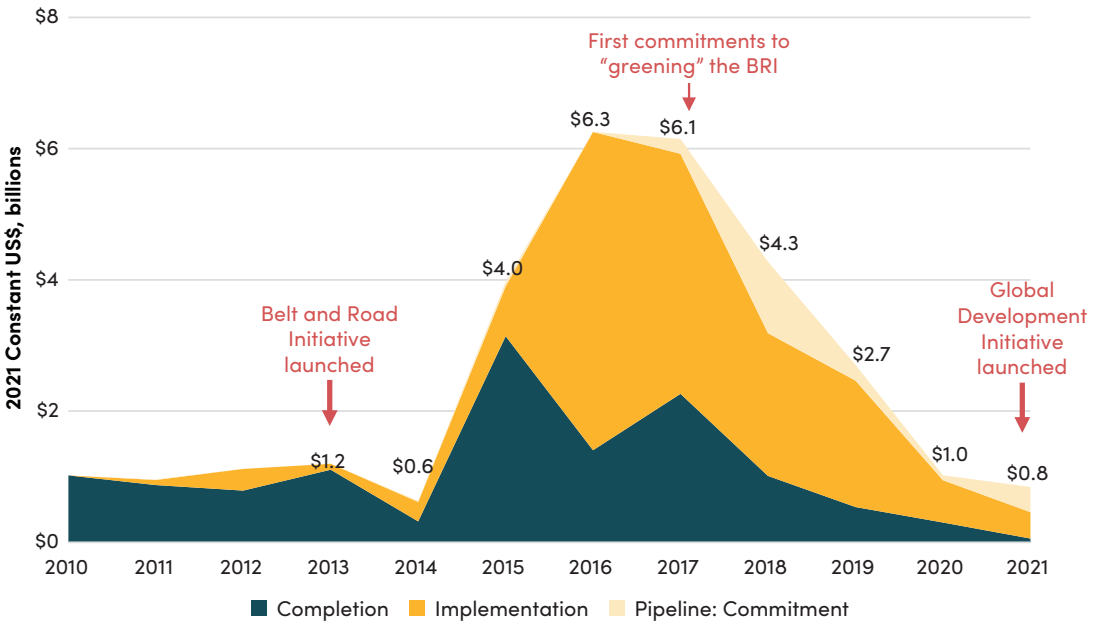
The section first sets out our estimates for China's bilateral and regional climate-related finance between 2013 and 2021, and then, provides more in-depth analysis of trends in funding agencies, instruments, and concessionality of China's climate-relevant flows for the most recent five-year period after 2017, when China began articulating ambitions to "green" the BRI in more detail.

26 See also Chin and Gallagher, 2019 and UNDP China, 2021, p.39.
27 Mingey and Kratz, 2021; Moses et.al, 2023.

Climate-related finance, fossil fuel investment, and "green" ambitions under the Belt and Road Initiative

Although China has long cooperated with lower- and middle-income countries under the banner of its South-South Cooperation, the volume of its climate-related finance in the Global South sharply increased in the years following the launch of its Belt and Road Initiative (BRI) in 2013. Our analysis suggests that China has contributed up to $27 billion in projects with implications for climate change adaptation and mitigation in developing countries since the initiative's launch (Figure 2).

FIGURE 2. China's international climate finance commitments to developing countries, 2010–2021, by current status



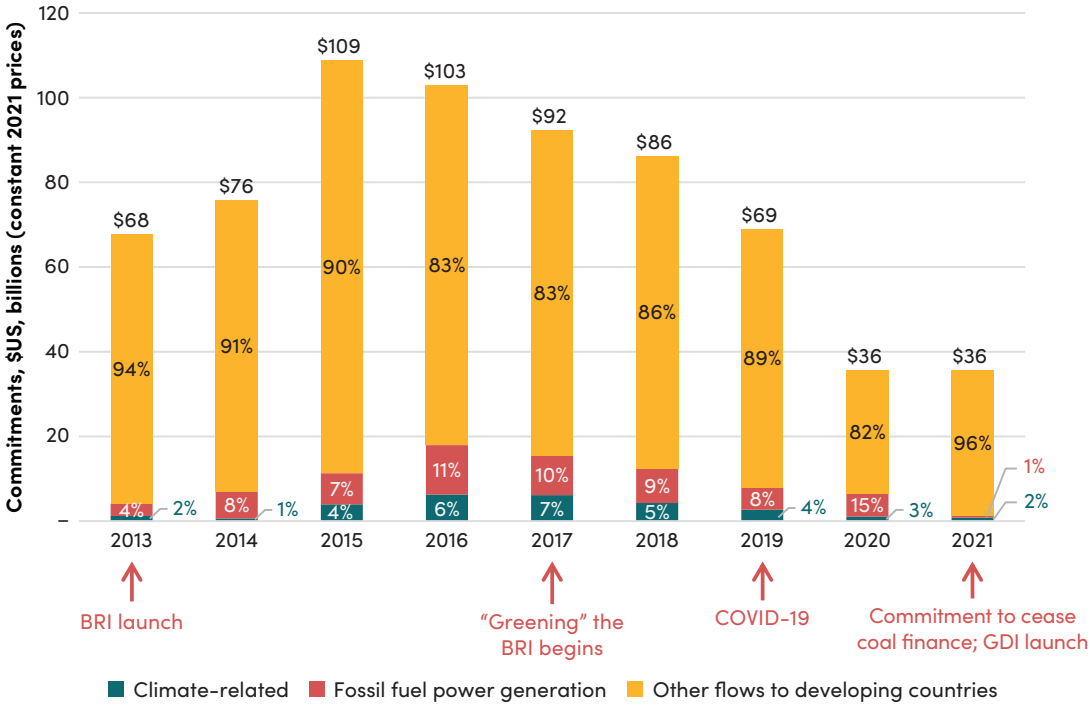
Notes: Unlike the financial "commitments" reported by other climate and development finance providers to the OECD, data on China's commitments is not available in an "annualised" form, potentially contributing to a less "smooth" annual picture of China's climate-related finance. As of the latest available data, of the $27 billion in climate-related finance committed by China between 2013 and 2021, 37% has been "completed" (with funds assumed to have been fully disbursed), 55% is still currently under "implementation" (with at least some, if not all, of the overall commitment having been disbursed), and 8% has been "committed", but can be assumed to not yet have received any payments.[28] It bears noting that while this leaves uncertainties on disbursed funds, most "developed" country providers also only report on their climate finance as "commitments" to the UNFCCC, although these at least are annualised.

Source: Authors' analysis of AidData's GCDF 3.0 Dataset (AidData, 2023; Custer et al., 2023; Dreher et al., 2022).

28 This analysis excludes any cancelled or suspended projects. It also excludes projects which are marked as being in the "pipeline", but only in the form of a "pledge", rather than "commitment". A commitment, unlike a pledge, signifies that the project has received official and formal approval.

Yet China's global investments in developing countries have also been the subject of significant controversy, with issues raised around projects' sustainability and concessionality,[29] and with the BRI's early projects being dominated by fossil fuel investment (Figure 3, below).[30]

FIGURE 3. China's overall financial flows to developing countries, by climate or fossil-fuel focus



Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0; Further details and figures on China's fossil fuel finance are available in the Annex of this report.

Partly in response to such scrutiny, China began articulating commitments to "greening" the BRI in 2017.[31] The identification of a climate-friendly governance framework began with *the Belt and Road Ecological and Environmental Cooperation Plan*, published by the Ministry for Environmental Protection in May 2017, and was complemented by the development of the *Environmental Risk Management Initiative for China's Overseas Investment*. In 2018, China further developed *Green Investment Principles* for the BRI, and in 2019, it set up the BRI International Green Development Coalition as a platform for policy dialogue, communication, and green technology transfer.[32] More recently, in 2021, China's State Administration of Foreign Exchange (SAFE)—the "ultimate source of

29 See, for instance: Morris et al., 2020 for a discussion of concessionality in Chinese lending; Ferchen and Perera, 2019 on narratives around China's "debt trap diplomacy"; or Dayant and Stanhope, 2024 on BRI project sustainability, delays, or cancellations.

30 Zhou and Ma, 2023. The authors also cite a Boston University analysis which finds that Chinese-financed power plants emit more than 245 million tons of CO_2 each year – roughly equivalent to Spain's annual carbon footprint (see Springer, Lu, and Chi, 2022).

31 Patel, 2023.

32 Sun and Yu, 2023.

funding for most of China's state-owned policy banks, commercial banks, and investment funds"—announced plans to adopt and implement the MDB's Environmental, Social, and Governance (ESG) criteria.[33] At the same time, the EU and China collaborated to compare their respective taxonomies for environmentally sustainable investments, leading to the publication of the Common Ground Taxonomy (CGT), which was then was then incorporated into domestic regulations and used by Chinese banks as a standard for issuing green bonds in international markets.

These rhetorical commitments signal Beijing's increased interest in effectively programming its climate-aligned development finance, but, as of 2021, such interest has not necessarily translated into action. Promises to shift China's outward investment after 2017 towards a more climate-friendly approach also came at a time when China's overall financial commitments to developing countries had already been declining, after reaching an annual peak of $109 billion in 2015 (Figure 3, above). Notably, not only did the volume of China's climate-related outflows peak in the year after (2016) but, also, China's climate-related portfolio has also seemingly declined in relative terms – that is, as a share of China's overall financial flows to developing countries. Climate-related finance constituted 7 percent of China's total flows to developing countries in 2017, but, by 2021, these were only 2 percent. At the same time, China has continued to invest heavily in fossil fuel-based power generation projects in developing countries. Indeed, China's fossil-fuel investments in developing countries have amounted to some $56.8 billion since 2013 – over twice as much as the $27 billion it has spent on climate-aligned projects in the same time period. What is more, the vast majority of this fossil fuel-based finance, or $47.1 billion, has targeted coal investments, which are highly polluting and bear a greater impact for global emissions. Overall, then, while China's climate-related financial flows to the Global South since 2017 have remained significant on an international scale, the data indicates that commitments to "green" the BRI had not yet materialised in practice by 2021.

Looking beyond 2021, there are strong indications that China's policy-level commitments will finally translate into scaled-up international climate and development finance, with a simultaneous decline in international fossil fuel investments. Although granular data beyond 2021 is not available, there are early indications that the volume of China's outbound investment has rebounded, partly fuelled by recovery from the COVID-19 pandemic.[34] While China's policy statements on the BRI indicate that the face value of its outbound investments is not likely to reach previous highs, the second decade of the BRI is set to deliver a "smaller" but overall "greener" initiative.[35] Xi Jinping committed to integrating green development principles in the initiative at the annual 2021 Belt and Road Forum, after also having pledged to cease financing new coal-fired power plants abroad at that year's UN General Assembly.[36] In March 2022, China's National Development and Reform

33 Parks et al., 2023, p. 124.
34 Scissors, 2023; MOFCOM, 2023.
35 Civillini, 2023; Chen and Liu 2023.
36 Carbon Brief, 2021; State Council Information Office of the People's Republic of China, 2023.

Commission, jointly with three other government bodies published guidelines for Chinese companies and banks, calling for a "full stop to new coal power projects overseas, and cautious progress on those already under construction".[37] In an encouraging sign, our data indicates that, in 2021, China's climate-friendly investments surpassed the volume of fossil fuel finance for the first time since the launch of the BRI.

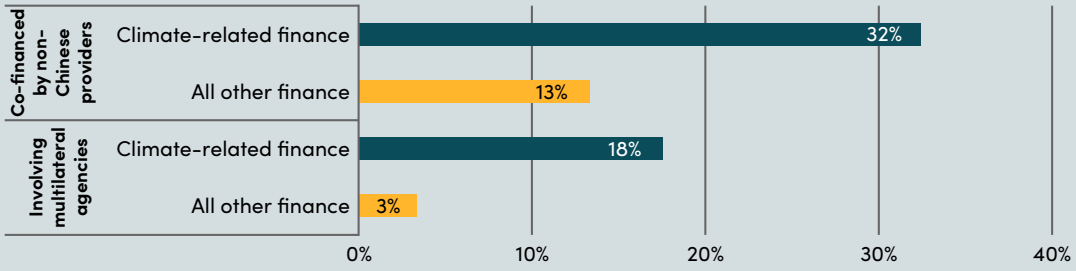
2021 also saw the launch of the Global Development Initiative (GDI) as a new programme, which is partly set to "eclipse" China's infrastructure-heavy approach under the BRI.[38] The GDI – which is to be financed as grants from the $4 billion Global Development and South South Cooperation Fund (GDSSCF) – includes climate change as once of its eight priorities.[39] China has sought to align the GDI firmly within existing multilateral commitment and institutions, signalling a growing willingness to engage with the multilateral development system in more recent initiatives (see also Box 1).

BOX 1. China's cooperation with other providers via co-financing, syndicated lending, and multilateral cooperation

For providers seeking to strategically engage China on global development issues, cooperation on climate may be a particularly promising avenue.[40] Prior research has highlighted that joint development projects—when China collaborates with another nation or development bank—are typically concluded with greater efficiency and fewer social and environmental risks.[41] Meanwhile, our analysis shows that China has been more open to working with other providers on climate-relevant projects than it has been within its wider development finance – when comparing China's bilateral climate portfolio with its non-climate investments, a much higher proportion has involved partnerships with non-Chinese providers and multilateral agencies. Nearly a third of China's bilateral climate projects in the Global South between 2017 and 2021 have received non-Chinese co-financing or been part of syndicated lending operations with non-Chinese creditors, as compared to 13 percent of its non-climate-related development finance. Meanwhile, 18 percent of China's climate-related development finance has involved inputs from multilateral agencies, as compared to just 3 percent of its non-climate finance (Figure 4).[42]

37 Chen and Wei, 2022. China's major policy banks – CDB and Exim Bank – have been quick to respond to changes in government policy, but the document has also incentivised action from major state-owned commercial Chinese banks, including the Bank of China and the Industrial and Commercial Bank of China.
38 Wu, 2023.
39 Center for International Knowledge on Development, Progress Report on the Global Development Initiative, 2023.
40 See also Cichocka et al., 2024 for more on cooperation across DAC and non-DAC providers of development finance.
41 Lu, Springer, and Steffen, 2024
42 When looking across both partnership avenues, 41% of all climate-related finance included either one or both of co-financing with non-Chinese providers or multilateral cooperation, as compared to 31% across all other development flows originating in China.

FIGURE 4. Share of Chinese climate finance involving international co-funders and multilateral agencies, as compared with China's non-climate finance (2017–2021)



Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0

Our research has also identified a shift in China's climate-specific lending over time, with syndicated loans rising from under 5 percent of China's lending portfolio in 2013–2015 to 97 percent in the most recent year,[43] mirroring broader patterns in China's overseas infrastructure financing, where bilateral lending has decreased while syndicated lending has increased.[44] A pivot to syndicated lending – both in climate projects and wider development finance – could have significant climate implications, as it increases the likelihood that Chinese lenders will align with or adopt the climate standards or safeguards of non-Chinese bank participants, i.e., other members of the syndicate, which often include multilateral institutions or OECD countries' commercial banks which rely on IFC performance standards.[45]

More widely, multilateral agencies have been involved on China's climate-related international projects in a number of capacities, including as loan administrators, co-financiers, insurers, or technical advisors. For instance, the AfDB acts as a loan administrator for China's contributions to the Africa Growing Together Fund, while the IADB manages projects under the China Co-Financing Fund for Latin America and Caribbean. China has also utilised technical expertise or implementation support from UN agencies, including the FAO, UNDP, and UNEP on a number of projects.

Explaining post-2016 declines and annual variation in China's bilateral and regional climate-related finance

Our analysis reveals significant annual fluctuations in China's climate-related bilateral and regional financial commitments since the launch of the BRI, from a low of $0.4 billion in 2014 to

43 On this point, see Figure 3.13 in the 'Belt and Road Reboot' report from Parks et al. (2023).

44 In particular, our analysis indicates that between 2013 and 2021, 67% of China's overall climate-relevant lending value was provided in the form of bilateral loans, with the remaining 33% coming as a part of Chinese creditors' contributions in syndicated loans. The split between bilateral and syndicated operations has however varied substantially across years – while in 2013 and 2014, Chinese creditors provided no climate-relevant finance through syndicated loans, in 2021, 97% of Chinese climate-aligned loans came through syndicated loans.

45 Parks et al., 2023.

a peak of $6.3 billion in 2016. Notably, the value of annual climate-related finance from Chinese funders has seemingly steadily declined since 2016, dropping to just $0.8 billion in 2021. At first glance, this data might suggest that China is an unpredictable provider of climate finance, and that its recent external climate ambitions have waned. In this section, we aim to offer a more nuanced analysis exploring four potential factors underlying these trends. In particular, we propose that while the declining values observed in our data could indeed be indicative of substantive, long-term policy shifts within China, they could also be related to more practical challenges related to the COVID-19 pandemic, or simply be the result of methodological limitations in the datasets used in our analysis.

First, declines in China's climate-related finance seem to follow a general "slowdown" in BRI-related financing since 2016 (also visible in Figure 3, above). As others have noted, China's overseas development finance, especially in the energy sector, has declined in recent years. This is likely both due to greater domestic caution for external lending, given several high-profile projects facing major setbacks, but also the result of lower external demand, as many developing countries approach their debt ceiling levels, limiting their ability to take on new loans from China.[46]

Second, practical considerations stemming from COVID-19-related restrictions likely exacerbated the downward trend in the two most recent years of our analysis. On the supply-side, given China's external financing model, which largely relies on the local presence of Chinese agencies in potential recipient countries, pandemic-related travel restrictions have likely had a particularly deleterious effect on Chinese funders' abilities to conduct feasibility studies or negotiate new projects in partner countries. Meanwhile, on the demand-side, as the pandemic wreaked havoc on global business activity, developing countries' demand for energy projects – which have constituted the majority of China's climate-related investments under the BRI, see also section 3.1 in this report – would also have decreased amidst other competing domestic priorities.[47]

Third, data on China's financial commitments within AidData's GCDF is not available in an "annualised" format, leaving uncertainty as to the precise amounts of Chinese finance disbursed each year for on-going projects. In other words, with most Chinese project amounts only reported in the year they are committed, it is not possible to calculate the portion of finance actually delivered across multi-year projects' durations (see also note under Figure 2 in this report). It is also possible that Chinese funders may have overstretched their capacities by committing to a large volume of projects in the initial phases of the BRI, now "leaving little room for participation in new projects" as old projects still remain unfinished.[48]

46 Ma, Gallagher, and Bu, 2019; Ma, Gallagher, and Chen, 2021; Mingey and Kratz, 2021.
47 IEA, 2020.
48 Clark, 2023.

Finally, the method underlying the dataset used for assessing China's bilateral and regional contributions relies on corroborating project details from external sources, which may only be available with significant time lags. As others point out, information on Chinese development projects is often disclosed only years after the initial financial commitment is made, or even following project completion, making it highly likely that the available data for more recent years represents only a partial picture.[49]

However, none of these four potential explanations for declining volumes of China's climate-related finance can at the same time explain our observation that China's contributions have most recently declined not only in absolute terms, but also *as a share* of its total outbound development portfolio. This observation in particular warrants further investigation in future analysis.

Public and "mixed" sources of China's climate-related finance

Of the $27 billion provided by China to bilateral and regional projects since 2013, 71 percent (or $19.3 billion) was funded by "public" Chinese agencies (including government agencies, funds, and state-owned policy banks) and the remaining 29 percent ($7.7 billion) by government-owned but commercial funders such as State-Owned Enterprises (SOEs) and commercial banks, which we have included as "mixed" Chinese financiers (indicated in yellow and gold in Figure 5, see also our approach detailed in the introductory chapter of this report). Further, of the $7.7 billion in climate projects financed by "mixed" or "commercial" state-owned institutions, over half of the value ($3.96 billion) of loans were underwritten by China's state-backed export credit agency and insurer, Sinosure.[50]

Considering our inclusion of commercial or semi-commercial funding agencies, it is perhaps unsurprising that we note that China's climate-related finance is made up of a lower proportion of concessional, "aid-like" flows than is reported by most "developed" countries to the UNFCCC. On average, since 2013, 23 percent of China's climate-related finance has met similar concessionality thresholds to the OECD-DAC's eligibility criteria for Official Development Assistance (ODA), while 70 percent could be categorised as being similar to "Other Official Flows" (OOFs), and the rest is classified as "vague" with the necessary information on concessionality not being available to make a definitive assessment (see also Figure 5, above).[51] By contrast, more than three-quarters of Annex II countries' recent climate finance had been reported as ODA.[52]

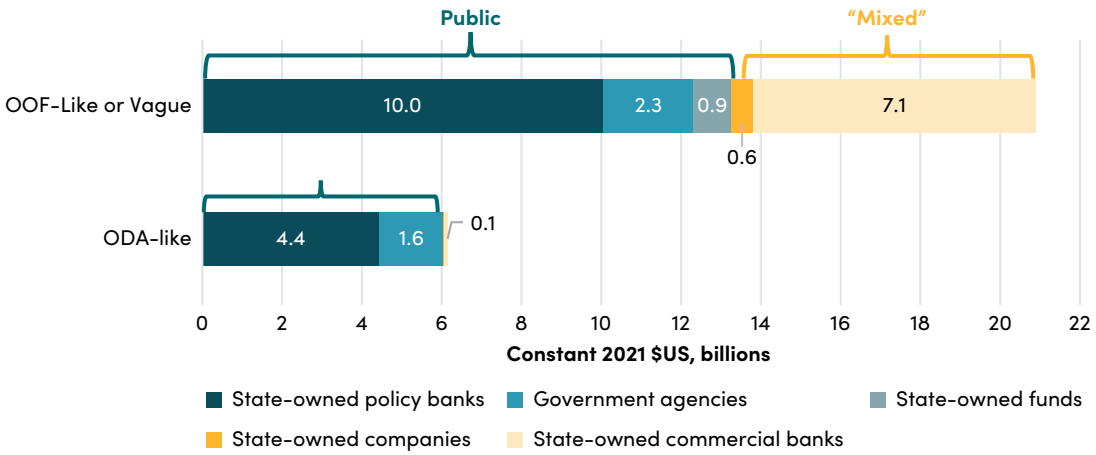
49 This issue is also pointed out by Mingey and Kratz, 2021.

50 For more on Sinosure, see Chen and Liu, 2023.

51 A further 7% lacks information to be categorised as either ODA or OOFs.

52 ODA accounts for around 84 percent of bilateral climate finance, according to United Nations Framework Convention on Climate Change (UNFCCC) Biennial reports, see analysis in Ritchie and Kenny, 2021.

FIGURE 5. China's official bilateral climate-related finance to developing countries, by flow type and funding agency (2013–2021)



Source: Authors' analysis of AidData's GCDF, Version 3.0.

Grants, loans, and "grant-equivalents" in China's climate-related finance

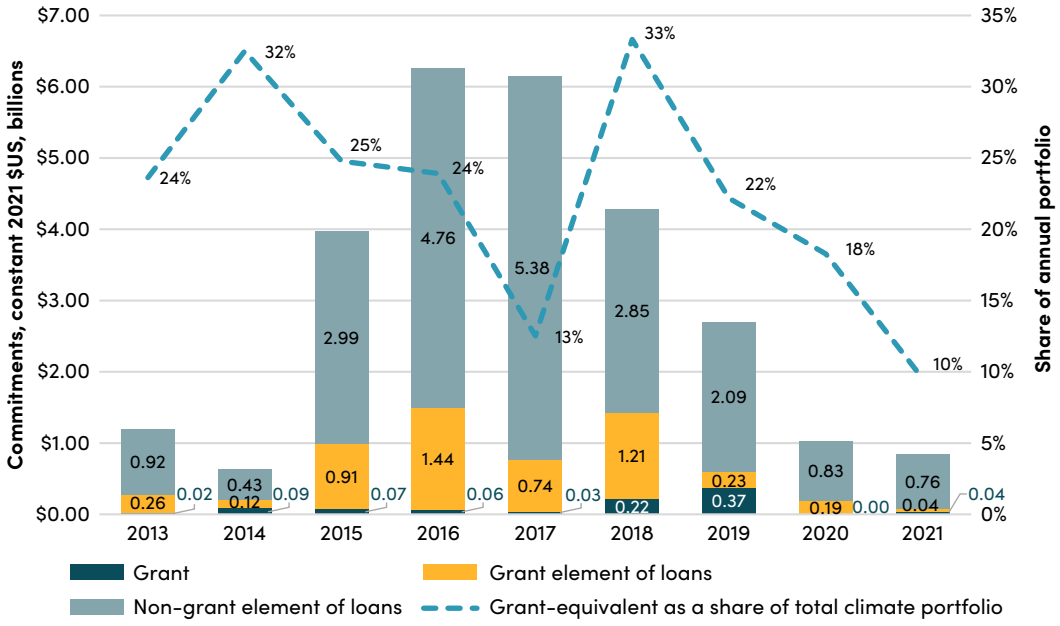
China's bilateral and regional climate finance has largely been delivered in the form of concessional and non-concessional loans, with only a small minority of assistance – just 3 percent – consisting of grants. The dominance of loans in China's overall climate-relevant portfolio also means that the value of this finance is much lower when considered in "grant-equivalent" terms.

While the "face value" of climate-friendly finance committed by China between 2013 and 2021 totalled $27.05 billion, this amounted to only $6.03 in grant-equivalent terms – or, on average, 22 percent of the total face value (Figure 6).[53] The overall grant-like share of China's climate-related finance, while lower than most "developed country" climate finance providers', was higher than within its overall development finance.[54] The grant share of China's non-climate-related development flows between 2013 and 2021 stood at 15 percent of the total. Of this grant-equivalent amount, just $903 million (3 percent of its climate-aligned portfolio since 2013) was provided directly in the form of grants, and the remaining $5.12 billion (19 percent of China's bilateral climate portfolio) was the "grant-equivalent" portion of loans. We also found that the grant-equivalent share of China's climate-friendly investment portfolio in the Global South has seemingly been declining since 2018, reaching an all-time low at 10 percent of total finance in 2021.

53 The grant element is defined as the difference between a loan's nominal, or face value, and the sum of the discounted future debt service payments which will be made by the borrower, expressed as a percentage of the loan's face value. Our analysis uses the grant-equivalent figures in the AidData source which in turn is based on the OECD's methodology.

54 Oxfam, 2022.

FIGURE 6. Bilateral climate-related finance, by instrument and grant-element



Notes: The grant-equivalent is calculated based on AidData's calculations of loans' grant elements, as based on OECD cash-flow methodology, when data on the loan's face value, maturity length, interest rate, and grace period are available. In line with the OECD's grant element calculator from its cash-flow methodology, AidData assumes a fixed, 10 percent discount rate, two repayments per year, and equal principal repayments.

Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0.

The predominance of loans in China's climate-related portfolio is related to the types of funding agencies which provide the financial firepower for its overseas investments – chiefly, its policy banks. Over half of China's international climate projects since 2013 have been financed by loans from its Export-Import Bank and the China Development Bank, both of which are public, state-owned policy banks. A further 27 percent of China's total outbound climate-related portfolio – also in the form of loans – has come from its state-owned, but *commercial* banks such as the Bank of China (BoC) and the International Commercial Bank of China (ICBC). Notably, across both commercial or "mixed" and public Chinese creditors, we have noted an increase in the use of syndicated loans, and a ramping down in the use of bilateral loans (see also Box 1, above).

Apart from its banks, various public Chinese government agencies – which provided grant-based finance alongside their lending operations – accounted for a further 14 percent of China's climate-friendly portfolio's face value. Of these, the Ministry of Commerce (MOFCOM), jointly with the China International Development Cooperation Agency (CIDCA), constituted the largest agencies. State-owned Funds, chiefly represented by the Silk Road Fund, provided 3 percent of the total.

2.2 China's multilateral climate finance

This section assesses the finance provided by China to multilateral institutions that fund climate finance. After a short overview of the approach, we calculate the total value of such finance.

We look at two sources of China's multilateral climate finance: the shares of overall climate-related outflows from MDBs to lower- and middle-income countries which are attributable to China, and China's direct contributions to Multilateral Climate Funds. For the MDB- attributable share, we draw on the method underlying the OECD's annual climate finance reporting for establishing the share of MDB outflows which can be attributed back to a particular set of countries based on the relative share of their subscriptions within the total capitalisation or core funding of each MDB. We calculate China's share of capital subscriptions by looking at each MDB's annual and financial reports between 2017 and 2021, and multiply these coefficients by each MDB's total climate finance outflows to lower- and middle-income countries, as reported in the MDBs' Joint Annual Climate Finance Reports to achieve the final financial figures.[55] Meanwhile, for climate finance contributed by China directly to MCFs, we considered the pledges it made to the 21 funds which are covered by the Climate Funds Update.[56] We then directly cross-referenced China's paid-in contributions by looking at the individual MCFs' annual and financial reports. Further information on our approach and data sources can be found in the Methodological Annex.

Volume of multilateral climate finance

In contrast to China's bilateral climate-related finance, its climate finance to developing countries through the MDB system has been steadily increasing, from under $500 million in 2013, to a high of $1.94 billion in 2021 (Figure 7). These increases are not only the result of increased volumes (and share) of climate finance flowing out of MDBs, but also reflect China's growing shareholding within the MDB system. China has not only increased its role in "traditional" MDBs – notably, the World Bank, with substantial volumes flowing to both the International Development Association (IDA) and the International Bank for Reconstruction and Development (IBRD)[57] – but has also played a leading role in setting up the Asian Infrastructure Investment Bank (AIIB) in 2016, and the New Development Bank (NDB) in 2015.[58] The AIIB and NDB have become increasingly integrated within the existing multilateral financial architecture, with both now reporting on their climate finance to the joint MDB report, beginning in 2020 and 2021 respectively.

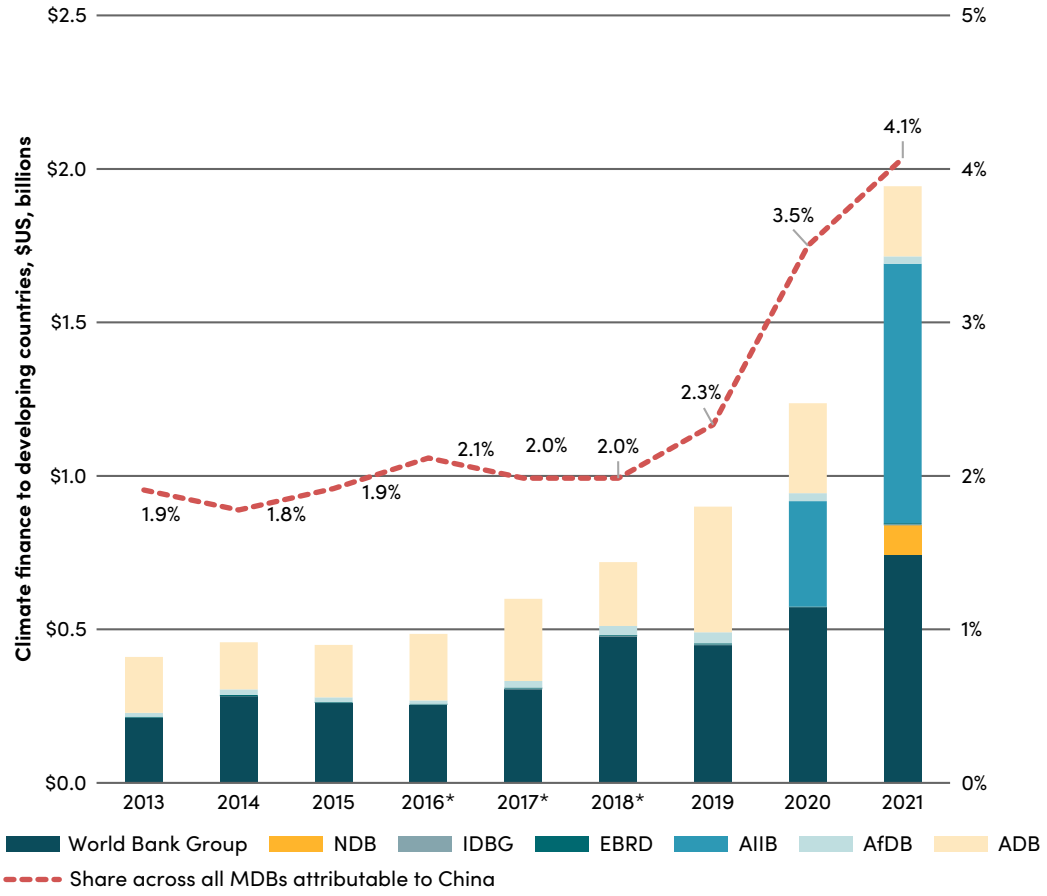
55 For the latest iteration of this report, see OECD, 2024. A wider analysis of MDB-attributable climate finance shares, including non-Annex II countries was also previously performed by ODI, see Colenbrander et al., 2023.

56 The Climate Funds Update (ODI, 2023) tracks replenishment cycles, donors' contributions, and outflows from a number of key multilaterally governed funds focused on climate change, many of which have links to the UNFCCC process.

57 Morris, Rockafellow, and Rose, 2021.

58 To see more on China's contributions to multilateral development finance institutions, including the NDB and AIIB, see Mitchell and Hughes, 2023.

FIGURE 7. Volumes and share of MDB climate outflows attributable to China, 2013–2021



Sources: Annual MDB Climate Finance reports; MDB's annual and financial reports to determine China's share of capital subscriptions in each MDB. Note: In line with OECD reporting on climate finance, and to avoid double-counting with bilateral finance, the attributable shares are only based on outflows from MDBs' own resources, and do not include co-managed or externally managed funds. To estimate the World Bank Group's shares, the capital contributions into the International Bank for Reconstruction and Development, the International Development Association and the International Finance Corporation were summed, and their share of the World Bank Group's overall capitalisation was calculated. The MDB's joint reports for 2016, 2017, and 2018 did not include figures for the proportion of climate finance from MDBs' own accounts flowing into lower- and middle-income countries, so these figures were imputed for each Bank based on data in Tables 7 and 9 of both reports. The MDB's Joint Reports only began including data on the AIIB from 2020, and on the NDB from 2021. The MDB Joint Reports also include data on outflows from the European Investment Bank (EIB) and the Islamic Development Bank, however China is not a shareholder in these.

In terms of China's contributions to multilateral climate funds, of the 21 funds included under the Climate Funds Update, we find that it has only made pledges to the Global Environmental Facility (GEF), including new resources in the last two replenishment cycles. Between 2013 and 2021, these pledges translated to a total of $41 million in China's paid-in contributions (see method annex for more details).

2.3 China as both a potential recipient and provider within the UNFCCC framework

This section contextualises the combined totals of China's bilateral and multilateral contributions in light of current debates around China as both a current "recipient", as well as potential future "provider" within the UNFCCC regime, and compares China's contributions to other major economies and in particular those of the United States (Box 2).

China as a recipient of climate-related finance

Although China remains an eligible 'developing country' recipient of climate and development finance under both the current UNFCCC and OECD regimes,[59] our analysis of its bilateral and multilateral contributions suggests it has now become a net provider of climate-related finance to developing countries. In the five years since 2017, China received $9.5 billion of climate-related finance which is attributable to developed countries – less than half the amount which it has contributed to climate-related activities in other "developing" countries in the same time period (Table 1).

TABLE 1. China as a recipient and provider of climate-related development finance (2017–2021)

Type of Finance	Climate-Related Inflows to China from "Developed" Countries	Outflows from China to "Developing" Countries
Bilateral	$1.82 bn	$14.99 bn
MDB attributable	$7.34 bn	$5.40 bn
Multilateral Climate Funds	$0.31 bn	$0.03 bn
Total 2017–2021	**$9.48 bn**	**$20.41 bn**

Notes: The column showing inflows to China only accounts for climate finance from Annex II countries, or that which is provided or attributable to "developed" countries. It is based on the OECD's CRDF (Recipient perspective) dataset and includes both concessional and non-concessional inflows.

It remains unclear how China could graduate out of "developing" country status within the UNFCCC framework (although its GNI per head is approaching that of a 'high income' country under the World Bank's designation[60]), but with negotiations towards a New Collective Quantified Goal on climate finance to conclude by 2025, many are now calling to revisit the traditional contributor

59 The UNFCCC distinguishes between two groups of countries with regards to international climate finance. Annex II parties are "developed" countries, who share an obligation to provide climate finance, while non-Annex I countries are mostly "developing" countries and potential recipients. Under UNFCCC criteria, China is a non-Annex I party, meaning that financial contributions spent by "developed" countries to support adaptation or mitigation efforts within China count towards the currently agreed collective international climate finance target. Similarly, under OECD/DAC criteria, China is classified as an Upper Middle Income Country (UMIC), and therefore remains eligible for receiving concessional climate-related funding through Official Development Assistance (ODA). China's future growth could mean that it reaches high income status in the coming years, which would make finance to China ineligible to be classified as ODA.

60 For example, see the Economist, 2022.

base. While acknowledging the difficulties in assessing figures on a like for like basis, China's recent contributions appear to compare relatively well with assessments of its "fair share" of global climate finance, especially opposite the United States (see Box 2), although China's figures are flattered by climate finance being assessed in face value rather than grant equivalent as its finance is so heavily based on loans.

China in the context of global "fair shares"

According to recent CGD analysis, China's historical emissions and current income level imply that it should provide around 5–10 percent of global climate finance, while the US should provide at least 40 percent; and the EU-27 15-20 percent.[61] Yet, taking bilateral and multilateral contributions together, China has provided on average, $4 billion per year between 2017 and 2021 – by comparison, the US has provided just over $7 billion a year, and the EU-27 $19 billion.[62] When further comparing China's "climate-related finance" opposite climate finance from "developed countries" as based on OECD reports, this was 5 percent of the aggregate value of "climate finance" reported and mobilised by "developed countries" in the most recent period.[63]

61 In CGD analysis (Beynon, 2023; Beynon and Wickstead, 2024), the US should contribute over 40% of climate finance. Other models (when applied to all countries) suggest Chinese shares of nearer 20%, on a par with the US, see for example Egli and Stünzi, 2019. These models typically take the average of each country's share of cumulative emissions and of national income, whereas CGD's analysis is based on the product of aggregate emissions and per capita income.
In the baseline scenario, China's fair share is just over 7 per cent, and with projected growth in its income and emissions this would exceed 10 per cent by 2030.

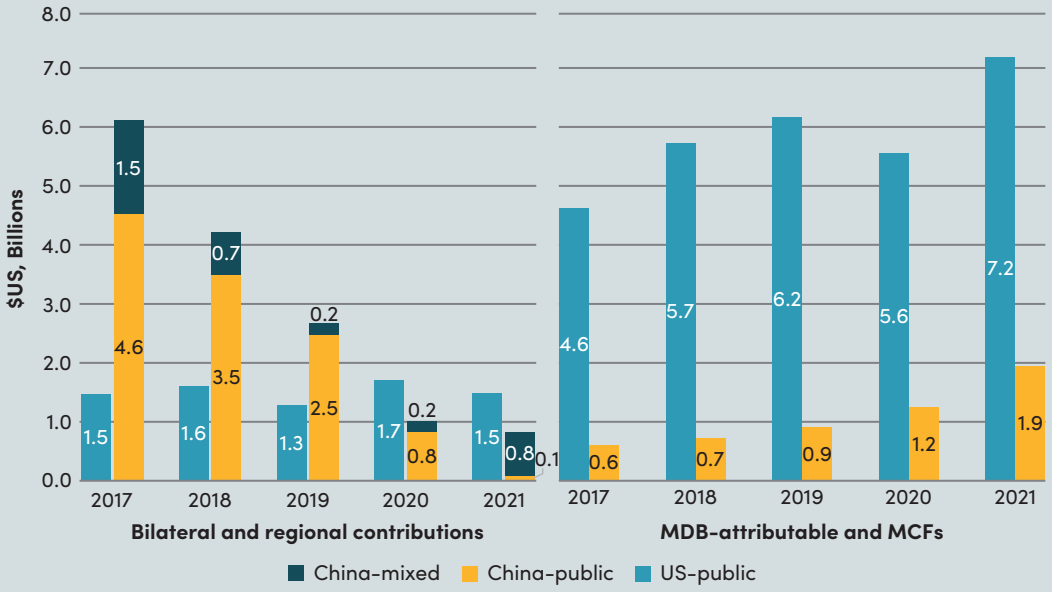
62 Data for the EU-27 comes from the European Council (2024), converted to USD based on World Bank exchange rates.

63 Authors' calculations based on OECD, 2023, Figure 1. As the OECD notes that its estimates are not fully comparable before 2016, this comparison is based on the most recent period of 2017–2021 for both China and "developed countries". China's average annual climate-related finance over this period amounted to $4.1 billion, as compared with $81.0 billion from "developed countries". "Developed countries" refers to the group of 23 "Annex II" countries defined as such under the UNFCCC, but we do note that the OECD report also includes some relatively small volumes of finance from other EU countries which are not Annex II parties.

BOX 2. Comparing China's climate related development finance since 2017 with US climate finance

Although the United States' contributions to global climate finance surpass China's when taking both multilateral and bilateral programmes into account, China's bilateral climate-related assistance in recent years has rivalled and even surpassed the US's UNFCCC-reported climate finance. Bilaterally, China has provided $15.0 billion relative to the US's $7.6 billion in the five years to 2021, though in the final year, the US's efforts overtook China's (Figure 8). Taken on an annual average basis, this means that China provided bilateral and regional climate-friendly finance of roughly $3.0 billion every year – twice as much as the $1.5 billion in bilateral climate finance provided by the US.

FIGURE 8. China and the US's climate finance contributions since 2017, by channel



Notes: US data for 2021 comes from a different source as its most recent climate finance has not been reported to the UNFCCC yet. Hence, 2021 US figures may be measured slightly differently than in other years.

Sources: MDBs' gross climate finance to lower- and middle-income countries comes from the MDB's annual joint climate finance reports, with country's attributable shares of outflows based on its shareholding in each MDB as given by each institution's annual and financial reports. US bilateral and MCF data for 2017–2020 comes from its UNFCCC biennial reporting, Tables 7(b) and 7(a) respectively, and, for 2021, from the US Department of State Fact Sheet (2023)[64]. China's bilateral data comes from authors' analysis of AidData's GCDF 3.0 dataset. China's contributions to MCFs were determined by looking at the Climate Fund Update and the GEF's annual financial statements.

64 US Department of State, 2023.

Still, comparability between the two providers is complicated by a number of factors, such as the inclusion of commercial or private finance, and the lack of consideration for the relative fiscal effort made by each country. On the former, we find that even if we exclude all Chinese contributions originating from commercial or "or so-called "mixed" entities, such its state-owned enterprises and state-owned commercial banks, China's bilateral and regional climate-related finance since 2017 has still surpassed the US's, although by a lower margin. This may be a more like-for-like assessment of the two countries, as it is not clear if the US reports on publicly subsidised private finance to the UN,– although it does count the concessional portion of its ODA contributions via the Development Finance Corporation (DFC) which invests directly in companies. On this basis, looking strictly at China's "public" contributions to climate objectives, this amounted to roughly $11.6 billion between 2017 and 2021 (compared to the US's 7.6 billion), or, on average, $2.3 billion annually (compared to $1.5 billion from the US). On the latter, our assessments of climate finance are given in face value, rather than grant-equivalent terms. Given that the US's support is predominantly reported as grants while China's efforts are almost entirely loan-based and much lower in grant-equivalent terms (see section 2.1), like-for-like comparisons between the two countries are difficult in practice.

Looking beyond 2021, President Biden committed to increase U.S. international climate finance to over $11.4 billion per year by 2024. While initial data for 2022 and 2023 from the US Department of State looks promising, indicating that US climate finance has increased sharply since the pledge was made up to $5.8 billion in 2022 and $9.5 billion in 2023, plans for 2024 have looked less encouraging. According to the spending bill for Fiscal Year 2024, only $1.0 billion has been approved by Congress for international climate programs.[65]

3. How and where is China's bilateral climate-related finance delivered?

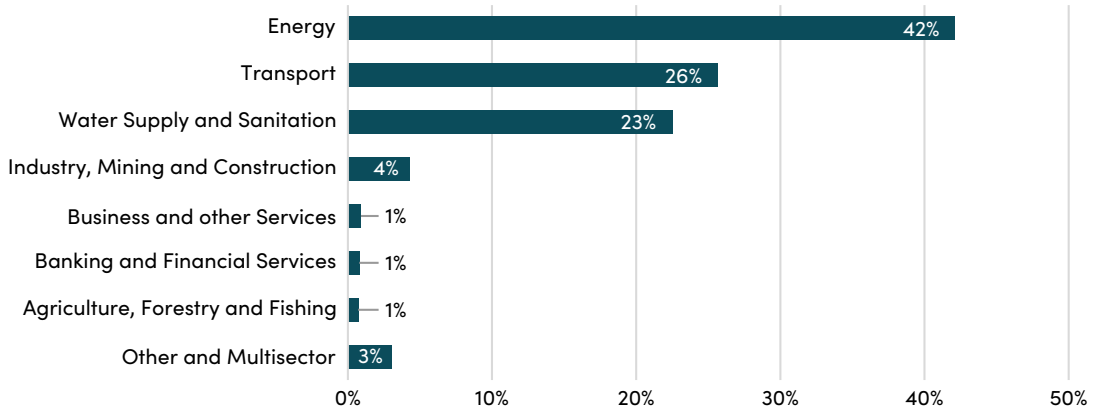
This section looks at the characteristics of China's most recent, post-2017 climate-aligned bilateral and regional finance projects. We begin by covering the sectors and types of projects Chinese funders have targeted. We then move on to discuss the thematic objectives of Chinese projects abroad in terms of their climate change adaptation or mitigation focus. Subsequently, we discuss the characteristics of the recipients of China's climate-related projects in terms of their location, income levels, and the types of agencies which directly receive Chinese funding. We conclude with some additional analysis on the types of agencies – including Chinese companies – which implement its climate-related finance abroad.

65 Thwaites, 2024.

3.1 Sectors

China's climate-relevant finance in lower- and middle-income countries has primarily concentrated on sectors which relate to building new infrastructure, such as energy and transportation. Energy was the largest sector overall, receiving 42 percent of the overall climate-friendly financial volume between 2017 and 2021 (Figure 9). Of energy projects, the largest proportion (39 percent) was spent on solar power generation or research, followed by hydropower generation with demonstratable emissions reductions (25 percent),[66] and then wind power projects (16 percent). Transportation constituted the next-largest sector, with the vast majority of this finance (96 percent) dedicated to building urban light rail, metro, or subway infrastructure. While Agriculture and Forestry accounts for just 1 percent of China's bilateral climate-related finance by value, it occupies a more significant share of China's climate-related portfolio when looking at project numbers (9 percent), partly due to smaller average project sizes (see also Table 2).

FIGURE 9. China's bilateral climate-related finance, by sector (2017–2021)



Notes: "Other" sectors include: Other Multisector, Other Social Infrastructure and Services, Communications, Education, Government and Civil Society, and Disaster Prevention and Preparedness. For more on which sectors were included in the analysis, see the Methodological Annex.

Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0.

It is also important to note the prominence of non-financial approaches in China's climate-related South-South Cooperation. China's bilateral and regional projects also include activities such as capacity-building, training, technical cooperation, or in-kind donations, which have not been assigned any financial value. These types of projects were particularly prominent in China's climate cooperation within the General Environmental Protection, Agriculture, Education, and Government

66 Although some previous estimates of China's climate-related finance have excluded hydro-electric projects due to uncertainties over net environmental impacts, we have chosen to include a small sub-set of these projects. In line with OECD Rio Marker criteria for climate mitigation in ODA, we only count China's hydropower projects as being climate-relevant "only if net emission reductions can be demonstrated"; or when these reductions are explicitly stated within the project description in the AidData database. In practice, this means that we have included just 11% of China's overall hydropower portfolio in 2017–2021 as climate-relevant investment. See: Tsang, Schäpe, and Hackbarth, 2023; OECD DAC Rio Marker guidelines, No date.

and Civil Society sectors. In each of these, non-financial projects accounted for over half of total projects (Table 2).

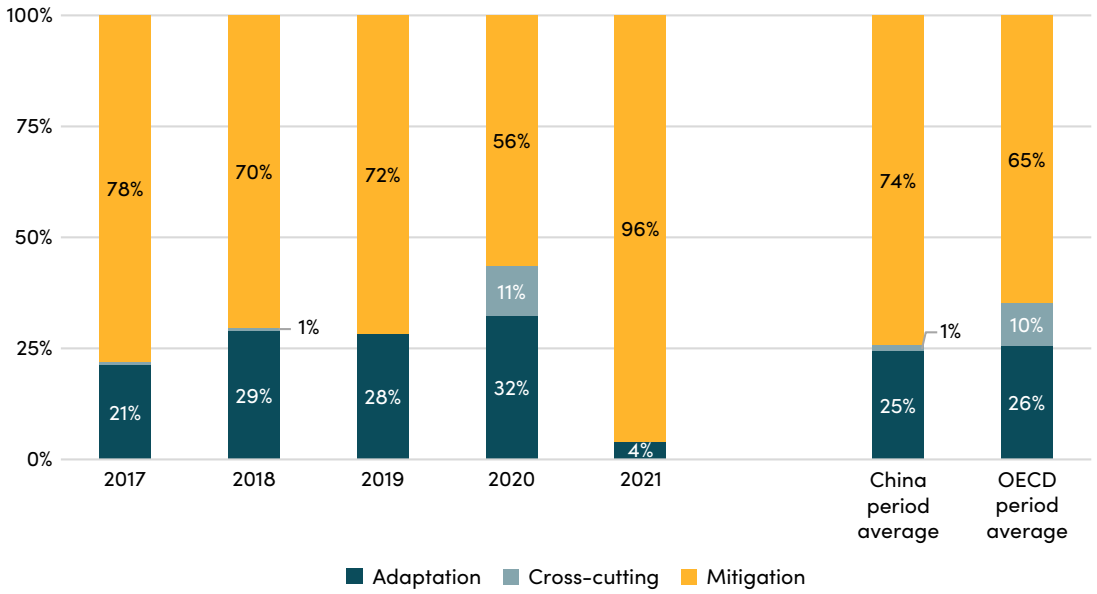
TABLE 2. Summary of China's international climate-related finance projects by sector (2017–2021)

Sector	Number of Financial Projects	Average Size of Financial Projects ($mn)	Number of Non-Financial Projects
Energy	67	$94.25	25
Water supply and sanitation	33	$102.24	16
Transport and storage	19	$202.23	5
Agriculture, forestry, fishing	8	$13.56	13
Industry, mining, construction	7	$91.50	0
Other social infrastructure and services	6	$14.75	2
Banking and financial services	4	$29.78	0
Education	2	$15.01	4
Government and civil society	2	$1.34	2
Communications	2	$39.94	1
Disaster prevention and preparedness	2	$0.11	1
Other multisector	2	$126.70	1
Business and other services	2	$68.52	0
General environmental protection	0	N/A	8
Emergency response	0	N/A	1
Health	0	N/A	1

3.2 Adaptation and mitigation objectives

Nearly three-quarters of China's climate-related investments between 2017 and 2021 by value (or, $11.2 billion) have targeted climate change mitigation, with just a quarter ($3.7 billion) aiming to boost countries' abilities to adapt to climate change (Figure 10). Chinese funders' lower focus on adaptation finance since 2017 closely mirrors wider trends in climate finance provided and mobilised by "developed" countries, with the OECD figures implying that the adaptation share of "developed" countries climate finance reached just 26 percent, as compared to China's 25 percent. Arguably, if excluding projects with "cross-cutting", or dual adaptation and mitigation objectives, the preference for mitigation projects is more pronounced in China's case, covering 74 percent of financial value over the time period, as compared to 65 percent from "developed" countries – but these shares are comparable if "developed" countries' "cross-cutting" finance is included.

FIGURE 10. China's bilateral and regional climate-related finance by thematic objective, compared to OECD climate finance (2017–2021)



Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0; based on OECD-DAC Rio Marker Guidelines; OECD comparator comes from authors' calculations based on Figure 4 in OECD, 2023.

When looking at trends over time, Chinese funders' focus on adaptation relative to mitigation appears to have somewhat increased between 2017 and 2020 (from 21 percent of total climate-related finance, to 32 percent, or, if including both adaptation-specific and "cross-cutting" projects, 43 percent by 2020). While the short timespan covered by this analysis, combined with the low absolute volume of China's climate-related investment in 2021 as compared to prior years, makes it difficult to draw any conclusions, it appears that the adaptation share in China's climate-related finance plummeted back down to just 4 percent of annual climate-related spending by 2021.

Beyond climate change adaptation and mitigation, China may also be contributing to global finance for loss and damage (Box 3), although these projects are not covered by the main analysis.

BOX 3. China's contributions to loss and damage finance

Loss and damage is one of the three pillars of global climate negotiations under the UNFCCC alongside mitigation and adaptation, but it is not a part of the $100 billion a year climate finance target, and it is also unclear whether and how it will included under the New Collective Quantified Goal due to be set by 2025. While mitigation and adaptation projects aim to prevent or lessen the magnitude of climate change impacts that are already occurring, loss and damage seeks to address the consequences when climate risks have not been successfully mitigated or adapted to. In other words, adaptation and mitigation efforts focus on *ex-ante* assistance, but loss and damage focuses on *ex-post* assistance, and, as such, we have not counted any finance which China has provided to the "post-disaster reconstruction" and "emergency assistance" sectors towards its "climate-related" contributions within this paper.

China and other emerging economies have been subject to mounting pressure to provide additional funding for "vulnerable" countries hit by climate change-induced disasters following the breakthrough on the creation of a UN Loss and Damage Fund at COP27.[67] Similar to other climate commitments, China's "developing country" status and the UNFCCC's principle of "common but differentiated responsibility" has been used to argue it is not obligated to pay into the Fund. As of 2024, the Loss and Damage Fund has received pledges north of $600 million from 19 different providers, but the only non-Annex II country which has contributed is the United Arab Emirates (UAE).[68]

There are some indications, however, that China has already been providing loss and damage-like assistance to climate vulnerable countries on a bilateral basis. Since 2017, we estimate that China has spent some **$213 million** – all in the form of grants – on post-disaster reconstruction and emergency assistance in the aftermath of extreme weather events or disasters such as landslides, droughts, or floods which could be understood as being caused or exacerbated by climate change, in developing countries. It seems that most of this finance was focussed in the most climate vulnerable countries.[69] Using the Notre Dame Global Adaptation Index (ND-GAIN) on countries' exposure to climate risks[70] as a proxy for assessing vulnerability, we estimate that between 2017 and 2021, China spent **$114 million**, or 53 percent of all potentially climate-related reconstruction and emergency finance, within countries which are in the top quartile on climate risk exposure.

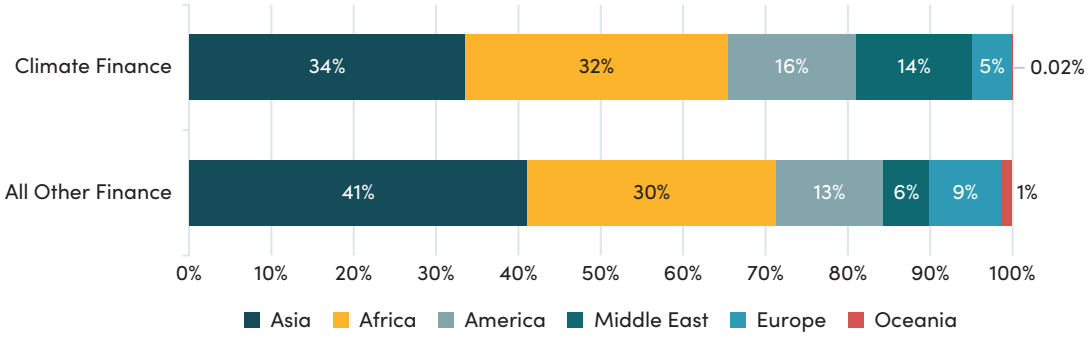
67 Simon, 2023.
68 UNFCCC 2024a; UNFCCC, 2024b; China Meteorological Administration, 2022.
69 Climate vulnerability itself is not clear-cut or easy to define, and is the subject of much debate, including in the context of eligibility for the new Loss and Damage Fund, see also UNCTAD, 2023.
70 Notre Dame Global Adaptation Index, 2023.

3.3 Recipients

Regions

The regions receiving the largest volumes of China's bilateral climate-related finance between 2017 and 2021 are Asia (34 percent) and Africa (32 percent) (Figure 11). Notably, recipients in Oceania – a highly climate-vulnerable region, which is home to many Small Island Developing States – received just 0.01 percent of China's climate-relevant development finance – a share lower than the 1 percent dedicated to Oceania within China's wider development portfolio. The Middle East and North Africa were particularly strongly represented in China's climate projects opposite other development activities.

FIGURE 11. Recipients of bilateral climate-related finance by region, as compared to all other Chinese finance to developing countries (2017–2021)



Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0.

Beyond 2021, China has now made commitments to prioritise green investments in most of the regions in which it operates, which may impact future allocations. China's climate cooperation with ASEAN countries has been governed by the joint *Environmental Cooperation Strategy* and *Action Plan* since 2021.[71] Also in 2021, climate was listed as one of the eight priorities of China's cooperation with Africa under the *China-Africa Vision 2035*, which determines the mid- and long-term objectives and direction of China's relationship with the continent.[72] In 2022, China signed a new *Joint Action Plan* with the Community of Latin American and Caribbean States (CELAC), outlining a new dedication to "green" and "sustainable" development cooperation in the region.[73] When it comes to the Middle East, at the first ever China-Arab States Summit in December 2022, China named "green innovation" as one of the eight regional cooperation priorities over the next three to five years, with proposals to establish joint research centres focusing on desertification, land degradation, and renewable development.[74] Similarly, in Oceania – a region which had only received a tiny fraction (0.02 percent) of China's overall climate-related portfolio until 2021 – China launched a new *China-Pacific Island*

71 Ministry of Foreign Affairs, 2022a.
72 MOFCOM, 2021.
73 Ministry of Foreign Affairs, 2021.
74 Xinhua News, 2023.

Countries Climate Change Cooperation Center to boost climate-related investments in the region in the same year.[75]

Income groups

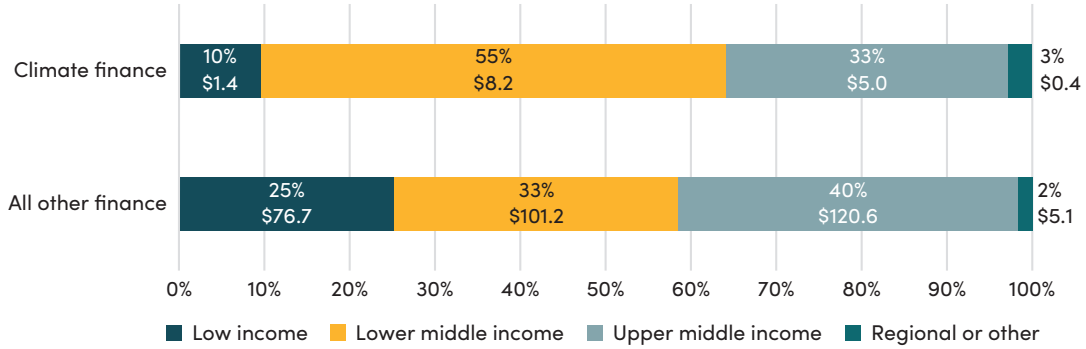
The largest share of climate-related assistance from China targets Lower-Middle Income Countries (LMICs, 55 percent), followed by Upper-Middle Income Countries (UMICs, 33 percent), and only 10 percent of the face value of the finance flowing to the poorest countries. This pattern largely mirrors wider trends in climate finance provided and mobilised by "developed" countries. According to the OECD, the largest share of "developed" countries' climate finance between 2016 and 2021 likewise targeted LMICs (at 43 percent of the total), while just 9 percent went to LICs. Still, in contrast to China, 18 percent of "developed" countries' provided and mobilised finance was reported as being unallocable by country, signifying that it went to global, regional, or otherwise multi-country projects rather than bilateral recipients.[76] However, when comparing China only to other *bilateral* public providers – excluding mobilised private and MDB finance – we found that the share targeting low-income and least developed countries was lower than for most bilateral OECD providers.[77]

We find that Chinese funders have targeted their most concessional, grant-based climate assistance disproportionately towards poorer countries. Grant-equivalent finance to UMICs accounted for 15 percent of face value climate-related flows within the income group, for LMICs this proportion stood at 22 percent, and in LICs at an even-higher 32 percent. Even so, grant-based support was a minority in all country income groupings, and this explains the wide difference between the face value of China's climate finance, and its grant equivalent being much lower.

When comparing China's climate portfolio against its own non-climate-related finance to the Global South, we found that climate-related projects have been directed to low-income countries (LICs) to a lesser extent overall: at least 25 percent of China's non-climate investments were committed to LICs, as compared to just 10 percent of its climate-friendly investments (Figure 12). Although China's relatively lower focus on poorer countries within its climate portfolio as compared to its other development finance may raise questions on the extent to which its climate finance is targeting the most vulnerable, this allocation pattern may also reflect the relatively strong focus on mitigation in China's overall climate-related development portfolio, with mitigation finance more likely to be more relevant for partner countries at higher income levels.[78]

75 Ministry of Foreign Affairs, 2022b.
76 OECD, 2023, Figure 4, p. 11.
77 According to authors' analysis of the OECD CRS, *bilateral* DAC providers channelled 23% of their Rio-marked finance to LDCs and LICs, 35% to LMICs, 14% to UMICs and MADCTs, and 28% was unallocated in the same time period.
78 For more on why mitigation finance may be most relevant in middle-income recipients, see Baker and Mitchell, 2020.

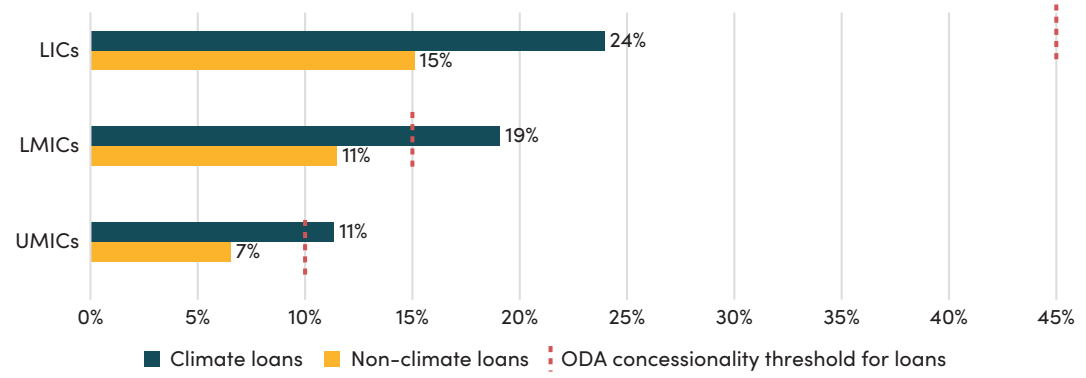
FIGURE 12. Recipients of bilateral climate-related finance by income group, as compared to all other Chinese finance to developing countries (2017–2021)



Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0.

While China's climate-aligned finance may be less focussed on poorer countries than its wider development finance, its climate-related *loans* have typically been more concessional than its non-climate loans, and, more concessional especially for lower-income recipients (Figure 13). Concessional loans – qualifying as ODA, as well as less concessional OOF loans – are both regularly reported by OECD countries, and are clearly of value to recipients. Still, the level of concessionality, or grant-equivalent share of China's loans in low-income countries means that most of these would not count as Official Development Assistance (ODA) if they were assessed by the OECD.[79]

FIGURE 13. Grant elements as a share of China's loan values in 2017–2021, by income group of recipients, as compared with ODA standards for OECD/DAC reporters



Note: China does not use OECD standards for defining concessionality; these standards are applied in the figure above solely for comparison with other countries.

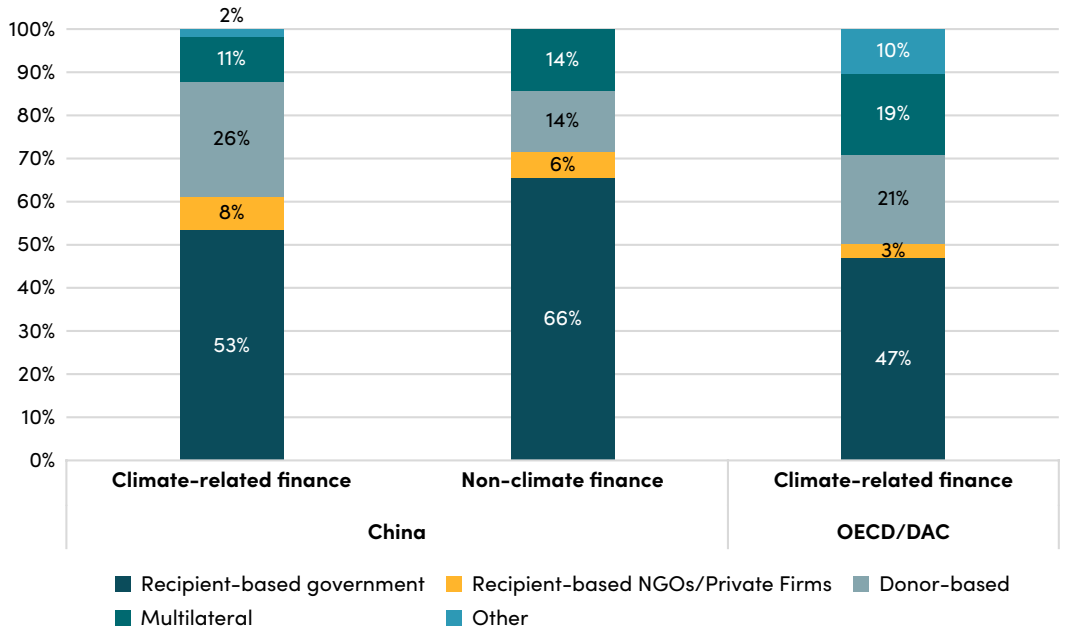
Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0; OECD/DAC, 2023.

79 Under previous OECD rules, which apply to DAC providers, loans could only be considered concessional, or ODA, if their grant element exceeded 25%. However, in April 2016, the OECD/DAC approved a directive redefining the concessionality threshold for loans registered as ODA from a minimum of 25% grant equivalence across all recipients, to a variable with thresholds between 10–45%, depending on the income group of recipients. This entered into force for OECD countries from 2018 onwards. See also: OECD/DAC, 2023.

Receiving agencies: "Localisation" in China's climate-related finance

Recent development and climate literature has focussed on the extent to which channelling a greater proportion of development finance through locally-owned or recipient-based institutions can help to enhance the effectiveness of climate finance and deliver greater climate justice within developing countries.[80] We find that China's approach on climate includes working directly with recipient-based agencies and institutions more often than for most OECD providers (Figure 14). Over 61 percent of China's climate-related development finance has been channelled directly through recipient-based agencies, with the majority of this (53 percent) going directly to recipients' governments or ministries – either at the central or subnational level – and a further 8 percent going to recipient based private or third sector agencies. By contrast, although many OECD providers have acknowledged the importance of supporting "localisation", "local ownership", or "locally led" climate action in developing countries, the share of OECD climate-related ODA which went directly to recipient-based agencies only stood at a combined total of 50 percent.[81]

FIGURE 14. Direct receiving agencies of China's bilateral climate-related finance, compared to OECD/DAC providers' climate-marked ODA, 2017–2021



Source: For China, this is based on authors' analysis and re-classification of values for the "Direct Receiving Agencies" of Chinese finance within AidData's GCDF 3.0. For OECD/DAC providers, this is based on the OECD CRS and relevant for forthcoming CGD analysis.

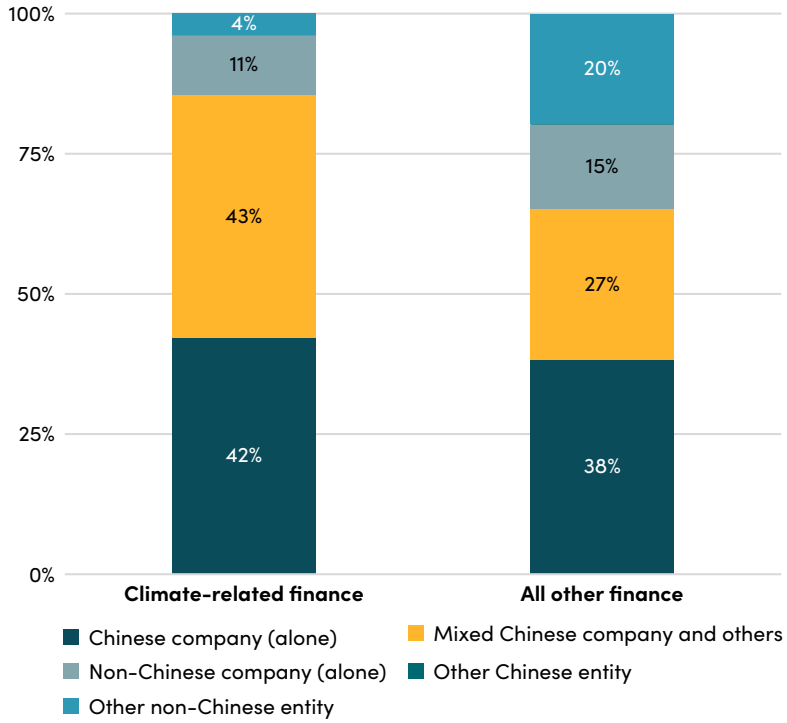
80 Global Commission on Adaptation, Principles for Locally Led Adaptation, 2021; Colenbrander, Dodman, and Mitlin, 2018; Fenton et al., 2015.

81 For more information on both recent and previous OECD provider commitments to increase localisation and "local ownership", see: OECD (Accra Agenda for Action), 2008; USAID Donor Statement on Supporting Locally Led Development, 2022; Hasselskog, 2022.

3.4 Chinese companies as implementers of climate projects

Chinese firms, including a large proportion of State-Owned Enterprises (SOEs), are the leading implementers of Chinese-funded climate projects. Over 85 percent of China's climate-related projects were implemented or co-implemented by a Chinese company, as compared to just 11 percent which were implemented by a non-Chinese company, and a further 4 percent implemented by another type of non-Chinese entity (Figure 15, below).[82] Interestingly, Chinese companies often worked together with other stakeholders – including recipient-based private sector organisations – in project implementation, although the exact division of responsibilities and the capacity of non-Chinese institutions to meaningfully shape project design in these instances warrants further study. What's more, the share of China's climate projects implemented by Chinese entities was higher than in its non-climate development finance, despite the higher share of China's climate-related finance which involved partnership with non-Chinese providers or multilateral agencies under joint financing or implementation mechanisms (see also Box 1, in Section 2).

FIGURE 15. "Implementing agencies" in China's bilateral climate-related and development finance (2017–2021)



Note: Projects where the implementing agency is "unknown" or left blank are excluded from the percentages in both cases.
Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0.

82 For a critique of China's approach to state subsidies and "tying", which enables Chinese companies to be competitive in winning international contracts, including from MDBs, while "tying" their own development projects to goods and services provided by Chinese companies, see Mudde, 2024; Wingo, 2020.

Given the prominence of renewable energy projects in China's international climate portfolio, it may also be interesting to note the potential role of China's substantial domestic investment in relevant sectors through the use of subsidies, tax incentives, and low-cost lending. In addition to indirectly driving down the costs of renewable technologies globally, it is likely that some proportion of China's domestic renewable subsidies has also contributed to Chinese firms deploying such capacities abroad through concessional climate-related finance. China's domestic subsidies to the wind power sector are estimated to have reached RMB 10.5 billion ($1.6 billion), and for solar and photovoltaic technologies RMB 26 billion ($3.9 billion) per year in 2022.[83]

More widely, OECD providers have often considered China's development finance practices – which often do not include open tendering – run counter to international market norms, but currently available data makes it difficult to compare how OECD providers' climate projects are implemented opposite China's. While most OECD providers follow the guidelines set out in the OECD-DAC Recommendation on Untying Official Development Assistance, we do not know in practice what proportion of their projects are implemented by companies from the provider's country, or how these guidelines are applied to their OOF spending. We also know that Chinese firms win a significant proportion, or roughly a quarter of contract awards for major MDBs – but this is still much lower than the figures our analysis suggests for China's own international climate and development finance.[84]

4. Conclusion

The next year will be a crucial one for global climate action, with the international community hoping to raise climate ambition at COP29 and beyond, and as negotiations towards international agreement on the New Collective Quantified Goal (NCQG) for climate finance by 2025 push forward. But discussions on global climate targets and the NCQG thus far have been complicated by contentious debates on the potential contributor base, often paired with allegations that countries such as China are not pulling their weight. By illustrating the scale of China's existing climate contributions, we hope that this report can stimulate more informed debates and boost ambition of the next climate and finance targets.

In spite of Beijing's resistance to formally contributing or reporting climate finance under collective UN frameworks, we find that China's outbound climate investments through bilateral, regional, and multilateral channels have already been significant, particularly since the launch of its Belt and Road Initiative in 2013. Our assessment suggests that although China may still be some way off contributing its global 'fair share' of climate finance, its bilateral contributions have already surpassed the level of the United States in the most recent five-year period. Even as China remains

83 Hove, 2024, 26, converted to USD using World Bank annual exchange rates for 2022.

84 Based on an analysis of recent MDB financed projects from three Banks – the AfDB, the ADB, and the IBRD – Paul Mudde cites a figure of 24.8% of projects' goods and services supplied by China, when including Hong Kong in these estimates. See: Mudde, 2024.

a "developing" country itself, and therefore a potential recipient of international climate finance, our analysis also shows that it is now a net contributor of outbound climate-related flows, with its total contributions to other developing countries through all channels between 2013 and 2021 surpassing $34 billion, and averaging $3.8 billion annually. Still, these figures would be much lower on a grant-equivalent basis, and we would encourage all UN parties to consider assessing climate finance on that basis in the future, rather than on the face value as is currently the case, to better account to the relative fiscal effort involved in providing climate finance.

Notwithstanding the significant scale of China's climate-related investments following the BRI, we also observe several points on which China could improve, especially in terms of the coherence, concessionality, predictability, and allocation of its international climate action. First, at the same time as China has contributed substantial climate-friendly funding, it has also remained a major fossil fuel financier, with fossil fuel projects worth over double the value of China's climate-friendly finance since 2013. In spite of numerous high-level policy commitments to "green" the BRI, progress has been slow. China should work across the multiple agencies, banks, funds, and government ministries which support its international activities to increase the coherence of its international climate and development action by limiting new fossil fuel projects and accelerating the implementation of existing "green" standards for the BRI. Second, China's climate finance under the BRI has largely been loan-based, with the grant-equivalent portion of finance only accounting for 22 percent of the total face value. Worryingly, concessionality has also been falling over time, with the grant-equivalent share of climate-related finance declining every year since 2018 and reaching a low of just 10 percent in 2021. Third, China should work to improve the predictability and transparency of its climate flows, allowing partners to plan ahead and seek better terms. We note that China's climate-related finance since 2013 has suffered from a high level of year-on-year volatility, and that low levels of transparency have limited the scope of our current analysis. Finally – not unlike many OECD providers – only a small portion of China's climate-related finance to date has been targeted at climate change adaptation, and just a tenth of its climate projects have been in low-income countries. Beijing should work to encourage Chinese funding agencies to invest more climate finance in the themes and countries where the greatest needs lie.

Regardless of how China will choose to formally engage within the UNFCCC negotiations towards the NCQG, for "developed" countries, a variety of possible avenues exist for agencies and ministries seeking to engage with China. There are now multiple indications that Beijing is increasingly open to international collaboration in its external climate action. Indeed, our analysis suggests that climate action may be a particularly fruitful area for mutual cooperation with China as compared to other themes or types of development projects.

Our analysis has also unavoidably been limited by the absence of robust international methodologies for reporting, tracking, and verifying countries' relative international climate efforts, underscoring wider issues in the comparability of international climate finance, both from China and beyond. Most notably, the lack of a universal definition for climate finance, an agreed scope for eligible

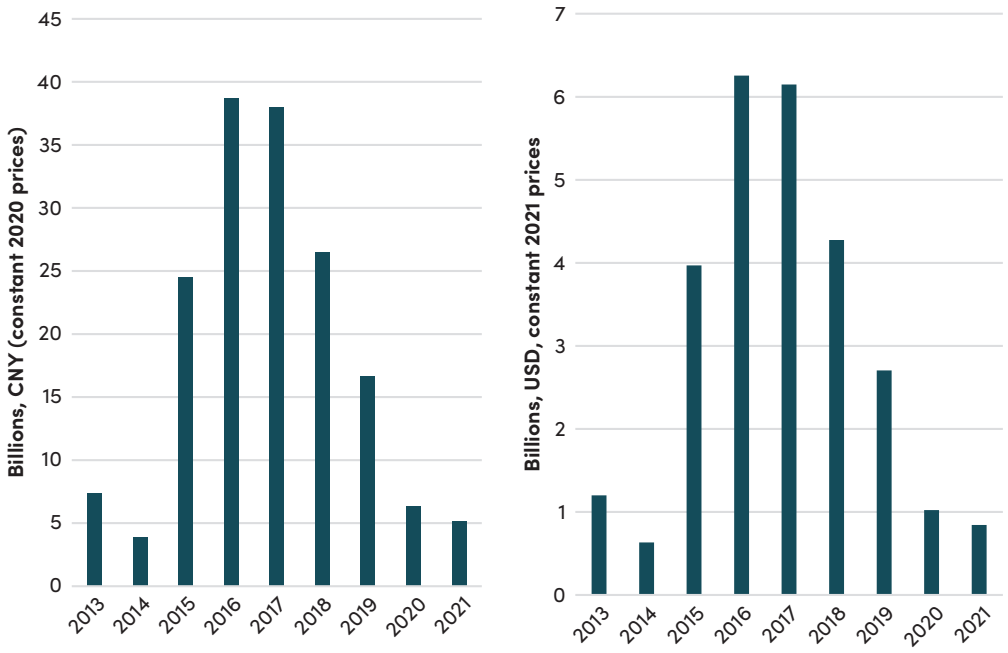
activities, and an established methodology for assessing providers' relative fiscal effort to account for differences in concessionality underlie significant problems for any authors seeking to make like-for-like comparisons between providers, not only in the case of China, but also more widely for all other provider countries, including those who currently report to the UNFCCC. We propose that non-Annex II countries such as China – who have the dual experience of being both a climate finance recipient, as well as a voluntary provider of international climate finance – could use their experiences to play a valuable role in informing the NCQG negotiations towards new standards, definitions, or plans to enhance the target's structure so as to maximise accountability and the potential impact of climate finance for recipients.

Methodological Annex

1. Method and caveats for assessing China's bilateral and regional climate-related finance

Our estimates of China's bilateral climate-related finance rely on the broader dataset on China's Global Development Finance (GCDF) dataset, compiled by AidData at the College of William and Mary.[85] This includes a total of 17,957 "official" Chinese bilateral and regional projects in developing countries, spanning the period from 2000 to 2021. Not all of the included projects correspond to a financial value – with some in-kind or technical assistance projects not being easily quantifiable. Financial values used for aggregates in our analysis represent constant 2021 USD, "adjusted" for inflation and exchange rates in accordance with AidData's approach.[86] Additional analysis of bilateral and regional climate-related finance represented in Chinese yuan (Figure 16), suggested that changes in the volume of finance were large as compared to the relative currency swings between USD and CNY in this time period.

FIGURE 16. China's bilateral and regional climate-related finance, in Chinese yuan and US dollars



Source: Authors' analysis of AidData's GCDF Dataset, Version 3.0, currency conversions using World Bank annual exchange rates.

85 See AidData, 2023; Custer et al., 2023; Dreher et al., 2022. The analysis only includes those projects which are indicated as being "recommended for aggregates".

86 To calculate "adjusted" values, AidData first converts the financial commitment amount in its original currency of denomination to nominal U.S. dollars at the average exchange rate in effect during the commitment year, and then to constant 2021 U.S. dollars using the OECD's deflation methodology. It also excludes short-term emergency rescue loans (with identical face values and de jure maturities of 1 year or less), and so-called "rollover" amounts that refinance maturing debts.

Notably, the AidData dataset includes both ODA-like flows, as well as the less concessional category of Other Official Flows, or "OOF-like" finance – and, in accordance with both UN and OECD climate finance report, which cover both concessional and non-concessional flows, our assessment also includes both. Notably, AidData considers "official" and public Chinese finance not only the projects which are directly funded by Chinese government agencies or policy banks, but also those which are financed by state-owned enterprises or commercial banks.

To avoid potential double counting, we also do not include any pledges or contributions to China's regional cooperation funds, or dedicated national climate or development funds, if these are not already included in projects covered by AidData. Such potential sources could include China's South South Cooperation Fund, the Kunming Biodiversity Fund, or the China-ASEAN Investment Cooperation Fund and China Africa Development Fund.

We rely on AidData's assumptions when looking at China's syndicated loans. In particular, following the GCDF, if the face value of a syndicated loan (involving one or more official creditors from China) is known and the total number of participants in the loan syndicate is known, AidData assumes that each bank provided equal contributions to the syndicated loan.

Our process for analysing AidData's GCDF 3.0 dataset to assess China's climate finance contributions is broadly summarised in Table 3: First, based on an automatic search for the occurrence of a range of climate-related keywords (an indicative list of which is provided in Table 5 at the end of this chapter) within the projects' titles and descriptions, we determined a long-list of potentially climate-relevant projects taking place within ODA-eligible recipient countries.[87] Subsequently, flagged projects were manually verified for their climate-relevance based on several sectoral criteria, corresponding to other international data sources guiding the reporting of climate finance (see Table 4). To assess climate-relevance, we mainly drew on the guidelines set by the OECD DAC's Rio Marker Handbook, complementing with the Climate Policy Initiative's methodology where relevant.[88] We also compared our approach to that taken previously by the E3G in their assessment of China's climate finance contributions until 2017, ultimately making several significant expansions in the sectors and activities covered within our own assessment.[89]

TABLE 3. Summary statistics from data classification

	2000–2021	2013–2021
"Recommended for aggregates" by AidData	17,957 projects	11,318 projects
Automatically classified as "potentially climate-relevant" based on keywords (**Table 5**)	1,697 projects	1,071 projects
Manually verified (based on criteria in **Table 4**) as climate-relevant finance to ODA-eligible countries	N/A (not all classified)	417 projects

87 A column on ODA eligibility was provided directly within the dataset and is based on OECD DAC criteria.
88 Climate Policy Initiative, 2023.
89 Tsang, Schäpe, and Hackbarth, 2023.

It is also important to note that the AidData dataset – similarly to many "developed" country donors' reporting on climate finance to the UNFCCC – only provides details on financial commitments, rather than actual disbursements. What is more – unlike in UNFCCC reporting – China's commitments within the AidData dataset are not usually "annualised" (i.e., project finance is usually reported only in the year that the commitment is made, with relevant funds not split across the project's expected duration). The dataset also provides some indication on the current status of each activity, as either "completed" (i.e., disbursements can be assumed to have finished), "under implementation" (i.e., implying that some funds have already been disbursed, but the share of these is not clear); or "committed" (i.e., project funding has not likely yet begun disbursing, but a formal agreement has been signed to do so which goes beyond the scope of a "pledge"), which does give some indication of how much funding has been disbursed, but without an explicit level of detail (see Figure 3 in the document).

TABLE 4. Inclusion criteria for climate and L&D finance

Sector	Criteria
Agriculture, forestry and fishing	Projects which increase the efficiency or sustainability of agricultural production to reduce emissions or withstand climate change e.g., by: promoting agricultural diversification through the introduction or expansion of high-quality and resilient crop varieties or seeds; introducing efficient irrigation practices which contribute to water conservancy, promoting eco-agricultural cultivation, contributing to reductions in post-harvest losses through food conservation; promoting the use of biogas or waste-to energy methods and the more efficient use of compost fertilisers. Projects which promote mangrove or forest preservation, reforestation, afforestation, including the planting of trees (only if the trees planted are **not** a monoculture or clearly intended for cutting).
Disaster prevention and preparedness; emergency response	Projects that support the development of emergency prevention and preparedness measures and technologies (such as satellite monitoring and weather forecasting for early warning systems) to cope with potential climatic disasters, including droughts, tropical storms, floods, or landslides. Only projects which provide anticipatory support *before potential climate* disasters are included. Post-disaster reconstruction and assistance is included separately, as "potential" finance for loss and damage (see also Box 3 in this paper).
Energy	Power generation projects in wind, photovoltaic or solar, geothermal, biomass, biogas, and ocean tide-power. In line with OECD Rio-marker guidance, hydropower projects (storage or run-of-the-river) are **only** included if net emissions reductions are demonstrated within the project description. All nuclear power plants are excluded. Projects beyond power generation are also included (such as renewable energy transmission or trainings and research on clean energy or energy efficiency). Although the OECD DAC guidance allows some projects which enable fuel-switching towards less GHG-intensive fossil fuel types; or combined heat and power plants associated with more efficient power generation to be marked with the climate mitigation marker, these are excluded in all cases in our analysis.

TABLE 4. (Continued)

Sector	Criteria
Transport & Storage	Projects supporting modal switching to non-motorised transportation (such as bicycles) or urban public transportation (busses, metros, trams, and urban light rail). Inter-city or long-distance rail projects are usually excluded due to uncertainties in the net climate impact, *unless* the project description explicitly mentions emissions reductions. In some cases, the provision of solar street lights is also included. Projects which are explicitly related to making transport infrastructure more resilient to the effects of climate change (such as sea level rise, rising temperatures, or extreme weather events) are included.
WASH	Similarly to E3G,[90] we include water supply, preservation projects only in countries exposed to medium or high levels of drought risks, as defined by the World Resources Institute Aqueduct Global Maps 3.0,[91] or, otherwise, where the project description indicates that the sub-national region or local population targeted has experienced increasing drought risk. We also include as climate mitigation relevant investments into renewable energy powered or more energy efficient water pumps.
General Environmental Protection	Protection, sustainable management, or climate-resilient conservation of oceans and other marine coastal environments, wetlands, wilderness ecosystems and protected areas (in line with OECD Rio Marker criteria). Remote sensing and satellite technologies used to enhance sustainable forestry management, urban/agricultural planning, and drought prevention. Afforestation or re-introduction of native tree species.
Communications; Banking and Financial services; Business and Other services; Other multisector; Other social infrastructure; Government and civil society; Education; Health; Industry, Mining and Construction	Green credit for eco-businesses, or renewable energy and other climate-friendly industries. Provision of renewable or more energy-efficient energies or resilient technologies (such as solar lamps) to schools, hospitals, or government buildings. Research and trainings into clean or renewable energy or climate-resilience. Contributions to remote sensing and satellite technologies which enable early warnings to climate-related disasters and support sustainable natural resource management and climate-resilient planning. Direct support to the budgets of government ministries or regional organisations to support the development of climate planning, policies, or NDC implementation. Activities which are included as climate-relevant in sectors above, if not otherwise included under those sectors.

90 Tsang, Schäpe, and Hackbarth, 2023.

91 World Resources Institute, 2019.

TABLE 4. (Continued)

Sector	Criteria
Emergency response; Reconstruction, Relief and Rehabilitation; Developmental Food Aid	Activities within these sectors are only included as potential "loss and damage" finance (Box 3 above), and do not contribute to financial aggregates of China's climate finance. Loss and damage-relevant activities include post-disaster reconstruction and recovery efforts in the aftermath of tropical storms, droughts, floods, and landslides. While *many* of these projects explicitly mention climate change, most have only an implied link to L&D – including funding for natural disasters exacerbated by climate change, such as tropical storms, floods, landslides, wildfires, droughts or rising sea levels.

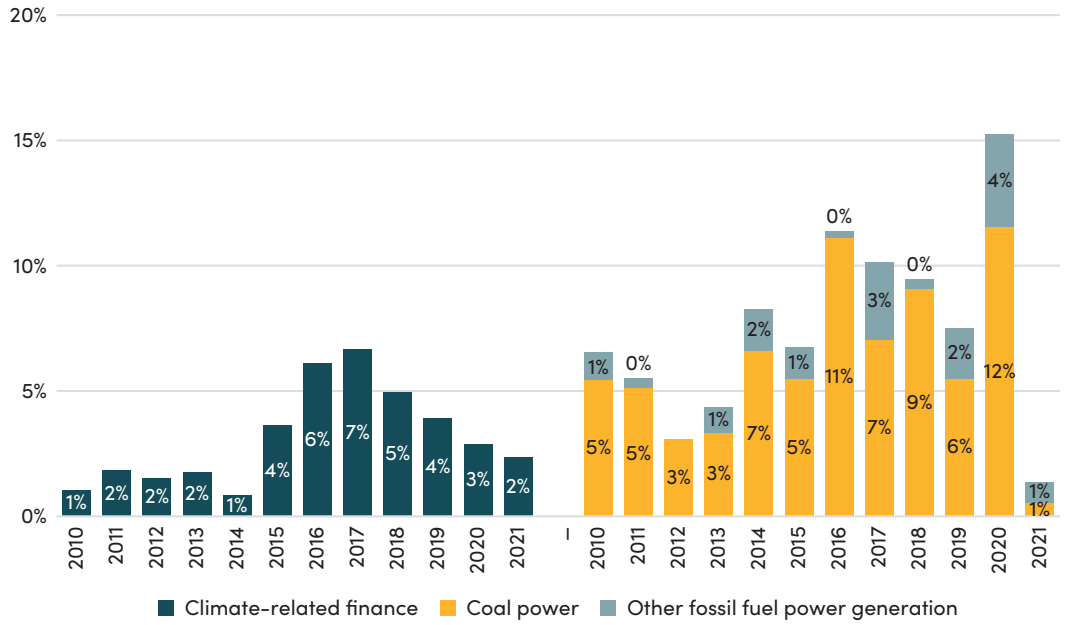
TABLE 5. Details of keywords used for initial screening

Sector	Keywords
All sectors	climate, green, resilient/resilience, adapt/adaptation, energy efficient, clean energy, carbon, CO_2, methane, emission, weather, meteorological/ meteorology, renewable, sustainable/sustainability, disaster preparedness, biofuel, biogas, biomass, bioelectric, solar energy/solar power, photovoltaic, wind energy/wind power, geothermal, ocean tide power, desertification, deforestation, reforestation, afforestation
Agriculture	post-harvest loss, waste, soil erosion/ eroded, arid, forest restoration, mangrove, wetland, trees, watershed, heat-resistant, drought resistant, seed, varieties, juncao,[92] rainforest, conservation, agroecological, protect, sustainable
Disaster prevention	early warning, satellite, drought, wildfire, landslide, erosion/eroded, storm, flood, typhoon, hurricane, cyclone, sea level, rain
Transport	metro, subway, urban light rail, bicycle, bus
WASH	efficient pumps, drought, flood, shortage, stress ***For projects specific to countries at medium to high risk of droughts according to the WRI:*** conserve, preserve, supply, irrigate/irrigation, wastewater, drink
Loss and Damage only: Emergency response; reconstruction relief	drought, wildfire, landslide, erosion/eroded, storm, flood, typhoon, hurricane, cyclone, sea level, rain, tsunami, El Nino

For determining the value of China's finance going to fossil fuels, we only considered projects within the "energy" sector. When details of the type of fuel used for power generation were not specified within the project title or description, these were manually verified using secondary databases including the Global Energy Monitor and GlobalData's power technology database, which currently tracks and profiles over 170,000 power plants worldwide, including details of the type of fuel used.

92 United Nations; Ministry of Commerce of the People's Republic of China n.d.

FIGURE 17. China's climate-related finance and fossil fuel finance, as shares of total annual bilateral and regional development finance



2. China's multilateral climate finance

Notably, beyond "attributable" climate finance through the MDBs, and direct contributions to MCFs, we do not cover several other sources of China's multilateral contributions. Firstly, China also contributes core resources to other climate-relevant multilateral agencies under the UN, including, but not limited to the International Fund for Agricultural Development (IFAD), the Food and Agriculture Organisation (FAO), or the IPCC Trust Fund Programme.[93] However, given the arguably smaller scale of climate-relevant outflows from these agencies, and the deficiencies of current reporting standards using Rio markers, which make it difficult to determine the exact amounts of China's contributions to these which could be classified as climate finance, we have decided to exclude these from our analysis. Further, we also do not make any additional efforts to cover China's contributions to MDBs' special windows or co-managed resources, although some of these may have already been covered by AidData's GCDF 3.0 and included under China's bilateral or regional contributions. For instance, several Chinese-finances projects with the African Development Bank via the Africa Growing Together Fund have already been covered by the GCDF and are therefore included in the bilateral and regional portion of our report.

93 IPCC, 2024.

TABLE 6. Total climate outflows to lower- and middle-income countries from MDBs' own accounts (US$, millions)

Bank	2013	2014	2015	2016*	2017*	2018*	2019	2020	2021
AfDB	1,048	1,548	1,211	876	1,779	2,469	2,993	1,512	2,020
ADB	2,827	2,376	2,656	3,359	4,156	3,226	6,363	4,556	3,552
AIIB								1,115	2,746
EBRD	3,319	3,948	3,009	2,956	3,973	3,135	3,680	2,009	4,500
EIB	5,224	4,991	5,088	3,800	4,883	4,847	3,305	3,032	3,257
IDBG	932	2,074	1,486	2,163	3,727	4,028	4,186	2,181	4,372
IsDB							464	258	684
NDB									509
WBG	8,139	10,807	9,997	9,758	11,698	18,497	17,571	20,676	26,110

Note: The MDB reports for 2016–2018 do not provide income groups of recipient per bank, but in Table 7/9 provide an aggregate across all Banks, which is then used to estimate an average co-efficient for MDBs' climate finance to "developing countries" only for these years.

Sources: Annual MDB reports.[94]

TABLE 7. China's percentage share in each MDB

	2017	2018	2019	2020	2021
AfDB	1.2%	1.2%	1.2%	1.7%	1.2%
ADB	6.4%	6.4%	6.4%	6.4%	6.4%
AIIB			30.8%	30.8%	30.8%
EBRD	0.1%	0.1%	0.1%	0.1%	0.1%
EIB					
IDBG	0.1%	0.1%	0.1%	0.1%	0.1%
IsDB					
NDB					19.0%
WBG	2.6%	2.6%	2.5%	2.8%	2.8%
IFC	2.4%	2.4%	2.4%	2.4%	2.3%
IDA	0.2%	0.4%	0.4%	0.4%	0.4%
IBRD	4.8%	4.7%	4.6%	5.0%	5.3%

Source: Annual reports and financial statements of each MDB.

TABLE 8. China's financial deposits to the GEF Trust Fund

Year	US $	Source
2013	3,445,000	World Bank, 2014
2014	3,445,000	World Bank, 2014
2015	4,682,500	World Bank, 2016
2016	4,682,500	World Bank, 2016
2017	9,297,500	World Bank, 2018
2018	0	World Bank, 2018
2019	10,487,980	World Bank, 2020
2020	0	World Bank, 2020
2021	5,244,000	World Bank, 2021

94 EIB, 2013; World Bank, 2014; IADB 2015; IADB, 2016; IADB, 2017; IADB, 2018; IADB, 2019, EIB, 2021.

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