



FINANCING CLIMATE ACTION AND THE COVID-19 PANDEMIC: AN ANALYSIS OF 17 DEVELOPING COUNTRIES

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EXECUTIVE SUMMARY

Highlights

- To meet the Paris Agreement’s long-term goals, it is crucial that developed countries support developing countries in achieving their Nationally Determined Contributions (NDCs) and mobilizing the required climate finance.
- For this paper, we analyzed the impacts of the COVID-19 pandemic on climate finance and climate action implementation in 17 developing countries, drawing on available information from climate-finance tracking tools, reports, and climate needs assessments.
- Our analysis shows a decrease in climate finance flowing to developing countries. Most of this funding took the form of loans, and developing countries have reallocated or decreased their domestic climate flows because of the high costs of responding to the pandemic. As a result, climate-related projects have been delayed. Compounding the challenge, some developing countries have had to deal with major natural disasters amid the pandemic.
- Improved transparency through climate-finance tracking tools could help countries more easily identify their conditional and unconditional climate needs and mobilize and deploy resources more effectively.

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Working Papers contain preliminary research, analysis, findings, and recommendations. They are circulated to stimulate timely discussion and critical feedback, and to influence ongoing debate on emerging issues.

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- Climate-finance availability continues to fall short of the required amount of resources to implement developing countries' NDCs and meet the Paris Agreement goals. The COVID-19 pandemic is widening this gap. Developed countries need to strengthen their commitment to close it by increasing climate finance.

Context

Nations must redouble their climate efforts if they are to reach the Paris Agreement's temperature goal by the end of the century and continue increasing and improving their resilience actions toward the changing climate (UNFCCC 2021b).

When countries signed the Paris Agreement, they committed to limiting global temperature rise to well below 2°C and pursuing efforts to limit it to 1.5°C, and to increase their ability to adapt to the impacts of climate change and foster their climate resilience. NDCs submitted to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat toward meeting these temperature goals are not ambitious enough. Total greenhouse gas (GHG) emissions levels, based on new and enhanced NDCs, are projected to be around 13.67 Gt CO₂e in 2030, about 2.8 percent lower than total emissions levels communicated in previous NDCs (UNFCCC 2021a). In contrast, the adaptation component of NDCs has increased with a focus on adaptation planning and more time-bound adaptation actions, when compared with previous NDCs (UNFCCC 2021a).

The pandemic acutely affected developing countries that were already struggling to access international climate finance to implement their NDCs.

Developing countries have struggled to implement their NDCs while facing a global pandemic that affected every country's health and economy in unprecedented ways. COVID-19 paralyzed economic activity, closed borders, and required countries to redirect budgets, increasing their debt in some cases, to address the financial needs created by the pandemic (UNDP 2021).

Climate finance needs exceed climate-related flows, which could compromise meeting the Paris Agreement goals. Pre-pandemic, the global investment needed in the energy sector alone to keep global warming to 1.5°C was between \$1.6 and \$3.8 trillion annually until 2050 (IPCC 2018), while total climate-related finance flows, including to the energy sector, were estimated to be

between \$608 and \$622 billion in 2019 (Macquarie et al. 2020). As a result, the total climate finance gap could be at least \$1–\$3 trillion per year.

About This Working Paper

This paper aims to inform the providers and recipients of climate finance about the growing gap between climate finance needs and flows by reviewing trends in international and domestic climate finance during the COVID-19 pandemic.

We analyzed climate finance in developing countries and their ability to undertake climate action during the pandemic to strengthen support for climate action in developing countries.

We conducted a literature review and complemented the analysis with in-depth interviews with government officials and representatives from civil society organizations. We analyzed 17 countries' climate budget-tagging (CBT) reports or secondary sources to identify climate-finance expenditure and/or allocations before the pandemic and its potential impact. We also interviewed officials from ministries of finance, planning, and environment who are responsible for tracking and articulating climate finance at a national level.

Key Findings

Over a third of the developing countries analyzed in this paper showed decreasing domestic climate finance prior to the pandemic, due to natural disasters and climate impacts on key sectors, and most climate budgets decreased amid the pandemic. Efforts from a group of 17 developing countries (see Appendix B) to track their climate finance allow an analysis of how the pandemic has affected these countries' domestic public financial flows related to climate action. Shortfalls in national climate budgets and reallocations away from climate-related projects to other sectors, along with cuts to international climate finance, have affected the implementation of climate-related projects and could affect the ability of countries to meet their NDCs.

International climate finance for climate action has decreased during the pandemic. Between 2019 and 2020, the proportion of official development assistance (ODA) for projects with climate as a principal objective fell from 18 percent to 14 percent and, for projects with climate as a significant focus, fell from 25 percent to 17 percent (DI 2021). Amid this decrease in international

climate finance, loans have represented the main instrument through which climate finance has been deployed. According to the most recent data from the Organisation for Economic Co-operation and Development (OECD), in 2017, 2018, and 2019 loans represented 73, 76, and 71 percent, respectively, of all international climate finance (OECD 2021).

Few developing countries have implemented tools for tracking domestic and/or international climate finance. Some countries have taken actions to monitor domestic expenditures and/or allocations for climate finance through tracking tools. This has allowed ministries to identify climate-related projects or programs and be better positioned to monitor the progress of their climate actions. While this number is still relatively small (approximately 11 countries have some sort of climate-budget tracking tools), a growing number of countries have taken steps toward climate-finance transparency by commissioning studies that identify expenditures and/or allocated climate finance within a specific time frame (see Figure 5).

It remains difficult to determine the climate-finance needed by developing countries due to a lack of baseline information. Less than 25 percent of developing-country Parties to the Paris Agreement have reported conditional and/or unconditional adaptation finance needs, and less than 50 percent have reported mitigation-finance needs through their NDCs. A baseline of climate-finance needs, differentiating between conditional and unconditional NDCs, is a key component to addressing the climate finance needed to meet the Paris Agreement's goals.

Recommendations

Developing countries should create and implement climate-finance tracking systems that are context-specific to help identify needs and mainstream climate action in government planning and budgets, according to their respective national capabilities and circumstances. Countries with tools to track and monitor their climate finance are able to demonstrate how their budgets have been affected and are better positioned to monitor progress toward meeting their NDCs. These countries' experiences offer early lessons about how to use and maximize the effectiveness of tracking and monitoring tools to give a more complete picture of developing countries' financial needs for climate action. Climate-finance tracking, which allows

monitoring of financial flows from different sources, is a relevant tool for developing a more transparent climate-finance needs assessment. This would also contribute to assessing how countries are including climate change in planning policies, particularly in recent stimulus packages to address the pandemic's impact on their economies.

Developing countries should periodically report climate-finance support needed to achieve their conditional and unconditional NDCs and use standard methodologies for enhanced comparability. Standard methodologies and requirements can be implemented for countries to periodically communicate how they will finance their NDCs. To adequately track the progress toward the Paris Agreement goals, it is crucial that this information be collected, updated, and monitored through comparable methods. A bottom-up approach (country-driven) would allow streamlining and updating data while improving the assessment of climate-action ambitions, the predictability of its implementation, and the tracking of climate finance.

Bilateral and multilateral public financial institutions should increase concessional international climate finance. To increase climate action, developing countries will need high levels of concessional climate finance from international sources to complement their domestic flows. The agreement within the UNFCCC for developed countries to mobilize \$100 billion per year by 2020 did not specify how these flows should be mobilized (i.e., how much should be provided through different financial instruments) (Independent Expert Group on Climate Finance 2020). However, the post-2025 climate-finance goal should take into account the strain on public finance from developed countries and should consider financial instruments that allow developing countries to meet the commitments in their NDCs while avoiding increasing debt burden.

Governments, international financial institutions, and research organizations should conduct further research on the effectiveness of CBT systems to leverage domestic resources and crowd in international climate finance. This analysis could also evaluate the political economy of implementing these systems, including government motivations for developing them and the synergies with other UNFCCC-related processes.

1. INTRODUCTION

Climate change is wreaking havoc on countries around the world, with 2020 as one of the three warmest years, besides 2016 and 2019, on record globally (WMO 2021). And while emissions decreased during lockdowns around the world, it is unlikely that this trend will continue as dramatically as in 2020 (DOE 2011; IEA 2021). Countries have felt the effects of hurricanes, typhoons, and droughts. At the same time, countries around the world had to respond to the compounding tragedies brought about by COVID-19. This pandemic is a health challenge with no modern precedents; it has forced countries to implement measures that have affected their economies and social welfare. These measures include social distancing requirements, border closures, lockdowns, and curfews, among others, all of which negatively affected economic annual growth worldwide.

Several countries have found themselves combating the effects of the pandemic during a year where they have also faced natural disasters. Developing countries, in particular, will be recovering from these multiple crises while saddled with high debt burdens. Governments will have to examine their budgets carefully to determine the path to take in the medium and long term once the short-term health crisis eventually subsides.

These challenges have come at a time when governments around the world should be dramatically increasing their expenditure on climate to meet mitigation and adaptation needs in the coming decade. A recent report published by the UNFCCC assessing enhanced NDCs shows that Parties, in general, need to peak their emissions before 2030 if they are to meet their stated goals (UNFCCC 2021a). With many countries having set their climate goals for 2030, this is the decisive decade for mitigating the impacts of the climate crisis.

1.1 Overview of This Paper

This paper seeks to inform three audiences: government ministries responsible for domestic climate finance, ministries that are recipients of international climate finance, and donors responsible for providing climate finance. The paper addresses the following questions:

- Has the COVID-19 pandemic affected domestic and international public climate finance flows?
- Has the pandemic affected countries' climate-action implementation?

Following the methodology section, we begin our analysis by looking at the state of climate-finance needs in developing countries, based on a bottom-up approach, by reviewing their latest NDC submissions as of June 2021. We complement this analysis with global estimations of climate action needs, based on a top-down approach.

The second part of the analysis begins by exploring how countries are tracking their climate-finance expenditure and/or allocation through a general overview of the types of climate-finance tracking tools countries are using. These tools allow an analysis of trends related to domestic public climate finance. In countries where there are sufficient data available on climate-finance spending levels, we conduct a comparison of climate-finance spending before and after the pandemic struck. We include an overview of available data to allow for a better understanding of how these compounding crises have affected the availability of climate finance in developing countries and thus their ability to implement projects and programs to meet their NDCs.

The paper then highlights the key takeaways from our analysis before concluding with recommendations for how governments and donors should continue to make progress on financing climate action.

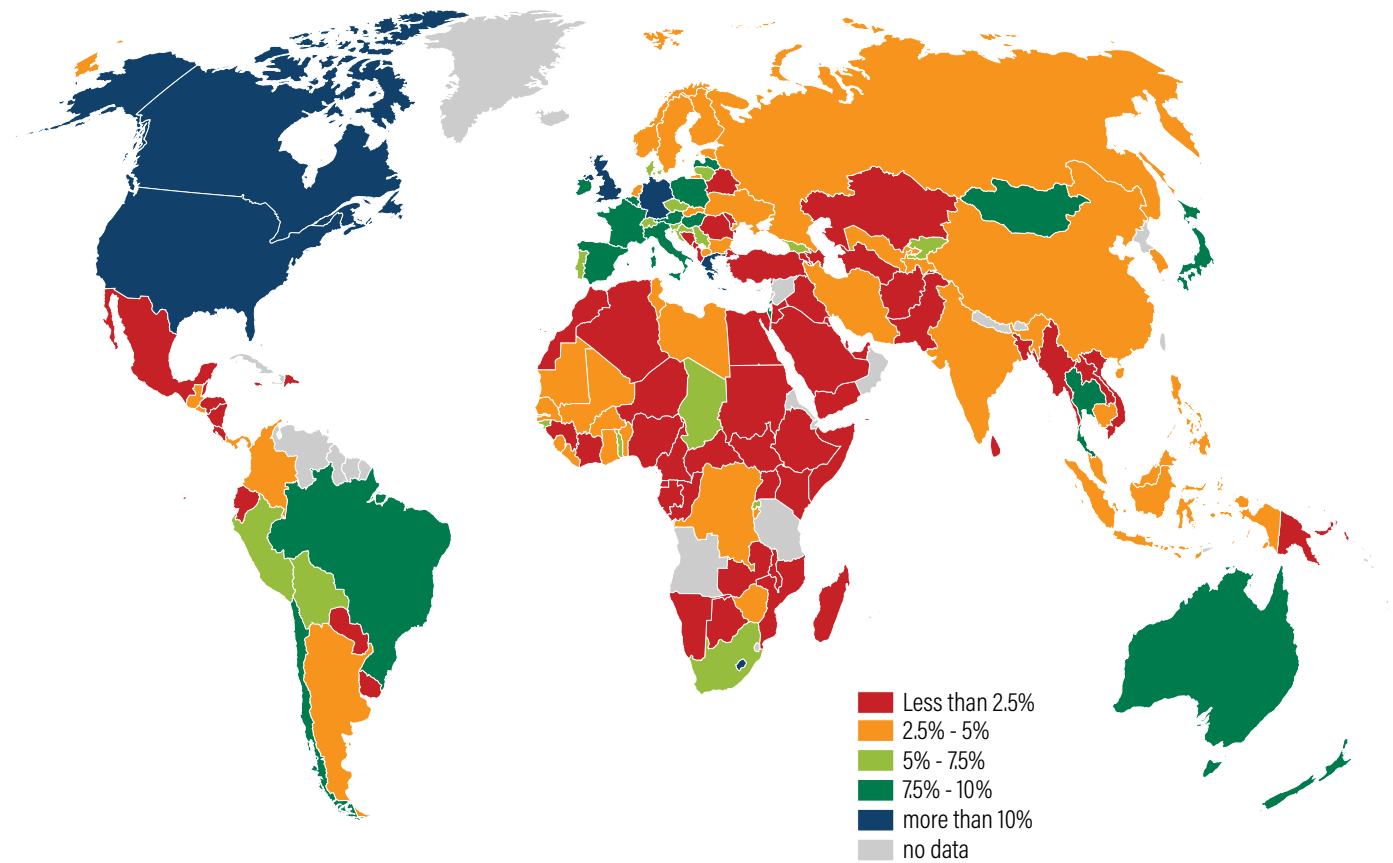
1.2 Background

The focus of the paper is on developing countries for which data are available domestically; these countries' experiences are contextualized in the broader economic and social issues that arose from the pandemic in 2020.

According to the International Monetary Fund (IMF), global gross domestic product (GDP) for 2020 shrank by 3.3 percent (IMF 2021a). In response, global fiscal measures taken by countries have accounted for 12 percent of the world's GDP as of September 2020, including additional spending or forgone revenues and liquidity support (IMF 2020). These fiscal measures varied significantly by country, with developing countries spending much less per capita on stimulus, and taking on debt to deal with multiple crises (Figure 1). Although it is expected that the global economy will recover by 2021, uncertainty remains (WEO 2021).

The World Economic Forum (WEF) identified infectious disease as the number one risk to economic growth in 2020, followed closely by climate-action failure (WEF

Figure 1 | National Disparities in COVID-19 Stimulus Response (% GDP)



Source: IMF 2021c.

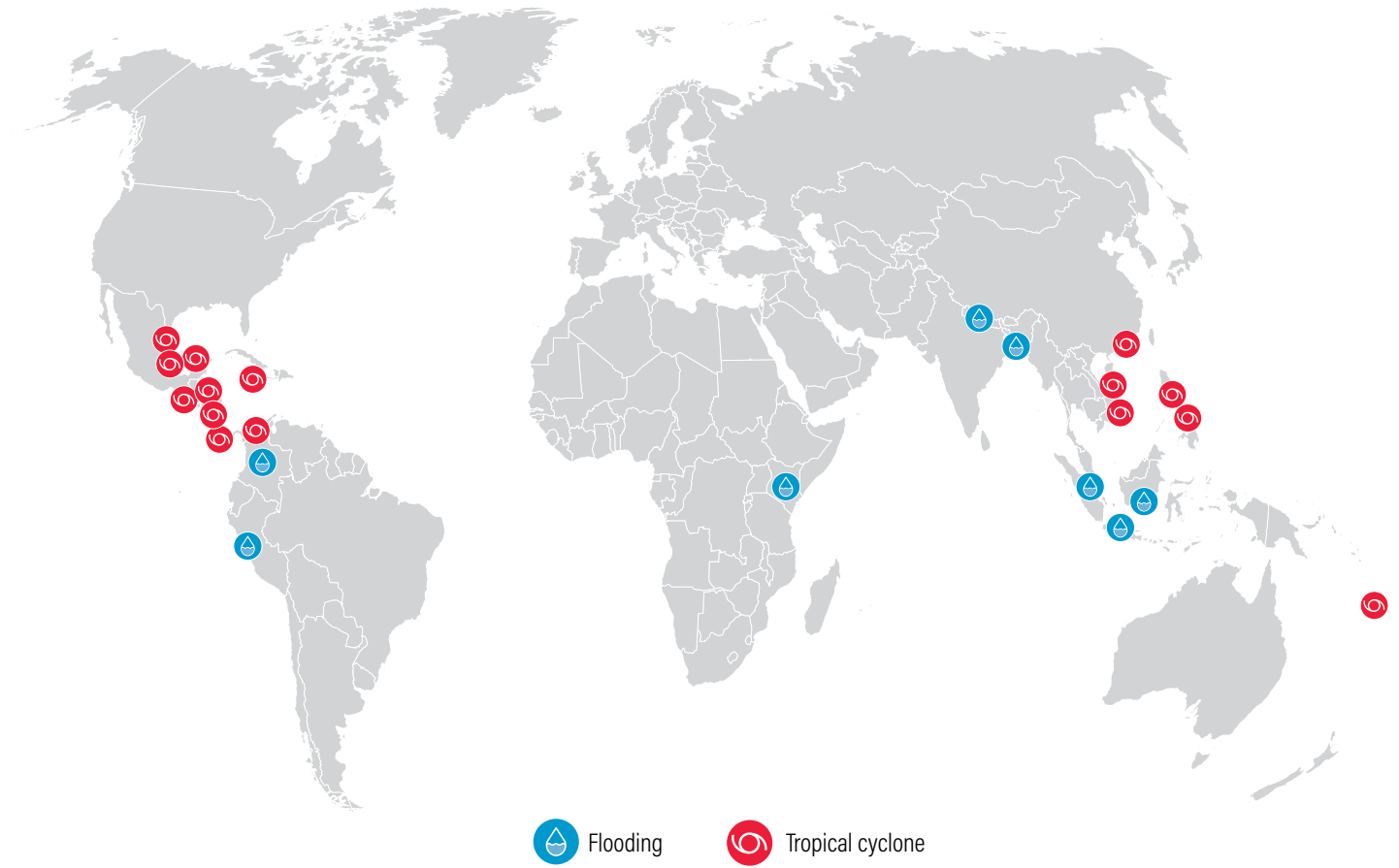
2021). A report of these overlapping crises shows that, between March 2020 and September 2020, there were 92 weather-related disasters globally with 51.6 million people affected by climate-related floods, droughts, or storms (Walton and van Aalst 2020).

For example, Guatemala, Honduras, and Nicaragua were all hit by hurricanes Eta and Iota late last year. In Guatemala, the impact of these natural disasters reduced the country's 2020 GDP by 0.1 percent, in addition to a 1.5 percent reduction caused by the pandemic (Bello and Peralta 2021). In Nicaragua, both hurricanes caused damages that represent 6.2 percent of the country's GDP (FAO et al. 2020). In Bangladesh and India, Cyclone Amphan caused \$13 billion in damage. In East Africa (Ethiopia, Kenya, Uganda) a locust infestation threatened large swaths of the region's agriculture-reliant economies (Fitch Ratings

2020). Worldwide, in 2020, countries have faced \$268 billion in economic losses and \$97 billion in insured losses from natural catastrophes that had climate-influenced weather as a key driver (Figure 2).

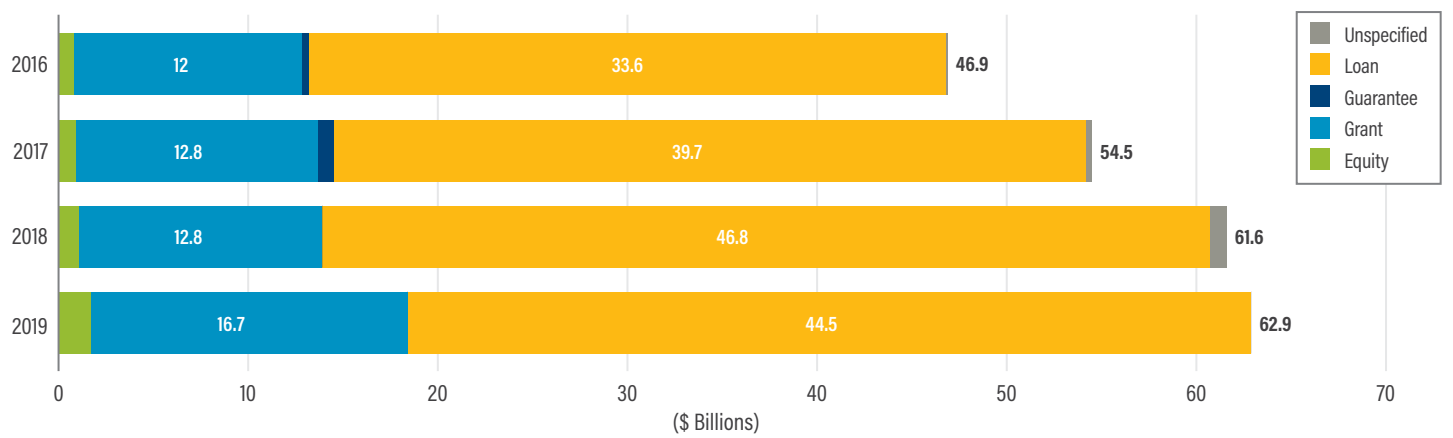
Concerning international climate finance, developed countries (country members of the OECD, as well as economies in transition) have yet to reach the \$100 billion goal set at COP 16 in Copenhagen (Independent Expert Group on Climate Finance 2020). Several reports present different estimates of progress toward the \$100 billion goal. However, notably, of all international climate finance provided, the OECD estimates that loans account for the lion's share, especially in more recent years (see Figure 3) further contributing to the debt burden that developing countries are facing (UNDP 2021).

Figure 2 | Significant 2020 Natural Disasters in 17 Case Study Countries



Source: Aon 2020.

Figure 3 | Public Climate Finance Provided by Instrument, Per Year 2016-19, by \$ Billions



Source: OECD 2021.

To complement the challenges in mobilizing climate finance worldwide, COVID-19 stimulus packages have been mostly financing business-as-usual activities that have not contributed to climate action (González et al. 2021). These packages have also increased the debt burden of developing countries, which was already reaching high levels in many countries before the pandemic. Recent estimates of green recovery spending in 2020 range from \$336 billion (OECD 2020) to \$368 billion (O’Callaghan and Murdock 2021). This represents roughly 17.6 percent to 19.4 percent, respectively, of the \$1.9 trillion in long-term global recovery spending estimated by the Global Recovery Observatory and nearly half of the 2016 climate finance flows.¹

1.3 Methodology

This paper focuses on developing countries for which holistic or partial data are available, from primary (e.g., CBT systems and NDC submissions) or secondary sources [e.g., climate public expenditure and institutional reviews (CPEIRs)], regarding their climate finance needs, expenditures, and/or allocations between 2018 and 2020-21 (see Table 1 and Appendix B). We reviewed all developing countries (defined as non-Annex I Parties of the UNFCCC), and we then identified 17 with available data from either CBT tools or secondary analysis of their government climate expenditures. This group formed our sample.

Table 1 | **Case-Study Countries**

CASE-STUDY COUNTRY	REGION	INCOME MIX	GDP IN \$ BILLIONS, 2020	DATA SOURCE
Bangladesh	Asia	Lower-middle	329.19	Primary Source
Cabo Verde	Africa	Lower-middle	1.17	Secondary Source
Cambodia	Asia	Lower-middle	25.95	Primary Source
Colombia	LAC	Upper-middle	271.46	Primary Source
Fiji	Pacific	Upper-middle	4.32	WRI Analysis
Ghana	Africa	Lower-middle	68.42	Primary Source
Guatemala	LAC	Upper-middle	77.07	WRI Analysis
Honduras	LAC	Lower-middle	23.69	Primary Source
Indonesia	Asia	Lower-middle	1,059.64	Primary Source
Kenya	Africa	Lower-middle	99.29	Secondary Source
Mexico	LAC	Upper-middle	1,073.16	Primary Source
Nepal	Asia	Lower-middle	34.47	Primary Source
Nicaragua	LAC	Lower-middle	12.15	Primary Source
Pakistan	Asia	Lower-middle	262.80	Primary Source
Peru	LAC	Upper-middle	203.77	Primary Source
Philippines	Asia	Lower-middle	362.24	Primary Source
South Africa	Africa	Upper-middle	302.11	Secondary Source

Sources: WRI authors, GDP data extracted from IMF 2021b, and income mix data from World Bank 2021b.

Based on available sources, we examine trends in how much developing countries are spending on climate action and the impact of the compounding crises brought about by the pandemic and climate change. In some countries, we were able to obtain actual spending figures; and in other countries, we could only obtain allocations based on supplementary budgets put forward as a result of COVID-19. In both cases, it was possible to determine year-over-year increases and decreases in expenditures and/or allocations for the period 2018 to 2020-21. Because countries use different methodologies for monitoring their climate expenditure and/or allocation and have different fiscal calendars and budget cycles (see Appendix D), we do not compare data across countries.

We took NDC submissions as a proxy of developing countries' climate finance needs, due to a lack of a standardized methodology for countries to determine their climate-finance needs. This assessment was based on data provided through the first, second, and enhanced NDCs. For the cases in which countries have submitted more than one NDC, the most recent submission was taken into consideration. Total needs estimates were used as expressed in NDC submissions. The assessment of the methodologies used by countries was not the focus of this paper.

Our findings are also informed by 13 interviews with representatives from ministries of finance, planning, and environment in countries with CBT systems or that have completed CPEIRs (see Appendix A). These interviews took place between April and June 2021 and included questions about countries' climate-finance needs, how the pandemic has affected climate finance, and climate-project implementation.

For this paper, we use the definition for climate finance provided by the Standing Committee on Finance in the 2014 Biennial Assessment and Overview of Climate Finance Flows and Report: "Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts" (UNFCCC 2014). We use the term *domestic climate finance* to refer to national budgets approved by each government on an annual basis and the term *international climate finance* to refer to support received from international or non-national entities. When not specified, we use the term *climate finance* to refer to both domestic and international climate finance together.

2. ANALYSIS

2.1 How Much Climate Finance Do Countries Need?

Although there is not yet a comprehensive assessment of the amount of funding that developing countries need to reach their climate goals, we know that significant investments need to be made in virtually every country. There is a growing number of methods to determine climate finance needs; however, there is no standard guidance regarding which of these methods should be used to estimate financial costs within the UNFCCC mandate, which is why countries have followed distinct international and regional methods (UNFCCC 2021d). Reporting by developing countries of their financial needs is encouraged but not mandatory under the Paris Agreement; and, in any case, such reporting is not due to commence until 2024, once the enhanced transparency framework under the Paris Agreement comes into force.

Climate-finance needs have been identified by countries in two ways: by a country-driven, bottom-up approach or by a top-down modeling-based approach to achieve the Paris Agreement's mitigation and adaptation goals, through which countries committed to limiting global temperature rise to well below 2°C and pursue efforts to limit it to 1.5°C and to increase their ability to adapt to the impacts of climate change and foster their climate resilience.

Bottom-Up Approach

Countries have, in some form, stated in several documents how much money they need to take climate action toward meeting the goals of the Paris Agreement. The most universally available documents are the NDCs submitted to the UNFCCC. NDCs are the heart of the Paris Agreement and the primary means through which mitigation and adaptation long-term related goals are expected to be achieved. Many developing countries also use their NDCs to indicate how much climate finance is needed to reach national climate goals. Developing countries are least responsible for climate change and yet are most in need of finance to successfully adapt and develop a climate-compatible pathway. In line with the "common but differentiated responsibilities and respective capabilities" principle (Article 4, UNFCCC), developing countries have articulated their financial and capacity-building needs in their NDCs and made their contributions conditional on receipt of international support.

Some countries have estimated the finance needed to meet their conditional and unconditional commitments, and some have identified only the aggregate amount of funding they need to address their NDCs as a whole. Table 2 indicates climate-finance needs in developing countries for adaptation, mitigation, and both, and for the conditional and unconditional commitments in NDCs. For a full list of each country's NDC finance needs, see Appendix E.

Based on an analysis of the available quantitative information found in NDCs submitted by developing countries as their first submission, first update, and second submission (Table 2), total financial needs amount to \$4.6 trillion. This sample represents 74 of 149 non-Annex I countries that have presented some form of statement of financial needs, meaning that it is likely underestimating total needs from developing countries. According to data from the analyzed NDCs, 45 percent of countries have stated that their mitigation goals are conditional on receiving external support, which so far represents a total of \$608 billion of financial need.

Top-Down Approach

Top-down analyses estimate financing needs based on the actions needed to stay within 1.5°C or 2°C scenarios and to increase countries' ability to adapt to climate-change impacts. While exact figures are generally difficult to estimate for all sectors, global energy investments needed to achieve climate goals already outweighed total climate finance even before the pandemic.

Although there is no comprehensive estimate of how much climate investment is needed across both mitigation and adaptation goals, the IPCC estimated global energy sector investments to keep global warming within a 1.5°C scenario to be between \$1.6 and \$3.8 trillion annually (Figure 4). However, Climate Policy Initiative estimated total global climate finance, including the energy sector, to be less than half that amount, between \$608 and \$622 billion in 2019 (Macquarie et al. 2020). On top of this, developing countries' adaptation-finance needs are estimated between \$280 and \$500 billion annually by 2050 (UNEP 2016).

Developing Enhanced NDCs during COVID-19

Climate-finance needs of many countries are also tied to other development indicators or to current crises that they are facing. For example, in Bangladesh's NDC, financial needs are framed in the following way: "The exact proportions of both the conditional and unconditional will depend on three inviolate principles of maintaining a minimum 8% rate of growth, complete eradication of poverty by 2030, and food and nutrition security for all citizens" (MOFECC Bangladesh, 2021). According to the World Bank, Bangladesh's GDP in 2020 grew by 2 percent, which is far short of the rate needed to meet the country's current unconditional goals and increasing its need for conditional finance.

The recent enhanced NDC submitted to the UNFCCC by Fiji mentioned that the country is facing several crises that will limit its ambition and ability to meet targets. Fiji's

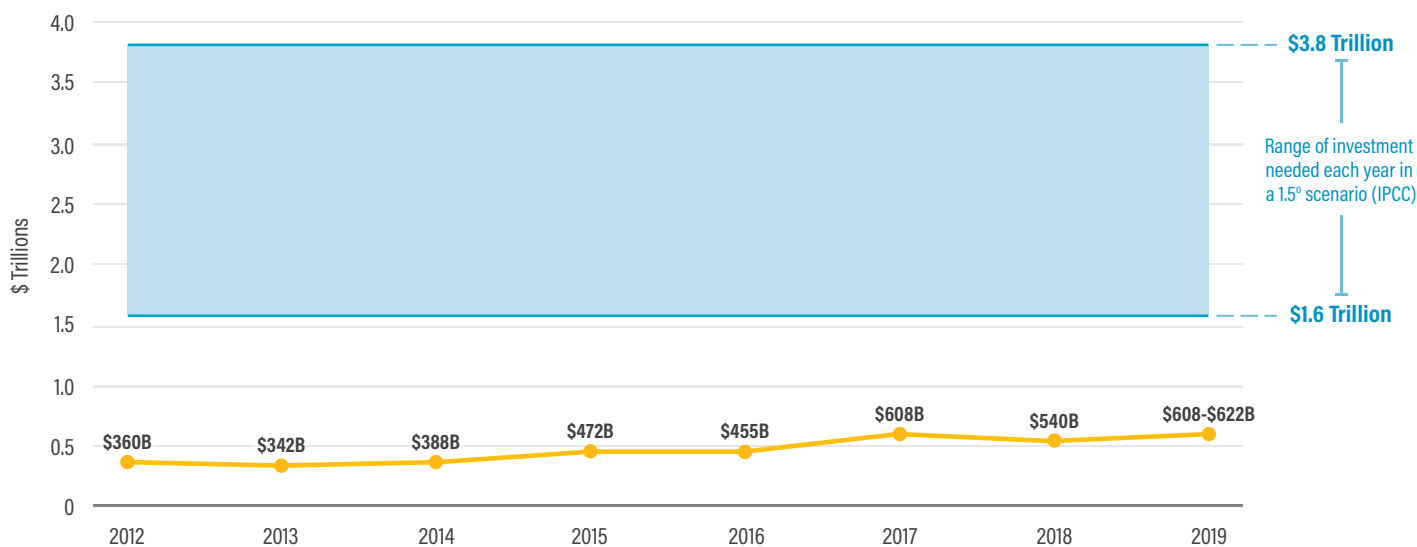
Table 2 | **Financial Needs for Climate Action as Stated in Developing Countries' NDCs**

	DEVELOPING COUNTRIES'S FINANCIAL NEEDS (BILLIONS USD)							
	Adaptation	Mitigation	Unspecified	Total	Adaptation		Mitigation	
					Conditional	Unconditional	Conditional	Unconditional
First NDC	532.4	2,648.7	130.7	3,311.8	64.8	21.1	143.6	44.1
First Updated NDC	209.5	991.9	64.8	1,266.2	40.5	36.4	464.4	112.3
Second NDC	-	25.0	0.7	25.7	-	-	-	3.4
Total	741.9	3,665.6	196.2	4,603.7	105.3	57.5	608.0	159.9

Note: *Unspecified* refers to stated climate-finance needs in NDC reports that do not differentiate between mitigation and adaptation. In countries where amounts for conditional or unconditional adaptation or mitigation needs were available, those amounts were taken into consideration for mitigation and adaptation total needs estimation purposes. For countries that have updated their information, their most recent NDC submission supplants the previous, thereby preventing duplication. For detailed information about countries' needs per criteria, see Appendix E.

Source: WRI authors, based on UNFCCC 2021c.

Figure 4 | Required Annual Global Energy Investment up to 2050 to Keep Warming within the 1.5°C Scenario, Compared to Total Global Climate Finance, 2012-19



Source: Macquarie et al. 2020.

update states, “This NDC update recognizes that the cost of implementing this target currently stands at US\$2.97 billion between 2017 and 2030. This is an exorbitant financial challenge compounded with competing adaptation and disaster risk challenges the country faces, all of which are exacerbated by the COVID 19 economic crisis” (Fiji Government 2020). Tonga, another small-island developing state, also noted the loss and damage from increased weather events and that this “risk is now compounded by the impacts of the COVID-19 pandemic” (MEIDECC Tonga 2020).

Other countries, such as Nepal, Kenya, and Colombia, have noted the impact that COVID-19 has had on their economies in their updated NDC submissions. In the case of Kenya, the country’s original NDC called for \$40 billion for mitigation and adaptation action that was completely conditional on international support. While the new submission includes \$8 billion in unconditional contributions from domestic resources, the amount of international conditional support needed has now increased to \$54 billion for the same time frame of 2020–30.

2.2 Country Methods for Tracking Climate Finance

Understanding the use of funds helps to determine whether countries are on their way to meeting their NDC commitments and how progress has been affected by recent events. Countries have started to use different tools to monitor how much climate finance is being allocated and/or spent. The tools and studies developed by different international entities have different scopes and degrees of permanence, as can be seen in Table 3. Many of these tools track information periodically and, depending on their level of development, even annually, like Pakistan’s and Peru’s CBT. Some studies are developed based on a country’s need for them. For instance, a CPEIR has been developed once in countries shown in Figure 5 but twice in Pakistan, in 2015 and 2017.

One way that countries have begun to measure how much public finance is going toward climate-related activities is through CBT. This practice builds on other budget-tagging initiatives that were focused on the Sustainable Development Goals or specific subsets of goals, such as poverty or gender. This approach is used to identify and monitor climate-relevant public expenditures and is led by governments, typically the ministries of finance,

Table 3 | Climate-Tracking Tools and Studies

CLIMATE TRACKING TOOLS AND STUDIES			
Tools			
	Scope	Developer	Type of Finance
Climate Budget Tagging (CBT)	Tool for monitoring and tracking climate-related expenditures in the national budget system. Aims to define climate activities, classify climate expenditure, weight climate relevance, and design tagging procedure.	UNDP	Public
Studies			
	Scope	Developer	Type of Finance
Climate Public Expenditure and Institutional Review	Diagnostic tool to assess opportunities/constraints for integrating climate change within the national and subnational budget allocation and expenditure process. Aims to conduct a policy, institutional, and climate public-expenditure analysis.	UNDP	Public
Private Climate Expenditure and Institutional Review	Qualitative and quantitative analysis of a country's private-sector expenditures related to climate change in certain sectors. Includes a review of private-sector investments in selected sectors and an estimate of investment needs.	UNDP	Private
Climate Finance Landscape	Analysis of capital investment in climate-related areas and its sources. Focuses on analyzing climate finance (source, intermediaries, and project management) and climate investments.	I4CE	Public and/or Private
Land-Use Finance Mapping	Analysis of financial flows in activities and sectors related to the use of land. It includes 8 modules that focus on drivers of deforestation analysis, development of a REDD+ strategy and investment plan, resource mobilization framework, and design of funding mechanisms, among others.	EU REDD Facility and Climate Policy Initiative	Public and/or Private
Investment and Financial Flows	Analysis that determines the costs of climate-change measures and necessary investment sources and its timing through different scenarios, such as project baseline, mitigation, adaptation, and costs scenarios.	UNDP	Public and Private

Sources: CPI 2021, UNFCCC 2021d, Climate Finance and Development Effectiveness, Institute for Climate Economics, and WRI authors.

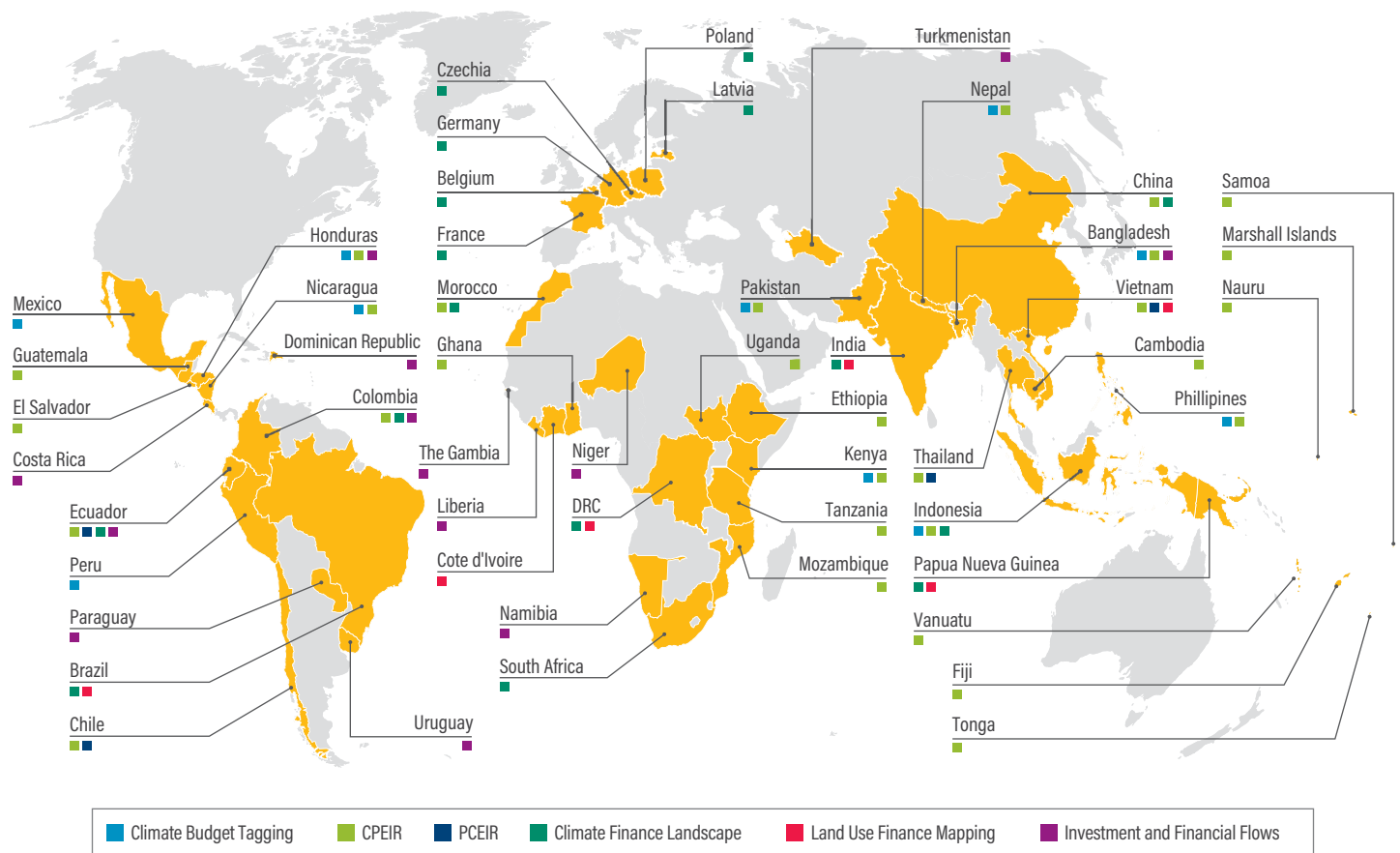
planning, or environment. This tool can identify, classify, weight, and mark climate-relevant expenditures in government budgets.

Countries may implement such tracking systems to establish their baseline climate spending, monitor levels of climate expenditures and potential funding gaps, or contribute to the enhanced transparency framework under the Paris Agreement. This tool enables policymakers to plan and allocate resources to better tackle climate change-associated impacts, among other uses (see Figure 5).

In addition to regular budget tagging, countries have implemented one-off studies of climate funding, analyzing public and/or private flows. The most common study is

the CPEIR, which assesses domestic flows and provides an analysis on three specific fronts: institutional, policy, and climate public expenditures. Forty countries are already using CBT and CPEIR, allowing them to track or analyze their climate flows. Currently, developing countries are requesting technical support to integrate their NDCs into national planning documents, budgets, and revenue streams, which entails climate-finance tracking and integration of climate finance into public budgets and expenditure frameworks, among other actions (NDCP 2020).

Figure 5 | Climate Finance Tracking Tools and Studies in Different Countries



Sources: CPI 2021, UNFCCC 2021d, Climate Finance and Development Effectiveness, Institute for Climate Economics, and WRI authors.

2.3 Emerging Climate-Finance Trends during the COVID-19 Pandemic

The health and economic impacts of COVID-19 are well documented; however, the effect on climate finance amid the COVID-19 pandemic, from a domestic budget perspective, is less clear. Finance for climate action remains sorely needed despite the pandemic. However, the trends that are emerging show growing shortfalls in climate finance, reallocations away from climate-relevant ministries, and delays in implementation or approval for climate-related projects for the 2020–21 period, see Appendix C for methodology.

Reductions in national environmental budgets have caused cuts to climate action.

National budget constraints have forced countries to cut funding for many climate-related sectors to free up money to address pandemic-related expenditures and revenue losses. During 2020 and 2021, governments reallocated budgets to increase liquidity, prevent layoffs, sustain payment chains, strengthen health infrastructure, and implement response measures. This affected climate finance allocations, generating shortfalls in a majority of the countries reviewed (Figure 6).

Ministries that often provide funding for climate mitigation, such as transportation and energy ministries, and adaptation, including ministries of the environment, often faced cuts to their recurrent yearly budget items. For

Figure 6 | Examples of Countries with Decreasing Climate Budgets


Note: In the case of Indonesia and Peru, original climate allocations and realized expenditures were available for the years reviewed.

Sources: DNP 2021, Ministry of Finance of Guatemala 2021, Ministry of Finance of Indonesia, Fiji Government 2020, Ministry of Economy and Finance of Peru 2021, and WRI analysis.

example, in South Africa, the Department of Environment, Forestry, and Fisheries had its recurring budget reduced by 9 percent in 2020. The climate-change subprograms of the department experienced an even steeper reduction of 33 percent. Allocations in the Environmental Affairs Department for air quality and sustainable management were 51 percent less than originally planned, and allocations for climate change mitigation were 44 percent less (Table 4; Connolly 2021).

In Indonesia, annual economic losses due to climate change are expected to amount to \$14.8 billion annually by 2050, with finance needs in the country's original NDC stated as \$55 billion for the 2015–19 time frame alone (USAID 2016). More recent estimates from the Ministry of Planning state that \$4.4 trillion would be needed between 2019 and 2030 to reach NDC targets (USAID 2016; Indonesia Ministry of Finance 2019). However, according to data from Indonesia's Ministry of Economy and Finance, funding for low-carbon development decreased by 32 percent in the revised budget for 2020, compared to the allocated budget in 2020. The decrease represents 9 percent of the country's total national budget and was due

primarily to the need to move financing toward health and economic recovery (Figure 6). The funding for economic recovery included funding for strengthening social safety nets; incentives for micro-, small-, and medium-sized businesses; funding for state-owned enterprises; working capital loans for corporations; and increased funding for ministries and regional administrations administering these programs (Akhlas 2020). Notably, climate funding in Indonesia has been decreasing year-over-year since 2018, even prior to the COVID-19 pandemic.

In Peru, the Ministry of Environment's initial budget was reduced by 34 percent and 35 percent in 2020 and 2021, respectively. Meanwhile, Nepal saw its climate budget for 2019–20 decrease by 4.7 percent, relative to the previous year. The new 2020–21 budget has increased climate spending but is still 4 percent below 2018–19 levels.

Honduras saw a budget decrease in almost all sectors, including those that contribute to its NDCs, such as energy and agriculture, while the health sector saw the largest increase in budget, due to flows related to the pandemic (Table 5).

Table 4 | South Africa Climate-Relevant Expenditure, 2020–21 Budget with COVID-19 Adjustments

MINISTRY	PROGRAM-LEVEL	AMOUNT IN \$	% CHANGE FROM ORIGINAL BUDGET
Environment Affairs	Climate-change adaptation	-34,000.00	-5%
	Climate-change mitigation	-398,000.00	-44%
	Air Quality and sustainable development management	-350,000.00	-51%
	International climate-change relations and reporting	-238,000.00	-23%
Agriculture	Agricultural production, health, food safety, natural resources, and disaster management	-12,891,000.00	-6%
	Food security	-64,054,000.00	-46%
	National extension services and sector capacity development	-553,000.00	-1%
Energy Innovation, Green Energy, and Energy Efficiency	Minerals, energy efficiency, and green energy programs	-2,513,000.00	-5%
	Energy and innovation programs	-7,240,000.00	-5%
Water Management	Water-sector regulation	-1,965,000.00	-7%
	Water planning and information management	-9,010,000.00	-13%

Source: Conolly 2021.

Table 5 | Honduras: Change in Budget per Sector 2020–21 (\$ Millions)

SECTOR	2020	2021
Agriculture and Food security	78.50	63.35
Forest, Environment and Biodiversity	47.87	28.55
Education and Research	717.89	836.52
Energy	1027.45	1007.85
Risk Management	46.13	47.61
Land-use planning, Infrastructure, and Housing	19.19	12.69
Water Resources	22.05	23.24
Human Health	462.67	584.29
Tourism and Marine and Coastal sector	1.04	1.00
Total	2422.80	2605.10

Source: Secretariat of Finance of Honduras 2021.

In several countries, budget cuts have targeted climate mitigation, rather than adaptation actions, while fossil fuel spending has increased.

In Kenya, climate spending is concentrated in the Ministry of Agriculture, the National Environment Management Authority, and the Ministry of Energy (Connolly 2021).

Kenya’s Ministry of Energy experienced one of the largest budget cuts in the 2020–21 budget of negative 23 percent, with investments under the Alternative Energy Technologies program set to decrease by 60 percent (Table 6). Alternatively the power generation program, focused on coal, is set to grow by 174 percent over the same period (Connolly 2021).

Table 6 | Kenya Increases and Decreases by Sector in 2019–20 and 2020–21 Budget

DEPARTMENT	2019-20 ORIGINAL VS. REVISED BUDGET	2020-21 VS. 2019-20 REVISED
Public Administration & International Relations	-13%	15%
Environment Protection, Water & Natural Resources	-9%	23%
Governance, Justice, Law & Order	-1%	-4%
Energy, Infrastructure & ICT	2%	-23%
General Economic & Commercial Affairs	3%	-13%
Health	4%	-7%
Social Protection, Culture & Recreation	10%	-9%
Agriculture, Rural, & Urban Development	23%	-17%

Source: Conolly 2021.

Mexico saw an increase in its climate finance, explained by the country's decision to include certain extractive industries, such as natural gas, in its reported climate-finance flows. Mexico produces an annual report—the Climate Change Transversal Annex—through which it communicates the part of the federal budget allocated to climate change. Over the last three years, the domestic climate-change budget has increased steadily (Figure 7). However, in 2021, 76 percent of these resources are allocated to the Federal Electricity Commission for building and maintaining natural gas infrastructure. Investments in Mexico's extractive industry have consistently increased in recent years (Figure 8).

Similar to Mexico's case, Ghana's climate finance has been increasing in recent years, but the country also includes natural gas funds as climate-related financing. In Ghana's most recent National Communication to the UNFCCC, the country noted that from 2011 to 2019, \$14.2 billion of \$15.5 billion in climate finance was allocated to three oil and gas fields and processing plants. If loans for oil and gas are not taken into account, Ghana's climate finance would only amount to \$1.3 billion during the last decade.

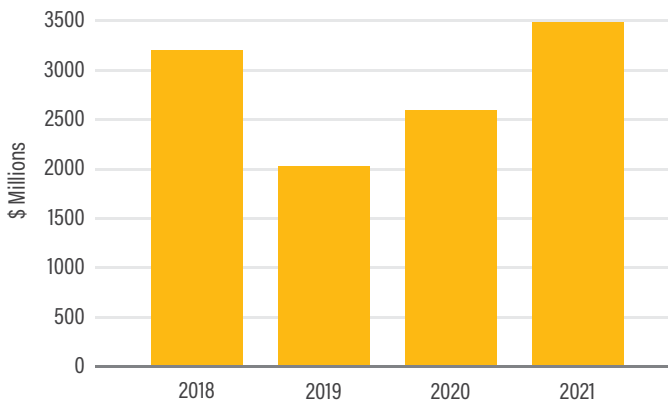
Some developing countries have experienced reductions in international climate finance received, and some donors have diverted climate spending.

The pandemic is affecting the economies of developed nations as well as developing countries. In some cases, developed countries have cut their international development assistance related to climate action. According to the

OECD, a project is considered to have a principal focus on climate if the objective is explicitly stated as fundamental in the design of, or the motivation for, the activity. The focus is considered significant when it is not the driver or main motivation of the project (OECD n.d.). The proportion of ODA going to projects with a significant focus on climate adaptation or mitigation fell from 25 percent in 2019 to 17 percent in 2020, while ODA to projects with climate as a principal objective (climate change mitigation or adaptation) fell from 18 percent to 14 percent (DI 2021). In July 2020, the United Kingdom announced a total cut of £2.9 billion in its planned ODA budget for 2020 (FCO 2020). The cuts are already affecting the country's capacity to achieve the outcomes of its climate-related projects. For example, as part of this reduction, the United Kingdom cut 70 percent of the 2021 budget for the Tomorrow's Cities program (*The Guardian* 2021), which aimed to reduce disaster risk in vulnerable communities in Ecuador, Turkey, Kenya, and Nepal.

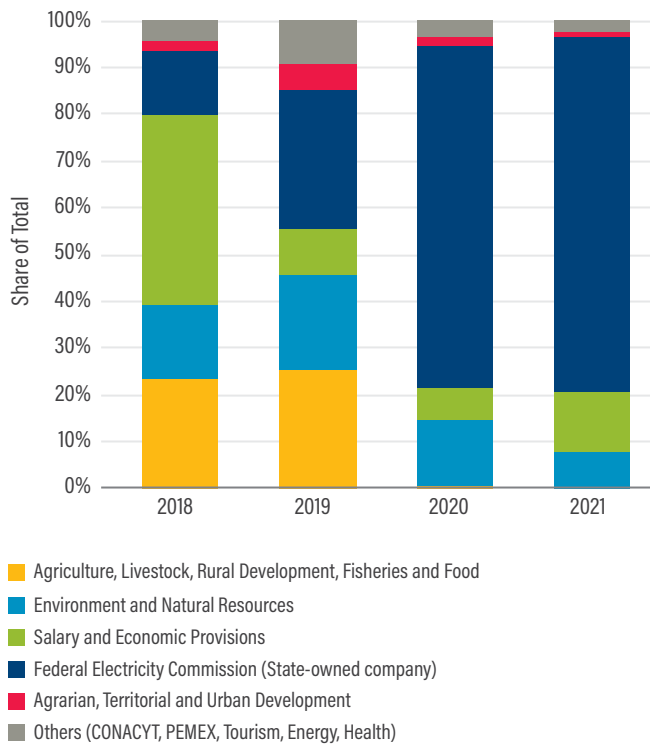
In addition, some developed countries are reallocating their international support to address the pandemic. Norway explicitly reallocated resources from education and climate initiatives to health or humanitarian assistance (ODI 2021b). In other cases, the recipient country requested that funding intended for climate-change adaptation or disaster risk reduction be diverted to COVID-19 response. For instance, Nepal and Pakistan made such requests to the Global Facility for Disaster Reduction and Recovery (ODI 2021a).

Figure 7 | Mexico's Climate Finance, 2018-21



Source: Secretariat of Finance and Public Credit of Mexico 2021.

Figure 8 | Mexico's Climate Finance by Thematic Category 2018-2021



Source: Secretariat of Finance and Public Credit of Mexico 2021.

The debt burden has increased in some countries due to a decrease in revenues and the pressing need for liquidity.

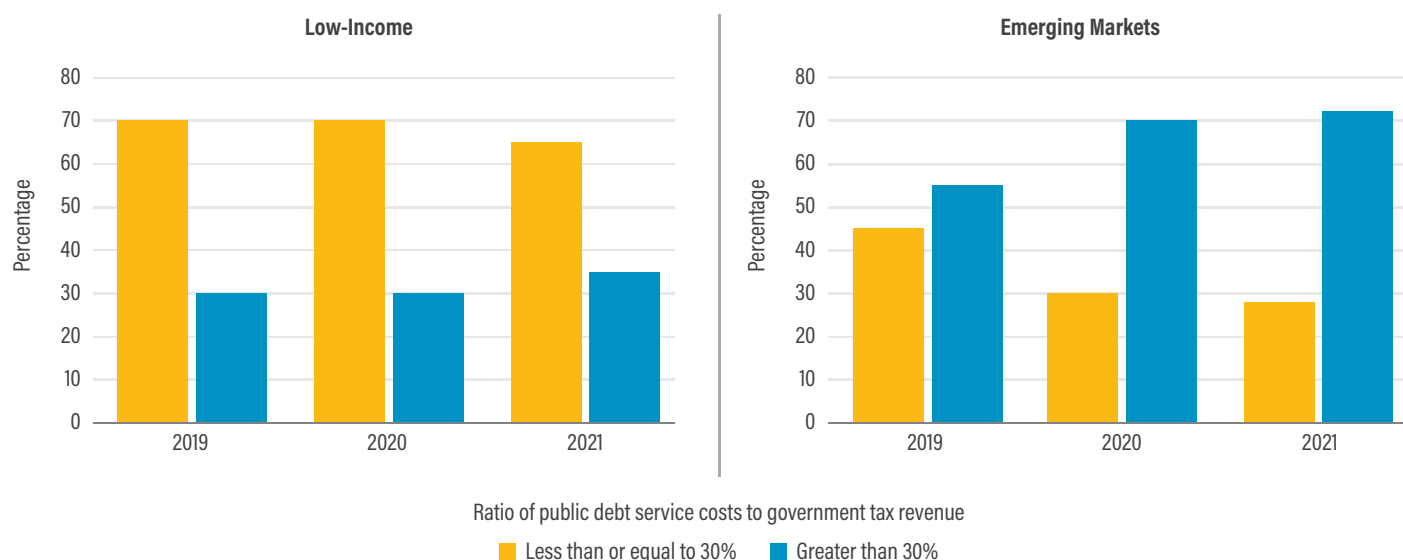
Before the onset of the COVID-19 pandemic, climate-vulnerable countries were beginning to feel the strain of increasing borrowing costs, in part as a result of climate-related systemic risks to their economies. The United Nations Environment Programme (UNEP) has estimated that climate vulnerability has raised the cost of capital for 25 climate-vulnerable developing countries such that they have paid an extra \$40 billion in additional interest on government debt and an additional \$22 billion in interest on private debts between 2008 and 2018. The increased cost of borrowing was driven by higher exposure to climate-related risks, including climate impacts on the agriculture sector and/or increased frequency or severity of natural disasters. Over the next eight years, these countries are projected to pay an additional \$146–\$168 billion in interest payments (Buhr et al. 2018).

As a result of the pandemic, global debt increased by \$19.5 trillion in 2020 (Bloomberg 2021). The United Nations Development Programme (UNDP) has found that 72 vulnerable countries are facing \$600 billion in debt service payments from 2021 to 2025 (UNDP 2021). As the United Nations secretary-general noted during the High-Level Event on Debt and Liquidity, developing countries urgently need access to additional liquidity to respond to the pandemic and invest in a sustainable and inclusive recovery, but many developing countries face financing constraints that mean they cannot make such investments (United Nations 2021) (Figure 9). Meanwhile, as noted earlier, most climate finance has been delivered in loans, which puts a higher debt burden on developing countries.

Some countries, such as Nepal, experienced a decrease in climate spending between 2019 and 2020 but were able to maintain these levels into 2021, only as a result of taking out new loans (Upadhya 2021). Loans made up 15 percent of Nepal's overall budget in 2019 but rose to 30 percent in 2020 due to decreased revenues from major sectors like tourism, which normally accounts for 7–10 percent of Nepal's GDP.

In Cabo Verde, while climate-relevant programs were the most likely to be affected by the pandemic, the country maintained similar levels of spending on climate, which was made possible by increased debt and, to a lesser extent, donations and food aid (Table 7) (Connolly 2021).

Figure 9 | Ratio of Public Debt Service Costs to Government Tax Revenues



Source: IMF 2020.

Table 7 | Cabo Verde: Financing Sources in Original vs. Supplementary Budget

	SOURCE	ORIGINAL 2020 BUDGET	SUPPLEMENTARY 2020 BUDGET	% CHANGE
Internal	Treasury	639,000,000	525,000,000	-18%
	Other National Funds	8,000,000	9,000,000	6%
External	Donations	57,000,000	87,000,000	53%
	Loans	112,000,000	216,000,000	92%
	Food Aid	2,000,000	3,000,000	43%
Total Expenditure		820,000,000	841,000,000	2.6%

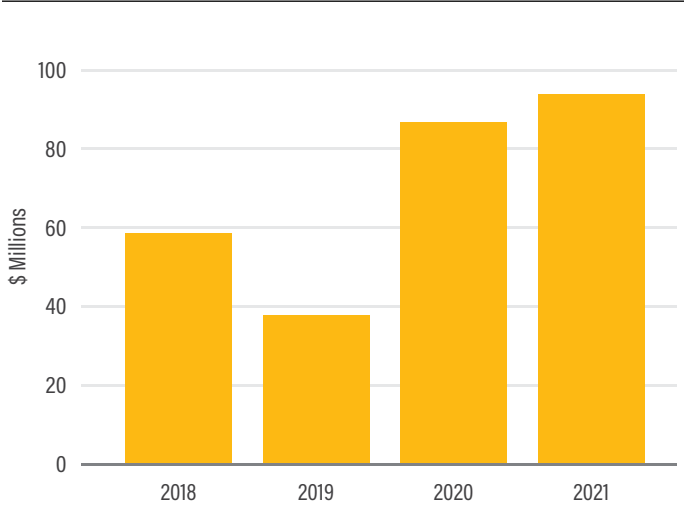
Source: Conolly 2021.

Nicaragua has experienced natural disasters amid the pandemic. In November 2020, two hurricanes, Eta and Iota, hit Nicaragua, causing damage totaling \$738.6 million. One of the worst-affected sectors was the environmental sector, which covers over 3.1 million ha of forest affected by the Eta and Iota hurricanes, where losses and damages are estimated at \$141 million, according to the Preliminary Report Quantification of Damages, Losses, and Needs (Sistema Nacional para la Prevención, Mitigación y Atención de Desastres 2020). Between 2020 and 2021, climate finance increased due to an increase of external

loans and external grants by 102 percent and 150 percent, respectively, in the local currency. In the “Adaptation to Climate Change and Disaster Risk Reduction” expenditure tag alone, external loans increased by 46 percent (Figures 10 and 11).

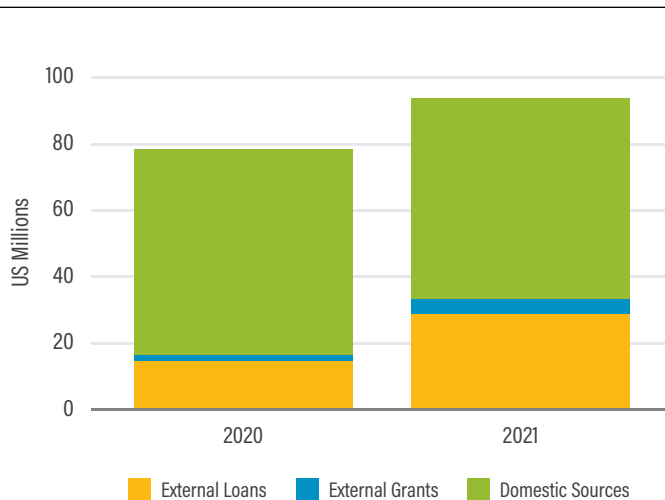
In some cases, countries have opted not to take on loans for climate action and instead prioritized borrowing to address COVID-19-related costs. Domestic fiscal policies in some countries limit the amount of debt that they can incur, as part of a broader set of economic policies in

Figure 10 | Nicaragua Climate Budget, 2018-21



Source: Ministry of Finance of Nicaragua 2021.

Figure 11 | Nicaragua Climate Finance by Financial Source, 2020-21



Source: Ministry of Finance of Nicaragua 2021.

place to maintain certain levels of budget stability. These existing debt policies guide decisions about which projects to prioritize. Because of the increased loans that countries have had to take on to meet the costs directly associated with the pandemic, other loans intended for climate projects have not been executed. This is the case in Honduras,

where pandemic and natural disaster-related loans are currently being prioritized. For example, a project with funding from the Green Climate Fund and the Inter-American Development Bank within the Forestry Sustainable Management Program has been indefinitely delayed because the need to prioritize debt for health and natural disaster relief over spending on longer-term climate goals may continue (Pers. Comm. 2021b).

Natural disasters during the COVID-19 pandemic further strained domestic budgets.

Alongside the economic impacts of the pandemic, several countries have experienced ongoing domestic budget burdens due to natural disasters (Table 8). For example, Cyclone Amphan hit Bangladesh in May 2020, causing an estimated \$13 billion in losses to infrastructure and crops and damaging the homes of approximately 500,000 people. The need for disaster relief is reflected in the country's yearly allocations remaining steady from the previous year.

Cyclone Yasa hit the island of Fiji causing an estimated \$250 million in losses to infrastructure, agriculture, and livelihoods. Despite the impacts of this and other natural disasters, climate-finance flows in the transportation, water, sanitation, and disaster risk-management sectors saw some of the most significant cuts in Fiji in 2020, due to revenue shortfalls. These cuts cumulatively amounted to a 40 percent reduction in domestic climate finance allocations for 2020, compared to 2019. Fiji has projected that by 2050, more than 6.5 percent of the country's GDP could be lost due to tropical cyclones and floods (Government of the Republic of Fiji 2017).

Hurricane Iota also had an impact on the Colombian archipelago of islands, San Andres, Providencia, and Santa Catalina, affecting at least 57 percent of the archipelago's GDP (*La República* 2020, DANE 2021). Before the pandemic, the islands were already struggling with climate finance. Financial needs for the implementation of the archipelago's adaptation plan were estimated at \$43 million (INVEMAR and MINAMBIENTE 2014). In 2018, climate finance spending, which covers adaptation, mitigation, and cross-cutting, reached \$712,618. In 2019 climate finance increased to \$3.1 million, due to a \$2.1 million contribution from the local government toward climate mitigation, while in 2020 climate finance spending dropped to \$433,526 (DNP 2021).

Table 8 | **Natural Disasters and Economic Losses in Case-Study Countries during 2020**

DATE	EVENT	LOCATION	ECONOMIC LOSS (\$)
10/04-10/25	Flooding	Cambodia	100+ millions
07/01-07/15	Flooding	Colombia	10s of millions
10/31-11/02	Flooding	Colombia	25+ millions
11/14-11/19	Hurricane Iota	Colombia	100+ millions
09/02-09/04	Hurricane Nana	Central America	20+ million
10/24-10/30	Hurricane Eta	Central America	6.8+ billion
11/14-11/19	Hurricane Iota	Central America	1.3+ billion
01/17-01/19	Cyclone Tino	Fiji, Tonga, Tuvalu	10s of millions
04/05-04/09	Cyclone Harold	Fiji, Tonga, Vanuatu, Marshall Islands	600+ millions
12/16-12/17	Cyclone Yasa	Fiji	100+ millions
05/31	Tropical Storm Amanda	Honduras, Guatemala, El Salvador	200+ millions
02/16-02/20	Flooding	Indonesia	10s of millions
02/22-02/25	Flooding	Indonesia	10s of millions
07/09-07/21	Flooding	Indonesia	10s of millions
12/01-12/10	Flooding	Indonesia	10s of millions
04/18-06/01	Flooding	Kenya	10s of millions
06/02-06/08	Tropical Storm Cristobal	Mexico, Guatemala, El Salvador	660+ millions
07/25-07/27	Hurricane Hanna	Mexico	135+ millions
08/19-08/20	Hurricane Genevieve	Mexico	50+ millions
08/21-08/25	Hurricane Marco	Mexico, Costa Rica	40+ millions
10/02-10/06	Tropical Storm Gamma	Mexico	100+ millions
10/07-10/11	Hurricane Delta	Mexico	350+ millions
10/24-10/30	Hurricane Zeta	Mexico, Jamaica	60+ millions
06/01-09/30	Flooding	Nepal	10s of millions
06/10-06/15	Tropical Storm Nuri	Philippines, China	10s of millions
11/01-11/07	Typhoon Goni	Philippines, Vietnam	1.0+ billion
11/10-11/11	Tropical Storm Enau	Philippines, Vietnam	10s of millions
11/11-11/16	Typhoon Vamco	Philippines, Vietnam	1.0+ billion
10/25-10/29	Typhoon Molave	Philippines, Vietnam	640+ millions
02/17-02/25	Flooding	Peru	10s of millions

Source: Aon 2020.

Climate-related project approval and implementation has been delayed due to the pandemic.

Some countries have national funds to finance their climate-related projects, but, due to pandemic-related national curfews and lockdowns, projects under these funds have experienced delays both in approval and disbursements. This is the case for the Peoples Survival Fund, the national adaptation fund of the Philippines. The fund has developed a pipeline of 35 project proposals, from almost 200 original proposals, of which 6 have been approved, and 29 are still in various stages of review and refinement. According to the Institute for Climate and Sustainable Cities, board members of the fund have not met since the pandemic started, delaying the approvals needed for projects to move forward (De la Cruz 2021).

In some cases, travel restrictions and social distancing measures have also delayed the public consultation processes required to allow approved projects to move ahead. Processes had to be rearranged to comply with pandemic-related restrictions or postponed indefinitely when beneficiaries that needed to be consulted were not able to access virtual meetings. In other cases, specialists could not travel to specific areas where the projects would take place, which prevented the required fieldwork. For example, in Ghana, a Green Climate Fund project approved before the start of the pandemic in 2020 was unable to complete initial feasibility and technical assistance work as a result of government lockdowns (Inkoom 2021). Peru's Ministry of Environment mentioned that projects in the forestry sector have been affected by restrictions on travel from the capital to other regions to conduct field work (Pers. Comm. 2021a). In other cases, such as South Africa, while transfers remained the same for water infrastructure development projects funded by domestic resources, it was noted in the country's supplementary budget that projects were delayed as a result of COVID-19.

3. KEY FINDINGS

The trends we found in our review of 17 countries over the period 2018–21 illustrate the strain that the pandemic has placed on domestic budgets. This analysis of developing countries' climate-finance needs and how the COVID-19 pandemic has affected their spending on climate action reveals the following cross-cutting findings:

Domestic climate finance has experienced shortfalls and reallocations amid the pandemic: Before the pandemic, developing countries were already struggling with allocating domestic resources to climate action due to an increased debt burden and natural disasters. When the pandemic hit, subsequent shortfalls and reallocations in domestic budgets ended up affecting developing countries' climate action, since priority either fell to the health, social, and economic sectors or as a result of other pandemic-related restrictions.

International climate finance must increase to meet global pledges and address developing countries' needs: Climate finance was insufficient before the pandemic. The goal of mobilizing \$100 billion annually by 2020 to address the needs of developing countries would not be met (Independent Expert Group on Climate Finance 2020). The most recent report showed that total climate finance that was provided and mobilized reached \$79.6 billion in 2019 (OECD 2021). During the pandemic, some countries announced ODA climate-related cuts that further reduced climate-finance flows.

Countries are using tools to track their climate finance, strengthen transparency, and set a baseline for assessing their climate needs: Some countries have developed climate-tracking tools to establish a baseline of how much they are spending on climate-related projects. Even though some countries have started developing these tools, there is still space to improve and make them more accurate in reflecting expenditures toward climate action (e.g., some countries are tracking natural gas as climate finance) and NDCs.

Investments needed to address climate change exceed current global climate finance flows, falling short of meeting the 1.5°C goal and other targets: The climate-finance needs of developing countries, based only on an assessment of the current NDCs'

quantitative data communicated to the UNFCCC Secretariat, are estimated at \$4.6 trillion for developing countries. This number only represents 74 of 149 non-Annex I countries, and some of the 74 have submitted only partial data. Sustained efforts are needed to develop a complete estimate of financial needs that is aligned with all developing countries' requirements to implement both conditional and unconditional actions in their NDCs.

4. RECOMMENDATIONS

Developing countries, according to their respective national capabilities and circumstances, should create and implement climate finance-tracking systems that are context-specific to help identify needs and mainstream climate action in government planning and budgets. Some countries have adopted tracking tools to determine their climate needs and domestic allocations. This has allowed them to identify climate-related projects or programs and be better positioned to monitor the progress of their climate actions. Climate-finance tracking, which allows monitoring of the progress of financial flows from different sources, is a relevant tool to contribute to a more transparent climate-finance needs assessment. To determine developing countries' climate-finance needs, two main variables are needed. First, a baseline of how much a country is spending on climate finance and, second, how much it will cost to address climate change. The difference between those two variables will help identify developing countries' needs. CBT could help to address the first variable. Tracking would also contribute to assessing how countries are including the climate variable in their planning policies, particularly in their stimulus packages to address the impacts of the pandemic.

Developing countries should periodically report the climate-finance support needed to achieve the conditional and unconditional actions in their NDCs and use a standard methodology so that these needs can be compared at a global level.

Standardized methodologies and requirements can be implemented for countries to communicate how they will finance their entire NDCs. To adequately track progress toward the Paris Agreement goals, it is crucial that this information be collected, updated, and monitored through comparable methods. A bottom-up approach would

allow climate-finance data to be streamlined and updated to improve the climate-action ambition assessment of developing countries, the predictability of its funding and implementation, and continued tracking over time.

Bilateral and multilateral public funding institutions should increase concessional international climate finance. Developing-country economies have been severely strained both by pressures placed on them by COVID-19 and the growing impacts of climate change. These countries have had to take on debt to address the challenges. To increase climate action, developing countries will need high levels of concessional international climate finance to complement their domestic flows. The commitment by developed countries to mobilize \$100 billion annually by 2020 to address the needs of developing countries did not specify proportions for channels or financial instruments through which these flows should be mobilized. However, conversations regarding the post-2025 goal should take into account the strain on domestic public finance and the new urgency of providing concessional international climate finance that will allow developing countries to meet their NDC commitments without incurring even greater debt burdens.

Research should be conducted by governments, international financial institutions, and research organizations into the effectiveness of CBT systems to leverage domestic resources and crowd in international climate finance. This analysis could also include a review of the political economy of implementing these systems, including government motivations for developing these systems and the synergies with other UNFCCC-related processes.

APPENDIX A. GOVERNMENTS AND CIVIL SOCIETY ORGANIZATIONS INTERVIEWED

COUNTRY	GOVERNMENT OR CSO	GOVERNMENT MINISTRY OR CIVIL SOCIETY STAKEHOLDER
Cambodia	Government	Ministry of Environment
Colombia	Government	National Planning Department
Fiji	Government	Ministry of Economy
Ghana	CSO	Kwame Nkrumah University of Science and Technology
Honduras	Government	Ministry of Finance
Honduras	Government	Presidential Office of Climate Change
Mexico	Government	Ministry of Finance
Nepal	CSO	UNDP
Pakistan	CSO	UNDP
Peru	Government	Ministry of Finance
Peru	Government	Ministry of Environment
Philippines	CSO	Institute for Climate and Sustainable Cities
Uganda	Government	Ministry of Water and Environment

Source: WRI Authors

APPENDIX B. COUNTRIES UNDER ANALYSIS AND DATA SOURCES TO IDENTIFY THEIR CLIMATE FINANCE

COUNTRIES	DATA SOURCES	TYPE OF SOURCE
Bangladesh	Ministry of Finance	Primary source
Cabo Verde	CABRI Report	Secondary source
Cambodia	Ministry of Economy & Finance—Climate Public Expenditure Review 2018-2020	Primary source
Colombia	Climate Finance—MRV System	Primary source
Fiji	Ministry of Economy	WRI analysis
Ghana	National Development Planning Commission—SDG Reports	Primary source
Guatemala	Ministry of Finance	WRI analysis
Honduras	Ministry of Finance—Climate Change Budget Tagging	Primary source
Indonesia	Ministry of Finance	Primary source
Kenya	CABRI Report	Secondary source
Mexico	Annual Federal Budget—Transversal Annex on Climate Change	Primary source
Nepal	Ministry of Finance Budget Speeches	Primary source
Nicaragua	Ministry of Finance—Public Expenditure Classifier on Climate Change, Disaster Risk Management and Environmental Management	Primary source
Pakistan	Ministry of Finance Yearly Economic Survey	Primary source
Peru	Financial Management Information System—Climate Change Mitigation and Adaptation	Primary source
Philippines	National Integrated Climate Change Database and Information Exchange System	Primary source
South Africa	CABRI Report	Secondary source

Source: WRI authors.

APPENDIX C. METHODOLOGY TO ESTIMATE EXCHANGE RATES FOR FIGURES

COUNTRY	LOCAL CURRENCY	EXCHANGE RATE—YEAR				SOURCE
		2018	2019	2020	2021	
Fiji	Fijian pound	2.09	2.16	2.17	2.03	<ul style="list-style-type: none"> 2018–20: World Bank (WB) official exchange rate 2021: September 24, Yahoo Finance
Guatemala	Quetzal	7.52	7.70	7.72	7.74	<ul style="list-style-type: none"> 2018–2020: WB official exchange rate 2021: Banco de Guatemala 2021 average
Honduras	Lempiras			25.59	24.98	<ul style="list-style-type: none"> 2020–2021: Ministry of Finance, Climate Change Report
Indonesia	Rupiah	14236.93877	14147.67	14582.20	14328.7	<ul style="list-style-type: none"> 2018–2020: WB official exchange rate 2021: Indonesia Central Bank
Mexico	Mexican pesos	19.2	19.26	21.55	20.14	<ul style="list-style-type: none"> 2018–2021: IMF
Nepal	Nepalese rupee	108.93	112.61	118.35	117.84	<ul style="list-style-type: none"> 2018–2020: WB official exchange rate 2021: Average buy/sell for September 24, Nepal Central Bank
Nicaragua	Cordobas	31.55	33.12	34.34	35.08	<ul style="list-style-type: none"> 2018–2020: WB official exchange rate 2021: Average from January 1 to September 24, Nicaragua Central Bank
Peru	Peruvian sol	3.29	3.34	3.49	3.82	<ul style="list-style-type: none"> 2018–2019: WB official exchange rate 2020–21: IMF

Note: The World Bank Official exchange rate is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar). For some countries, 2021 exchange rates were estimated either as an annual average based on daily averages from January 1 to September 24 or through the daily exchange rate for September 24. For countries where WB data were not available, we have used IMF data to calculate the exchange rate as an annual average based on monthly averages.

Sources: World Bank 2021a, IMF 2021d, Central Bank of Guatemala 2021, Central Bank of Indonesia 2021, Central Bank of Nepal 2021, Central Bank of Nicaragua 2021, Ministry of Finance of Honduras 2021, and Yahoo Finance 2021.

APPENDIX D. ANNUAL BUDGET CYCLES

FISCAL YEAR	COUNTRIES
January 1–December 31	Cabo Verde, Cambodia, Colombia, Ghana, Guatemala, Honduras, Indonesia, Mexico, Nicaragua, and Peru
April 1–March 31	South Africa
July 1–June 30	Bangladesh, Kenya, Pakistan, and Philippines
July 15–July 14	Nepal
August 1–July 31	Fiji

Source: WRI authors.

APPENDIX E. CLIMATE FINANCE NEEDS IN COUNTRIES' NDCs

COUNTRIES CLIMATE FINANCE NEEDS IN NDCs ^a								
Country	Financial Needs (\$ billions)				Financial Category (\$ billions)			
	Adaptation	Mitigation	Unspecified ^b	Total	Adaptation		Mitigation	
					Conditional	Unconditional	Conditional	Unconditional
Afghanistan	\$10.79	\$6.62	\$-	\$17.41			\$6.62	
Angola	\$0.14	\$43.95	\$-	\$44.09	\$0.07	\$0.08	\$11.64	\$32.31
Antigua and Barbuda	\$0.20	\$0.22	\$-	\$0.42				
Bangladesh	\$42.00	\$27.00	\$-	\$69.00				
Belize	\$0.04	\$0.18	\$-	\$0.21				
Benin	\$5.59	\$6.04	\$-	\$11.64	\$4.15	\$1.44	\$3.91	\$2.14
Botswana		\$18.40	\$-	\$18.40				
Burkina Faso	\$5.80	\$2.01	\$-	\$7.81			\$1.25	\$0.76
Burundi	\$0.03	\$1.45	\$-	\$1.48				
Cambodia	\$2.04	\$5.80	\$-	\$7.84	\$0.55	\$1.49	\$2.00	\$3.80
Central African Republic	\$1.55	\$2.25	\$-	\$3.80	\$1.44	\$0.11	\$2.02	\$0.23
Chad	\$14.17	\$7.06	\$-	\$21.23	\$11.38	\$2.79	\$6.54	\$0.52
Comoros	\$0.30	\$0.38	\$-	\$0.68	\$0.29	\$0.02	\$0.36	\$0.02
Congo		\$4.40	\$-	\$4.40			\$4.30	\$0.09
Cote d'Ivoire	\$1.76	\$17.65	\$-	\$19.41				
Cuba			\$7.72	\$7.72				
Democratic Republic of Congo	\$9.08	\$12.54	\$-	\$21.62				
Djibouti	\$1.00	\$5.50	\$-	\$6.50			\$1.65	\$3.85
Dominica	\$0.03	\$1.00	\$-	\$1.03				
Dominican Republic	\$3.15	\$17.00	\$-	\$20.15				
Egypt			\$73.00	\$73.00				
Equatorial Guinea	\$1.53	\$3.67	\$-	\$5.20				
Eritrea	\$9.50	\$5.81	\$-	\$15.32	\$7.02	\$2.48	\$4.68	\$1.13
Ethiopia	\$40.50	\$275.50	\$-	\$316.00	\$32.40	\$8.10	\$220.40	\$55.10
Fiji		\$3.00	\$-	\$3.00			\$0.50	

COUNTRIES CLIMATE FINANCE NEEDS IN NDCs^a

Country	Financial Needs (\$ billions)				Financial Category (\$ billions)			
	Adaptation	Mitigation	Unspecified ^b	Total	Adaptation		Mitigation	
					Conditional	Unconditional	Conditional	Unconditional
Ghana	\$12.79	\$9.81	\$-	\$22.60	\$8.55	\$4.24	\$7.79	\$2.02
Grenada		\$1.05	\$-	\$1.05				
Guinea	\$1.70	\$6.50	\$-	\$8.20	\$1.70		\$6.50	
Guinea Bissau		\$0.70	\$-	\$0.70			\$0.20	\$0.50
Guyana	\$1.60		\$-	\$1.60	\$1.60			
Haiti	\$16.61	\$8.77	\$-	\$25.39			\$8.00	\$0.77
India	\$206.00	\$834.00	\$-	\$1,040.00				
Indonesia		\$322.80	\$-	\$322.80				
Jordan		\$5.70	\$-	\$5.70			\$5.16	\$0.54
Kenya			\$62.00	\$62.00				
Kiribati	\$0.08	\$0.01	\$-	\$0.08				
Lao People's Democratic Republic	\$0.97	\$4.76	\$-	\$5.73				
Lesotho		\$0.59	\$-	\$0.59			\$0.32	\$0.27
Liberia	\$0.09	\$0.40	\$-	\$0.49				
Madagascar	\$28.71	\$6.37	\$-	\$35.08				
Malawi	\$4.55	\$41.78	\$-	\$46.33	\$2.42	\$2.13	\$32.81	\$8.97
Mali	\$1.06	\$34.68	\$-	\$35.74			\$34.68	
Mauritania	\$9.38	\$9.30	\$-	\$18.68			\$8.18	\$1.12
Mauritius	\$4.00	\$1.50	\$-	\$5.50				
Mongolia	\$5.20	\$6.30	\$-	\$11.50				
Morocco	\$35.00	\$50.00	\$-	\$85.00			\$24.00	\$26.00
Namibia	\$22.60	\$10.40	\$-	\$33.00	\$0.17	\$22.43	\$0.36	\$10.04
Nauru		\$0.06	\$-	\$0.06			\$0.05	\$0.01
Nepal		\$25.00	\$-	\$25.00				\$3.40
Nigeria		\$177.00	\$-	\$177.00			\$177.00	
Niger	\$1.61	\$7.06	\$-	\$8.67	\$1.27	\$0.34	\$6.23	\$0.83
Pakistan	\$14.00	\$40.00	\$-	\$54.00				
Palau		\$0.05	\$-	\$0.05				
Moldova		\$5.00	\$-	\$5.00			\$5.00	

COUNTRIES CLIMATE FINANCE NEEDS IN NDCs ^a								
Country	Financial Needs (\$ billions)				Financial Category (\$ billions)			
	Adaptation	Mitigation	Unspecified ^b	Total	Adaptation		Mitigation	
					Conditional	Unconditional	Conditional	Unconditional
Rwanda	\$5.36	\$5.68	\$-	\$11.04	\$3.22	\$2.15	\$3.67	\$2.01
Saint Lucia		\$0.37	\$-	\$0.37				
Sao Tome and Principe		\$0.15	\$-	\$0.15				
Seychelles	\$0.34	\$0.33	\$-	\$0.67				
Sierra Leone			\$2.76	\$2.76				
Solomon Islands	\$0.13	\$0.17	\$-	\$0.30				
Somalia	\$55.50		\$-	\$55.50				
South Africa	\$50.00	\$1,380.00	\$-	\$1,430.00				
South Sudan			\$50.00	\$50.00				
Sudan	\$10.00	\$4.39	\$-	\$14.39				
Suriname			\$0.70	\$0.70				
The Republic of Tanzania	\$10.00	\$60.00	\$-	\$70.00				
Togo	\$1.54	\$1.10	\$-	\$2.64				
Trinidad and Tobago		\$2.00	\$-	\$2.00			\$2.00	
Tunisia	\$2.00	\$18.00	\$-	\$20.00	\$2.00		\$16.20	\$1.80
Uganda	\$1.60	\$5.44	\$-	\$7.04	\$1.12	\$0.48	\$3.81	\$1.63
Vanuatu	\$0.10	\$0.43	\$-	\$0.52			\$0.18	
Vietnam	\$35.00	\$24.70	\$-	\$59.70				
Zambia	\$20.00	\$30.00	\$-	\$50.00				
Zimbabwe	\$35.23	\$55.80	\$-	\$91.02	\$26.00	\$9.23		
Total	\$741.94	\$3,665.56	\$196.18	\$4,603.69	\$105.34	\$57.49	\$608.00	\$159.87

	First
	First Updated
	Second

Notes: ^a This chart is based on individual countries' NDCs as of August 2021; ^b *Unspecified* refers to stated climate-finance needs in NDC reports that do not differentiate between mitigation and adaptation. In countries where amounts for conditional or unconditional adaptation or mitigation needs were available, those amounts were taken into consideration for mitigation and adaptation total needs estimation purposes. For countries that have updated their information, their most recent NDC submission supplants the previous, thereby preventing duplication; ^c High mitigation scenario for adaptation analysis.

Source: WRI authors, based on UNFCCC 2021c.

ABBREVIATIONS

CABRI	Collaborative Africa Budget Reform Initiative
CBT	Climate Budget Tagging
CPEIR	Climate Public Expenditure and Institutional Review
NDCs	Nationally Determined Contributions
NDCP	Nationally Determined Contribution Partnership
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
REDD+	Reducing emissions from deforestation and forest degradation
SCF	Standing Committee on Finance

ENDNOTES

- 1 The percentages stated are identical to those put forward in the OECD and Observatory reports. During our research, we noticed that it is not possible to independently verify these percentages because the OECD and the Observatory use different classifications of spending to calculate these percentages. For example, the Observatory estimates that total spending—meaning a combination of rescue and recovery spending—totaled \$14.6 trillion and that long-term recovery spending was \$1.9 trillion. Although it estimates that green spending was roughly \$368 billion, it does not clarify whether this \$368 billion came from rescue spending, from recovery spending, or from combination of rescue and recovery spending. This means that the percentages supplied by the Observatory—2.5 percent of total spending and 18 percent of recovery spending—come from using the same numerator (\$368 billion), which has an unspecified unit of measurement, but denominators with clearly defined and different units of measurement.

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ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity, and human well-being.

Our Challenge

Natural resources are at the foundation of economic opportunity and human well-being. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

Our Vision

We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

Our Approach

COUNT IT

We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

CHANGE IT

We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

SCALE IT

We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.



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