

Climate Commitments and National Budgets: Identification and Alignment

Case Studies of Argentina, Colombia,
Jamaica, Mexico, and Peru

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IDENTIFICATION
AND ALIGNMENT

CASE STUDIES OF

ARGENTINA • COLOMBIA •
JAMAICA • MEXICO • PERU

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LIST OF ACRONYMS AND ABBREVIATIONS

BAU	Business As Usual; it refers to the base scenario assuming that nothing has changed and everything continues as usual.
CC	Climate Change
CENEPRED	National Center for Estimation, Prevention and Reduction of Disaster Risk of Peru
CPEIR	Climate Public Expenditures and Institutional Review
DNP	National Planning Department of Colombia
FCC	Climate Change Fund of Mexico
GDP	Gross Domestic Product
GFLAC	Climate Finance Group for Latin America and the Caribbean
GHG	Greenhouse Gases
IMF	International Monetary Fund
MEF	Ministry of Economy and Finance of Peru
MHCP	Ministry of Finance and Public Credit of Colombia
MINAM	Ministry of Environment of Peru
MRV	Monitoring, Reporting and Verification
MTFF	Medium-Term Fiscal Framework
NDCs	Nationally Determined Contributions
NDP	National Development Plan
OECD	Organization for Economic Cooperation and Development
RBB	Results-Based Budgeting
SHCP	Ministry of Finance and Public Credit of Mexico
SNIP	National Public Investment System of Peru
UNFCCC	United Nations Framework Convention on Climate Change

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EXECUTIVE SUMMARY



The Adoption of the Paris Agreement in 2015 introduced a new paradigm that seeks to depart from the traditional development methods and move towards climate-resilient development with net zero greenhouse gas (GHG) emissions. The Agreement requires countries to prepare plans on how they will achieve these objectives (known as Nationally Determined Contributions – NDCs), and to update them and make them more ambitious every five years.

As a national commitment, it is evident that government actions are key to achieve the objectives set out in the NDCs. Specifically, public expenditure planning and, in particular, national budgets can play a key role to integrate climate and sustainable development. In fact, it is important that the programming for the use of public resources be consistent with the objectives of decarbonizing and resilient development, especially in the context of the global crisis caused by the COVID-19 pandemic and the need to move towards green recovery.

Such programming can include the prioritization of investments in line with the NDCs, the development of public projects that respect the climate objectives of the country in critical sectors, the incentive and the creation of a favorable environment to increase financing from the private sector. At the same time, it includes avoiding investments that could represent stranded assets and introduce climate risk management in national investments and planning, for example, in infrastructure. However, there is no clear evidence with respect to whether the ministries of finance of the region systematically envisage considerations on climate change (CC) when allocating public expenditure resources, or how these considerations could be included in the future, thus facilitating the process and contributing to maximize efficiency, effectiveness and the quality of public expenditure according to the countries' climate and development priorities.

In this study, a practical exercise was conducted and the national budgets in five countries of Latin America and the Caribbean (Argentina, Colombia, Jamaica, Mexico and Peru) were reviewed in order to identify gaps, best practices and/or factors within budget processes which allow or hinder the inclusion of climate change components. Budgetary allocations were also analyzed in key sectors included in the NDCs (energy, transport, agriculture, natural resources and environment, and disaster risk management) to analyze the level of expenditure in activities that may help fight climate change or that may otherwise increase GHG emissions.

The methodology used for this study included two steps: i) the analysis on the connection of NDC objectives in the national planning processes and their integration into the budgeting process, and ii) the analysis of public expenditure in climate change at programmatic level, which involved reviewing the budget programs corresponding to fiscal year 2017 (year under study) for each of

the selected countries and identifying the budget items allocated to projects or programs directly related to and/or associated with¹ climate change² within the sectors under study, in order to estimate the governments' public expenditure focused on climate change.

It is important to highlight that, due to the lack of fully disaggregated information in the national budgets, the calculations presented in this study must be considered as an approximation, rather than exact amounts. Despite this limitation, they have allowed visualizing how sectoral budgets are distributed and providing evidence on how national and international climate commitments have started to “permeate” (or not) national budgets and, above all, they have helped to glimpse options to make progress in the integration of climate considerations into the budget process.

FINDINGS

In the five countries under analysis, the public national budget is managed through a number of stages that are common among them and that can be grouped as follows:



The entities in charge of the public finances (ministries of finance/economy, as the case may be) are the actors with more participation and level of interference throughout all these stages.

- **Stage one** is perhaps one of the most important stages for the incorporation of NDCs into the budget because, at this stage, the ministries of finance issue guidelines for budgetary policies that the national budget implementation sectors/entities must mandatorily comply with.
- **In all the other stages**, these ministries can set out their requirements of fiscal resources or articulate financing strategies that mobilize other sources of funding. In any case, the ministries of finance can support sectors to internalize and assess the economic costs of climate change in their investment projects, to contribute to certain priorities, and to help develop financing strategies and investment plans so that there is consistency between the total budget and the national climate goals. Intersectoral authorities play a key coordination role throughout the five stages.

1. For the purposes of this study, an action is considered to be associated with climate change when it can reduce GHGs and vulnerability, increase resiliency and/or promote adaptation to climate change, but which was not necessarily created for these purposes, that is, its climate change purpose is secondary.

2. To that end, the actions expressly assigned and/or “labeled” as climate change were considered in the first place. For the actions that are not assigned or labeled as such (but were considered relevant), the methodology proposed by the Climate Finance Group for Latin America and the Caribbean (GFLAC) was taken into account. This methodology “disaggregates” sectors into subsectors and activities so that the actions associated with climate change can be identified and included in the analysis. For more details on the GFLAC methodology, visit: https://unfccc.int/files/documentation/submissions_from_non-party_stakeholders/application/pdf/501_spanish.pdf.

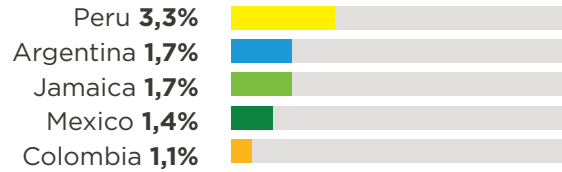
Within the budgeting stages, there are potential mechanisms/instruments to include the NDCs goals:

STAGES	PROGRAMMING / FORMULATION	APPROVAL	IMPLEMENTATION	FOLLOW-UP AND EVALUATION	CONTROL
ACTORS	<ul style="list-style-type: none"> • M. of Planning Cabinet • M. of Finance Implementation entities 	<ul style="list-style-type: none"> • M. of Finance • Congress /Assembly 	<ul style="list-style-type: none"> • M. of Finance • Implementation entities 	<ul style="list-style-type: none"> • M. of Planning • M. of Finance 	<ul style="list-style-type: none"> • Comptroller's Office/ General • Audit Office • Congress /Assembly
BUDGET INSTRUMENTS	<ul style="list-style-type: none"> • National Development Plan • Medium-Term Fiscal Frameworks • Multi-annual budgets • Public investment prioritization methodology • Budget programmatic structures • Budget classifiers • Budgetary policy/ guidelines • Draft budget 	<ul style="list-style-type: none"> • Draft budget reports • Recommendations on budget allocations 	<ul style="list-style-type: none"> • Budget allocations • Regulations for budget • Implementation Budget • Implementation programming 	<ul style="list-style-type: none"> • Budget implementation reports • Report on assessment of public expenditure impact and results 	<ul style="list-style-type: none"> • Control regulations • Control reports • Budget settlement reports • Accountability reports
POTENTIAL MECHANISMS FOR NDCs	<ul style="list-style-type: none"> • Environmental fiscal risks • Programmatic structures and climate classifiers • Public investment prioritization methodology with climate considerations • Climate budgetary policy guidelines 	<ul style="list-style-type: none"> • Recommendations on climate allocations 	<ul style="list-style-type: none"> • Climate funds • Regulations on sustainable public procurement • Safeguarding of climate expenses 	<ul style="list-style-type: none"> • Follow-up reports on climate public expenditure • Reports on assessment of climate expenditure impact and results 	<ul style="list-style-type: none"> • Accountability reports for climate expenditure

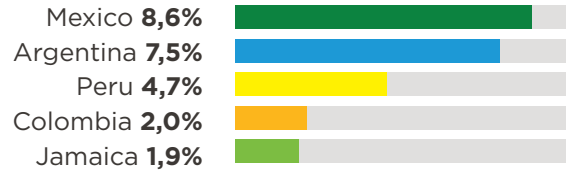
One of the biggest challenges found during this study was related to the organization, availability, and level of detail of the information appearing in the national budgets. This reflects the fact that the level of disaggregation of the classifiers used is limited. In fact, the functional classifier is underused. Therefore, it is quite difficult to make a simple, direct comparison between countries and state that one country performs more activities that counteract the negative effects of climate change than the other. Furthermore, there is the belief that the budget category related to “Environmental Protection” is the only one that would be related to climate change when, in fact, other sectors also have the potential to contribute (positively or negatively) to it.

There is some progress in the region to incorporate environmental and climate considerations into different budgetary instruments. Thus, Colombia has a Climate Finance Monitoring, Reporting and Verification (MRV) System, and Mexico has the “Cross-cutting Annex 16” in its national budget, which allows identifying resources for climate change adaptation and mitigation.

The country where **more resources for expenditure associated with climate change were identified in proportion to the total national budget was nacional total**



With respect to the **expenditure contrary to climate change, the highest percentage of expenditure** was found in



The results show that, in the five countries under study, the public expenditure in climate change for the sectors being analyzed (energy, transport, agriculture, environment, and risk management) represents less than or equal to 1% of the GDP. This is despite the fact that the sectors under review represent much of the decarbonization potential showed by the countries in their international/national commitments, such as the energy, transport and agriculture sectors.

Country	Budget associated with climate change in the sectors under analysis as a percentage of the total national budget (%)	Budget contrary to climate change in the sectors under analysis as a percentage of the total national budget (%)	Budget associated with climate change in the sectors under analysis as a percentage of the GDP (%)	Budget contrary to climate change in the sectors under analysis as a percentage of the GDP (%)
ARGENTINA	1,7%	7,5%	0,4%	1,7%
COLOMBIA	1,1%	2,0%	0,3%	0,5%
JAMAICA	1,7%	1,9%	1,1%	1,2%
MEXICO	1,4%	8,6%	0,4%	2,7%
PERU	3,3%	4,7%	0,7%	1,0%

In all the countries under analysis, the total expenditure identified as contrary to climate change is higher than the expenditure for practices associated with climate change (see table below).

At sectoral level, the analysis revealed the amount of public expenditure in climate change and also that earmarked for activities increasing GHG emissions. In addition, it showed that there are sectoral budget programs that are implemented by entities outside the sector; therefore, it is important to identify them in order to conduct a comprehensive analysis. In both the energy and transport sectors, governments allocate more public resources to activities that do not coincide with climate goals but increase polluting emissions (for example, hydrocarbon production or construction of roads that prioritize cars). With respect to the risk management sector, it was identified that most of the resources are allocated for management purposes and not for risk prevention; this must be analyzed by the countries considering the level of vulnerability to climate change faced by the region.

SECTOR	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Total budget associated with CC (based on the sectoral budgets analyzed)	\$2.394.261.045	\$812.595.326	\$161.366.519	\$5.134.108.701	\$1.424.194.385
Energy	14.20%	2.91%	3.02%	9.32%	1.33%
Environment	13.74%	26.08%	27.90%	34.94%	15.84%
Agriculture	35.41%	17.96%	14.33%	27.22%	18.52%
Transport	30.28%	25.72%	12.52%	28.29%	57.81%
Risk management	6.37%	27.33%	42.22%	0.23%	6.49%
Total budget contrary to CC (based on the sectoral budgets analyzed)	\$10.686.333.182	\$1.517.743.000	\$175.115.410	\$31.576.947.507	\$2.036.480.598
Energy	75.99%	11.49%	0.35%	91.07%	2.52%
Environment	0.00%	0.00%	0.00%	0.00%	0.00%
Agriculture	0.01%	0.28%	8.30%	3.18%	0.77%
Transport	24.00%	88.23%	91.35%	5.75%	96.71%
Risk management	0.00%	0.00%	0.00%	0.00%	0.00%



CONCLUSIONS AND RECOMMENDATIONS

Associating public expenditure with climate change allows countries to improve the consistency of the use of public resources with the national objectives of climate change and sustainable development and to generate social, economic and environmental benefits.

Having the capacity to measure the public expenditure related to climate change may help determine the effectiveness of the use of public resources; serve as a tool for fiscal transparency and reporting; improve the quality of the expenditure and maximize efficiency; and promote the adoption of clean energy sources, the development of innovative products and services, the growth of environmentally-friendly markets, and adaptation to climate change. This will facilitate attracting international climate finance.

It is necessary to strengthen the capacities of the ministries of finance in terms of climate change so that they can understand how it can become a fiscal risk (contingent liability) and how fiscal transparency can contribute to improving the quality of expenditure. Similarly, it is necessary to help them understand how the mobilization of international climate finance can be an advantage to reduce fiscal pressure and to improve the maturity profile of public debt. Furthermore, it is necessary to develop financial strategies of climate fiscal risks/contingent liabilities in the medium-term fiscal and expenditure frameworks. In addition, it is necessary to strengthen/extend the climate risk analysis methodologies in public investment project management.

A methodology needs to be established with specific guidance for each of the sectors relevant to climate change, which allows monitoring climate public expenditure and becomes the basis for a financial MRV system of NDCs and for the evaluation of the effectiveness of public expenditure and its future allocation.

It is necessary to have more disaggregated information and extend the use of other budget categories/subcategories and create additional classifications related to climate change. It is suggested that the functional classifier be disaggregated so that it allows collecting more detailed information on expenses for climate purposes (mitigation, adaptation), expenses in climate impact activities (e.g. investment in renewable energy) and expenses in defensive activities (e.g. housing expenses or civil defense expenses as an immediate response to a climate disaster). For that purpose, establishing taxonomies and standards for national accounts and climate statistics is essential. Therefore, the current consensus on the need to standardize the budget classifiers with the standard classifiers issued by international organizations such as the International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD), can be leveraged.

1 INTRODUCTION

The adoption of the Paris Agreement introduced the obligation of each country to submit their own commitments to limit the increase in global temperature to below 2 °C according to their circumstances and national priorities. These mitigation commitments are included in what is known as:

“NATIONALLY DETERMINED CONTRIBUTIONS” (NDCs)

The commitments also contain actions for climate change adaptation. Therefore, the implementation of the Agreement depends on the definition of NDCs that respond to the objectives of the Agreement, and on the achievement of the goals and objectives listed in the NDCs.

By adopting the Paris Agreement, countries face a new paradigm in which climate and development are inextricably linked and have a mandate to update and raise the ambition of their NDCs every five years. Therefore, fast and strategic actions are required nowadays in order to stay in the right path towards climate-resilient development with net zero greenhouse gas (GHG) emissions.

The successful implementation of NDCs will require specific efforts agreed among various actors –including the ministries of finance and of planning– to integrate climate and sustainable development into the national public planning, decision-making, and administrative processes. Public expenditure plays a key role in this task, since it represents one of the main official tools that governments use to finance the public policy responses to climate change. Therefore, it is a pillar for any financing strategy of NDCs and reflects the public investment priorities so it contributes to create a favorable environment to increase financing from the private sector and thus facilitate access to international climate finance. Public budgets –financial documents reflecting the priorities and will of the government to achieve specific objectives– may be a powerful tool to make progress on the NDC commitments in practice. In Latin America and the Caribbean (LAC), only six countries (Ecuador, Guatemala, Honduras, Mexico, Nicaragua and Peru) have a budget mechanism, classifier or marker, which allows knowing, on a systematic and regular basis, the volume of budgetary resources channeled for actions that have an impact on climate change.

Notwithstanding the foregoing, in contrast, there is no clear evidence with respect to whether the ministries of finance of the region systematically envisage considerations on climate change when allocating the public budget, or how these considerations could be included in the future. For the government in general, but especially for the ministries of finance and those responsible for the national economic planning, understanding with certainty how public expenditure contributes to the climate and development priorities of the country is

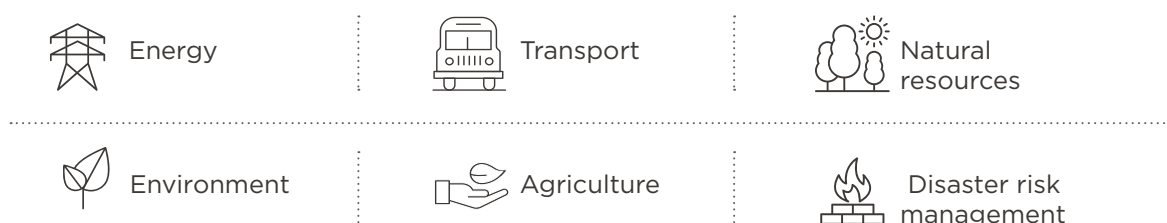
a necessary step to be in a position to make public policy decisions aimed at improving the efficiency, effectiveness and quality of public expenditure.

In fact, the capacity to measure the public expenditure related to climate change is the first step required to help know the effectiveness and efficiency of the use of public funds and serve as a tool to report to the United Nations Framework Convention on Climate Change (UNFCCC) the progress of the climate actions of each country. This is particularly relevant in the context of the ongoing discussions about a transparency framework under the Paris Agreement.

In this study, the national budgets of five countries of the LAC region are analyzed

ARGENTINA | COLOMBIA | JAMAICA | MEXICO | PERU

to identify gaps, best practices and/or factors within budget processes which both allow and hinder the inclusion of climate change³ components. Budgetary allocations were also analyzed in key sectors included in the NDCs



to visualize the level of public expenditure and its relation to climate change. Particularly, the level of expenditure in activities that may help fight climate change or that, on the contrary, may increase GHG emissions, is studied. It is important to mention that, due to the lack of fully disaggregated information in the national budgets, the calculations presented in this study are an approximation only and must not be regarded as exact. However, they allow visualizing how sectoral budgets are distributed and providing evidence on how national and international climate commitments have started to “permeate” (or not) national budgets. Finally, some recommendations are provided to integrate climate and NDC considerations into budget processes.

It is important to bear in mind that this analysis has limitations given that this is an area under development and information is not always available in a complete or comparable manner, and the methodologies to assess the related climate public expenditure are not consistent between them. However, **this study seeks to contribute to specialized literature in order to systematically integrate climate considerations into budget processes and, therefore, contribute to make progress in the efforts to achieve efficient and effective public expenditure aimed at sustainable development objectives, and compliance with the Paris Agreement.**

3. For the analysis of climate components in the context of this study, the commitments and objectives set out in the NDCs (called “NDCs” only or “international objectives” interchangeably) have been taken as the starting point. In turn, the objectives, strategic themes and cross-cutting themes of climate change mitigation and/or adaptation contained in the national development plans (national objectives) have been taken into account.

2

CONNECTION BETWEEN NDCS AND NATIONAL BUDGETS – PRACTICAL EXERCISE

As mentioned above, NDCs represent the countries' international formal commitment on climate change in order to achieve the goal of limiting the increase in global temperature to well below 2 °C. Given that climate change affects various economic sectors at the same time, it is natural that the approach to carry out the actions contemplated in the NDCs is also multisectoral and that public resources for their implementation are secured. To that end, the active involvement of the ministries of finance and of planning is essential to channel funds to sectors with the greatest sustainable growth potential and send a clear signal to the private sector that climate actions are a national priority. In fact, it has been stated that **“it is undeniable that public finance may serve as a key policy instrument to both incentivize and enable the transition to green growth”** (GGBP, 2014, pages 155 and 158).⁴ As part of public financing, public budgets are not the exception.

In general, public budgets are financial planning documents that describe the estimated expenditure of a government and the expected revenues for the following fiscal year according to predetermined objectives and plans. Budgets are usually planned on an annual basis; they must be approved by the legislative branch and are executed throughout the fiscal year.⁵

Public budgets reflect the priorities and will of the government to achieve specific objectives. When financing green growth projects and programs aligned with the NDCs and directly derived from them through public budgets, governments may incorporate climate change in all sectors and/or subnational levels and, consequently, contribute to GHG reduction and improve resiliency. When connecting green investments with public budgets, governments also contribute to strengthen the institutional frameworks required to promote investment, innovation, technologies, and the mobilization of capital to address climate change challenges across all sectors. Even in the countries where the resources allocated to green growth have been small with respect to the total budget, evidence suggests that they have played a role in the financial leverage for green activities.⁶

4. For the purposes of this study, the definition of “green growth” by the Organization for Economic Cooperation and Development (OECD) has been adopted: “Green growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. [...] Green growth has not been conceived as a replacement for sustainable development, but rather should be considered a subset of it. It is narrower in scope, entailing an operational policy agenda that can help achieve concrete, measurable progress at the interface of the economy and the environment.” (OECD, 2011). The term “green investments” is used in this regard. Para un análisis detallado en esta materia, véase Albi Ibáñez et al. (2009), pág. 30.

5. For a detailed analysis on this matter, see Albi Ibáñez et al. (2009), page 30.

6. See case studies for Vietnam and Korea in GGBP (2014), pages 158-159.

By connecting public budgets with the NDC objectives, we can contribute to creating a favorable environment for green growth and maximizing the efficiency of resources, the adoption of clean energy sources, the development of innovative products and services, the growth of environment-friendly markets, and the adaptation to climate change.

Therefore, translating the NDC objectives into concrete actions or programs, and including them in the national public budgets, would not only allow making progress in the transition to climate-resilient growth with net zero emissions, but also send a message to the international community and the private sector that governments have taken their international commitments seriously and consistently and that they have internalized the fact that these actions or programs may contribute to development benefits. For example, moving towards carbon neutrality in the region may create 15 million jobs as of 2030 in such sectors as sustainable agriculture, forestry, solar and wind energy, manufacturing, and construction⁷.

Furthermore, the fact that NDCs are not only international commitments but they became part of the legal system of each country when they ratified the Paris Agreement, should not be overlooked. Therefore, compliance with NDCs not only brings the benefits and positive impacts described above, but it also involves compliance with the same national legal framework.



7. Saget, C., Vogt-Schilb, A., Luu, T., 2020. Jobs in a net-zero emissions future in Latin America and the Caribbean. Inter-American Development Bank and the International Labour Organization.

3

METHODOLOGY

In an attempt to answer the questions raised in this study (knowing how climate considerations are integrated into budget processes, if it occurs, and identify gaps, best practices and/or factors that allow or hinder this integration), **five countries of the region were chosen which represent each of the sub-regions of the continent,⁸ the commitments made in their NDCs were identified, and five relevant sectors to comply with such commitments were selected** (energy, environment and natural resources, agriculture, transport, and risk management and disaster response).

Then, two types of analysis were conducted, the steps of which are detailed below:

3.1. ANALYSIS ON THE CONNECTION OF NDC OBJECTIVES IN THE NATIONAL PLANNING PROCESSES AND THEIR INTEGRATION INTO THE BUDGETING PROCESS

The first step was reviewing the national planning instruments (legislation, national development plans, strategies and specific plans) related to climate change and the legal framework governing the budgeting processes in each country. It was also analyzed whether the legal framework provides for the incorporation of climate matters into sectoral budgeting processes.

Subsequently, each of the various stages of the budget cycle and their main instruments (medium-term fiscal frameworks, multi-annual budgets, budget programmatic structures, budget classifiers, etc.) were reviewed, as well as their information systems (on financial administration and public investment), and it was analyzed whether any of the stages and/or instruments incorporate climate considerations.

The positive aspects and the factors that hinder /enable the incorporation of climate considerations into national budgets, are identified below.

Finally, the information on the main good practices identified was systematized, as well as the recommendations to incorporate NDC commitments into budget processes and how this can contribute to improving the quality of expenditure and the transparency of climate public expenditure.

8. These sub-regions pertain to the work divisions of the IDB: i) Southern Cone: Argentina; ii) Andean countries: Colombia and Peru; iii) the Caribbean: Jamaica; and iv) North and Central America (Mexico).

3.2. ANALYSIS OF THE PUBLIC EXPENDITURE IN CLIMATE CHANGE AT PROGRAMMATIC LEVEL

For this analysis, the budget programs corresponding to fiscal year 2017 (year under study) were reviewed for each of the selected countries. It is important to point out that the analysis does not consider the expenditure changes made by the ministries of finance throughout the fiscal year. In other words, the analysis has an ex ante approach with respect to budget execution, so the figures mentioned may have varied according to the reallocation or supplementary changes made by governments. This decision was made due to the lack of homogenous information available in all the countries when the study began. However, it did not prevent us from acknowledging the budget processes and, if climate considerations are integrated into them, how this integration is made and the factors that enable or hinder it.

This analysis sought to identify the budget items allocated to projects or programs directly related to or associated with⁹ climate change within the sectors under study, in order to estimate the public expenditure focused on climate change. For that purpose, first, the actions expressly assigned or “labeled” as climate change were considered. For those actions that are not assigned or labeled as climate change (but were considered relevant), the methodology proposed by the Climate Finance Group for Latin America and the Caribbean (hereinafter, “GFLAC Methodology” or “methodology used in this study”) was taken into account, which is described in Annex 1. This methodology “disaggregates” sectors into subsectors and activities so that the actions associated with climate change can be identified and included in the analysis (GFLAC, 2016). These subsectors and activities are not restricted but rather indicative, so this study sought to identify in the national budgets the programs/projects/products/activities or investments that are identical, similar or equivalent to those included in the GFLAC methodology, provided that the associativity criteria are met (see note 9).

The analysis of climate expenditure was guided by the following questions:

- What is the total amount of the budget allocated to the sector under analysis?
.....
- What are the programs/projects/products/activities or investments within the sector, aimed at or associated with climate change (according to the methodology used in this study)?
.....

9. cFor the purposes of this study, an action is considered to be related to climate change when it can reduce GHG emissions, reduce vulnerability, increase resiliency and/or promote adaptation to climate change but it was not necessarily created for these purposes, that is, its climate change purpose is secondary.

10. GFLAC es una iniciativa que agrupa a organizaciones e instituciones académicas que promueven la transparencia e inclusión de derechos humanos en la creación y aplicación de estrategias nacionales de financiamiento climático. Para más información sobre el trabajo que realiza esta agrupación, véase: www.gflac.org.

11. Es importante resaltar que a la fecha no existe en la región una metodología ‘oficial’ o estandarizada que permita analizar el gasto público desde la perspectiva ambiental de manera comparada. Se ha optado por utilizar la metodología GFLAC pues al contar con un listado desagregado por sector ella se ajustaba a los objetivos de este estudio. Sin embargo, los países pueden desarrollar sus propias metodologías de acuerdo con sus presupuestos y contexto nacional. De hecho, sobre la base de la clasificación sectorial de la OCDE y el contenido de la metodología GFLAC, Colombia diseñó su sistema de MRV del financiamiento climático (que se analiza con más detalle en la sección 5) que busca medir las acciones de mitigación y adaptación originadas en organizaciones públicas, privadas, nacionales e internacionales. Idealmente, los países de la región podrían trabajar de manera conjunta para desarrollar una metodología que permita hacer un análisis comparativo entre ellos.

- Is it possible to know the amount of the programs/projects/products/activities or investments associated with climate change which have been identified? What is the total amount and what percentage of the sector's total budget do these amounts represent?
-
- Is it possible to distinguish programs/projects/products/activities aimed at or associated with climate change in other agencies outside the sector? What is the amount allocated to them? montos respecto del presupuesto total del sector?

Then, the programs/projects/products/activities or investments defined in the budget programs of the selected countries were identified and recorded, which may be “contrary” to the focus on climate change for the sectors analyzed in this study.¹²

Finally, interviews were conducted with officers from the ministries of finance and of the environment/natural resources in order to learn more about matters that may not be reflected on the analyzed numerical data.

3.3. SOME IMPORTANT CONSIDERATIONS ABOUT THE METHODOLOGY USED FOR THIS STUDY

While efforts were made to follow the steps described above consistently in all the countries, it was not possible in all cases given that each country has its budget organized in a particular manner and therefore, the type of information shown is not always the same. In fact, the programmatic analysis depends on the level of ‘disaggregation’ of the budget.¹³ Therefore, it is possible that, in practice, comparative analyses are not entirely comparative because they are based on different information.

Once the program or project has been identified as being associated with climate change, the entire budget allocated to such program or project is recorded assuming that its total budget is fully allocated to GHG reduction activities or to increase resilience and/or adaptation to climate change. This is a methodological assumption exclusively made to facilitate the analysis. The budgets allocated to non-sectorial organizations were treated in exactly the same manner. As mentioned above, this implies that calculations are approximate rather than exact –it is even possible that they are overestimated in some cases– but they also allow to have an idea of the composition of sectoral budgets from a climate perspective, contrasting the funded activities associated with climate change with the rest of the activities that are not funded, or even with activities that may exacerbate the negative impacts of climate change.

12. For the purpose of this study, contrary activities are deemed to be activities that may potentially increase GHG emissions, within the sectors under analysis. Examples include the expenditure to promote the production of hydrocarbons and conventional fuels, the expansion of the agricultural frontier without sustainable considerations, and infrastructure prioritizing car use.

13. As analyzed in this study, Argentina and Mexico provide detail of the implementation agencies that carry out relevant programs/projects/products or activities. On the contrary, Peru, Jamaica and Colombia do not have this information disaggregated.

In this analysis, it is possible that a program/project/product/activity that indeed is relevant may not have been identified or recorded (perhaps because their denomination gives no indication that it is associated with climate change). Therefore, it is important to bear in mind that this type of programs/projects/products/activities may have been left out of the analysis. In order to mitigate this limitation, interviews were conducted with representatives of the relevant sectors. Nevertheless, it was determined that, in order to conduct a thorough analysis with unobjectionable results, the activities and programs of each unit should be known in detail. This study only included those deemed to be (or presumed to be) associated with or contrary to climate change based on their denomination and/or their global objectives. This challenge was more evident in the analysis of the agriculture sector, where the analysis was limited because we did not have access to information related to the geographical location of the projects, information that is key in order to be able to identify its potential impact on deforestation.



4

NDCS IN THE COUNTRIES ANALYZED IN THIS STUDY

While the countries of the region had already started to plan and implement adaptation and mitigation actions before submitting their NDCs, these consolidated the countries' formal commitment to climate change at international level in the most relevant sectors in terms of GHG emissions. The NDCs have unconditional (that is, those that will be achieved with own resources) and conditional goals (subject to additional resources from international cooperation). They are in turn multisectoral, as mentioned above.

Tables 1 and 2 below include a summary of the main sectors which are a GHG source in the five countries analyzed in this study, as well as the contents of their NDCs in order to know the concrete commitments and goals undertaken according to their own circumstances¹⁴:

TABLE 1 MAIN SECTORS THAT ARE A GHG SOURCE IN THE FIVE COUNTRIES ANALYZED IN THIS STUDY

COUNTRY	Sector (1st place)	Sector (2nd place)	Sector (3rd place)	Sector (4th place)	Sector (5th place)
ARGENTINA¹⁵	Energy (53%)	LULUCF (37%) ¹⁶	Waste (4%)	Industrial processes (6%)	N.A.
COLOMBIA¹⁷	AFOLU (55%)	Energy (35%)	Waste (6%)	IPPU (4%)	N.A.
JAMAICA¹⁸	Energy (94%)	Industrial processes (6%)	N.A.	N.A.	N.A.
MEXICO¹⁹	Energy (71.11%)	LULUCF (14.59%)	Industrial processes and product use (7.74%)	Waste (6.56%)	N.A.
PERU²⁰	LULUCF (51%)	Energy (26%)	Agriculture (15%)	Waste (5%)	Industrial processes (3%)

Source Prepared by the authors based on the countries' independent NDCs.
AFOLU: Agriculture, forestry and other land use; IPPU: Industrial processes and product use; LULUCF: Land Use, Land-Use Change, and Forestry.

14. For a more detailed analysis of the NDCs submitted by the countries, please visit: <https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx>.

15. National Greenhouse Gas Inventory – Argentina 2019. Available at: <https://inventariogei.ambiente.gob.ar/files/inventario-nacional-gei-argentina.pdf>

16. According to the National Greenhouse Gas Inventory for Argentina, the transport sector is included in the energy sector and it represents 15.5% within that sector.

17. IDEAM et al. (2018). This Second Biennial Update Report includes the results of the NGHGI of the years 2013 and 2014, and an update of the NGHGI of the series 1990 through 2012 submitted in the Third National Communication.

18. See Government of Jamaica (2016).

19. See SEMARNAT and INECC (2018).

20. See MINAM (2016b).

TABLE 2 SUMMARY OF THE COMMITMENTS OF THE FIVE COUNTRIES ANALYZED IN THIS STUDY²¹

COUNTRY	Unconditional goal	Conditional goal	Prioritized sectors
ARGENTINA	<p>Mitigation: It will not exceed the net emission of 483 million tonnes of carbon dioxide equivalent (tCO₂eq) by 2030 through the implementation of a number of measures across the economy, focused on the energy, agriculture, forestry, transport, industry and waste sectors.</p> <p>Adaptation: a) Generation of climate information (research and development). b) Vulnerability analysis, climate risk identification, and planning. c) Strengthening and expansion of the early warning systems and monitoring networks. d) Comprehensive territory management. e) Vulnerability reduction. f) Identification and promotion of good practices and adaptation tools. g) Institutional and capacity strengthening. h) Education and communication.</p>	<p>Mitigation: To reduce a total of 223 million tCO₂eq with respect to the base scenario by 2030</p>	<p>Energy</p> <p>Agriculture</p> <p>Forestry</p> <p>Transport</p> <p>Industry</p> <p>Waste</p>
COLOMBIA	<p>Mitigation: The country will reduce 20% of the greenhouse gas (GHG) emissions projected by 2030, with respect to BAU.</p> <p>Adaptation: a) 100% of the national territory covered by climate change plans formulated and being implemented. b) A National System of Adaptation Indicators. c) Priority water basins with water resource management tools. d) Innovative adaptation actions in six strategic sectors. e) Public awareness strategy. f) Delimitation and protection of 36 páramo areas (high mountain Andean ecosystems). g) 2.5 million hectares of newly protected areas. h) Inclusion of climate change considerations in strategic projects of national interest. i) 10 subsectors of the agriculture sector with capacities to adapt to climate change. j) Local Technical Agro-climatic Committees and dissemination of agro-climatic information.</p>	<p>Mitigation:: To reduce up to 30% of the GHG emissions projected by 2030 with respect to BAU.</p>	<p>The scope of the NDC covers 100% of the emissions according to the information in the National GHG Inventory (2010)²²:</p> <p>Agriculture, forestry and other land use</p> <p>Energy</p> <p>Waste</p> <p>Industrial processes and product use</p>
JAMAICA	<p>Mitigation: Reduction of 7.8% with respect to BAU by 2030. - 2025: Reduction of 12.370 kTCO₂e. - 2030: Reduction of 13.368 kTCO₂e.</p> <p>Adaptation: To reduce the vulnerability and risk levels due to climate change in all sectors and development objectives of the country, through the actions mentioned above.</p>	<p>Reduce 10% with respect to BAU by 2030. -2025: Reduction of 12.099 kTCO₂e. -2030: Reduction of 13.043 kTCO₂e.</p>	<p>Energy</p>

21. For a more detailed analysis of the NDC commitments, see annex 2.

22. Detailed in: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Colombia%20First/INDC%20Colombia.pdf>.

COUNTRY	Unconditional goal	Conditional goal	Prioritized sectors
MÉXICO	<p>Mitigation (general): Reduction of 22% of GHG emissions and 51% of black carbon by 2030 (BAU).</p> <p>Mitigación (por sector): a) Power generation (31% reduction of the emissions of the sector). b) Oil and gas (14% reduction of emissions from the sector). c) Transport (18% reduction of emissions from the sector). d) Industry (5% reduction of emissions from the sector). e) Agriculture and livestock (8% reduction of emissions from the sector). f) Waste (28% reduction of emissions). g) Residential and commercial (18% reduction of emissions from the sector). h) LULUCF (144% reduction of emissions).</p> <p>Adaptation: a) Social sector adaptation. b) Adaptation based on ecosystems. c) Adaptation of strategic infrastructure and productive systems.</p>	<p>Mitigation: To reduce up to 36% of GHG emissions by 2030 and up to 70% of black carbon.</p> <p>Adaptation: - Capacity building - Technology transfer - Financing for adaptation</p>	Energy Oil and gas Transport Industry Agriculture and livestock Waste LULUCF Residential and commercial
PERÚ	<p>20% reduction of GHG emissions projected by 2030 (approximately 298.3 MtCO₂eq).</p> <p>Mitigation: Las medidas están distribuidas entre los sectores de Measures are distributed among the emission sectors as follows: Energy-stationary combustion, 23 measures (37%); Energy-mobile combustion, 14 measures (23%); Industrial processes and product use, 2 measures (3%); Agriculture, 6 measures (10%); LULUCF, 8 measures (13%); and waste, 9 measures (14%).</p>	<p>To reduce up to 30% (10%) of GHG emissions in case of receiving international financing.</p>	Consider the sectors included in the National GHG Inventory (2010) ²³ : LULUCF Energy Agriculture Waste Industrial processes

Source | Prepared by the authors based on the NDCs of the countries.
Note: "BAU (Business as usual)" refers to the base scenario assuming that there are no changes and everything remains the same.

23. See MINAM (2016a).

5

NDCS AND BUDGET PROCESSES IN THE COUNTRIES UNDER ANALYSIS

5.1. THE BUDGET CYCLE

The budget process is the arena where decisions are made about a country's priorities and where a number of actors come together to determine the use and distribution of the limited public resources. With small differences among the analyzed countries, the public national budget is managed through a number of stages that can be grouped as follows:



In the five countries analyzed, the entities in charge of the public finances are the actors with more participation and level of interference throughout all the stages of the budget cycle and therefore, they are key actors for the incorporation of the NDCs into the budget cycle. Therefore, the level of interference of the entities responsible for the implementation of expenditure is restricted to their power to freely determine their expenditure needs during budget formulation, provided that they remain within the expenditure ceilings set out in the medium-term fiscal frameworks (MTFF). Furthermore, they can freely execute their annual budget, provided that it is executed within the maximum spending limits approved by the Congress/Assembly. In all cases, the changes that imply increased expenses or a change to the programmatic structures always require the approval of the ministry of finance. It is important to highlight that, within the entities that execute the expenditure, the same conflicts occur among the various agencies in order to obtain more budget and, as stated in the interviews conducted with the competent authorities during this study, the allocations for climate change are often among the last institutional priorities.

In order to analyze the degree of progress in the incorporation of NDCs (or relevant issues for them) at the legal framework level in each of the budget cycle stages, the traffic light system will be used. If there is an express incorporation in the regulatory framework, it will be highlighted in green; if the incorporation is indirect, it will be highlighted in yellow; and, if there is no incorporation, it will be highlighted in red.



The budget cycle begins with the programming and formulation stage in which the entities responsible for planning play an essential role. The level of impact in the budget process of these entities is very different depending on the country, and evidences the degree of articulation between planning and the budget. Thus, in some countries, there are strong and active planning institutions during the entire budget process, such as the National Planning Department (DNP) of Colombia; and, in other countries where entities are only involved in the management of the National Development Plan (NDP) such as Jamaica, Argentina and Peru; and those where the budgetary function is within the Ministry of Finance and Public Credit (like in Mexico).

In the five countries analyzed, the NDPs include objectives, strategic themes and cross-cutting themes with considerations of climate change mitigation and/or adaptation. Thus, Argentina and Jamaica take into account objectives for the development of renewable energies, disaster risk management, and climate change adaptation. Meanwhile, Colombia, Mexico and Peru incorporate climate change into their strategic/cross-cutting themes for sustainable development through actions that allow adopting sustainable practices, deforestation reduction, and low carbon climate-resilient development (see table 3).

TABLE 3 NATIONAL DEVELOPMENT PLANS AND CLIMATE CHANGE

COUNTRY	NATIONAL DEVELOPMENT PLAN	CONSIDERATIONS INCORPORATED INTO THE NDP	INCORPORATION
ARGENTINA	Government objectives of Argentina 2015-2019	O III: Renewable energies and flood prevention. O IV: Environmental protection and management O VIII: Create National Board of Climate Change.	●●●●●●●●●●
COLOMBIA	National Development Plan (2018-2022) "Pact for Colombia, Pact for Equity" (Pacto por Colombia, Pacto por la Equidad)	Pact for Sustainability: Sectors committed to sustainability and climate change mitigation. Resilient Colombia.	●●●●●●●●●●
JAMAICA	National Development Plan: Vision 2030.	O 4: Disaster risk reduction and adaptation to climate change.	●●●●●●●●●●
MEXICO	National Development Plan 2019-2024.	Theme: Territory and sustainable development.	●●●●●●●●●●
PERU	Bicentennial Plan: Peru towards 2021.	Theme 6: Natural Resources and Environment: Adaptation to Climate Change.	●●●●●●●●●●

Source Prepared by the authors based on the NDP of each country.

With respect to the inclusion of climate aspects in national budgets, the countries under study have made progress by establishing legal mandates that stipulate which climate considerations must be taken into account when planning and, in some cases, during the budget follow-up and evaluation stage.

This is how the selected countries have made progress in connecting planning and budgeting. Thus, MTFFs play a significant role for compliance with the public policies related to climate change, since they set out the fiscal parameters such as the primary balances, the public debt, and the budgets, and therefore, their definition increases or limits the budgetary space to implement climate actions. With differences, the countries considered herein have established or are in the process of implementing a MTFF as a tool of the fiscal policy which covers various years and is articulated with the traditional annual budget. Furthermore, results-based budgeting (RBB), which some countries (Mexico, Peru, Colombia and Argentina) have started to implement together with monitoring and evaluation indicators, can play a significant role in the articulation of NDPs and sectoral policies with budget programs and, therefore, with NDCs. In fact, this budgeting technique may include climate policies and define indicators related to NDCs.

In order to achieve the NDP objectives in a coordinated manner and taking into account the plans and priorities of all sectors, in some countries (such as Argentina, Colombia and Jamaica) there are intersectoral coordination authorities (called Council/Cabinet of Ministers in Peru and Argentina, and National Economic and Social Policy Council in Colombia). These authorities generally depend on the Office of the President and include the ministers of State, and they debate, prioritize and approve the medium-term fiscal scenarios and the preliminary draft laws on budgets before their submission to the Congress/Parliament. In all countries, the Office of the President of the Republic submits the national budget to the Legislative Branch.

Furthermore, in all the countries under analysis, there are authorities in charge of the intersectoral coordination with regard to climate change so that climate change is included in the strategic planning and in public policies. These authorities are usually led by the Chief of Cabinet of the Executive Branch/Board of Governors or by the Ministry of Environment and, in all of them, the ministries of finance participate in order to ensure that there are budget allocations and that the definition and sustainability of the financing strategies of the climate change mitigation and adaptation plans are supported (see table 4). These authorities may be relevant to seek the commitment and involvement of the ministries of finance, but also for the sectoral ministries to have an additional space for dialogue with Finance about financing priorities and strategies that allow addressing, in a more effective manner, the limitations of fiscal spaces and the national climate goals.

TABLE 4 CLIMATE INTERSECTORAL COORDINATION AUTHORITIES AND ROLE OF THE MINISTRIES OF FINANCE

COUNTRY	INSTANCIA DE COORDINACIÓN INTERSECTORIAL	PRESIDIDA POR	PARTICIPA MINISTERIO DE FINANZAS	ROL EN FINANCIAMIENTO CLIMÁTICO
ARGENTINA	Gabinete Nacional de Cambio Climático	Jefatura de Gabinete de Ministros y coordina Consejo Federal del Medio Ambiente	● ● ● ● ● ● ● ●	Ninguno
COLOMBIA	Comisión Intersectorial de Cambio Climático	Ministerio de Ambiente y Desarrollo Sostenible y DNP	● ● ● ● ● ● ● ●	Criterios articulación recursos en los presupuestos institucionales para implementación política nacional de CC.
JAMAICA	Comité Asesor de Cambio Climático	N/A	● ● ● ● ● ● ● ●	Asiste a las entidades a desarrollar sus estrategias financieras y Incorporar planes de mitigación y adaptación en su proceso presupuestario. Desarrollar estrategia financiera de vulnerabilidad fiscal climática y evaluar medidas para enfrentarlo.
MEXICO	Comisión Intersecretarial de Cambio Climático	Secretaría de Gobernación (Suplente de la Secretaría de Medio Ambiente y Recursos Naturales.)	● ● ● ● ● ● ● ●	Proponer al Fondo acciones y proyectos estratégicos. Seguimiento y publicación de acciones del Fondo para el Cambio Climático y del gasto público asignado en la Federación.
PERU	Comisión Nacional de Cambio Climático.	Ministerio del Ambiente	● ● ● ● ● ● ● ●	Grupo de trabajo temático sobre Financiamiento Climático.

Source Prepared by the authors based on the current regulations of each country.

When the incorporation in the budget process in each country is further analyzed, it is observed that, in Argentina's legal framework, various funds have been created as financial mechanisms to finance projects related to clean development, renewable energies or for native forest protection; and only Law No. 26.331 sets forth that there should be minimum budgets for the sustainable management of native forests (see Table 5).

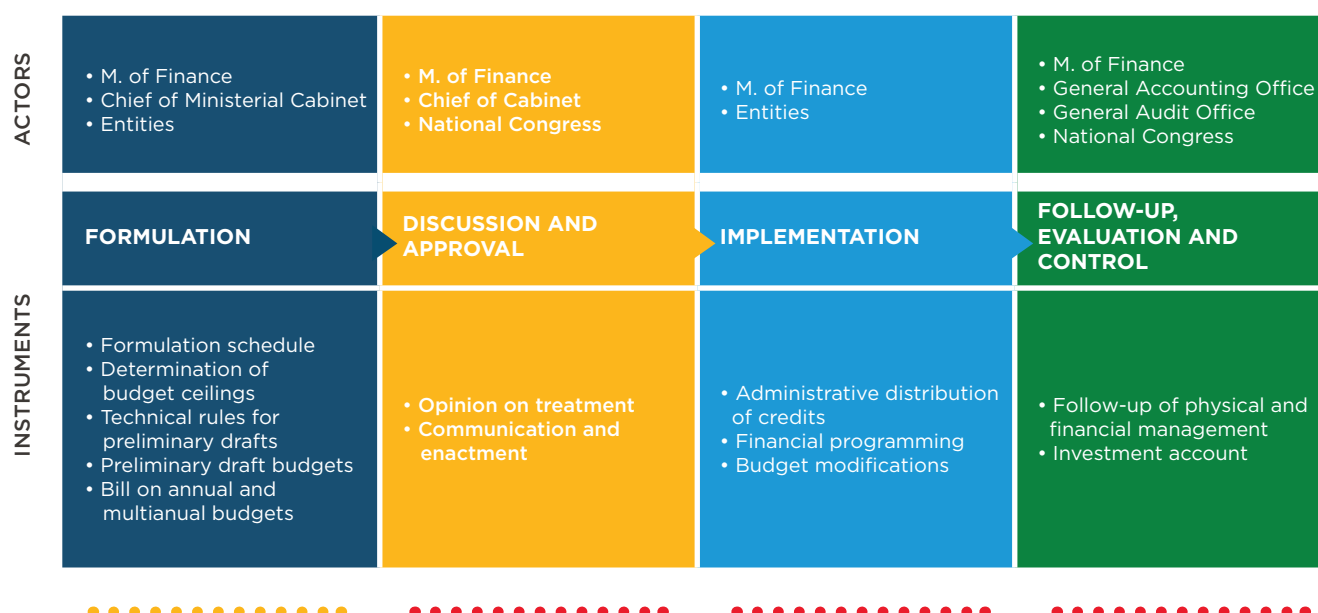
TABLE 5 INCLUSION OF CLIMATE ASPECTS IN ARGENTINA'S NATIONAL BUDGET

CC LAW / STRATEGY	YEAR	DOES/DID THE MINISTRY OF FINANCE HAVE ANY ROLE UNDER THE LEGISLATION REFERRED TO? WHAT ROLE?	INCORPORACIÓN
Decree 1070	2005	It creates the Argentine Carbon Fund for projects within the framework of the Clean Development Mechanism.	● ● ● ● ● ● ● ●
Law No. 26.331 on Minimum Budgets for the Environmental Protection of Native Forests	2007	It sets out the minimum budgets for environmental protection and for the enhancement, restoration, conservation, use and sustainable management of native forests.	● ● ● ● ● ● ● ●
Law No. 26.190	2006	It establishes the National Program to Promote the Use of Renewable Sources of Energy for the Generation of Electricity, and it created the Trust Fund for Renewable Energy.	● ● ● ● ● ● ● ●
Law No. 27.431 on National Budget	2018	It created the "Trust Fund for the Environmental Protection of Native Forests" to manage the funds allocated in Law No. 26.331.	● ● ● ● ● ● ● ●

Source Prepared by the authors based on the current regulations.

- These legal mandates in **Argentina** are related to the budget formulation process (establishment of minimum budgets and allocations to funds) while no mandate is established for the other stages of the budget cycle. Within the Functional Classifier related to “4 Economic Services”, Argentina has a subclassification related to “Ecology and Environment” in which the implementation entities may record their environmental expenditure but it does not allow for a detailed follow-up of the climate public expenditure (see Figure 1).

FIGURE 1 BUDGET CYCLE IN ARGENTINA AND INCORPORATION OF NDCS



Source | Prepared by the authors based on the legislation that applies to budget processes in Argentina.

Note | “Entities” refers to the ministries managing the budget.

- In **Colombia**, the regulatory framework grants the DNP and the Ministry of Finance and Public Credit (MHCP) a key role, given their participation in the Financial Management Committee of the National Climate Change System (SISCLIMA) and in the Intersectoral Climate Change Commission; in the development of policy guidelines for the allocation of resources and the inclusion of climate criteria in the budget cycle at all government levels; and in the assessment of the fiscal risk due to the occurrence of disasters as a result of natural phenomena (see Table 6).

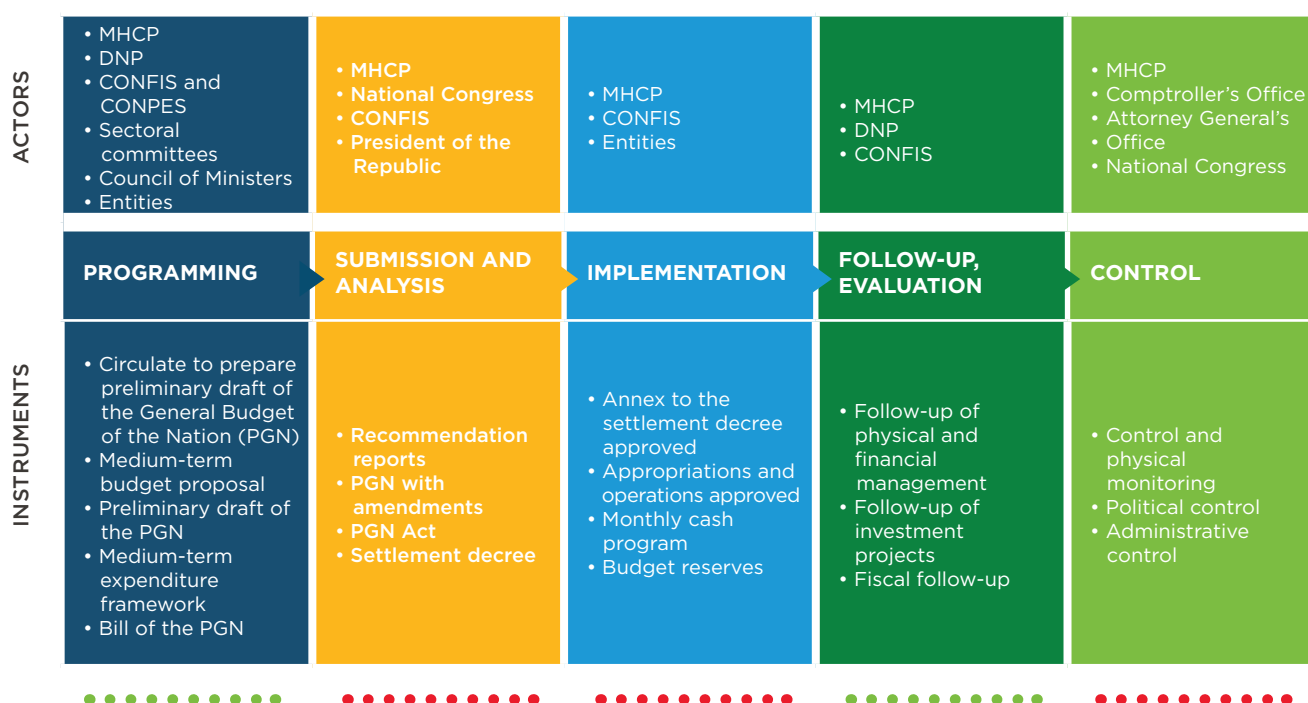
TABLE 6 INCLUSION OF CLIMATE ASPECTS IN COLOMBIA'S NATIONAL BUDGET

CC LAW / STRATEGY	YEAR	DOES/DID THE MINISTRY OF FINANCE HAVE ANY ROLE UNDER THE LEGISLATION REFERRED TO? WHAT ROLE?	INCORPORATION
National Climate Change Adaptation Plan (PNACC)	2016	Sectors and territories must integrate the climate change considerations into their planning and budget.	● ● ● ● ● ● ● ●
National Climate Finance Strategy	2017	It is part of the Financial Management Committee of SISCLIMA. Its functions include supporting the development of policy guidelines for the allocation of resources and the inclusion of climate criteria in the budget cycle of the nation and subnational levels.	● ● ● ● ● ● ● ●
National Climate Change Policy of the Ministry of Environment and Sustainable Development	2017	It is part of the Intersectoral Climate Change Commission and it must formulate an integrated plan for climate change management. Instruments to internalize climate change costs in the transport sector must be considered.	● ● ● ● ● ● ● ●
Policy strategy for public financial management of natural disaster risk	2017	It is responsible for assessing, reducing and managing fiscal risk due to the occurrence of natural disasters.	● ● ● ● ● ● ● ●
Integrated Strategy to Control Deforestation and Manage Forests	2017	It defines the guidelines and criteria to allocate resources associated with climate actions.	● ● ● ● ● ● ● ●
Law No. 1931 establishing Guidelines for the Management of Climate Change	2018	The sectoral integrated plans for climate change management must offer guidelines on the financing of climate change measures. The climate change measures of national entities are subject to the availability of resources from the medium-term fiscal and expenditure frameworks.	● ● ● ● ● ● ● ●

Source | Prepared by the authors based on current regulations.

The main budgetary instruments related to NDCs are linked to the programming stage and the follow-up and evaluation stage. At the programming stage, these instruments are linked from the management of climate fiscal risks in medium-term fiscal and expenditure frameworks to the development of climate change policies, guidelines and criteria that must be followed by sectoral entities. The budget programmatic structures directly related to climate change include programmatic classifier 3206: “Climate change management for low-carbon, climate-resilient development”, and it uses the functional classifier of “Environmental Protection”. Furthermore, at the evaluation and follow-up stage, Colombia has established a climate expenditure monitoring, reporting and verification system (financial MRV), both public and private and at all government levels (central government and subnational governments), which will be further analyzed in the good practices section (see Figure 2).

FIGURE 2 BUDGET CYCLE IN COLOMBIA AND INCORPORATION OF NDCS



Source Prepared by the authors based on the legislation that applies to budget processes in Colombia.

In **Jamaica**, the Ministry of Finance and the Public Service is part of the Advisory Committee on Climate Change and it advises ministries and agencies to develop their climate financial strategies. It is also responsible for assessing the fiscal vulnerability and resilience to natural disasters related to climate change, for which it must develop a financial strategy, create a contingency fund, and improve the insurance of public assets (see Table 7).

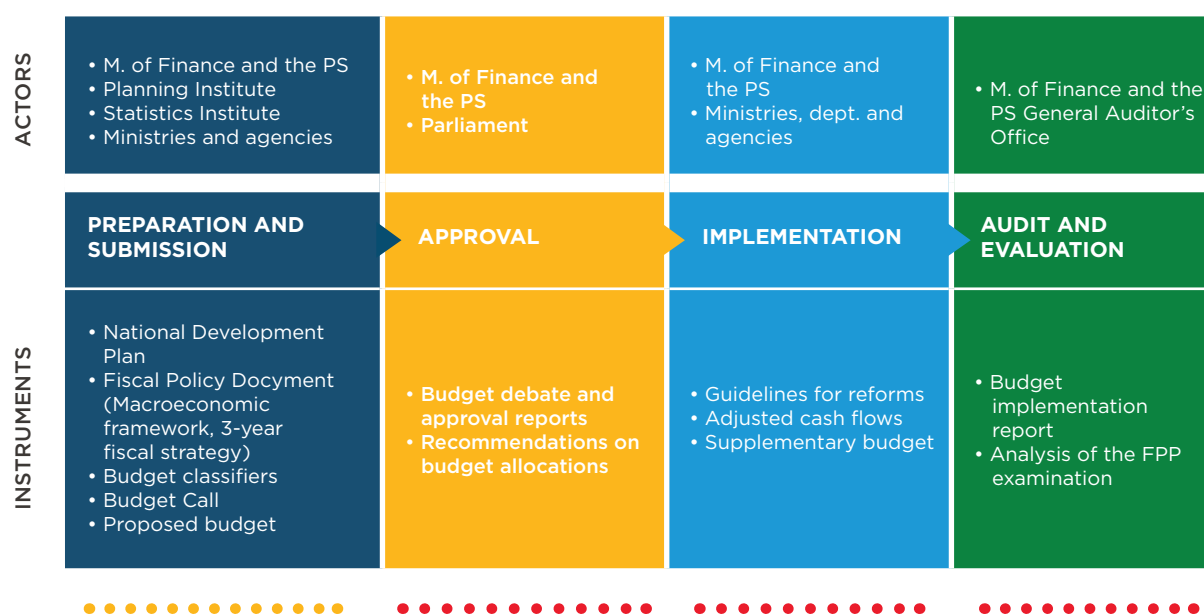
TABLE 7 INCLUSION OF CLIMATE ASPECTS IN JAMAICA'S NATIONAL BUDGET

CC LAW / STRATEGY	YEAR	DOES/DID THE MINISTRY OF FINANCE HAVE ANY ROLE UNDER THE LEGISLATION REFERRED TO? WHAT ROLE?	INCORPORATION
Climate Change Policy Framework and Action Plan (Intended Nationally Determined Contribution of Jamaica)	2015	It is part of the Advisory Committee on Climate Change and assists the ministries and agencies to develop their financial strategies and to incorporate mitigation and adaptation plans in their budget process. It must develop a financial strategy to reduce fiscal vulnerability upon the occurrence of events related to climate change, and assess measures to face it.	●●●●●●●●●●
Policy on Disaster Risk Financing	2019	Fiscal resilience to natural disasters through ²⁴ : <ul style="list-style-type: none"> Designation of the contingency fund as the National Catastrophic Disaster Reserve Fund. Improvement of the insurance of public assets and incorporation of disaster risk analysis in public sector investments and planning. 	●●●●●●●●●●

24. See: <https://mof.gov.jm/mof-media/media-centre/press/2577-government-approves-development-of-a-national-disaster-risk-policy.html>.

As can be noted, in Jamaica, priority has been given to the incorporation of instruments into the programming stage, especially in the planning and public investments, as well as through the development and support to the ministries with respect to financial strategies to incorporate mitigation and adaptation plans into their budget process but, above all, designed to reduce fiscal vulnerability and increase fiscal resilience to climate natural disasters. No other instrument is expected in the other stages of the budget cycle. It is important to state that Jamaica has budget programs related to climate change, such as: “005 Disaster Management” and “600 Meteorological and climate services”; it also uses the functional classifier “5-Environmental protection and conservation” (see Figure 3).

FIGURE 3 BUDGET CYCLE IN JAMAICA AND INCORPORATION OF NDCS



Source Prepared by the authors based on the legislation that applies to the budget process in Jamaica.

Note Budget Call must be understood as the issuance of budget guidelines by the Ministry of Finance.

In **Mexico**, the National Climate Change Strategy and the various related regulations give the Ministry of Finance and Public Credit of Mexico (SHCP) an important role as it is part of the Inter-Ministerial Commission on Climate Change, as well as in the generation of economic instruments, fiscal stimuli and emissions market instruments to stimulate climate change mitigation and adaptation actions (see Table 8).

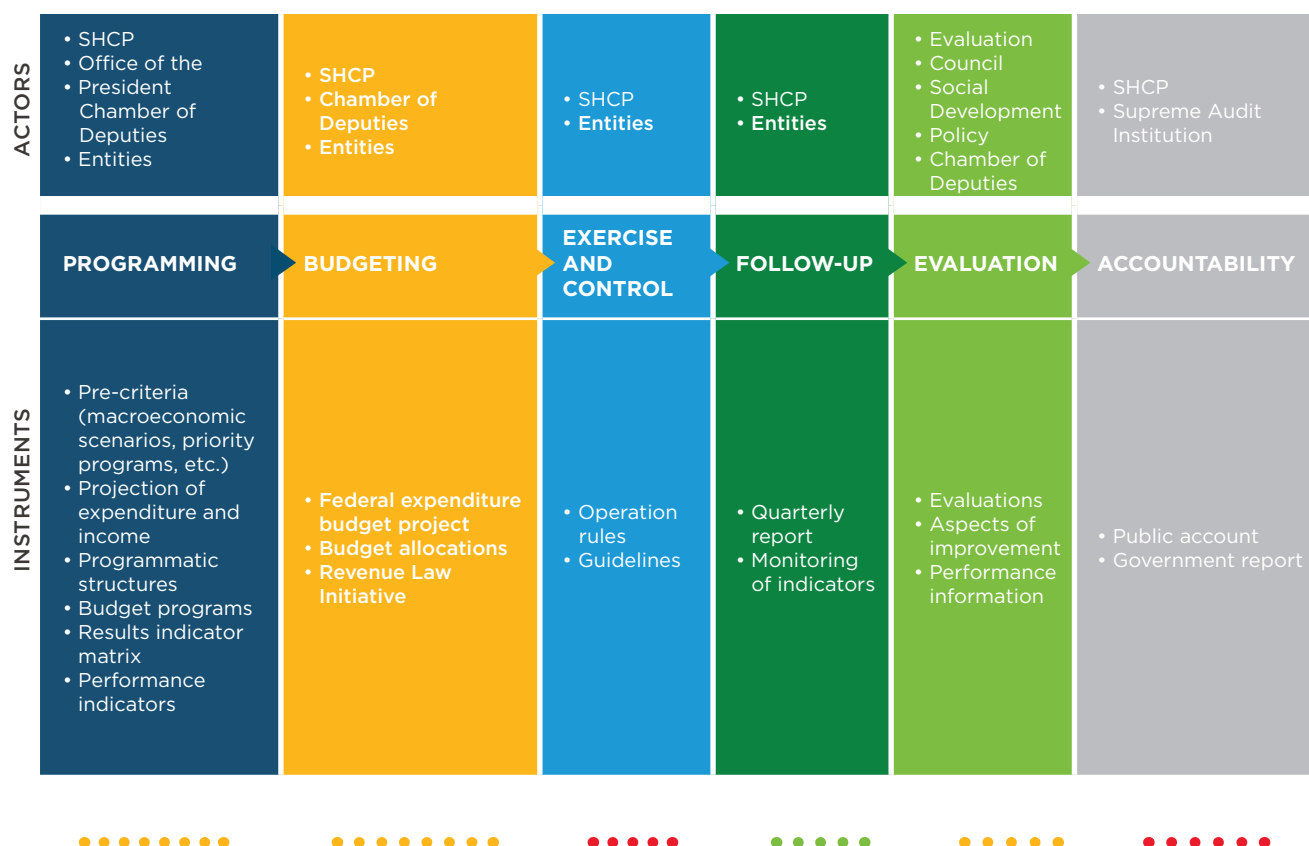
TABLE 8 INCLUSION OF CLIMATE ASPECTS IN MEXICO'S NATIONAL BUDGET

CC LAW / STRATEGY	YEAR	DOES/DID THE MINISTRY OF FINANCE HAVE ANY ROLE UNDER THE LEGISLATION REFERRED TO? WHAT ROLE?	INCORPORATION
General Climate Change Law (Government of the Republic, 2013, page 14)	2012	The Ministry of Finance and Public Credit (SHCP) is part of the Inter-Ministerial Commission on Climate Change. It creates the Climate Change Fund (FCC), economic instruments, fiscal stimuli and emissions market instruments. It must publish, on an annual basis, the climate change actions that were implemented, including those of the Fund.	● ● ● ● ● ● ● ● ● ●
National Climate Change Strategy (10-20-40 Vision, page 27)	2013	<ul style="list-style-type: none"> • P1.1 Incorporate objectives and goals for climate change adaptation and mitigation into the National and State Development Plans and Programs and in the sectoral plans and programs. • P2.1 Design a national policy of economic, fiscal, financial, and market instruments to encourage mitigation and adaptation actions. • P2.3 Allocate enough budgetary resources for the execution of climate change adaptation and mitigation actions and specify them in federal, state and municipal budgets. • P2.4 Articulate existent national funds and other funding sources to foster climate change actions • P2.5 Ensure that economic and financial resources are channeled to the attention of priority climate actions and include socioenvironmental safeguards. • P5.3 Measure, report, and verify the origin, use, and results of the budget and resources from international, public and private funding, allocated to fight climate change in Mexico. • P6.6 Identify and promote access to international funding sources that allow determining specific mitigation and adaptation actions. • A1.3 Increase the resources allocated to respond to disasters by securing a greater proportion for prevention. 	● ● ● ● ● ● ● ● ● ●

Source | Prepared by the authors based on the relevant legislation in Mexico.

In connection with the instruments related to the stages of the Mexican budget cycle, it is observed that they are mostly focused on the programming and budgeting stages, and on the evaluation stage. At the programming and budgeting stage, it is established that sufficient budgetary resources must be allocated for the implementation of climate change adaptation and mitigation actions and specify them in the federal, state and municipal budgets; in addition, it is set out that the various national funds must be articulated as financial mechanisms for the financing and distribution of benefits of actions related to climate change. Mexico has budgetary programs related to climate change, uses the functional classifier of Environmental Protection and has the annex **“Resources for the adaptation and mitigation of climate change effects”**. At the evaluation stage, it is established that the origin, use and results of the resources allocated to fight climate change, must be measured, reported and verified (see Figure 4).

FIGURE 4 BUDGET CYCLE IN MEXICO AND INCORPORATION OF NDCS



Source | Prepared by the authors based on the legislation that applies to the budget cycle in Mexico.

In **Peru**, the legal framework and the climate public policies set forth that the Ministry of Economy and Finance (MEF) must incorporate climate change in its budget process, in the public investment planning, and that it must be considered in the projections of the Multi-annual Macroeconomic Framework, at both national and regional level. The Ministry of Environment and the MEF establish the guidelines to use climate finance in a coordinated manner. Furthermore, the Executive Branch must create guarantee funds to promote investment in sectors related to climate change (see Table 9).

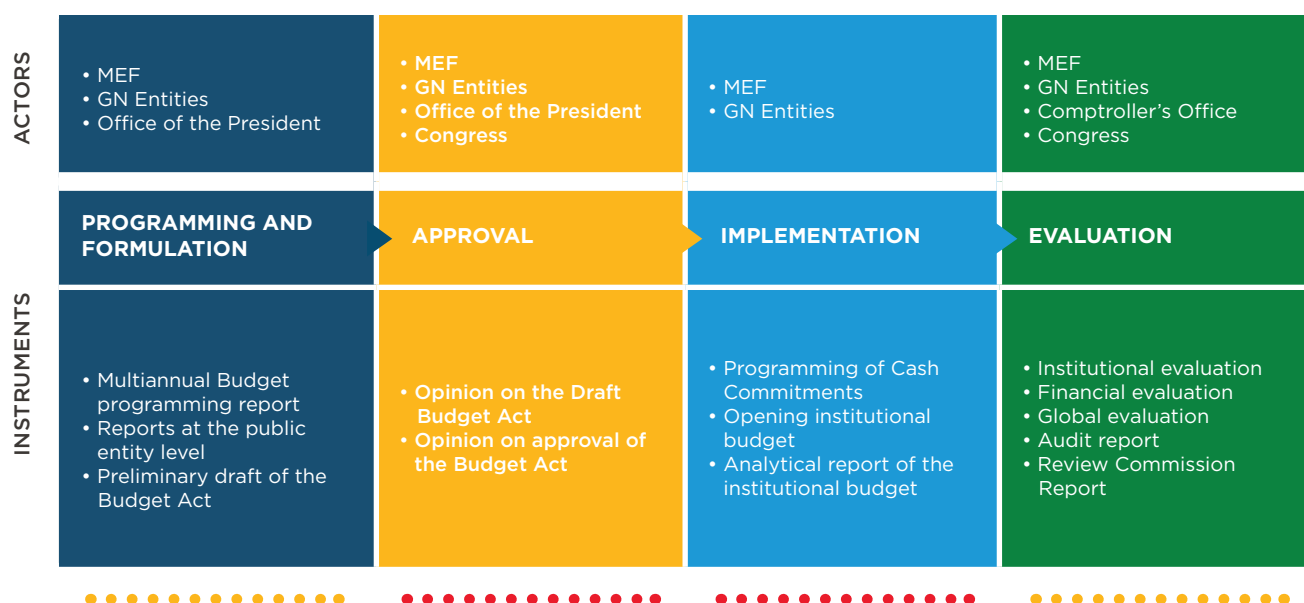
TABLE 9 INCLUSION OF CLIMATE ASPECTS IN PERU'S NATIONAL BUDGET

CC LAW / STRATEGY	YEAR	DOES/DID THE MINISTRY OF FINANCE HAVE ANY ROLE UNDER THE LEGISLATION REFERRED TO? WHAT ROLE?	INCORPORATION
Climate Change Adaptation and Mitigation Action Plan (Ministry of Environment)	2010	<p>"Thematic line 4: Integration of Adaptation and Mitigation in the decision making processes" includes the following measures related to planning and budget:</p> <ul style="list-style-type: none"> • To incorporate the climate change theme in the various policy and management instruments and public budget allocation instruments. • To adapt the public investment planning instruments at the national level to the climate change adaptation and mitigation (National Public Investment System – SNIP, Multi-annual Macroeconomic Framework). • To consider aspects related to climate change in the projection of macroeconomic variables, incorporating national and regional climate change scenarios. 	● ● ● ● ● ● ● ●
National Climate Change Strategy (page 50)	2015	<p>It sets out that having financial tools and schemes for funding by the MEF is one of the implementation mechanisms:</p> <ul style="list-style-type: none"> • Design and implement control tools and instruments for the follow-up and monitoring of the resources allocated for adaptation based on the results obtained. • Incorporate criteria and proposals for climate risk management into the Budget Result Management mechanisms in the relevant sectors. • Promote the development of specific mechanisms for the SNIP and the Public Budget aimed at climate change adaptation. 	● ● ● ● ● ● ● ●
Framework Climate Change Law	2018	<p>The integrated management instruments for climate change are binding and must be considered in institutional budgets. The Ministry of Environment and the MEF, in a coordinated manner, establish the guidelines for the use of climate finance. The promotion of public and private investment that contributes to climate change is declared to be a matter of national interest. The MEF must incorporate the analysis of climate risk and vulnerability, as well as the identification of climate change mitigation and adaptation measures in the formulation of public investment projects. The Executive Branch must create guarantee funds to promote investment in sectors related to climate change.</p>	● ● ● ● ● ● ● ●

Source | Prepared by the authors based on the relevant legislation in Peru.

In connection with the stages of the Peruvian budget cycle, it is established that the integrated management instruments for climate change are binding and must be considered in institutional budgets. Similar to what was identified in the other countries, the emphasis on the incorporation of NDCs is made at the programming and formulation stage, as well as at the evaluation stage. At the programming and formulation stage, it is established that, within the framework of the Budget Result Management in the relevant sectors, climate risk management criteria and proposals must be incorporated into the public investment system. Peru has budget programs indirectly related to climate change, such as: "0068 Vulnerability reduction and emergency response" and "0144 Conservation and sustainable use of ecosystems for the provision of ecosystem services"; in turn, within the functional classifier "17 Environment" there is the group called "0121 Climate change management". At the evaluation and control stage, it is stated that control tools and instruments must be implemented for the follow-up and monitoring of the resources allocated to climate adaptation (see Figure 5).

FIGURE 5 BUDGET CYCLE IN PERU AND INCORPORATION OF NDCS



Source Prepared by the authors based on the legislation that applies to the budget cycle in Peru.

5.2. WHAT ARE THE KEY POINTS/AREAS IN THE BUDGET PROCESS TO INTEGRATE THE NDCS?

As seen in the foregoing section, the ministries of finance have great potential to influence the incorporation of the commitments assumed in the NDCs in the budget process, both because they issue the budget regulations and guidelines and due to their high level of influence on the decisions made by the sectors in terms of public expenditure.

The main roles assigned to the entities responsible for finance related to climate change have been²⁵:

- To evaluate, reduce and manage fiscal risk due to the occurrence of events related to climate change within the MTFFs.
- To develop guidelines to guide the allocation of public resources and the inclusion of climate criteria in the various instruments of the budget cycle.

²⁵. The functions that have been broadly assigned in countries such as Mexico, Peru, Colombia and Jamaica are summarized in this section.

- To adjust the public investment planning instruments to climate change adaptation and mitigation.
.....
- Based on the proposals made by the sectoral ministries, to set out the allocation of budgets to finance the climate change actions for legislative definition.
.....
- The creation of financial mechanisms (trust funds) to attract and manage climate finance, as well as to distribute benefits among the main actors which contribute to climate change mitigation and/or adaptation.
.....
- To design and implement economic, fiscal, financial and market instruments
- to incentivize climate actions.
.....
- To measure and report the use and result of the budget public financing for
- climate change.

However, in practice, it is necessary to strengthen their capacities in terms of climate change so that they can understand how climate change can become a fiscal risk (contingent liability) and how they can contribute to improving the quality of expenditure and fiscal transparency. Similarly, it is necessary to help them understand how the mobilization of international climate finance can be an advantage to reduce fiscal pressure and improve the maturity profile of public debt.²⁶

In those countries where planning entities have an active role in the budget process, these entities become a natural ally for the incorporation of climate change into the sectoral policies and, subsequently, into the institutional budget.

In other countries where this is not the case, the intersectoral coordination entities in which the highest authorities of the Executive Branch participate, become a major actor to facilitate the incorporation of NDCs into the budget planning, to improve governance, and to incorporate climate change into the strategic planning and national public policies. The participation of the ministries of finance may contribute to there being budget allocations and for mitigation and adaptation strategies to be more sustainable from a financial point of view. These authorities may contribute to achieving the commitment and involvement of such ministries, but also for the sectoral ministries to be able to set out their requirements of fiscal resources or for them to be able to articulate financing strategies that mobilize other sources of financing.

Furthermore, the ministries of finance are in charge of regulating and administering the budget classifiers. The proper identification in budgets of the expenses incurred which contribute to the climate change mitigation and adaptation efforts is a first step, but it is necessary for governments and ministries of finance to be in a position to assess the efficiency, effectiveness and equity in budget spending. Efficiency is related to using resources the best way possible, in both technical ('to do things' properly) and allocative ('to do the proper things') terms.

26. Cabe destacar que los recursos internacionales a los que acceden los países pueden ser incorporados en los presupuestos de cada ministerio siempre y cuando el ministerio de Hacienda autorice el incremento de su techo fiscal. En estos casos, se deben modificar los MFMP correspondientes. Por el contrario, cuando las entidades ejecutoras de dichos recursos tienen personería jurídica y autonomía presupuestal, no se requiere la ampliación de sus techos fiscales.

Moreover, effectiveness refers to the achievement of the expected results and equity regarding whether expenditure leads to equal opportunities. Then, in terms of sustainable development and in order to address climate change, the proper identification of climate expenditure in the countries' budgets becomes an extremely powerful tool to achieve climate objectives, including NDC objectives.

The main planning and budgeting instruments that can be used to incorporate the NDCs into the budget cycle are summarized as follows:

- **National development plans and sectoral plans:** given that the countries are working on Results-Based Budgeting, the incorporation of climate change into the NDPs or sectoral plans, would require expenditure implementation entities to incorporate it also into their budgets through programmatic structures. However, for such purpose, it would be necessary to develop cross-cutting programmatic structures related to NDCs (i.e. connecting planning with expected results).

- **Medium-term fiscal and expenditure frameworks:** climate change represents a potential fiscal risk for countries, which would require them to increase/reallocate expenditure in case of a climate disaster and/or to increase the level of debt, putting fiscal sustainability at risk. For this reason, it is necessary to establish climate fiscal risk strategies, which can range from the establishment of emergency funds and contingent lines of credit to insurance completely associated with climate change. In turn, it is necessary to create intertemporal fiscal space to incorporate climate finance, both national and international. In addition to physical impacts, there are impacts due to the transition process towards decarbonizing economies, due to technological changes (e.g. renewable energies), and due to changes in demand (e.g. reduced demand for oil). They imply risks to traditional sources of tax revenue, and more so, for hydrocarbon exporting countries, there are risks due to loss of assets and of contingent liabilities due to the so-called stranded assets.

- **Policy/guideline documents to prepare draft budgets:** these documents can include guidelines for the expenditure implementation entities to use cross-cutting programmatic structures and classifiers related to climate change when preparing draft budgets. The goals established in the NDCs may be used as input to design these guidelines.

- **Budget classifiers of expenditure:** most of the countries under study are making progress in the implementation of the budget classifiers set out in the *Government Finance Statistics Manual* (IMF, 2014) but, as we will see in Section 6, they are limited to determine expenditure related to climate change. Therefore, working with the “functional classifier” by expanding the use of its subcategories to connect it with climate actions, has a strong potential to be accepted by the ministries of finance and to be created based on a financial MRV system related to NDCs.

Finally, with regard to the financial administration systems and the national public investment systems, all the countries examined in this study have developed information systems that maintain a detailed, centralized record on budget implementation which could be the basis for having information about climate expenditure. However, it is necessary to establish a methodology with specific guidance for each of the sectors relevant to climate change, which allows monitoring climate public expenditure and becomes the basis for a financial MRV system of NDCs and for the evaluation of the effectiveness of public expenditure and its future allocation.

Figure 6 includes a summary of what is stated in this section, as well as the potential mechanisms to associate NDCs with national budgets.

FIGURE 6 POTENTIAL INSTRUMENTS AND MECHANISMS TO INCLUDE THE NDC GOALS IN THE BUDGETARY STAGES

POTENTIAL MECHANISMS FOR NDCS	BUDGET INSTRUMENTS	STAGES	ACTORS	
	<ul style="list-style-type: none"> • National Development Plan • Medium-Term Fiscal Frameworks • Multi-annual budgets • Public investment prioritization methodology • Budget programmatic structures • Budget classifiers • Budgetary policy/ guidelines • Draft budget 	PROGRAMMING/ FORMULATION	<ul style="list-style-type: none"> • M. of Planning Cabinet • M. of Finance • Implementation entities 	
	<ul style="list-style-type: none"> • Draft budget reports • Recommendations on budget allocations 	APPROVAL	<ul style="list-style-type: none"> • M. of Finance • Congress/ Assembly 	
	<ul style="list-style-type: none"> • Budget allocations • Regulations for budget implementation • Budget implementation programming 	IMPLEMENTATION	<ul style="list-style-type: none"> • M. of Finance • Implementation entities 	
	<ul style="list-style-type: none"> • Budget implementation reports • Report on assessment of public expenditure impact and results 	FOLLOW-UP AND EVALUATION	<ul style="list-style-type: none"> • M. of Planning • M. of Finance 	
	<ul style="list-style-type: none"> • Control regulations • Control reports • Budget settlement reports • Accountability reports 	CONTROL	<ul style="list-style-type: none"> • Comptroller's Office/ • General Audit Office • Congress/ Assembly 	
	<ul style="list-style-type: none"> • Environmental fiscal risks • Programmatic structures and climate classifiers • Public investment prioritization methodology with climate considerations • Climate budgetary policy/ guidelines 			
	<ul style="list-style-type: none"> • Recommendations on climate allocations 			
	<ul style="list-style-type: none"> • Climate funds • Regulations on sustainable public procurement • Safeguarding of climate expenses 			
	<ul style="list-style-type: none"> • Follow-up reports on climate public expenditure • Reports on assessment of climate expenditure impact and results 			
	<ul style="list-style-type: none"> • Accountability reports for climate expenditure 			

Source Prepared by the authors.

5.3. HOW ARE COUNTRIES INTEGRATING CLIMATE CHANGE INTO THEIR NATIONAL BUDGETS AND PLANNING PROCESSES?

Some of the countries under analysis have started to incorporate the environmental and climate change issues in various budgetary instruments. Thus, the Climate Finance MRV System in Colombia (Box 1) and Cross-cutting Annex 16 to the Expenditure Budget of the Mexican Federation (Box 2) are two examples that reflect the progress they are making and that can, in the medium term, help the countries comply with the commitments assumed in their NDCs (see Tables 8 and 9).

BOX 1 CLIMATE FINANCE MRV SYSTEM IN COLOMBIA

In 2016, Colombia set out a methodology to analyze, classify and measure the financing associated with climate change mitigation and adaptation actions from public, private, national and international sources. The methodology identifies 12 key sectors, which are disaggregated into subsectors and activities²⁷ to which criteria to determine whether they contribute to mitigation, adaptation or both are applied. The information generated through this methodology is included in reports, which become part of the Climate Finance MRV System.

● Sectors to be analyzed:



Energy



Transport



Environment and natural resources



Agriculture



Housing



Risk management and disaster response



Education



Health



Industry



Waste



Tourism



Cross-cutting

● Criteria to define actions:

For the activities associated with mitigation: they contribute to stabilize the emission of GHG at a level that prevents the harmful interference of human activities in the climate system, and promote efforts to limit or sequester GHG emissions.

Activities associated with climate change adaptation: they promote the reduction of

²⁷ It is important to highlight that Colombia adopted the classification proposed by GFLAC for these sectors. Therefore, the subsectors and activities proposed by the GFLAC methodology are the same and are taken into consideration in the methodology for Colombia's MRV system.

human and natural vulnerability to the impacts of climate change and the risks associated with it. They also promote, maintain or increase the adaptive and resilient capacity. These activities include the generation of information and knowledge, capacity development, planning and implementation of activities.

Activities with simultaneous impacts (mitigation and adaptation): they reduce emissions and/or assist in the conservation of carbon sinks and contribute to the reduction of vulnerability and to the increase of resilience. These activities combine the mitigation and adaptation criteria described above.

● **Classification of actions:**

● Actions explicitly for climate change in general.

Actions associated with climate change mitigation, regardless of the fact that such function has been explicitly deliberated.

Actions that have both impacts at the same time: mitigation and adaptation

● **Steps that need to be followed:**

Definition of the territorial scope of the analysis

.....
Gathering of information

.....
Systematization of information

.....
Review and classification of information

.....
Estimates

.....
Verification

.....
Reporting of the public budget information

● **Types of reports generated:**

By sector / subsector	It shows information on implemented public expenditure based on the sector and subsector, according to the indicative list included in Annex I.
By criteria	It shows information on implemented public expenditure based on whether it is labeled as climate change or associated with climate change.
By entity	It shows information on implemented public expenditure based on the entity executing the resources (e.g. if it is a ministry or research centers, etc.)
By geographical level	It shows information on implemented public expenditure based on whether the expenditure is implemented at national, territorial or local level.
By geographical entity	It shows information on implemented public expenditure based on the name of the geographical entities that implement public expenditure (e.g. Cali, Cartagena, etc.).

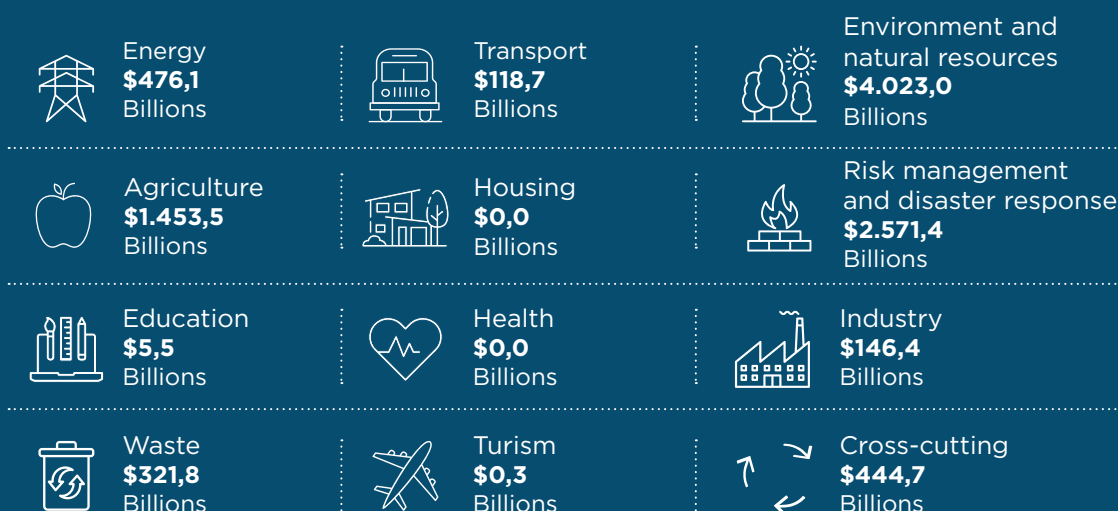
OBJETIVE

● Own public financing vs. other sources (billions of Colombian pesos)



● Sectors:

The figures show the total own public financing by sector in billions of Colombian pesos



Source | Methodological Guide to Classify and Measure Finance Associated with Climate Change Mitigation and Adaptation Actions (DNP, 2016) and <http://mrvapp.dnp.gov.co/InfografiaPublica/>.

BOX

2

CROSS-CUTTING ANNEX - RESOURCES FOR ADAPTATION AND MITIGATION OF THE EFFECTS OF CLIMATE CHANGE IN MEXICO

The Cross-cutting Annexes were included in the Expenditure Budget of the Federation since 2008. These annexes allow identifying and classifying the resources allocated to major public policy lines and respond to commitments executed by Mexico in international treaties and instruments related to vulnerable groups of the population or to national problems that need to be comprehensively addressed.

In the annexes to the Budget "...Budget Programs, their components and/or Responsible Units concur, the resources of which are allocated to works, actions and services related to the development of various sectors". Annex 16 identifies the resources for adaptation and mitigation of the effects of climate change which were implemented in 2013. This annex contains the budget programs, their components and/or Responsible Units, the resources of which are allocated to actions and services related to adaptation and mitigation of the effects of climate change. In the draft Expenditure Budget, the SHCP must include these annexes, as well as the methodology, factors, variables and formulas used to prepare it. The budget shown in the Cross-cutting Annex 2019, for example, considers resources mainly allocated to Items: 8 - Agriculture and Rural Development, and 47 - Non-sectoral Entities (Federal Electricity Commission).

Source | Federal Budget and Fiscal Responsibility Law.

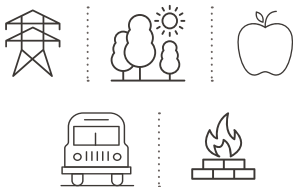
6

ANALYSIS OF PUBLIC EXPENDITURE IN CLIMATE CHANGE AT PROGRAM LEVEL

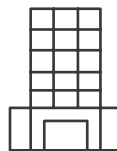
As stated above, the second type of analysis conducted in this study was the analysis of the public expenditure associated with climate change made by governments. This analysis sought to identify the budget items assigned to climate change projects or programs, or associated with climate change, for the sectors under study, in order to learn about the incorporation of climate international commitments into the public budget. For that purpose, not only sectoral budgets were analyzed but also the budgets of those agencies outside the sector which could be relevant for the sector (other ministries, decentralized bodies, deconcentrated bodies, special offices, etc.). Table 10 shows the number of sectoral entities of the central government and extrabudgetary entities²⁸ that were reviewed, as well as the non-sectoral entities in which budget programs associated with the sectors under analysis were identified (more details of the entities are included in Annex II to this document).

What was reviewed in this study?

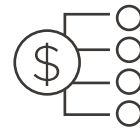
Budgets of the sectors under analysis



Budgets of extrabudgetary entities



Budgets of other relevant sectors for this study



28. Pursuant to the Government Finance Statistics Manual (FMI, 2014), budgetary central government is a single unit of the central government with a budget covered by the general budget, that is, the budgetary central government's revenue and expense are regulated and controlled by the ministry of finance or its functional equivalent. Extrabudgetary entities are those with a budget that is not covered by the general budget. Although these institutions may have their own revenue sources and discretion on the volume and composition of their expenses, they generally require legislative approval.

TABLE 10 MINISTRIES AND NUMBER OF COMPETENT OR RELEVANT NON-CENTRAL ENTITIES BY SECTOR AND INTEGRATED INTO THE PROGRAMMATIC ANALYSIS OF THIS STUDY

COUNTRY	TYPE OF ENTITY	ENERGY	ENVIRONMENT	AGRICULTURE	TRANSPORT	RISK MANAGEMENT AND DISASTER RESPONSE
ARGENTINA	Institution in charge of the sectoral policy	Ministry of Energy and Mines	Ministry of Environment and Sustainable Development	Ministry of Agroindustry	Ministry of Transport	Ministry of Security
	Other sectoral agencies (central or extrabudgetary)	3	1	3	6	1
	Other non-sectoral entities that are relevant to the study					3
COLOMBIA	Institution in charge of the sectoral policy	Ministry of Mines and Energy	Ministry of Environment and Sustainable Development	Ministry of Agriculture and Rural Development	Ministry of Transport	Unit for Disaster Risk Management
	Other sectoral agencies (central or extrabudgetary)	4	32	6	3	4
JAMAICA	Institution in charge of the sectoral policy	Ministry of Science, Energy and Technology	Ministry of Economic Growth and Job Creation	Ministry of Industry, Trade, Agriculture and Fishing	Ministry of Transport and Mining	Ministry of Local Government and Community Development
	Other non-sectoral entities that are relevant to the study	2	4	1	1	3
MEXICO	Institution in charge of the sectoral policy	Ministry of Energy	Ministry of Environment and Natural Resources	Ministry of Agriculture and Rural Development	Ministry of Communications and Transport	Ministry of Home Affairs
	Other sectoral agencies (central or extrabudgetary)	7	6	9	4	1
PERU	Institution in charge of the sectoral policy	Ministry of Energy and Mines	Ministry of Environment	Ministry of Agriculture and Irrigation	Ministry of Transport and Communications	National Center for Estimation, Prevention and Reduction of Disaster Risk
	Other sectoral agencies (central or extrabudgetary)	2	7	5	2	
	Other non-sectoral entities that are relevant to the study	3	6	8	1	22

Source Prepared by the authors.

The budget programs were identified in the main budget and expenditure documents published by the governments. Table 11 shows the differences in the level of disaggregation of the various budgets. As can be noted, in all the cases, public budgets show information related to the budget program and agency in charge of implementing the resources. However, only some countries include data about the activities and projects resulting from the mobilization of the budgeted resources and areas responsible within the entities. It is appropriate to highlight that disaggregating this information is relevant to conduct the analysis, especially when the objectives of the budget program by themselves are not clear and therefore, neither is their relation to climate change.

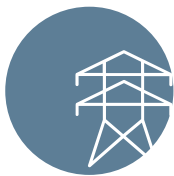




TABLE 11 LEVEL OF DISAGGREGATION OF THE NATIONAL BUDGET IN EACH OF THE SELECTED COUNTRIES

COUNTRY	DOCUMENTS REVIEWED	LEVEL OF DISAGGREGATION OF THE BUDGET			
		BUDGET PROGRAMS	IMPLEMENTATION ENTITY	IMPLEMENTATION UNIT/AREA	ACTIVITIES/ PROJECTS RELATED TO THE BUDGET PROGRAM
ARGENTINA	Budget 2017 at jurisdiction level	Yes	Yes	Yes	Yes
COLOMBIA	General Budget of the Nation 2017, Decree 2170	Yes	Yes	No	No
JAMAICA	Estimates of Expenditure 2017-2018	Yes	Yes	Partially	Partially
MEXICO	Expenditure Budget of the Federation approved for the year 2017, by Administrative Sector	Yes	Yes	Yes	Yes
PERU	Public Sector Budget 2017, by public entities of the national government at the level of products, projects and activities	Yes	Yes	No	Yes

Source | Prepared by the authors.

As stated above, the analysis of the budget was conducted based on the methodology designed by the GFLAC. For that purpose, the budget associated with climate change was classified by sector and subsectors which, under such methodology, are considered with decarbonizing potential or reduction of vulnerability to climate change. Budget programs are classified in Table 12 below. More information on the methodology and the criteria to classify the climate change activities, as well as their scope of impact (mitigation, adaptation or both) are disaggregated in Annex I to this document.

TABLE 12 DIVISION OF SECTORS AND SUBSECTORS ACCORDING TO THE METHODOLOGY

SECTOR	SUBSECTOR
ENERGY 	Electricity generation with renewable sources
	Energy efficiency
	Policies, laws and research for energy transition
	Production, distribution, transformation and storage of hydrocarbons
	Mining production
ENVIRONMENT AND NATURAL RESOURCES 	Water resources
	Forest governance
	Biodiversity and ecosystems
	Use, reuse and management of solid waste
	Air quality
AGRICULTURE 	Sustainable rural development
	Food safety
	Agriculture
	Livestock farming
	Fishing
TRANSPORT 	Multimodal and mass passenger transport
	Non-motorized mobility
	Fuel improvement
RISK MANAGEMENT AND DISASTER RESPONSE 	Management of the risk associated with disasters
	Prevention of risks associated with climate change

Source Prepared by the authors, based on the GFLAC (2016).

Table 13 shows the main results of the analysis, after having taken the methodological steps described in Section 3.

TABLE 13 MAIN RESULTS OF THE PUBLIC EXPENDITURE IN CLIMATE CHANGE, AT PROGRAM LEVEL, BY SECTOR AND BY COUNTRY UNDER THE METHODOLOGY USED IN THIS STUDY (IN USD AND %)

ENERGY SECTOR					
Budget \ Country	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Total budget of the sector	\$9,306,955,127	\$802,261,121	\$38,287,628	\$29,298,865,302	\$179,766,762
CC budget	\$339,958,832	\$23,618,720	\$4,058,483	\$478,326,598	\$18,392,031
Budget contrary to CC	\$8,120,549,626	\$174,438,789	\$0	\$28,756,789,690	\$23,218,147
% of CC	3.7%	2.9%	10.6%	1.6%	10.2%
% contrary to CC	87.3%	21.7%	0.0%	98.1%	12.9%
Budget identified in other sectors					
Total non-sectoral budget	-	-	\$1,438,621	-	\$28,783,110
CC budget	-	-	\$821,802	-	\$587,573
Budget contrary to CC	-	-	\$616,819	-	\$28,195,537
% of CC	-	-	57.1%	-	2.0%
% contrary to CC	-	-	42.9%	-	98.0%
Total CC budget	\$339,958,832	\$23,618,720	\$4,880,285	\$478,326,598	\$18,979,604
Total budget contrary to CC	\$8,120,549,626	\$174,438,789	\$616,819	\$28,756,789,690	\$51,413,684
ENVIRONMENT SECTOR					
Budget \ Country	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Total budget of the sector	\$392,771,306	\$211,959,602	\$85,246,788	\$1,904,458,526	\$188,570,371
CC budget	\$329,001,181	\$211,959,602	\$35,078,183	\$1,793,981,301	\$168,349,904
Budget contrary to CC	0	0	0	0	0
% of CC	83.8%	100.0%	41.1%	94.2%	89.3%
% contrary to CC	0.0%	0.0%	0.0%	0.0%	0.0%
Budget identified in other sectors					
Total non-sectoral budget	-	-	\$9,944,553	-	\$57,297,750
CC budget	-	-	\$9,944,553	-	\$57,297,750
Budget contrary to CC	-	-	\$0	-	\$0
% of CC	-	-	100.0%	-	100.0%
% contrary to CC	-	-	0.0%	-	0.0%
Total CC budget	\$329,001,181	\$211,959,602	\$45,022,736	\$1,793,981,301	\$225,647,654
Total budget contrary to CC	-	-	-	-	-
AGRICULTURE SECTOR					
Budget \ Country	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Total budget of the sector	\$1,033,787,034	\$706,528,855	\$43,823,188	\$3,728,637,359	\$623,419,511
CC budget	\$847,719,646	\$145,950,095	\$21,435,288	\$1,397,546,559	\$223,700,389

IDENTIFICATION AND ALIGNMENT

Budget contrary to CC	\$821,195	\$4,235,393	\$14,533,045	\$1,003,519,921	\$10,624,991
% of CC	82.0%	20.7%	48.9%	37.5%	35.9%
% contrary to CC	0.1%	0.6%	33.2%	26.9%	1.7%

Budget identified in other sectors

Total non-sectoral budget	-	-	\$1,687,402	-	\$45,002,098
CC budget	-	-	\$1,687,402	-	\$40,041,267
Budget contrary to CC	-	-	\$0	-	\$4,960,831
% of CC	-	-	100.0%	-	89.0%
% contrary to CC	-	-	0.0%	-	11.0%
Total CC budget	\$847,719,646	\$145,950,095	\$23,122,689	\$1,397,546,559	\$263,741,656
Total budget contrary to CC	\$821,195	\$4,235,393	\$14,533,045	\$1,003,519,921	\$15,585,822

SECTOR TRANSPORT

Country	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Budget					
Total budget of the sector	\$8,012,239,214	\$2,240,431,105	\$31,265,016	\$4,469,668,806	\$3,288,876,383
CC budget	\$725,080,029	\$94,992,927	\$20,204,173	\$1,452,524,037	\$806,702,340
Budget contrary to CC	\$2,564,962,361	\$1,339,068,818	\$2,973,597	\$1,816,637,896	\$1,966,606,877
% of CC	9.0%	4.2%	64.6%	32.5%	24.5%
% contrary to CC	32.0%	59.8%	9.5%	40.6%	59.8%

Budget identified in other sectors

Total non-sectoral budget	-	\$113,997,139	\$156,991,949	-	\$19,506,782
CC budget	-	\$113,997,139	\$0	-	\$16,632,567
Budget contrary to CC	-	\$0	\$156,991,949	-	\$2,874,214
% of CC	-	100.0%	100.0%	-	85.0%
% contrary to CC	-	0.0%	0.0%	-	14.7%
Total CC budget	\$725,080,029	\$208,990,066	\$20,204,173	\$1,452,524,037	\$823,334,907
Total budget contrary to CC	\$2,564,962,361	\$1,339,068,818	\$159,965,545	\$1,816,637,896	\$1,969,481,091

RISK MANAGEMENT SECTOR

Country	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Budget					
Total budget of the sector	\$4,077,803,930	\$28,899,117	\$74,276,174	\$3,073,187,051	\$3,833,225
CC budget	\$14,130,302	\$28,899,117	\$53,621,739	\$11,730,206	\$3,833,225
Budget contrary to CC	\$0	\$0	\$0	\$0	\$0
% of CC	0.3%	100.0%	72.2%	0.4%	100.0%
% contrary to CC	0.0%	0.0%	0.0%	0.0%	0.0%

Budget identified in other sectors

Total non-sectoral budget	\$138,371,056	\$193,177,727	\$14,514,895	-	\$88,657,339
CC budget	\$138,371,056	\$193,177,727	\$14,514,895	-	\$88,657,339
Budget contrary to CC	\$0	\$0	\$0	-	\$0
% of CC	100.0%	100.0%	100.0%	-	100.0%
% contrary to CC	0.0%	0.0%	0.0%	-	0.0%
Total CC budget	\$152,501,357	\$222,076,843	\$68,136,635	\$11,730,206	\$92,490,564
Total budget contrary to CC	-	-	-	-	-

Based on the analysis of public expenditure in activities associated with and contrary to climate change, it is possible to observe that the distribution of resources is relatively similar among the five case studies.

The results of the energy sector are particularly interesting because, despite the fact that the countries agree on the importance of this sector in their international commitments, due to its mitigation potential, for all the cases –except for Jamaica–, the budget allocated to intensive practices in emissions is significantly higher than the activities associated with climate change. Argentina and Mexico stand out, where the public expenditure contrary to climate change as a percentage of the total expenditure of the sector represents 87.3% and 98.1%, respectively. This performance coincides with the fact that both economies have an energy policy mainly aimed at the production of fossil fuels. In the case of Jamaica and Peru, a budget related to the energy sector was identified in other agencies that do not belong to the sector.

For the environment sector, the five countries show the same behavior, with a high percentage focused on activities and projects associated with climate change. In addition, budget programs aimed at activities contrary to climate change within and outside the sector, were not identified. In four of the five cases, the percentage of the budget associated with climate change within the sector exceeds 80%. As this is the environment sector, most of the resources received by these institutions help fight climate change. However, in Jamaica and Peru, as in the foregoing sector, budget programs and institutions outside the environment sector were recognized. For example, in Peru, the Ministry of Agriculture and Irrigation and the National Forest and Wildlife Service have resources that benefit forest governance, while the National Water Authority, the budget of which is focused on the management and conservation of water resources, also helps fight the effects of climate change.

In the case of the agriculture sector, according to the analysis, all the countries under study have more resources allocated to practices that are consistent with the national climate goals. While only in Jamaica and Peru there are agencies outside the sector which contribute resources related to the agriculture sector, they also focus on reducing emissions and vulnerability to climate change. As could be seen in the more detailed analysis, the countries allocate a significant amount of resources to meet the population's food safety, as well as to foster sustainable practices with a climate change approach in the agriculture sector. However, it is important to consider what was stated above since, as mentioned, it is possible that there are some activities and programs that have not been considered but that, in practice, are connected with climate change. For this sector in particular, we could not have access to information related to the geographical location of the projects, key information to be able to identify its potential impact on deforestation. For this reason, this information needs to be taken cautiously.

The transport sector shows a behavior that is completely opposite to that of the agriculture sector. Pursuant to the study, for the five countries considered in this analysis, it is observed that the public expenditure associated with activities and projects contrary to climate change is higher than the activities that facilitate the decarbonization of the sector. It was observed that most of the public resources in this sector are focused on the construction of roads and infrastructure that prioritize the use of cars and ground cargo transportation, with minimum focus on sustainable transport technologies. In turn, the public resources for fighting the effects

of climate change in the sector are related to the financing of multimodal and mass passenger transport projects. However, the options of non-motorized transport or the improvement of fuels remain to be promoted through the budget. Among the countries under study, Colombia and Jamaica stand out. Colombia due to the identification of additional resources in non-sectorial agencies but which benefit the reduction of emissions from the sector. In Jamaica, there is non-sectoral public budget that increases GHG emissions. In the case of Jamaica, the institution in charge of the sectoral policy is the Ministry of Transport and Mines. However, during the analysis, we identified resources from the Ministry of Economic Growth and Job Creation mainly allocated for the construction and the development of road infrastructure, which promote the flow of cars and therefore, increase polluting emissions.

Finally, for the risk management sector, the five countries of the study have a budget directly associated with this purpose. Even some countries such as Colombia, Mexico and Peru have agencies in charge of the implementation of programs for disaster prevention and risk management, although they are not usually significant with respect to the total budget. It is important to mention that, in four cases, resources were identified in agencies outside the sector under analysis. The cases of Jamaica and Peru stand out, in which the activities related to this sector are considered highly relevant. For example, in Jamaica, it was possible to link budget programs in four different ministries (Ministry of Local Government and Community Development, Ministry of Health, Ministry of Finance and Public Services, and Ministry of Economic Growth and Job Creation) with this sector. In Peru, risk management and disaster response are considered a cross-cutting issue; therefore, these responsibilities not only lie with the National Center for Estimation, Prevention and Reduction of Disaster Risk (CENEPRED), but also with other 22 entities that have resources allocated for this purpose. Another highlight is that, although all the countries have resources for this sector, most of them are allocated to manage disasters and not to prepare strategies, programs or projects to prevent them. This circumstance seems to be unfavorable especially if we take into account the high level of vulnerability that the Latin America and the Caribbean region has to the effects of climate change.

From the use of this methodology, it is possible to identify whether governments have budget items associated with climate change mitigation and adaptation. The countries, through budget allocation, set a standard to comply with their international commitments in terms of climate change. In this respect, the data above shows that, at the moment, there is no sign of a clear, direct relation between international and national goals and the definition of the public budget in the countries included in this study. The clearest example is the energy sector which, according to the NDCs of each country, represents one of the sectors with the greatest mitigation potential. However, in none of the cases, the resources focused on the transition of the sector to clean or renewable energy sources exceed the expenditure that the countries allocate for intensive activities and projects on emissions. This standard prevails in the transport sector, the second most polluting sector with great opportunities to implement sustainable infrastructure actions.

TABLE 14 TOTAL BUDGET ASSOCIATED WITH AND CONTRARY TO CLIMATE CHANGE BY SECTOR AND BY COUNTRY

SECTOR	ARGENTINA	COLOMBIA	JAMAICA	MEXICO	PERU
Total budget associated with CC (based on the sectoral budgets analyzed)	\$2.394.261.045	\$812.595.326	\$161.366.519	\$5.134.108.701	\$1.424.194.385
Energy	14.20%	2.91%	3.02%	9.32%	1.33%
Environment	13.74%	26.08%	27.90%	34.94%	15.84%
Agriculture	35.41%	17.96%	14.33%	27.22%	18.52%
Transport	30.28%	25.72%	12.52%	28.29%	57.81%
Risk management	6.37%	27.33%	42.22%	0.23%	6.49%
Total budget contrary to CC (based on the sectoral budgets analyzed)	\$10.686.333.182	\$1.517.743.000	\$175.115.410	\$31.576.947.507	\$2.036.480.598
Energy	75.99%	11.49%	0.35%	91.07%	2.52%
Environment	0.00%	0.00%	0.00%	0.00%	0.00%
Agriculture	0.01%	0.28%	8.30%	3.18%	0.77%
Transport	24.00%	88.23%	91.35%	5.75%	96.71%
Risk management	0.00%	0.00%	0.00%	0.00%	0.00%

Source Prepared by the authors.

Table 14 shows the total budgets associated with and contrary to climate change, as well as the percentage that each sector represents with respect to that total (out of the five sectors analyzed). In general, it can be observed that, in all cases, the total expenditure identified as contrary to climate change is higher than the expenditure for practices associated with climate change. Similarly, from the table above, it is possible to note that, under the analysis methodology, the country where a larger amount of resources was identified for both cases (expenditure associated with and contrary to climate change) was Mexico, followed by Argentina, Peru, Colombia and Jamaica.





















Specifically, in the section of expenditure associated with climate change, it is not possible to identify a trend among countries with respect to the sector in which more expenditure related to emission reduction was identified. For example, in Colombia and Jamaica, more resources were identified for the risk management sector, with 27.3% and 42.2%, respectively. In Argentina, the biggest contribution was made to the agriculture sector (35.4%), while in Mexico and Peru, the sectors with more expenditure associated with climate change are the environment (34.9%) and transport (57.8%) sectors, respectively.

In regard to the budget contrary to climate change, it is clear that, in Argentina and Mexico, the sector where more contrary resources were identified was the energy sector, with 76% and 91%, respectively. These results coincide with the energy policy approach mainly aimed at the production and consumption of fossil fuels in both countries. In Colombia, Jamaica and Peru, the sector with more contribution to the expenditure contrary to climate change is the transport sector, exceeding 88% in the three countries.

It is important to consider that, when looking at the data in an aggregate manner, some countries have more resources to fight climate change compared to others. In addition, results have shown that public resources are more focused on practices not consistent with the international and national climate goals of each country. However, in order to have a more complete analysis and assess the relevance of the expenditure associated with climate change as part of the economy of each country, it is important to consider the scale of the economies under study.

Therefore, the public expenditure focused on climate change and the expenditure identified as contrary to CC are weighed below, with respect to the national public budget and the gross domestic product (GDP) of each country. This facilitates, to some extent, a more accurate comparison regarding the weight of the expenditure that the countries allocate (based on the sectors analyzed) to reduce emissions, as part of their total resources (see Table 15).

TABLE 15 RESOURCES ASSOCIATED WITH AND CONTRARY TO CLIMATE CHANGE AS A PERCENTAGE OF THE TOTAL NATIONAL BUDGET AND OF THE GDP, FOR EACH OF THE COUNTRIES UNDER ANALYSIS

COUNTRY	Budget associated with climate change in the sectors under analysis, as a percentage of the total national budget (%)	Budget contrary to climate change in the sectors under analysis, as a percentage of the total national budget (%)	Budget associated with climate change in the sectors under analysis, as a percentage of the GDP (%)	Budget contrary to climate change in the sectors under analysis, as a percentage of the GDP (%)
Argentina	 1.7%	 7.5%	 0.4%	 1.7%
Colombia	 1.1%	 2.0%	 0.3%	 0.5%
Jamaica	 1.7%	 1.9%	 1.1%	 1.2%
Mexico	 1.4%	 8.6%	 0.4%	 2.7%
Peru	 3.3%	 4.7%	 0.7%	 1.0%

Source Prepared by the authors.

As noted, the budget allocated to fight climate change as a percentage of the total public budget is clearly lower (1.1% to 3.3%) than the resources that intensify emissions (2% to 8.6%). The analysis of public expenditure in climate change as a percentage of the GDP shows the

weight of these resources within the national economy. In that respect, it is observed that, according to the study methodology, the countries included in this analysis spend 1.1% or less of the GDP to fight climate change, while the activities associated with the increase of GHG emissions in all the cases is between 0.5% and 2.7% of the GDP.

While the foregoing numbers highlight the low priority given to the public expenditure for climate change in the countries under study, it is important to remember that, as mentioned above, this study only shows an estimate of the actual expenditure in climate change.

In that respect, to obtain final information and results, which also facilitate comparing data of the region, it is necessary to have a methodology that considers all the factors related to the study and preparation of the national public budgets. Similarly, it is key to incorporate in the analysis other strategic sectors in the fight against climate change, such as waste management, urban development and territorial planning, education, health, industry and tourism, among others.

In order to further expand the study, it is a priority for the information to have the highest possible level of disaggregation so that the budget program, the institution and the expenditure implementation unit are identified, as well as the products and activities associated with the expenditure in order to know the objectives of each program in an accurate manner.



7

CONCLUSIONS AND RECOMMENDATIONS

7.1. NDCS AND NATIONAL BUDGETS

Connecting public expenditure with climate change allows countries to improve the consistency of the use of public resources with the national objectives of climate change and sustainable development, and generate social, economic and environmental benefits. Furthermore, the capacity to measure the public expenditure related to climate change may help determine the effectiveness of the use of public funds and serve as a reporting tool, and this aspect is particularly relevant in the context of the ongoing debates about a transparency framework under the Paris Agreement.

Such connection may also contribute to creating a favorable environment for green growth and maximizing the efficiency of resources, the adoption of clean energy sources, the development of innovative products and services, the growth of environment-friendly markets, and the adaptation to climate change.

Translating the NDC objectives and the national goals into concrete actions or programs within the national budgets would also send a message to the international community and the private sector that governments have taken their international commitments seriously and consistently and that they have internalized the fact that they can contribute development benefits.

Compliance with the NDCs not only brings benefits and positive impacts, but it also involves compliance with its own national legal framework.

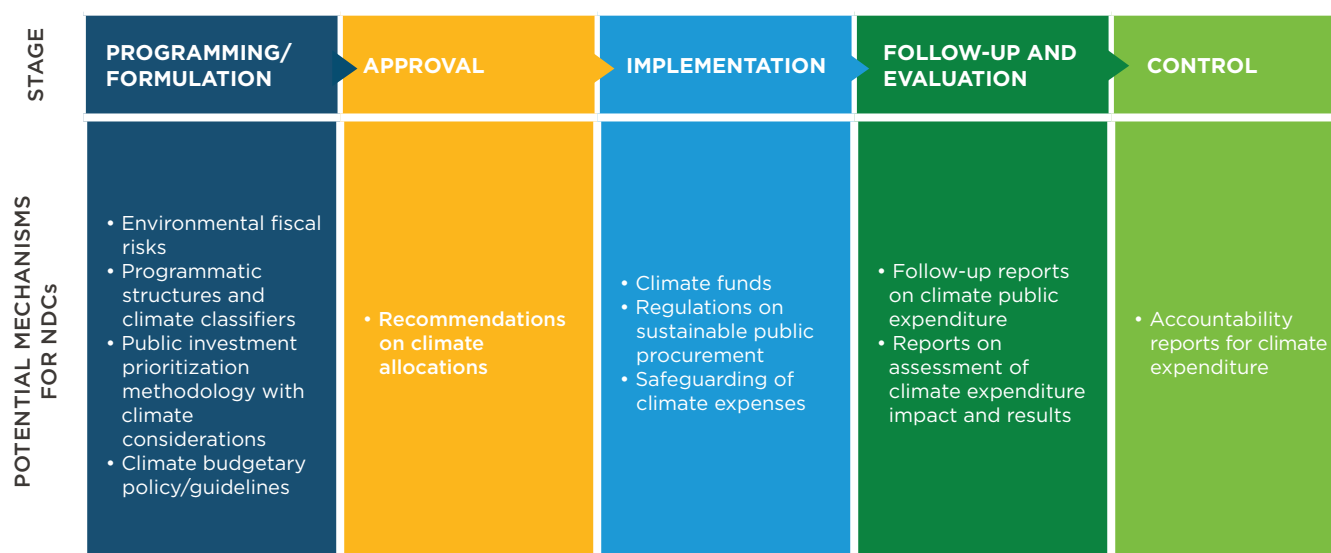
7.2. NDCS AND BUDGET PROCESSES

In the five countries under analysis, the public national budget is managed through a number of stages that can be grouped as follows: i) programming and formulation; ii) approval; iii) implementation; iv) follow-up and evaluation; and v) control.

These stages are vital to achieving the commitment and involvement of the ministries of finance, but also for the sectoral ministries to be able to set out their requirements of fiscal resources or articulate financing strategies that mobilize other sources of funding.

The main potential mechanisms to include the goals of NDCs at the various budgetary stages are summarized in Figure 7:

FIGURE 7 POTENTIAL MECHANISMS TO INCLUDE THE NDC GOALS IN THE BUDGETARY STAGES



Source Prepared by the authors.

The Programming/Formulation stage of the budget is perhaps one of the most important stages for the incorporation of NDCs into the budget because, at this stage, the ministries of finance issue guidelines of budgetary policies which must be mandatorily followed by the implementation entities. Specific directives can be incorporated into these guidelines in order to prioritize or allocate resources for the budget programs related to climate change. Thus, it could be possible to prevent the projects that contribute to the reduction of emissions from being the last ones to be prioritized. In turn, there should be alignment and coordination between the institutional framework, the legal framework and the classification rules because, as shown in this study, there is often no clear consistency between the environmental institutional structure and the planning, implementation and accountability of budgetary accounts.

7.3. SECTORS AND INTERSECTORAL COORDINATION AUTHORITIES

Within the entities that implement the expenditure, the same conflicts recur among the various agencies to obtain a larger budget and, as stated in the interviews conducted during this study, the allocations for climate change are often among the last institutional priorities.

The experience of some countries shows the importance of institutionalized spaces of the higher hierarchical rank, which allow setting up an intersectoral articulation scheme that promotes the formulation and implementation of the policies, plans, programs, methodologies and projects in terms of climate change, thus ensuring the inclusion of climate as a determining factor for the design and planning of the development projects. Furthermore, its inclusion in the budget of the central government should be ensured.

The authorities for intersectoral coordination are vitally important to incorporate the climate change issues into the strategic planning and the public policies, achieve the commitment and involvement of the ministries of finance, and allow the sectoral ministries to set out their requirements of fiscal resources or to be able to articulate financing strategies that mobilize other sources of funding.

It is essential to review the sectors' mandates so that they reflect the NDC obligations, and that they are trained in the national climate goals.

7.4. ROLE OF THE MINISTRIES OF FINANCE

In the five countries under analysis, the entities in charge of the public finances are the actors with more participation and level of interference throughout all the stages of the budget cycle. Thus, for example, during the programming and formulation stage, the ministries of finance are in charge of issuing budget catalogs and classifiers; issuing the secondary regulations and guidelines for budget management; establishing the medium-term fiscal frameworks (MTFFs); determining the expenditure ceilings for each of the ministries; and consolidating and preparing the draft budget laws. During the budget implementation, they are responsible for regulating and managing the implementation of expenditure and for conducting the monitoring and evaluation thereof, among others.

There is a perception that the matters related to climate change are the exclusive responsibility of the ministries of environment. However, the ministries of finance have a great potential to influence the incorporation of the commitments undertaken in the NDCs into the budget process, because they issue the budget regulations and guidelines and due to their high level of influence on the decisions made by the sectors in terms of public expenditure.

The ministries of finance can support the sectors to internalize and assess the economic costs of climate change in their investment projects, to generate financial strategies to mobilize resources in order to respond to natural disasters and help them conduct a cost-benefit analysis of sectoral policies. In turn, they can support them to obtain soft financing for climate programs/projects or for public expenditure MRV systems, which makes the countries' efforts to comply with international commitments such as the NDCs, transparent.

The ministries of finance can contribute to consistency between the total budget and the climate goals of the country. They can also help prioritize what actions should be financed with own resources and what other actions with international resources and/or through other financial mechanisms. Finally, they can contribute a vision of equity about the use of resources determining where there are specific shortcomings.

The ministries of finance play a key role in obtaining and managing financing from international sources (unlike sectoral ministries, which often have legal restrictions to directly negotiate with donors or have low technical capacities to negotiate credits).

The ministries of finance need to have active involvement and work together with the sectoral ministries to develop financing strategies and medium and long-term investment plans for the implementation of NDCs. Thus, they may identify needs, gaps and barriers of financing early, identify available resources and involve other actors (private sector, financial intermediaries) to catalyze the investments required to achieve the climate objectives of each country. For that purpose, the ministries of finance must fully assume their roles as facilitating actors for the implementation of NDCs.

In practice, it is necessary to strengthen their capacities in terms of climate change so that they can understand how it can become a fiscal risk (contingent liability) and how they can contribute to improving the quality of expenditure and fiscal transparency. Similarly, it is necessary to help them understand how the mobilization of international climate finance can be an advantage to reduce fiscal pressure and improve the maturity profile of public debt.

7.5. ROLE OF BUDGETARY INSTRUMENTS

Budgetary instruments may contribute (even indirectly) to achieving the countries' NDCs. Various countries are working on the implementation of budgetary approaches and tools that allow strengthening the sustainability of public finances and improving the quality of expenditure (medium-term fiscal scenarios, results-based budgeting, adoption of international standards for the classification and registration of public expenditure, open data, among others). Initiatives such as the Climate Change MRV System in Colombia or the Cross-Cutting Annex in Mexico are concrete efforts of these approaches and tools which allow improving the planning, management and transparency of the use of resources in terms of climate change.

Therefore, it is important that the commitments set out in the NDCs be incorporated into the sectoral policies/plans and into the strategic programs/projects and planning budgetary instruments (such as national development plans) accordingly. Along these lines, when national budgets are prepared, a proper connection of these budgets with budget programs can be made, as well as an appropriate allocation of resources. In this process, it is necessary to define performance indicators of the budget programs and these programs need to be related to the NDC commitments. Thus, it will be easier to make the appropriate follow-up and evaluate budgets to redirect public policies as necessary.

Other budgetary instruments that can be used to incorporate the NDCs into the budget cycle include: MTFFs, multi-annual budgets, public investment prioritization methodologies, budget programmatic structures, budget classifiers, budgetary policies/guidelines, etc.

It is necessary to establish a methodology with specific guidelines for each of the sectors that are relevant for climate change, which allow following up the public climate expenditure and become the basis for a financial MRV system of NDCs and for the evaluation of the effectiveness of public expenditure and its future allocation.

7.6. INFORMATION AND CLASSIFIERS

One of the biggest challenges found during this study is related to the organization and availability of the information contained in the national budgets and its level of detail. In fact, even when budgets detail the relevant programs/products/projects or activities, their objectives and results are often not very clear. All the countries under analysis have made progress by establishing legal mandates that provide for the inclusion of environmental or climate aspects in budget planning and/or the allocation of resources.

The fact that budget information is often not detailed reflects that the level of disaggregation of the classifiers used is limited. Actually, the functional classifier is underused in the sense that its full potential is not being used (since it has 3 levels and 2 digits each) and currently, the countries only disaggregate the information up to level 3. If we add that each country has its own way of including the information in their budgets, it is very difficult to compare them given the heterogeneity of the information.

Furthermore, there is a belief that the budget category related to “Environmental Protection” is the only one that would be associated with climate change, when in fact other sectors also have a potential to contribute (positively or negatively) to it. For this reason, it is necessary to extend the use of other budget categories and subcategories and create additional classifications related to climate change. Thus, it is suggested that the Functional Classifier be disaggregated so that it allows collecting more detailed information on expenses for climate purposes (mitigation, adaptation), expenses in climate impact activities (for example, investment in renewable energy) and expenses in defensive activities (e.g. housing expenses or civil defense expenses as an immediate response to a climate disaster).

Although we can start from the environmental classifiers or guidelines of the UNFCCC, it is necessary that both the countries and the relevant international institutions set out standards for national accounts and climate statistics. This will allow budget classifiers to be comparable among the countries. For that purpose, we can take advantage of the fact that, at present, there is a consensus on the need to standardize budget classifiers with the standard classifiers issued by international organizations such as the IMF and the OECD. In fact, some countries are working on standardizing their functional classifiers, so this opportunity could be used to work on extending the Environmental Protection classifier, as described above.

Once a further opening of the functional classifier is achieved, a standardization process or relationship may be created to generate reports related to climate change. Ideally, these should be included in the management reports for budget implementation which are generated by the financial management systems. This would constitute a contribution to institutionalizing the follow-up of climate public expenditure. Moreover, the reports could be an important element for the construction of a financial MRV system of NDCs.

Various countries in LAC have made exercises to identify the climate public expenditure considering the methodology called Climate Public Expenditures and Institutional Review (CPEIR). This is the case of Chile, Colombia, Ecuador, El Salvador and Honduras. However, several challenges have been faced in the implementation of such methodology, and this

reaffirms the need to have unified weighing and marking criteria to determine the weight and relevance of climate or climate impact activities that are comparable across countries.

7.7. FINANCIAL STRATEGIES OF CLIMATE FISCAL RISKS

The effects of climate change not only imply financial losses but also lead to the allocation of public resources that were not planned to cover these events, taking away resources from other sectors or increasing public debt. For this reason, it is necessary to develop financial strategies of climate fiscal risks (contingent liabilities) in the medium term fiscal and expenditure frameworks. In addition, it is necessary to strengthen and extend the climate risk analysis methodologies in the management of public investment projects that are already being implemented in most of the countries (this is the case of Argentina). Similarly, the commitments assumed in the NDCs imply responsibilities that go beyond a single fiscal year because they require the allocation of public resources on a multi-annual basis.

7.8. PROGRAMMATIC ANALYSIS

Currently, each country has its own processes to prepare budgets and to organize the information contained therein. Therefore, nowadays, applying a single methodology that works for all of them equally is a true challenge. Consequently, it is also very difficult to make a simple and direct comparison among countries and state that one of them performs more activities that counter the negative effects of climate change than another one.

However, the exercise allowed having an estimate with respect to the direct public expenditure associated with climate change. In general, the results show that in the five countries under study, the public expenditure related to climate change for the analyzed sectors (energy, transport, agriculture, environment, and risk management) represents 1% of the GDP or less. That is despite the fact that the sectors under study represent a large part of the decarbonization potential showed by the countries in their international and national commitments, such as the energy, transport and agriculture sectors.

Moreover, when analyzing the expenditure focused on the activities and projects that can increase the emission of polluting gases, it was identified that, in all cases, it exceeds the expenditure associated with the fight against climate change. In addition, it is appropriate to mention that this expenditure could be underestimated since, as indicated above, only budget programs that may increase emissions are considered, and not the programs that increase the vulnerability of the population and the ecosystems.

At the sectoral level, the analysis allowed knowing the amount of the public expenditure in climate change and also the amount allocated to increase GHG emissions. Moreover, it showed that there are sectoral budget programs which are implemented by entities outside the sector. Identifying such programs is relevant due to the magnitude of the amount of resources and because it evidences the importance of reviewing all the budget programs when conducting an expenditure analysis at programmatic level, so that all the information is effectively collected.

Specifically, through this study, it was identified that in both the energy and transport sectors, governments allocate more public resources to activities that do not coincide with the climate goals, that is, that increase polluting emissions. For example, although in the energy sector there are budget programs associated with the promotion of renewable energies and energy efficiency, the expenditure in hydrocarbon production and electricity generation through conventional sources is higher. In the transport sector, governments have chosen to mobilize public resources for the construction of roads and infrastructure that prioritizes the use of cars. In regard to the sustainable activities performed in the sector, the resources for the promotion of railways and multimodal cargo and passenger transport stand out. However, no budget for other alternative mobility sources with zero emissions or technological innovation to substitute fossil fuels, was identified.

The agriculture sector shows a behavior that is opposite to that of the sectors mentioned above since, in the five countries, the climate change public expenditure is higher than the expenditure in activities contrary to climate change. This is due to the availability of budget programs focused on sustainable rural development in the sector. However, the lack of available information about the geographical location does not allow developing a concept in view of potential impacts of activities in this sector on deforestation.

With respect to the environment sector, in nearly all the countries, the central and non-central agencies in charge of implementing the sectoral policy allocate more than 80% of their resources to activities, programs or projects that benefit the fight against climate change. The case of Jamaica is particular because only 41% of the budget is associated with climate change. This performance may be connected with the attachment of the climate change areas to the Ministry of Economic Growth and Job Creation.

Finally, one of the most relevant sectors is the risk management sector. When analyzing the public expenditure allocated to this sector, it was noted that all the countries have a budget for the management of risks associated with disasters. In some cases, they have specific institutions for the implementation of these resources. However, by the same token, it has been identified that most resources are for management purposes and not for risk prevention, and this should be assessed by the countries considering the level of vulnerability to climate change faced by the region.

This analysis has allowed identifying the areas of opportunity in terms of public expenditure analysis and their relation with climate change. Prominent among them is the need of more disaggregated information to have a better understanding of the objectives of each budget program and therefore, make the identification of a budget as associated with or contrary to climate change more assertive. In terms of the analysis methodology for measurement and reporting of public expenditure, it is relevant to initiate a standardization process for the terms used in the fiscal and climate change sectors. There is also a need to start identifying ways to associate the public expenditure related to climate change with results in terms of emission and vulnerability reduction, which ensure compliance with the commitments assumed through the NDCs of each country.



ANNEX 1

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
ENERGY	Electricity generation with renewable sources	To increase the share of renewable sources in the power matrix [wind (offshore and onshore), solar photovoltaic, geothermal, tidal, hydroelectric energy, biomass and biogas].	X		
		Generate energy or replace conventional sources with renewable sources in non-interconnected areas (hybrid systems).	X		
		To build, maintain and optimize transmission and distributions systems for the use of renewable sources.	X		
		To use biomass for thermal applications.	X		
		To implement biomass removal plans for use in hydroelectric power plants with flood valleys.	X		
		To produce biofuels (with low carbon footprint).	X		
		To cogenerate with biomass.	X		
	Energy efficiency	To optimize and increase the efficiency of the air conditioning systems, heating systems or other appliances.	X		
		To use solar energy for water heating.	X		
		To improve energy efficiency in public lighting and remote management.	X		
		To change incandescent light bulbs for energy-saving light bulbs (LEDs).	X		
		To use stoves with clean and efficient technology in order to reduce the consumption of traditional biomass.	X		
		To promote thermal insulation in buildings.	X		
		To use renewable sources for water pumping systems.	X		
		To increase the energy efficiency of the wastewater treatment plants and the sewage system.	X		
		To promote energy efficiency in electricity generation.	X		
	Policies, laws and research for energy transition	To develop institutional arrangements that allow promoting and implementing renewable energy projects.	X		
		To issue technical regulations on energy efficiency.	X		
		To integrate intelligent networks into the national interconnected system.	X		
		To manage demand through the regulation of electricity rates.	X		

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
ENERGY	Policies, laws and research for energy transition	To promote economic and fiscal incentives for the use of renewable energy and energy efficiency.	X		
		To set, in an efficient manner, prices of fuels and electricity (streamlining of subsidies, rates for end users, regulations on generation, transmission or distribution).	X		
		To model energy consumption in various sectors for decision making.	X		
	Production, distribution, transformation and storage of hydrocarbons	To promote and implement energy efficiency projects in the hydrocarbon sector.	X		
		To recover condensates in crude oil storage systems.	X		
		Enhanced recovery of oil.	X		
		To use methane in leaks, venting and flaring of the oil and gas chain.	X		
		To capture and store CO2 in refineries.	X		
		To optimize efficiency in pipelines.	X		
		To promote the measurement, reporting and centralization of information regarding emissions of greenhouse gases generated by the hydrocarbon industry.	X		
	Mining production	To research and develop capacities to improve the resiliency of the mining activities.		X	
		Efficient practices in mining activities.			X
		To use methane in leaks, venting and flaring of the underground and open pit mining chain.	X		
	Water resource	To promote the collection and storage of water in strategic areas at risk of water shortage due to climate change.		X	
		To conserve water in priority areas under water stress due to climate change.		X	
		To restore alluvial plains to control floods.		X	
		To strengthen the national hydrometeorological and climate change modeling network (within the national network framework).		X	
		To apply hydrological models in basins to determine vulnerability to the effects of climate change.		X	

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
ENVIRONMENT AND NATURAL RESOURCES	Water resource	To protect and/or rehabilitate wetlands (water bodies, swamps, etc.) as providers of ecosystem services to climate change impacts.		X	
		To investigate the potential of non-forest sinks for CO ₂ storage.	X		
		To incorporate variability and climate change considerations into planning instruments for water resource management		X	
		To develop and improve systems for drinking water monitoring in areas affected by high temperatures, floods and rising sea levels as a result of climate change.		X	
		To use and take advantage of alternative water sources (such as water harvesting and groundwater protection, rainwater collection for irrigation).		X	
		To incorporate variability and climate change considerations into comprehensive departmental water plans.		X	
		To promote and implement programs for the efficient use of water within the context of climate change.		X	
		To promote water and basic sanitation services that reduce vulnerability to floods.		X	
		To promote wastewater management systems or systems designed to protect the quality and quantity of water resources against climate change.		X	
		To capture and burn methane at domestic and industrial wastewater treatment plants.	X		
		To produce biogas through anaerobic digestion.	X		
		To use waste to reduce methane and N ₂ O emissions in water treatment (sludge from plants, etc.).	X		
	Forest governance	To reduce deforestation and degradation of forest ecosystems.			X
		To restore forest ecosystems.			X
		To manage forest resources in a sustainable manner.			X
		To control and monitor forest resources.	X		
		To improve forest fire management.			X
		To manage pest control.		X	
		To establish wood fuel plantations.	X		

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
ENVIRONMENT AND NATURAL RESOURCES	Gobernanza forestal	To establish REDD actions.			X
		To improve the greenhouse gas reservoirs.			X
		To protect the greenhouse gas reservoirs.			X
		To implement rehabilitation actions.			X
		To regulate the forestry sector.			X
		To implement forest management actions.			X
		To use forest resources in a sustainable manner.			X
		To implement incentives to stop deforestation.	X		
		To implement monitoring, reporting and verification mechanisms in the forestry sector.			X
		To plan, conserve and use, in a sustainable manner, critical ecosystems (mangroves, dry forest, maritime forest, wasteland, etc.) in view of the impacts of climate change.		X	
		Payment for environmental services.			X
		To incorporate climate change into the roadmap for declaration of new protected areas of the national parks system.			X
		To incorporate climate change criteria into management instruments for national protected areas (ANP).			X
	Biodiversity and ecosystems	To conserve biodiversity and its ecosystem services in view of the effects of climate change.		X	
		To improve awareness of the natural heritage and of the environmental services in view of the effects of climate change.			X
		To promote adaptation measures that contribute to biological connectivity (corridors, isolation, wildlife crossings, etc.).		X	
		To foster urban green areas.			X
		To implement adaptation actions based on ecosystems.		X	
		To investigate and monitor the impacts of climate change on biodiversity and ecosystems.		X	
	Use, reuse and management of solid waste	To generate methane from agricultural waste.	X		
		To use and manage urban solid waste in a comprehensive manner.	X		
		To prepare studies on vulnerability and GHG emissions in existing and projected waste dumps.		X	
		To recover methane from sanitary landfills.	X		

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
ENVIRONMENT AND NATURAL RESOURCES	Use, reuse and management of solid waste	To use hybrid vehicles for waste collection.	X		
		To collect and transport solid waste through efficient driving.	X		
		To optimize the logistics of waste transport.	X		
		To recycle waste from electrical devices, electronic devices, paper, metal, plastic, among others.	X		
		To install a yard for comprehensive waste use.	X		
		To raise public awareness of recycling and use of waste.			X
		To formalize recyclers' work.			X
		To train communities about separation, reduction of waste, reuse and recycling.	X		
		To optimize urban waste management including in the designs of buildings, garbage rooms for proper separation and storage of garbage.	X		
		To produce combustible material from municipal solid waste and co-processing.	X		
		To create demand and strengthening of the recoverable waste market.	X		
	Air quality	Enhancement and expansion of the monitoring network of the air quality forecast.	X		
		Specialized institutions and knowledge about air quality.	X		
		Programs for improvement of air quality.	X		
		To generate studies on air quality.	X		
		Awareness and information campaigns for the general population about air quality.	X		
AGRICULTURE	Sustainable rural development	To provide guidelines to include adaptation measures in sectoral instruments of the agricultural policy.		X	
		To promote agroforestry systems.			X
		To develop technological packages for agroforestry.			X
		To use more intelligent, accurate irrigation systems, and agricultural practices with ecosystem approaches for water conservation.			X
		To use, conserve and exchange genetically improved crop varieties that are more resistant to extreme weather conditions.		X	

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
AGRICULTURE	Sustainable rural development	To promote the research and development of genetically improved crops that are more resistant to extreme weather conditions.		X	
		To promote climate-resilient agricultural methods in a sustainable manner.		X	
		To reduce the use of fossil fuels for power generation in traction (e.g., efficient farming), irrigation, and other agricultural processes.	X		
		To use organic and biological fertilizers instead of chemical fertilizers.	X		
		To manage, in a comprehensive manner, pests and diseases in crops in view of extreme weather events.		X	
		To develop urban and peri-urban agriculture programs.			X
		To encourage organic and ecological production.			X
		To promote agricultural production based on community, associative and cooperative models.			X
		To develop and strengthen technical assistance models with self-management approaches for community development.			X
		To strengthen local, regional and national institutional capacities for the promotion of strategies and policies for community, associative and cooperative agriculture.			X
		To identify and evaluate adaptation measures to reduce the vulnerability of priority agricultural productive systems through best agricultural practices.		X	
		To collect, process and disclose agro-climatic information.		X	
		To develop and implement strategies for the mitigation of GHG in agricultural production.	X		
		To promote productive and technological reconversion in the agriculture sector.	X		
		To produce compost from organic waste.	X		
		To support the formulation of land-use plans focused on low carbon climate-resilient rural development.			X
		To develop and strengthen agricultural insurance and incentives.			X
	Food safety	To develop and strengthen social food and food safety programs to respond to extreme weather events.		X	

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
AGRICULTURE	Agriculture	To use crop residues for power generation.	X		
		To use cultivation practices such as minimum farming and vegetation cover of the soil.		X	
		To efficiently use water and soil in agricultural activities.		X	
		To reforest through commercial plantations.	X		
		To implement agrosilvopastoral systems.	X		
	Livestock farming	To assess GHG emissions in livestock production, determining emission factors.	X		
		To promote mitigation projects in cattle farming.	X		
		To use manure and other solid waste through biodigesters to generate electricity, residential biogas and biofertilizers.	X		
		To develop and implement strategies for GHG mitigation in livestock production.	X		
		To supplement the animals' diet.	X		
		To evaluate the joint implementation options for adaptation and mitigation measures in cattle farms.			X
		To stabilize the cattle herd.	X		
		To implement economic incentives for GHG mitigation in livestock production.	X		
		To promote rational grazing.	X		
		Incorporar prácticas de pesca sostenible.	X		
		Disminuir la vulnerabilidad de la pesca por variabilidad climática.		X	
	Fishing	To incorporate sustainable fishing practices.	X		
		To reduce fishing vulnerability due to climate variability.		X	
TRANSPORT	Multimodal and mass passenger transport	To develop and promote mass transport systems.	X		
		To use efficient technologies with less emissions in the transport system.	X		
		To build low-carbon, climate-resilient road infrastructure.			X
		To develop and promote passenger rail systems (suburban trains and subways).	X		
		To replace and/or renew the public and private transport fleet with electric or hybrid technology.	X		

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
TRANSPORT	Multimodal and mass passenger transport	To condition infrastructure for use of electric vehicles.	X		
		To set better performance standards in public and private passenger transport.	X		
		To develop training and awareness campaigns for efficient driving and fuel saving (green driving).	X		
		To use direct injection for internal combustion engines.	X		
		To promote vehicle scrapping and disintegration.	X		
		To develop measures to manage the demand for transport to reduce GHG emissions.	X		
		To establish lanes for high occupancy vehicles.	X		
		To regulate the use of exclusive lanes for private vehicles used for carpooling (shared vehicle).	X		
		To restructure the value of taxes and other fiscal obligations of motorcycles.	X		
		To implement electronic tolls and congestion charges.	X		
		To optimize the use of taxis (geographical distribution of taxis, parking bays).	X		
		To implement transit-oriented development measures.	X		
		To set better standards for the implementation of the tests and issue of technical-mechanical inspection certificate for vehicles.	X		
		Integrated transport systems.	X		
		To improve the technological efficiency of cargo transport.	X		
		To develop an analysis of the risk and vulnerability of the transport sector.		X	
		To develop mobility plans.	X		
		To develop and/or implement master plans for the promotion of intermodality.	X		
		To promote river cargo transport.	X		
		To optimize logistics chains in the cities (schedules, dispatch centers).	X		
		To promote the sustainable development of productive clusters to reduce the transport of raw materials and finished goods.	X		

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
TRANSPORT	Multimodal and mass passenger transport	Optimization of the logistics systems to reduce the transport of raw materials and finished products.	X		
		To promote multimodal cargo transport.	X		
		To implement services to take advantage of the return trips or available space of the cargo transport system.	X		
		To develop and promote cargo rail systems.	X		
	Non-motorized mobility	To develop public bicycle systems.	X		
		To optimize, regulate and formalize the use of cycle rickshaws.	X		
		To create and maintain infrastructure for the use of non-motorized mobility (bicycle paths, parking spaces, sanitary facilities, among others).			X
		To promote, regulate and create policies for non-motorized mobility (cycling and walking).	X		
	Improvement of fuels	To improve the quality of fuels.	X		
		To evaluate the use of alternative fuels for the transport sector.	X		
		To promote the use of biofuels produced under comprehensive social and environmental conditions for the transport sector.	X		
		To encourage the use of natural gas as an alternative to conventional fuels in the transport sector.	X		
		To improve the fuels of air and maritime transport.	X		
RISK MANAGEMENT AND DISASTER RESPONSE	Management of the risk associated with disasters	To implement risk management plans that contribute to climate change adaptation.		X	
		Persons with training and knowledge about disaster risk management.		X	
		To generate knowledge about risk management and studies of vulnerability and adaptability to climate change (marine-coastal, continental etc.).		X	
		To implement financing mechanisms related to transfer and risk associated with hydroclimatic events of public infrastructure (insurance, bonds, economic instruments).		X	
		To design and implement post-disaster recovery and reconstruction plans with climate change considerations.		X	

SECTOR	SUBSECTOR	ACTIVITY	MITIGATION	ADAPTATION	BOTH IMPACTS
	Prevention of risks associated with climate change	To prepare resilient infrastructure for emergency prevention in case of hydroclimatic events.		X	
		To strengthen the early warning information system (technology, IT tools, measuring equipment, etc.).		X	
		To create projects to reduce hydroclimatic risks intensified by climate change (floods, droughts, mass movement, rising sea level, etc.).		X	
		Improvement, identification, follow-up and monitoring of hydrometeorological threats for early warnings.		X	

Source | GFLAC (2016).

ANNEX 2

COUNTRY	TYPE OF ENTITY	ENERGY	ENVIRONMENT	AGRICULTURE	TRANSPORT	RISK MANAGEMENT AND DISASTER RESPONSE
ARGENTINA	Institution in charge of the sectoral policy	Ministry of Energy and Mining	Ministry of Environment and Sustainable Development	Ministry of Agroindustry	Ministry of Transport	Ministry of Security
	Other sectoral (central or extrabudgetary) agencies	<ul style="list-style-type: none"> • National Electricity Regulator • National Atomic Energy Commission • Argentine Mining Geological Service 	National Parks Administration	<ul style="list-style-type: none"> • National Institute of Agricultural Technology • National Seed Institute • National Service for Agri-Food Health and Quality 	<ul style="list-style-type: none"> • National Commission for Transport Regulation • National Road Safety Agency • Regulator for the National Airports System • National Civil Aviation Administration • National Directorate of Roads • Civil Aviation Accident Investigation Board 	Dam Safety Regulator
	Other non-sectoral entities that are relevant for the study					<ul style="list-style-type: none"> • Ministry of Defense • Ministry of Agroindustry • Ministry of Environment and Sustainable Development
COLOMBIA	Institution in charge of the sectoral policy	Ministry of Mines and Energy	Ministry of Environment and Sustainable Development	Ministry of Agriculture and Rural Development	Ministry of Transport	Unit for Disaster Risk Management
	Other sectoral (central or extrabudgetary) agencies	<ul style="list-style-type: none"> • Mining and Energy Planning Unit • Institute for Planning and Promotion of Energy Solutions in the Non-Interconnected Zones • National Mining Agency • National Hydrocarbon Agency 	<ul style="list-style-type: none"> • National Environmental Fund • Institute of Hydrology, Meteorology and Environmental Studies (IDEAM) • 30 autonomous corporations 	<ul style="list-style-type: none"> • Colombian Agricultural and Livestock Institute • National Authority of Aquaculture and Fisheries • National Land Agency • Rural Development Agency • Territory Renewal Agency • Special Administrative Unit for Land Restitution Management 	<ul style="list-style-type: none"> • National Roads Institute • National Infrastructure Agency • Special Administrative Unit of Civil Aeronautics 	<ul style="list-style-type: none"> • Colombian Civil Defense Guillermo León Valencia • NASA KIWE National Corporation for the Reconstruction of the Páez River Basin and its Surrounding Areas • Adaptation Fund

COUNTRY	TYPE OF ENTITY	ENERGY	ENVIRONMENT	AGRICULTURE	TRANSPORT	RISK MANAGEMENT AND DISASTER RESPONSE
JAMAICA	Institution in charge of the sectoral policy	Ministry of Science, Energy and Technology	Ministry of Economic Growth and Job Creation	Ministry of Industry, Commerce, Agriculture and Fisheries	Ministry of Transport and Mining	Ministry of Local Government and Community Development
	Other non-sectoral entities that are relevant for the study	<ul style="list-style-type: none"> Ministry of Transport and Mining Ministry of Education, Youth and Information 	<ul style="list-style-type: none"> Ministry of Culture, Gender, Entertainment and Sport Ministry of Local Government and Community Development Ministry of Health Ministry of Industry, Commerce, Agriculture and Fisheries 	Ministry of Economic Growth and Job Creation	Ministry of Economic Growth and Job Creation	<ul style="list-style-type: none"> Ministry of Economic Growth and Job Creation Ministry of Finance and Public Service Ministry of Health
MEXICO	Institution in charge of the sectoral policy	Ministry of Energy	Ministry of Environment and Natural Resources	Ministry of Agriculture and Rural Development	Ministry of Communications and Transport	Ministry of Home Affairs
	Other sectoral (central or extrabudgetary) agencies	<ul style="list-style-type: none"> Petróleos Mexicanos Federal Electricity Commission National Institute of Electricity and Clean Energy National Commission for the Efficient Use of Energy National Agency for Industrial Safety and Environmental Protection of Hydrocarbon Sector National Institute for Nuclear Research National Commission of Nuclear Safety and Safeguards 	<ul style="list-style-type: none"> National Water Commission Mexican Institute of Water Technology National Institute of Ecology and Climate Change National Forestry Commission National Commission of Protected Natural Areas Federal Attorney's Office for Environmental Protection 	<ul style="list-style-type: none"> Shared Risk Trust Fund National Institute for Capacity Development in the Rural Sector Universidad Autónoma Chapingo (Chapingo Autonomous University) Colegio de Postgraduados (College of Postgraduate Studies) National Committee for the Sustainable Development of Sugarcane National Institute for Forestry, Agriculture and Livestock Research National Service for Agri-Food Health, Safety and Quality Agri-food and Fishery Information Service National Commission on Arid Zones 	<ul style="list-style-type: none"> Regulatory Agency for Rail Transport Ferrocarril del Istmo de Tehuantepec, S.A. de C.V. Mexican Transport Institute Grupo Aeroportuario de la Ciudad de México, S.A. de C.V. 	National Center for Prevention of Disasters

COUNTRY	TYPE OF ENTITY	ENERGY	ENVIRONMENT	AGRICULTURE	TRANSPORT	RISK MANAGEMENT AND DISASTER RESPONSE
PERU	Institution in charge of the sectoral policy	Ministry of Energy and Mines	Ministry of Environment	Ministry of Agriculture and Irrigation	Ministry of Transport and Communications	National Center for Estimation, Prevention and Reduction of Disaster Risk
	Other sectoral (central or extrabudgetary) agencies	<ul style="list-style-type: none"> • Peruvian Nuclear Energy Institute • Geological, Mining, and Metallurgical Institut 	<ul style="list-style-type: none"> • Peruvian Geophysical Institute • National Meteorology and Hydrology Service • Peruvian Amazon Research Institute • Assessment and Environmental Control Agency • National Service of State-Protected Natural Areas • National Service of Environmental Certification for Sustainable Investments • National Institute for Research on Glaciers and Mountain Ecosystems 	<ul style="list-style-type: none"> • Sierra y Selva Exportadora (Exporting Andes) • National Agricultural Health Service • National Institute of Agricultural Innovation • National Water Authority • National Forest and Wildlife Service 		
	Other non-sectoral entities that are relevant for the study	<ul style="list-style-type: none"> • Ministry of Environment • National Service of State-Protected Natural Areas • Supervisory Board for Investment in Energy and Mining 	<ul style="list-style-type: none"> • Ministry of Agriculture and Irrigation • National Forest and Wildlife Service • Agency for the Supervision of Forest Resources and Wildlife • National Institute of Agricultural Innovation • National Water Authority • Ministry of Housing, Construction and Sanitation 	<ul style="list-style-type: none"> • National Fisheries Health Agency • FNational Fisheries Development Fund • IPeruvian Marine Research Institute • Ministry of Production • Technological Production Institute • National Meteorology and Hydrology Service • Peruvian Amazon Research Institute • Ministry of Environment 	Ministry of Housing, Construction and Sanitation	<ul style="list-style-type: none"> • Presidency of the Council of Ministers • Peruvian Geophysical Institute • National Meteorology and Hydrology Service • Ministry of Internal Affairs • Peruvian Brigade of Volunteer Firefighters • Ministry of Education • Ministry of Health • National Cancer Institute

COUNTRY	TYPE OF ENTITY	ENERGY	ENVIRONMENT	AGRICULTURE	TRANSPORT	RISK MANAGEMENT AND DISASTER RESPONSE
PERU						<ul style="list-style-type: none"> • Institute for Management of Health Services • Ministry of Agriculture and Irrigation • National Water Authority • National Institute of Civil Defense • Ministry of Housing, Construction and Sanitation • National Institute of Agricultural Innovation • National Forest and Wildlife Service • National Training Service for the Construction Industry • Ministry of Environment • National Health Institute • Institute for Management of Health Services • I Peruvian Amazon Research Institute

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Pamela is an environmental policy analyst and climate finance specialist. As part of the Climate Change Division of the IDB, she is focused on designing projects that allow the mobilization of financial resources for the implementation of the Paris Agreement in LAC countries. Her work also includes developing long-term strategies to drive a sustainable, low-carbon and climate-resilient development. Pamela has extensive experience within the public, private, and non-profit sectors. Before joining the IDB, she worked as Director of Forest Policy at GLOBE International, a network of legislators from more than 50 countries that seeks to address environmental challenges and promote legislation on deforestation, climate change and sustainable development. Her work focused on articulating the executive and legislative powers in various countries in environmental matters and reinforcing the role of legislators in examining environmental policies and international commitments of governments.

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**CLIMATE COMMITMENTS
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