BUDGET IDENTIFICATION OF CLIMATE CHANGE

RESEARCH PAPER

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May, 19 2023

ISSN 2683-9598

Contents

List of Tables

Executive Summary

This study describes the main international approaches and national reference cases for the budget identification of climate change. This is in the context of the growing implementation of initiatives aimed at visualizing the resources and expenditures of this cross-cutting policy in government budgets, in line with other similar developments, for example, the budget tagging of gender, diversity, children and adolescents' policies and the Sustainable Development Goals of the 2030 Agenda.

To this end, we first characterize the reporting mechanisms on climate change, with emphasis on the respective United Nations Framework Convention, finding in them one of the reasons for countries and regions to begin to develop tools to identify and monitor progress on the issue. In this line, the reporting methodologies of the OECD (Organization for Economic Cooperation and Development), the European Union, the UNDP (United Nations Development Program) and various multilateral development banks are described.

Among the tools developed for this purpose, various statistical frameworks, and budget classifiers on the environment, in general, and climate change, in particular, are identified. For this reason, this study includes an analysis of the classification of functions of government, environmental protection activities and the framework for the development of environmental statistics, developed by the United Nations. It also includes certain methodological contributions from ECLAC and the IDB to combine these classifications for more accurate measurements.

The use of the budget tagging technique in relation to climate change emerges as a complementary tool to such statistics and classifiers. Among the multiplicity of technical-methodological proposals surveyed, one developed by the OECD stands out, which covers environmental issues and is related to the notion of "Green Budget", and another on climate change proposed by the UNDP. Other complementary contributions from the IDB and the World Bank are also included.

Finally, the study presents a brief characterization of various case studies, especially in Latin America, with the aim of identifying good practices and lessons learned of interest. In this line, the techniques applied in Chile, Colombia, Ecuador, Honduras, Mexico, and Nicaragua are reviewed, as well as in Bangladesh, Moldova, Indonesia, and France. The results of the analysis show the widespread use of the standards developed by the international organizations, although with variants specific to national priorities and the functioning of the budget system in each country.

As for the technical design of their applications, the use of tagging based both on the purpose of the expenditure and on its relation to national policies on the subject stands out. There are also various classifications of the types of contributing expenditures, for example, direct, indirect, and even negative, i.e., those that do not contribute to adapting to or mitigating climate change. This diversity also extends to the institutional scope of implementation, because in some cases it only concerns the central administration and in others the entire public sector (including the corporate sector).

In short, the tagging technique complements the information provided by the traditional budget, promoting the articulation between medium- and long-term national planning on climate change and annual budgets. For greater accuracy and coverage of the information provided, its use should be combined with the introduction of specific budget classifications. The data generated by such tools are extremely useful for preparing the reports that countries regularly submit to the competent international organizations.

1. Introduction

Climate change is one of the main issues on the contemporary international agenda. Its recognition as a global problem dates back to the Rio Earth Summit (1992), which approved the United Nations Framework Convention on Climate Change (UNFCCC), whose objective was to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. To this end, developed countries assumed a differential responsibility that involved, for example, reporting on progress in mitigation and adaptation and providing financial support to developing countries.

Multiple agreements have followed since then, among which the Paris Agreement (2015) stands out. This treaty aims to keep the global average temperature below 2°C and to focus efforts to limit this increase to 1.5°C. To this end, the treaty provides for the implementation of a set of climate change mitigation and adaptation commitments per country, known as "Nationally Determined Contributions" (NDCs), whose progress must be measured and reported regularly to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) and updated every five years.

The term "mitigation" refers to the stabilization of greenhouse gas concentrations. For its part, "adaptation" is the reduction of the vulnerabilities of people and natural ecosystems to the current and projected impacts of climate change, while maintaining or increasing their resilience (OECD, 2016).

Climate action is, moreover, one of the Sustainable Development Goals (SDGs) of the 2030 Agenda, its purpose being the adoption of urgent measures to combat climate change and its effects. This SDG (number 13) makes express reference to the UNFCCC as the main intergovernmental forum for negotiating countries' actions against climate change and contains targets related both to strengthening national adaptation and mitigation capacities and to mobilizing international resources to meet the needs of developing countries.

The implementation of these commitments generated the need to formulate methodological tools to identify and make visible the financial flows related to climate change. Their origin lies mainly in the work of international organizations such as the World Bank, the United Nations Development Program (UNDP) and the Organization for Economic Cooperation and Development (OECD) and is embodied in innovations for classifying and monitoring the respective resources and expenditures, many of which use the budget as a source and instrument for dissemination.

One of these innovations is climate change budget tagging, a technique that complements the information provided by budget classifiers and builds on the previous development of markers for other cross-cutting policies, such as gender and poverty. Its first documented implementation dates back to 2012 and took place in several Asian countries, spreading since then globally, especially in developing countries vulnerable to the effects of climate change.

In Latin America, it has been applied in Chile, Colombia, Ecuador, Honduras, Mexico, and Nicaragua. Argentina also made a first technical approach in 2022. The designs adopted are largely in line with the various proposals made by international organizations, which involve not only the use of tagging but also specific classifiers and reporting mechanisms. At the regional level, the Economic Commission for Latin America and the Caribbean (ECLAC) and the Inter-American Development Bank (IDB) have also developed studies and presented methodological guidelines on the subject.

This paper aims to identify and summarize the main approaches, conceptual frameworks, tools and case studies related to climate change budget tagging. It is not intended to be exhaustive or to cover all available references and information, but rather to present general

outlines that are considered useful for guiding the design or updating of customized methodologies. This is based on evidence-based good practices that gather lessons learned and represent a contribution to the development of the technique, thus promoting the introduction of a sustainability approach in public budget management.

2. International approaches

This section characterizes the main existing international approaches to climate change budget identification, including reporting mechanisms, statistical frameworks, classifiers, and the tagging technique. These approaches rely on various conceptual criteria to identify the contributing budget, with two main perspectives: an "objective-based" criterion that considers the purpose of the expenditure and a "policy-based" criterion that considers its articulation with the actions planned in the national policy of the sector. Some approaches propose a combination of the two criteria, while others propose to disregard them, leaving the decision in the hands of the authorities.

The "objective-based" criterion resorts to the principle of purpose or final cause, identifying the contributing expenditure as that which is intended to generate a positive impact on adaptation or mitigation of climate change (IDB, 2021: 28, World Bank, 2021: 23). On the other hand, the "policy-based" approach considers that the contributing expenditure is that allocated to the initiatives included in the climate change plans and commitments, regardless of their purpose, with the understanding that such policies are related to certain expected effects (IDB, 2021: 14-15, World Bank, 2021: 23).

Table 1. Main climate change budget identification criteria

Criteria	Concept
Objective-based	Identifies the contributing budget to climate change according to the purpose or function of the programs, activities, and projects, i.e., it considers whether they explicitly aim to contribute to the adaptation or mitigation of the negative effects of climate change.
Policy-based	It considers the contributing budget as the one allocated to finance initiatives that generate expected effects in terms of adaptation or mitigation to climate change regardless of their purpose.
Mixed	It classifies the contributing budget based on the articulation of the two criteria, which implies considering both the purpose of the actions and their forecast in sectoral policies with a view to generating expected effects.

SOURCE: OPC.

2.1. Reporting mechanisms

The first methodologies to identify climate change financial flows come from reporting mechanisms derived from international agreements. This is the case of the UNFCCC and the Rio Markers, developed by the OECD as a technical support tool for preparing UNFCCC reports. In this category we can also find the regional methodology designed by the European Union; that of a group of development banks for their own initiatives; that of the UNDP, to analyze public spending; and the institutional methodology related to climate change (CPEIR).

Next, a summary box with the main characteristics of the identified reporting mechanisms is presented, followed by a more detailed description of each one.

Summary box: reporting mechanisms

The UNFCCC requires States Parties to report on a quadrennial basis on greenhouse gas emissions and measures taken to implement the convention but does not require information on expenditures.

The Rio Markers were initially created to standardize reporting on development assistance for climate change, later expanding its use as a methodology for reporting expenditures on climate change at the national level.

The European Union and several multilateral development banks designed their own measurement methodologies. Unlike the Rio Markers, they do not adopt an expenditure identification criterion based on their objectives but on their relationship with sectoral policies, also applying weightings or coefficients to specify the amount of their contribution.

For their part, the IDB and the World Bank promote analyses of national public spending and national institutions related to climate change, adopting an approach that combines objective-based and policy-based criteria.

2.1.1. United Nations Framework Convention on Climate Change

The UNFCCC provides for a scheme for monitoring financial flows related to climate change based on the submission of quadrennial reports containing, at a minimum, the inventory of greenhouse gas emissions and the measures applied to implement what has been agreed in the Convention. It is not exactly a mechanism for reporting national expenditures; in fact, the reporting of such information is not mandatory. Since there is no common standard for measuring the relative weight of relevant expenditures, the information reported may not be comparable.

The Conference of the Parties to the UNFCCC stipulated the complementary preparation of Biennial Update Reports (BURs) as of 2014. Among the information provided for in these reports is the financial support provided (applicable to developed countries) or received (applicable to developing countries), with the inclusion of this information being mandatory only in the case of developed countries. Least developed countries are also covered by this directive but may report data on a more discretionary basis.

2.1.2. Rio Markers

The Rio Markers were designed by the OECD as an instrument for reporting development assistance under the agreements reached at the Rio Earth Summit, including the UNFCCC. This methodology addresses climate change mitigation and adaptation actions. This categorization is used by most international methodologies and national case studies surveyed.

Table 2. Categories of contributing actions on climate change

Categories	Concept
Mitigation	They contribute to the objectives of stabilizing the concentration of greenhouse gases (GHG) in the atmosphere at levels that prevent dangerous anthropogenic perturbation of the climate system, through the promotion of efforts for the reduction or limitation of GHG emissions or for the sequestration of GHG emissions.
Adaptation	They are aimed at reducing the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, through the conservation or enhancement of adaptive capacity and resilience. This ranges from information, knowledge generation and capacity building to planning and implementation of climate change adaptation actions and measures.

SOURCE: OPC based on OECD (2016).

For this approach the contributing activities are identified through the objective-based criterion. The contribution of the activity can be "principal", "significant" or "null" (OECD, 2016: 5). The contribution is "principal" if climate change mitigation or adaptation is explicitly the fundamental motivation of the activity. If it is explicitly an objective of the activity, but not fundamental, it is categorized as "significant". On the other hand, the activity is "null" or "zero" if it does not include mitigation or adaptation among its objectives.

This methodology also includes a list of activities predefined as having a principal, significant or null contribution based on the analysis of real cases. Its purpose is to guide the budget identification process, not being an exhaustive or prescriptive list, but merely an indicative reference to facilitate the application of the markers by thematic sectors and subsectors. Ultimately, the qualification of the activity will depend on the purpose assigned by each country and not on its type, given the objective-based identification criterion applied by the Rio Markers (OECD, 2016: 10-11).

2.1.3. European Union Common Methodology

The European Union Common Methodology was developed to monitor climate change-related expenditure in the Structural and Investment Funds (ESI Funds) and is underpinned by the regional political commitment, expressed in the Multiannual Financial Frameworks (MFF), to allocate a specific percentage of the EU budget to climate change mitigation and adaptation: 20% in the 2014-2020 MFF and 30% in the 2021-2027 MFF (European Parliament, 2022: 7). The methodology applies to EU funds and programs, covers their entire programming cycle (design, implementation, monitoring, and review).

The European Union supported the methodology used in the 2014-2020 MFF in the Rio Markers objective-based approach (European Commission, 2016: 2). However, the technique was strengthened for the 2021-2027 MFF by introducing the use of a classification of initiatives by "type of action" and applying weighting percentages according to the expected effects of programs and projects, beyond their objectives (European Parliament, 2022: 12-14). In this line, if the initiative generates a significant contribution to the EU climate objectives, a coefficient of 100% is applied to its expenditure, if its contribution is moderate the coefficient is 40% and if its contribution is null or insignificant the coefficient to be applied is 0%.

2.1.4. Joint Methodology of Multilateral Development Banks

A group of Multilateral Development Banks (MDBs) has been preparing since 2014 an annual report on the flows of funds that these institutions allocate to climate change in developing

countries. The report is made ex ante, i.e., at the time the financial commitment is made within the framework of a project. These commitments are known as "climate co-benefits" because they refer to development finance that also contributes to achieving climate objectives (World Bank, 2021: 18).

The methodology developed by the MDBs is based on the concepts of mitigation and adaptation of the Rio Markers, but, unlike the latter, it does not adopt a criterion based on objectives for the identification of contributing actions, but rather one based on activities, which in turn is based on a prescriptive list. That is, only those programs and projects associated with some predefined activity as compatible with low carbon emissions under the Paris Agreement are considered. This prescriptive list of eligibles includes, for example, renewable energy, energy efficiency, water and sanitation, transportation, and low-carbon technologies (World Bank, 2021: 18).

2.1.5. Climate Public Expenditure and Institutional Review (CPEIR)

The CPEIR is a type of assessment and report designed by UNDP in 2015 on the alignment between public spending and climate change needs or objectives. It is also a tool promoted by the World Bank, with both agencies having methodological guidelines in this regard (World Bank, 2021: 20). The analysis process involves the identification of opportunities and problems to include the issue in the budget process, addressing both quantitative and qualitative aspects.

The CPEIRs use a customized definition of climate change per country and combine the objective-based identification criteria of the Rio Markers with the policy-based approach.

Based on this, UNDP's technical-methodological review approach is based on three analytical pillars: policies (objectives, programs, instruments, and monitoring mechanisms), institutions (roles, responsibilities, and capacities) and public spending on climate change (quantification of climate change-related expenditures based on a review of planning and budgeting processes) (UNDP, 2016: 19).

Table 3. Pillars of the Climate Public Expenditure and Institutional Review

Pillars		Actions and themes
1	Policy framework analysis	Diagnosis of climate change vulnerabilities; climate policy framework; policy coherence; evidence for policy formulation; monitoring and evaluation framework; measurement of policy changes.
2	Institutional analysis	Institutional arrangements within planning and budgeting processes; diagnosis of climate policy coordination mechanisms, subnational government analysis; accountability institutions
3	Climate change expenditure analysis	Data classification; weighting of climate relevance, programs, and expenditures with negative impacts on climate change, fiscal instruments for climate change, public-private partnerships, and state-owned enterprises

SOURCE: OPC based on UNDP (2016).

The UNDP and the World Bank's recommendations to governments resulting from the CPEIRs largely included as a suggestion the use of budget tagging as a tool to systematize the identification and monitoring of relative expenditures, thus becoming the immediate

antecedent for the implementation of the technique. In fact, in several cases its implementation also received technical assistance from these international organizations[1].

2.2. Statistical frameworks and budget classification

A first approach to the budgetary identification of actions related to climate change is given using budget classifiers. These follow different (albeit compatible) methodological lines. These include the Government Finance Statistics Manual (GFS), the System of Environmental and Economic Accounting (SEEA), the Framework for the Development of Environmental Statistics (FDES) and the combined designs of ECLAC and the IDB.

Next, a summary box with the main characteristics of the statistical frameworks and budget classifiers identified is presented, followed by a more detailed description of each one.

Summary box: statistical frameworks and budget classifiers

The GFS includes a budget classification by government function that sorts expenditures according to their motive or purpose. It does not expressly include climate change, nor does it cover all its dimensions, but refers to environmental protection in general.

The SEEA presents a group of classifiers on environmental protection. It also does not specifically address climate change and generally excludes expenditures aimed at mitigation, although several of its divisions do address the issue.

The FDES provides a conceptual framework for formulating statistics on the subject, with climate change being one of the cross-cutting issues that can be visualized through its components.

Finally, both ECLAC and the IDB respectively propose the convenience of combined classifications (for example, between functions of government and environmental protection activities) and the combination of classification criteria based on objectives and policies (via primary and secondary markers).

2.2.1. Classification of Functions of Government (COFOG)

Since 2001, the GFS, designed by the International Monetary Fund, includes a classification of expenditures by function of government, known as COFOG, which provides information on the purpose of expenditures according to the nature of the services provided to the community. This functional classification is structured around 10 divisions, composed of groups and classes. The divisions refer to general government objectives and the groups and classes to the means to meet such objectives (ECLAC, 2015: 25).

Although the functional classification proposed by the GFC (2014) does not refer to climate change nor does it cover all associated activities or expenditures, its usefulness as a tool for identifying expenditures related to the subject lies in the scope of its fifth division, focused on "Environmental Protection". Specifically, its subdivision 5.3. refers to pollution abatement, a group that includes, among others, activities aimed at ambient air and climate protection. Climate-related activities can also be identified in other groups and classes.

[1] UNDP (2018) is recommended for more information on cases and proposals for CPEIRs in Latin America.

Table 4. General and specific functional classification on environmental protection

Functions of government	
1	General public services
2	Defense
3	Public order and safety
4	Economic affairs
5	Environmental protection
6	Housing and community amenities
7	Health
8	Recreation, culture, and religion
9	Education
10	Social protection

Environmental protection function	
5.1	Waste management
5.2	Wastewater management
5.3	Pollution abatement
5.4	Protection of biodiversity and landscape
5.5	R&D Environmental protection
5.6	Environmental protection n.e.c

SOURCE: ECLAC (2015).

2.2.2. Classification of Environmental Protection Activities (CEPA)

The System of Environmental and Economic Accounting (SEEA), developed by the United Nations in 2012 and based on the system of national accounts, proposes a functional classification of environmental activities into two groups: environmental protection (CEPA) and resource management. The former visualizes activities whose main objective is to prevent, reduce or eliminate pollution or other environmental degradation, and the latter groups activities whose objective is to preserve and maintain the stock of natural resources and, therefore, avoid their depletion (IDB, 2021: 20).

The SEEA does not specifically address the problem of climate change, although several of its divisions do (IDB, 2021: 18). On the other hand, by virtue of its objective-based nature, the classification of environmental activities does not cover all expenditures related to climate change. In this sense, spending on environmental protection excludes a large part of the expenditures aimed at its mitigation, because its purpose or final cause is associated with the protection of people and their property, rather than that of the environment (IDB, 2021: 20).

Table 5. Environmental Protection Expenditure Items

Environmental Protection Expenditure	
1	Protection of ambient air and climate
2	Wastewater management
3	Waste management
4	Protection and remediation of soil, groundwater, and surface water
5	Noise and vibration abatement (excluding workplace protection)
6	Protection of biodiversity and landscapes
7	Protection against radiation (excluding external safety)
8	Research and development for environmental protection
9	Other environmental protection activities

SOURCE: ECLAC (2015).

2.2.3. Framework for the Development of Environmental Statistics (FDES)

The FDES is a flexible multipurpose conceptual and statistical framework intended to guide the formulation of environmental statistical programs (ECLAC, 2021: 21). It is a tool developed by the United Nations Statistics Division to collect and transform primary data into statistics whose information is then used to nourish accounting classification systems such as, for example, the SEEA. Thus, the FDES is a framework for organizing environmental statistics with a broader scope than the SEEA, which is strictly accounting in nature, and is even compatible with the SDGs (ECLAC, 2021: 28).

The 2013 FDES edition structures environmental statistics around components (first level) that are in turn disaggregated into subcomponents (second level) and statistical themes (third level), the latter constituting their measurable aspects, which are materialized through individual statistics (fourth level).

The first level consists of six interrelated (and in some cases overlapping) fundamental components, being the one linked to the conditions and quality of the natural environment (component 1) central, to such an extent that the other five are defined in relation to its scope (ECLAC, 2021: 25-26).

Table 6. Structure of the Framework for the Development of Environmental Statistics

Components (level 1)		Subcomponents (level 2)
1	Environmental Condition and Quality	1.1. Physical Conditions; 1.2. Land Cover, Ecosystems and Biodiversity; 1.3. Environmental Quality
2	Environmental Resource and their Use	2.1. Mineral Resources; 2.2. Energy Resources; 2.3. Land; 2.4. Soil Resources; 2.5. Biological Resources; 2.5. Water Resources
3	Residuals	3.1. Emissions to Air; 3.2. Generation and Management of Wastewater; 3.3. Generation and Management of Waste; 3.4. Release of Chemical Substances
4	Extreme Events and Disasters	4.1. Natural Extreme Events and Disasters; 4.2. Technological Disasters
5	Human Settlements and Environmental Health	5.1. Human Settlements; 5.2. Environmental Health
6	Environmental Protection, Management and Engagement	6.1. Environmental Protection and Resource Management Expenditure; 6.2. Environmental Governance and Regulation; 6.3. Extreme Event Preparedness and Disaster Management; 6.4. Environmental Information and Awareness

SOURCE: ECLAC (2021).

The FDES also applies to "cross-cutting" environmental issues, including water, energy, agriculture, and climate change. On this last topic, the FDES 2013 proposes to identify relevant statistics for all components in the framework of blocks that represent the sequence of stages of climate change as defined by the International Panel on Climate Change (IPCC): drivers of the climate process, evidence of climate change, its impact and vulnerability, and mitigation or adaptation actions (ECLAC, 2021: 150).

2.2.4. Methodological contributions of ECLAC

Although ECLAC does not propose a specific approach for the budgetary identification of climate change, it adopts the SEEA criterion by associating the notion of environmental protection expenditure with the nine environmental protection activities (CEPA). Thus, ECLAC characterizes environmental protection spending as that incurred by different economic units, including the general government, to finance activities whose fundamental purpose is the prevention, control, reduction, and elimination of pollution, as well as the promotion, encouragement, and care of the environment (ECLAC, 2015: 17).

On this basis, ECLAC promotes performing a cross-classification that relates the function of government spending with the activity undertaken to reduce environmental damage. This implies linking the classification of functions of government -especially, the fifth division on environmental protection- with the CEPA activity disaggregation (ECLAC, 2015: 26).

ECLAC also considers the usefulness of including a cross-classification between the functional criterion and the economic classification of expenditure, for the purpose of identifying current and capital expenditures (investments) in each environmental activity.

Table 7. Cross-Classification between functions of government and environmental protection (ECLAC)

Classification of functions of government	Classification of Environmental Protection Activities (CEPA)					
	Waste management	Wastewater management	Pollution abatement	Protection of biodiversity and landscape	R&D Environmental protection	Environmental protection n.e.c
Protection of ambient air and climate			X			
Wastewater management		X				
Waste management	X					
Protection and remediation of soil, groundwater, and surface water			X			
Noise and vibration abatement			X			
Protection of biodiversity and landscapes				X		
Protection against radiation			X			
Research and development					X	
Other environmental protection activities						X

SOURCE: ECLAC (2015).

2.2.5. Methodological contributions of IDB

The IDB considers that current classifications do not resolve all the issues related to the identification of climate change expenditure (IDB, 2021: 25). Therefore, it proposes the design of a methodology based on the differentiation of expenditures on mitigation, adaptation and risk or disaster management associated with climate change, and the inclusion of an approach that exceeds the criterion of identification based on objectives, i.e., that not only includes activities whose final purpose is climate change but also those that have a significant effect despite not being their purpose (IDB, 2021: 29).

In this sense, the IDB proposes a double-entry classification system that reflects whether the activity has climate change as its primary or secondary purpose. The primary classification tags expenditures according to their objectives or purpose, while the secondary classification tags activities according to their effects or impact. Finally, it proposes an accounting framework for organizing statistical information based on CEPA, which includes cross-classification of economic and functional expenditures, and a distinctive treatment for internal transfers and carbon taxes (IDB, 2021: 32).

Table 8. Combined classification between objectives and effects (IDB)

Functions of government		Tagged as primary (Climate change is main purpose)	Tagged as secondary (Climate change is secondary result)	
1	General public services			
2	Defense		X	Emergency defense expenditure relief after a climate-related disaster
3	Public order and safety		X	Fire control after a climate-related disaster
4	Economic affairs		X	Investment in energy projects that reduce carbon emissions
5.1	Environmental protection			
5.2	Housing and community amenities	X		
6	Health		X	Emergency housing for populations affected by climate-related disasters
7	Recreation, culture, and religion		X	Increased investment in health services due to climate impacts
8	Education			
9	Social protection			
10	General public services		X	Employment benefits because of climate impacts

SOURCE: IDB (2021).

2.3. Budget Tagging

Budget tagging complements the information provided by the classifiers, given the cross-cutting nature of climate change actions. There are two methodological proposals from international organizations: climate budget tagging (UNDP) and green budgeting (OECD). Despite their methodological differences, the former focuses on climate change and the latter addresses environmental issues from a general perspective. The IDB and the World Bank also present methodological and procedural alternatives based on the compilation of national experiences.

Next, a summary box is presented with the main characteristics of the identified budget tagging, followed by a more detailed description of each one.

Summary box: Budget tagging

Climate Budget Tagging (CBT) is a set of tools for identifying and monitoring climate change expenditures in the budget. It understands climate change as a cross-cutting issue that cannot be addressed by the traditional budget and draws on the previous experience of other tagging. It is characterized by its flexibility to adapt to the characteristics of each country and is structured around ten steps that provide alternatives for key aspects of its planning, design, and implementation.

For its part, green budget tagging (green tagging) is a methodological framework for aligning the budget with environmental objectives. It does not specifically address climate change but environmental issues in general. Its proposal is based on the policy-based identification criterion and is organized into four blocks: strategic planning, data generation, reporting, and good governance. Like the CBT, it promotes an adaptive approach and the adoption of customized national solutions based on best practices.

2.3.1. Climate Budget Tagging (CBT)

In 2014, UNDP developed a set of financial tools -called CBT- to identify, classify, weight and tag important expenditures on climate change within the framework of the national budget system, thus contributing to its estimation, monitoring, and tracking. Its conception is based on the concept of climate change as a cross-cutting issue in the public agenda, difficult to reduce to a specific policy sector or program, with contributions spread across different ministries and government agencies (UNDP, 2019: VIII-IX).

The CBT was conceived to solve this challenge, not addressable by traditional budget management through existing classifications (mainly organizational, economic, and programmatic). Its design is supported by the previous development of other tagging promoted by UNDP (gender, poverty, and children) and is intended, complementarily, to contribute to the monitoring of the 2030 Agenda (especially SDG 13) and to the issuance of sovereign green bonds, serving in the latter case as a tool for the identification of projects eligible for financing through this modality (UNDP, 2019: 1-2).

The CBT is defined as part of the set of tools and initiatives that comprise the Climate Change Financing Framework (UNDP, 2019: 3). Its main characteristic lies in being an open methodology that does not impose definitions or categories, but rather organizes the process of including climate change in the public budget through phases and steps, providing technical alternatives for each of them based on successful comparative experience. In fact, UNDP has many publications on the implementation of the tool in specific cases, especially in Oceania and Latin America.

The tagging methodology proposed by UNDP for the assessment, development and implementation of the CBT is divided into 10 steps that relate to the key decisions to be taken during the process. These 10 steps are structured around three main phases: purpose and setting of the CBT (Phase 1), technical design (Phase 2) and approaching implementation (Phase 3) (UNDP, 2019: 11). It should be specified that the steps are not presented as prescriptive, because they should be adapted to each national context. For each step, the methodology suggests the institution(s) that should lead the process.

Table 9. Stages in designing a climate tagging system (UNDP)

Phases		Steps	
Phase 1	Purpose and setting	Step 1	Define key objectives and stakeholders of CBT
		Step 2	Identify how CBT can contribute to achieving climate change policy objectives
		Step 3	Identify the parameters set by the existing PFM system
Phase 2	Technical design	Step 4	Define and classify climate relevant expenditures
		Step 5	Define the methodology for weighting the tagged expenditure
		Step 6	Determine how climate change expenditure will be identified in the PFM system
Phase 3	Approaching implementation	Step 7	Determine the overall modality of the CBT system
		Step 8	Design the tagging procedure
		Step 9	Determine the format for CBT reporting
		Step 10	Assign roles and responsibilities for CBT development and implementation

SOURCE: OPC based on UNDP (2019).

Phase 1 seeks to lay the groundwork for defining the contour of the CBT, i.e., its breadth and depth. Breadth refers to whether the tagging covers only the national policy of the same name or all government activity, while depth refers to its analytical precision and technical detail. Phase 2 involves classifying expenditures by type of intervention, dividing activities - at a minimum - into mitigation and adaptation, weighting expenditures according to the relevance of the activity and tagging what has been identified in the budget system according to existing classifiers and codes. Phase 3 involves, above all, establishing the implementation modality of the tagging (it can be centralized in the planning or budget bodies or decentralized in the executing units), as well as the design of the procedure and the products involved (annexed chapter in the budget or in the periodic execution reports).

2.3.2. Green Budget Tagging

The Green Budget is a methodological framework promoted by the OECD that seeks to use the tools of the budget process to achieve countries' environmental and climate objectives. This involves studying the environmental impact of budgetary policy, analyzing its consistency with national objectives and countries' international commitments in this subject (OECD, 2020: 1). The Green Budget is a results-oriented approach to budgeting (OECD, 2021: 9) that relies on the existing financial management system, so its implementation has its own particularities in each country.

The methodology is structured around four blocks that complement and feed into one another: a strategic planning framework that identifies priorities and objectives (Building Block 1); tools for the generation of consistent data and policies that help to pinpoint how budget actions impact climate and environmental objectives (Building Block 2); reporting to facilitate accountability and transparency on the quality and impact of the Green Budget (Building Block 3); and a budget governance framework facilitating, for example, plan-budget articulation (Building Block 4) (OECD, 2020: 2) (OECD, 2020: 2).

Table 10. Green Budget Tagging Process (OECD)

Building Block 1	Building Block 2	Building Block 3	Building Block 4
Strong strategic planning framework that identifies environmental and climate priorities and objectives	Tools for consistent data and policy generation (e.g., budget tagging)	Reporting on alignment between budget and environmental objectives that promotes accountability	Modern budget governance framework that facilitates, for example, plan-budget linkage and results-orientation

SOURCE: OPC based on OECD (2020).

Among the tools proposed in Building Block 2 are environmental impact assessments, pricing of related services, incorporation of a green perspective in expenditure reports and management commitments, and green budget tagging or "green tagging," which involves classifying budget actions according to their environmental or climate effects. This tagging encompasses revenues and expenditures, assigning a tag based on the relevance of their contribution to meeting national climate and environmental objectives.

The OECD proposal presents alternatives for its implementation based on experiences in the Member States. For example, it highlights in the EU the creation of lists of predefined green activities that complement the functional classification, grouping them by sectors, categories, and subcategories. It also underlines the adaptive nature of tagging processes, allowing the gradual increase of their scope and capabilities as, for example, through the incorporation of actions that negatively impact environmental and climate objectives (OECD, 2021: 16).

The OECD recognizes the lack of global agreement on the definition of environmental and climate-related revenues and expenditures, especially in terms of budget classifiers (GFC, CAPA). To this end, it advocates the generation of customized tagging developments by country or region, processes in the framework of which it identifies several challenges (OECD, 2021: 18).

2.3.3. Methodological contributions of IDB

The survey conducted by the IDB (2020) on the identification and budgetary alignment of national climate commitments in a sample of Latin American countries[2], without constituting a budget tagging methodology, provides several tools and recommendations of interest for its design. In fact, its purpose is to analyze the traceability between the climate objectives reported by the countries in the framework of the UNFCCC and the budget actions related to climate change, using the budget identification technique as a mechanism to address this articulation between plan and budget.

Among the contributions of the IDB (2020, 2021) for the design of tagging are, first, the use of the Nationally Determined Contributions as a tool for the budgetary identification of climate change activities. Also, the classification of expenditures between those directly related, "associated" or "contrary" to climate change, with "associated" being understood as those that contribute to its mitigation or adaptation, but were not necessarily created for it, i.e., that have climate change as a secondary purpose.

Another contribution is the use of the methodology proposed by the Climate Finance Group for Latin America and the Caribbean (GFLAC) for the classification of relevant actions by policy sectors and subsectors. Specifically, the IDB (2020) classifies activities into five

[2] Composed of Argentina, Colombia, Jamaica, Mexico, and Peru.

sectors: energy, environment, agriculture, transportation, and risk management. These activities are classified according to whether they contribute to climate change mitigation or adaptation following the Rio Markers and add an additional category to reflect activities that contribute to both simultaneously.

2.3.4. Methodological contributions of World Bank

The World Bank's contributions to climate tagging included in this section are drawn from the survey conducted during the year 2020 in a sample of mostly developing countries[3].

Its methodological contribution lies in presenting three essential elements or decision axes to be considered when designing the tagging mechanism, proposing technical alternatives drawn from national case studies. These elements are definition of climate change expenditure, definition of the appropriate coverage of tagging and estimation of the relevant expenditure (World Bank, 2021: 21).

With respect to the definition of climate expenditure, the World Bank presents two complementary criteria: objective-based (purpose of the activity) and policy-based (actual contribution to the national sectoral policy). For the former, it mentions the Rio Markers, and, for the latter, it suggests referring to national sectoral planning documents on the subject (World Bank, 2021: 23). It also proposes the definition of counter expenditures when their impact is averse to mitigate or adapt to climate change.

In addition, it includes tagging coverage alternatives in four dimensions: composition, institutional, level of government and type of expenditure. In terms of composition, it establishes that tagging can be applied to resources and expenditures. At the institutional level, it differentiates between central administration, decentralized administration, and state-owned enterprises (transfers). As for the level of government, it states that the technique can be applied at the national and subnational levels. On the composition of expenditure, it refers to the difference between current and capital expenditures (World Bank, 2021: 26).

In terms of estimating the relevant expenditure, it presents three alternatives: to consider only those programs aimed at climate change as the primary objective; to consider all programs but reflect only the expenditure of the contributing activities that comprise them; or to apply weightings to estimate the part of the program that contributes without analyzing its components in detail. The second option is the one promoted by the Multilateral Development Banks, whereas the third option is in line with the methodology proposed by the Rio Markers, classifying the contribution of the program as principal, significant or null (World Bank, 2021: 27-28).

3. International case studies

This section includes the description of six documented case studies from Latin America (Chile, Ecuador, Colombia, Honduras, Mexico, and Nicaragua), two from Southeast Asia (Bangladesh, Philippines) and two from Europe (France, Moldova). Their characterization and comparison are based on previous surveys conducted by international organizations, especially the World Bank (2021b).

The sample includes mainly developing countries, several of which suffer from a high declared vulnerability to the effects of climate change. This situation is consistent with the fact that the first methodologies for climate change budget identification (supported by international organizations) were applied in countries with such characteristics.

[3] Composed of the following countries: Nepal, Cambodia, Indonesia, Philippines, Ecuador, Ghana, Moldova, Colombia, Ethiopia, Honduras, Nicaragua, Pakistan, Kenya, Bangladesh, Ireland, Uganda, India, France, and Mexico.

3.1 Latin America

A comparative summary of the main attributes of the case studies identified in Latin America is presented in Table 11, followed by a characterization of the budget identification process in each country on the basis of which it was developed.

Table 11. Characteristics of case studies in Latin America

Country	Tagging characteristics						
	CPEIR background	First measure-ment	Identifica-tion criteria	Institutional scope	Programmatic scope	Use of weights	Budget stage
Chile	Yes	2019	Objective-based	Central adm.	Program	No	Post review
Colombia	Yes	2017	Objective-based	Selected agencies	Program	No	Post review
Ecuador	Yes	2016	Policy-based	National/ Local	Activity	No	Formulation
Honduras	Yes	2017	Objective-based	National	Activity	Yes	Formulation
Mexico	No	2021	Mixed	National	Activity	Yes	Formulation
Nicaragua	Yes	2017	Objective-based	National/ Local	Activity	No	Formulation

SOURCE: OPC based on World Bank (2021; 2021b), Ministry of Finance (Directorate of Budgets) (Chile) (2021) and Ministry of Finance and Public Credit (Mexico) (n/d).

3.1.1. Chile

In 2021, the Directorate of Budgets of the Ministry of Finance published its first experience on climate change budget tagging. The publication presents a brief survey of international standards, explains the sources of information and analysis methodology used and presents the results of the measurement conducted on the 2019 budget. Its methodology is based on a definition of climate change extracted from the IPCC, whose scope is complemented with the commitments expressed in its Nationally Determined Contribution (NDC).

The methodology classifies contributing activities according to whether they relate to climate change adaptation or mitigation, using the Rio Markers for their definition. The tagging covers only the central government (excluding foundations that receive public funds) and is applied at the program or initiative level. To determine whether a program falls into the category, its description is analyzed, and it is identified whether it aims to mitigate or adapt to climate change. This survey is then verified by focusing on key climate change issues, such as energy and agriculture.

The information obtained from the measurement of those programs or initiatives identified as falling into the climate change category is presented disaggregated based on four filters. First, it classifies the programs or initiatives according to whether they are mitigation or adaptation; second, it applies to them the classification of functions of government; third, it uses the classification of environmental protection activities (CEPA) and fourth, it classifies programs according to the SDG that is mainly linked to their implementation (with the exception of SDG 13, which is considered expressly addressed by the previous filters).

3.1.2. Colombia

Colombia developed a climate change tagging methodology in 2016 as a collaborative effort between the National Planning Department and the Financial Management Committee of the National Climate Change System (World Bank, 2021b: 7). Its conception is linked to the reporting of progress related to the UNFCCC and the Paris Agreement, being applied after the formulation of the budget in the framework of the Climate Finance Monitoring, Reporting and Verification System. In this line, tagging is not part of the budget process, nor does the published budget reflect information in this regard.

The methodology has its own characteristics and is based on the objective-based criterion, according to the Rio Markers and the contribution of GFLAC, covering four categories: explicit general contribution; contribution to mitigation, explicit or implicit; contribution to adaptation, explicit or implicit; and joint contribution to mitigation and adaptation (World Bank, 2021b: 8). This definition is complemented by a list of actions grouped in sectors predefined as relevant. Those that present a disproportionate negative effect beyond their benefits are excluded, e.g., nuclear plants.

It is applied at the program level, pertaining to national, regional, and local levels of government. The measurement covers only selected sectors, eleven directly linked to climate change (energy, environment, agriculture, transportation, housing, education, health, industry, waste, tourism, and disasters) and one cross-cutting residual sector[4]. Likewise, the measurement covers operating expenditures, investments, and transfers. Contributing programs are all weighted at 100%, although those that do not have climate change as a primary objective are identified as "associated" (World Bank, 2021b: 8).

3.1.3. Ecuador

Since 2016, Ecuador has presented an environmental tagging methodology with the objective of analyzing the alignment between budget programs and national priorities in the subject, as well as facilitating the monitoring of their execution. The methodology transcends the specific issue related to climate change, covering other environmental matters such as, for example, biodiversity. Its application has been uninterrupted since then, being part of the budget formulation process. In fact, the tagging is loaded into the financial reporting system itself.

The methodology adopts a policy-based approach to the identification of the budget to be tagged, relying on a prescriptive list of activities classified under 15 relevant expenditure categories (9 of which are consistent with CEPA), climate change being one of them. The tagging divides expenditures according to whether they contribute to mitigating climate change, adapting to its consequences or both actions simultaneously, using in turn the Rio Markers proposal for their classification by type of contribution between principal, significant or null (World Bank, 2021b: 9).

It is applied at the program activity level and covers the entire public sector, including the subnational level of government. It includes current and capital expenditures (not personnel). It also presents a list of excluded expenditures such as debt service and office supplies. It also excludes activities with a negative impact. It does not apply a weighting criterion to estimate their contribution and their identification process is decentralized in each jurisdiction and entity, then validated by specialists from the national governing entity (World Bank, 2021b: 10).

[4] See IDEAM, UNDP and DNP (2017) for more information on sectors and subsectors.

3.1.4. Honduras

Honduras developed its climate change budget tagging methodology in 2016 as part of the commitments assumed under the UNFCCC. Its design was concomitant with a CPEIR conducted by UNDP. The methodology uses its own definition of climate change, adopting an objective identification criterion inspired by the Rio Markers that categorizes relevant spending according to whether it refers to mitigation, adaptation, or natural disaster management. The inclusion of the latter category is based on the country's self-perceived vulnerability to the effects of climate change (World Bank, 2021b: 14).

The methodology identifies 10 priority sectors and lists a typology of relevant activities by sector (World Bank, 2021b: 15). Relevant activities can be identified outside these sectors (they are tagged as "cross-cutting") and it is possible to associate the same expenditure with different sectors or activities. Expenditures with negative impact are not consiered. Its application covers current expenditures and investments of the public sector (central, decentralized, and corporate) except for local governments. The identification is decentralized and is part of the budget formulation process, with data being loaded into the financial information system.

The methodology is applied at the activity level. According to their level of relevance, these are classified as "completely relevant" (contribution as main objective), "very relevant" (contribution as secondary objective, significant and direct), "somewhat relevant" (significant contribution, although indirect) and "relevant" (limited contribution). Based on this, the methodology adopts an expenditure estimation system based on the following sequence of weightings: 90-100% (completely relevant), 60-80% (very relevant), 30-50% (somewhat relevant) and 10-20% (relevant) (World Bank, 2021b: 15).

3.1.5. Mexico

Since 2013, Mexico's Expenditure Budget includes "cross-cutting annexes" whose purpose is to reflect expenditures on various development-related policies to which various agencies and programs contribute. One of the annexes focused on mitigating the effects of climate change, a scope that was expanded in 2015 to include adaptation actions. According to an evaluation by the National Institute of Ecology and Climate Change conducted in 2017 (INECC, 2017), the budget identification methodology applied suffered from a lack of technical criteria to classify and quantify the respective financial resources.

This set the basis for the revision of the technique conducted by the Ministries of Finance and Environment, which resulted in a new Methodology for the Identification and Quantification of Resources for Climate Change Mitigation and Adaptation (Secretariat of Finance and Public Credit, n/d). This methodology was gradually implemented during 2021 and 2022 in some ministries and agencies (pilot test), with its use projected for the entire federal administration starting in 2023. The new methodology is accompanied by a computer application that replaces manual data entry and contributes to the analysis of contributing programs.

The methodology and the application first aim to identify the "climate relevance" of budget programs based on their linkage with the Special Climate Change Program, the National Climate Change Policy, the latest NDC and the General Law on Climate Change. Second, they aim to quantify the relative budgetary resources at the level of specific items, classifying them according to their contribution to either climate change adaptation or mitigation. If the contribution of the item is direct or explicit, 100% of its resources are included (objectives), but if the contribution is indirect or implicit (effects), the percentage to be calculated varies according to the characteristics of the actions involved.

3.1.6. Nicaragua

Nicaragua developed its climate change budget tagging methodology at the proposal of a CPEIR held in 2015. The design of the methodology was led by the Ministry of Finance and Public Credit, deciding its gradual introduction in different jurisdictions starting in 2017. Its purpose is to provide information to analyze the degree of alignment between public spending and the climate change objectives envisaged in national plans, thereby optimizing the distribution of available resources (World Bank, 2021b: 23).

The methodology adopts an objective-based definition with its own characteristics, taking the IPCC and the Warsaw International Loss and Damage Mechanism as a reference (World Bank, 2021: 23). The respective expenditure is classified into four dimensions: adaptation and disaster risk reduction, disaster response and post-disaster recovery, mitigation, and general environmental management (institutional development and public policies) (World Bank, 2021b: 23). As in the case of Honduras, the inclusion of disaster categories is based on the country's self-perception of its environmental vulnerability.

The use of this methodology covers the entire public sector, including the central government, state-owned enterprises, and local governments through a strategy of gradual inclusion of agencies. Its implementation covers both current and capital expenditures, through a decentralized process that focuses on the maximum level of programmatic detail. Tagging is an inherent part of the budget formulation process, with the respective data being loaded into the financial information system itself. Budget reports include information on climate change (World Bank, 2021b: 24).

3.2. Other regions

Following the same criteria as in the previous section, Table 12 presents a comparison of the main attributes of the case studies identified outside Latin America (Asia and Europe), followed by a characterization of the budget identification process of each country based on which it was developed.

Table 12. Characteristics of case studies in other regions

Country	Tagging characteristics						
	CPEIR background	First measure-ment	Identifica-tion criteria	Institutional scope	Programmatic scope	Use of weights	Budget stage
Bangladesh	Yes	2018	Policy-based	Selected agencies	Activity	Yes	Formulation
Moldova	No	-	Mixed	National	Program	Yes	Formulation
Indonesia	Yes	2014	Objective-based	Selected agencies	Activity	No	Formulation
France	No	2021	Mixed	Central adm.	Activities	No	Formulation

SOURCE: OPC base don World Bank (2021; 2021b).

3.2.1. Bangladesh

Bangladesh is one of the first countries to develop a methodology for climate change budget tagging. Its origins date back to a CPEIR conducted by UNDP in 2012, although the use of the current methodology was formalized in 2018. Its main objective lies in the reporting of results. The methodology adopts its own definition of climate change that relies on the policy-based approach (World Bank, 2021b: 4). To this end, it presents an indicative

list of relevant adaptation and mitigation activities divided into 6 thematic areas and 44 programs.

The methodology presents a unique cost estimation format based on a weighting and costing system (World Bank, 2021b: 5). The weighting of each activity is achieved by subtracting from the total percentage of its relevance the part of the expenditure that would still occur if climate change did not exist. In turn, the program weighting is calculated based on three relevance criteria related to the thematic areas and priority programs, using a special mathematical formula. Its scope covers current and capital expenditures of the entire public sector (except state-owned enterprises) under a phase-in strategy.

The tagging is applied in a centralized manner in the Ministry of Finance, as part of the budget formulation process. Data is uploaded as part of the financial and accounting information system. The information is published annually separately from the budget and under the citizen budget format, being the only country in the survey conducted by the World Bank (2021: 30) that uses this tool. It is also the only one to publish the budget execution of the identified programs and projects, and to perform performance audits on them based on INTOSAI standards (World Bank, 2021: 31).

3.2.2. Moldova

Moldova developed its tagging methodology in 2016 with the collaboration of UNDP. The initiative was led by the Ministry of Environment and aimed to improve capacities for the identification of contributing programs and projects, contributing to improve their prioritization and the distribution of resources. Its implementation in the framework of the budget cycle remains to be systematized, since, for example, there is no information on the subject in the regular budget reports (World Bank, 2021b: 19). Its definition of climate change is mixed, including criteria based on objectives and activities.

Thus, relevant expenditures are identified according to their purpose, their forecast in predefined lists and their presence in national documents on the subject. Based on the Rio Markers, these are classified according to whether they contribute to climate change mitigation or adaptation. The methodology covers the entire public sector (except companies) and includes only investments, except for directly contributing current expenditures. Identification is done at the program level during budget formulation, with decentralized loading, validated by the environmental governing body and subject to quality controls (World Bank, 2021b: 20).

Interventions are classified based on four functions: development and governance, research and development, knowledge sharing, and service generation, response, and provision. There is a prescriptive list of activities by function. Based on this, a system of expenditure weighting is applied: 100% if they have climate change as a primary objective, 70% for those of high relevance (65% of relevant activities), 50% for those of medium relevance 50% (40 to 65% of relevant activities), 25% for those of neutral relevance (15 to 40% of relevant activities) and 0% for those of marginal relevance (less than 15% of relevant activities) (World Bank, 2021b: 20).

3.2.3. Indonesia

Indonesia has been tagging the climate change budget since 2014. For this purpose, a manual was developed in collaboration with UNDP during 2016. The methodology initially covered only mitigation activities, but later added adaptation activities (World Bank, 2021b: 16). Its objective is budgetary in nature, seeking to improve the identification of outputs generated for such purposes and the resources associated with them. Indonesia was the first country to use such budget tagging as a basis for the issuance of a sovereign green bond (World Bank, 2021: 33).

The methodology adopts an objective-based approach to the definition of contributing actions based on the Rio Markers (World Bank, 2021: 23). Their identification is complemented by an indicative list of specific outputs, developed based on the priorities and actions envisaged in their respective national mitigation and adaptation plans. In principle, it is used by certain sectors and ministries related to climate change, covering only the central level of government. It includes both current expenditures and investments (World Bank, 2021b: 16).

The methodology is applied at the highest level of detail of public output (activity) without weighting techniques being applied, i.e., all identified activities are considered equally relevant. The process is integrated into the budget cycle, with data uploaded through the financial information system. Its implementation is decentralized in each ministry (there is a working group in each one and training is provided), and there is a subsequent validation instance. The results are published as annexes in the budget documents (World Bank, 2021b: 16-17).

3.2.4. France

Since 2019 the French government has a legal obligation to report to the Legislative Branch on the impact of the budget on climate change. To this end, a green budget methodology was developed in 2020 through a multi-agency task force, the implementation of which began in 2021, its objective being to promote transparency of environmental information and support decision-making on the matter (World Bank, 2021b: 12). Its scope is innovative as it covers multiple aspects of the environmental agenda, not only climate change.

The methodology is based on its own definition of relevant activities - in line with the parameters of the European Union - which includes actions with positive, negative, and neutral effects (World Bank, 2021b: 12). In fact, it is the only country that tags expenditures with negative environmental effects. There is also a list of activities predefined as neutral, including social transfers, wages, armed forces, public security, and recurrent operating expenditures of ministries. It applies throughout the central government, not only to expenditures but also to resources (taxes), being the only one with this characteristic.

The activities, positive, negative, or neutral, are classified around six axes: mitigation; disaster adaptation and forecasting; water management; circular economy, waste and technological risk prevention; pollution abatement; biodiversity and protection of natural, agricultural and forestry areas. There is a possibility that an activity may be tagged in more than one axis. For example, the nuclear sector presents a positive impact for the mitigation of adverse environmental effects, but at the same time also a negative one in relation to waste management (World Bank, 2021b: 12).

The estimation of spending does not use weights but categorizes activities into "green spending" (contributes positively to at least one axis and has no negative impacts on another); "mixed spending" (contributes positively to one axis but impacts negatively on another) and "negative spending" (impacts negatively on at least one axis and has no positive contributions). The tagging is applied at the highest level of budgetary detail (actions) and is implemented in a centralized manner through an inter-ministerial working group. The methodology covers the entire budget cycle, and its results are published in a separate reporting document (World Bank, 2021b: 12).

4. Final considerations

The budget tagging technique contributes to the visualization of climate change-related spending, as is the case with other policies such as those related to gender equity and diversity, children and adolescents, persons with disabilities or the SDGs. Their use allows mitigating the intrinsic difficulties of the traditional budget to reflect this type of policies

whose budgeting transcends agencies and programs. Its usefulness is even greater in cases where thematic-specific accounting or budgetary classification systems are not applied.

The budgetary identification of climate change also promotes the analysis of the link between planning and budgeting, i.e., between national climate change policy and annual budgets, generates useful information for its inclusion in the reports required by international systems such as, for example and above all, the Nationally Determined Contributions and the Biennial Update Reports; and lays the foundations for the use of the budget as a useful tool for the design and monitoring of "sovereign green bonds.

The scope of the technique is limited to the budgetary identification of climate change and not of the environment in general, for which it would be necessary to include additional conceptual frameworks and analytical categories. Nevertheless, its methodological bases are compatible with the potential subsequent development of a "green budget", especially if it combines criteria based on objectives or purpose and on policies or effects for the identification of contributing activities and projects.

The implementation of tagging does not *per se* imply changes to existing budget classifications. In any case, given the well-founded importance of classifiers for the analysis of the subject and the multiple available developments that were raised in the study, the review of the classification of the functions of government and the use of the System of Environmental and Economic Accounting (SEEA) -among other tools and innovations- could be a substantive and complementary contribution to tagging.

Finally, it is important to note that the implementation of the climate change budget tagging technique presents a technical-institutional complexity whose effective approach requires not only solid methodological bases grounded in evidence, but also a gradual and collaborative implementation strategy between governing and executing bodies, and permanent multi-agency coordination work between the budgetary and environmental authorities.

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Annex: documents of interest on international case studies

The following are hyperlinks to official documents on the case studies surveyed, including methodological guides, public presentations, technical analyses, and budgets. Their content is intended to provide further information for understanding the practical implementation of climate change budget identification in each country.

1. Latin America

1.1. Chile

Ministry of Finance (Directorate of Budgets) (Chile) (2021). Nota de Investigación: Gasto público en cambio climático 2019, una aproximación metodológica. *Estudios de Finanzas Públicas Nº 2021/20.*

1.2. Colombia

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1.3. Ecuador

Ministry of Environment, Water and Ecological Transition (2023). Resultados de la aplicación de metodologías de finanzas climáticas en Ecuador (período 2015-2019).

1.4. Honduras

Ministry of Finance (2023). Tomo XVIII – Presupuesto Aprobado General de Ingresos y Egresos de la República – Ejercicio Fiscal 2023 – Presupuesto Consolidado para Cambio Climático.

1.5. Mexico

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1.6. Nicaragua

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2. Other regions

2.1. Bangladesh

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2.2. Moldova

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2.3. Indonesia

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2.4. France

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OPC Publications

The Argentine Congressional Budget Office was created by Law 27,343 to provide support to the Legislative Branch and deepen the understanding of issues involving public resources, democratizing knowledge and decision making. It is a technical office of fiscal analysis that produces reports open to the public.

This report does not contain binding recommendations.

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