

CLIMATE FINANCE MRV IN CHILE

Baseline Report Series



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MRV of Climate Finance– Baseline Report Series

This report is an output of the Technical Subgroup on MRV and Climate Change ([SGT-MRV](#)) of the Pacific Alliance (PA).

It is a component of the [Coordinating Framework](#) defined by the SGT-MRV country focal points to deliver on the [Action Plan](#) of the PA formal Working Group on Environment and Green Growth (GTMACV) to achieve the presidential mandate No. 16 of the [Cali Declaration](#) of the Pacific Alliance (*June 2017*).

The analysis of the Monitoring, Reporting and Verification (MRV) of Climate Finance allows countries to understand the needs and gaps related with climate finance institutional infrastructure in the countries of the Pacific Alliance; through the evaluation of the state of development of these practices in each country, its governance, definitions, methodologies, protocols, regulatory instruments, technological platforms and initiatives already implemented (or in implementation) related to the register, reporting, monitoring and verification of climate finance information.

Baseline reports on the MRV of Climate Finance in Chile, Colombia, Mexico, and Peru were prepared by technical experts in each country. The reports contribute to the analysis and strengthening of the Climate MRV priorities in the PA countries.

For more information on any of the individual MRV of Climate Finance country reports, please contact the [principal investigator](#) or the [SGT-MRV coordinator](#). Other relevant documents and virtual technical exchanges on MRV of Climate Finance can be found [here](#).

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Executive Summary

This report is part of the efforts of the Technical Sub-group on Measurement, Report and Verification (SGT-MRV) of the Pacific Alliance (PA) to enable a collaborative discussion on the effectiveness of MRV systems and their evolution in the countries that belong to the PA and among them. Along these lines, this report was commissioned to examine the development status of Climate Finance MRV in Chile, including the public and private sectors, as well as national and international sources.

The report is based on a compilation of bibliographic background and interviews with key actors in the implementation and monitoring of MRV in Chile. The Ministry of Finance (MH) and the Ministry of the Environment (MMA) are responsible for the national policy on climate change finance; however, there is no specific common agenda for this matter. In particular, only interviews with parties at the Ministry of the Environment were considered to prepare this report. Considering this limitation, a summary of the main elements of the report is presented below.

Policy and Institutional structure related to climate finance MRV in Chile

The national institutional structure for climate change is embodied in the National Action Plan on Climate Change 2017-2022 (PANCC), which has an inter-sectoral and territorial focus and is led by the Council of Ministers for Sustainability (CMS); it also has an Inter-Ministerial Technical Team for Climate Change (ETICC, by the Spanish acronym), which, in turn, is coordinated by the Ministry of the Environment (MMA) and has presence all over the country through the Regional Climate Change Committees (CORECC). Specifically, in the context of climate finance, the country's institutional structure lies with the MH and the MMA, both of which take part in the CMS and the ETICC, which are the highest authority for political and technical deliberation, respectively.

Currently, the principal organizing climate policy instrument in Chile is being discussed in the National Congress, through the Draft Framework Bill on Climate Change, with the 'idea of legislating' being recently approved. This project establishes as its main objective that Chile becomes a carbon neutral and climate resilient country by 2050. However, this imposes important challenges, mainly the facility to define a route to achieve carbon neutrality and increase resilience. Along these lines, an updated Nationally Determined Contribution (NDC) was presented, which represents a significant increase in ambition, along with the preparation of the Long-Term Climate Strategy, which will set the goal sectors that allow achieving neutrality by 2050 and will focus on the management of water resources, thereby increasing the resilience of Chile's territories.

The national policy on climate finance has been consistent over time in declaring the importance and need to manage the climate financing strategy, based on the monitoring and evaluation of the resources allocated. This is noticeable in different climate policy instruments, specifically in the 2015 Nationally Determined Contribution (NDC), the Climate Change bill from 2019, the Climate Change Finance National Strategy (EFCC) of the same year, and the NDC of 2020, the commitments in which are displayed in Figure 1 below.

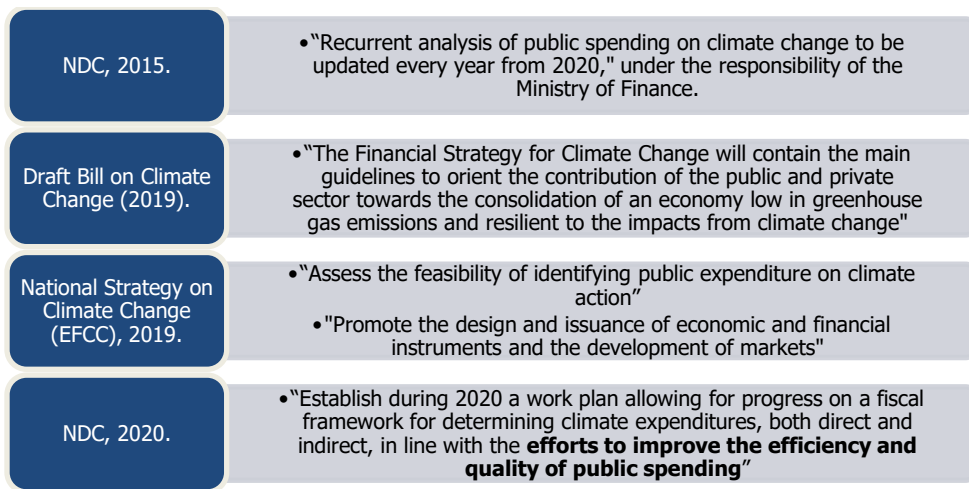


Figure 1 Policy on Climate Finance in Chile

Why is it important to develop a climate finance MRV system in Chile?

Chile faces major challenges to reduce and manage the risks of climate change. The progressive and growing water crisis, the increase in extreme events related to floods and landslides, and the challenges to achieve sustainable production, among other difficulties, require a robust agenda of climate actions to move forward on a path of low-carbon, climate change-resilient development.

To implement these actions, it is essential to have a short-, medium- and long-term financing strategy that allows these local needs to be addressed. The Chilean state needs to have technical information available on climate finance and its execution to assess the effectiveness of its implementation, which is key for the decision-making process.

Interviewees agree on the advantages of having an MRV system, which would allow the identification of what resources are being used, assessment of the efficiency of this use, and management of the allocation of resources, ensuring continuous financing targeted at the relevant challenges posed by climate change in the country.

Also and equally important is the fact that Chile has international goals and commitments (NDCs), which explicitly refer to the measurement and reporting of public expenditure on climate change, as well as to the definition of a climate financing strategy for the country to be updated every five years, which must be consistent with Chile's committed Long-Term Climate Strategy. All of this emphasizes the need to keep moving forward in this challenge of building a climate finance MRV system for the country, which should have common and hopefully standardized elements among the countries of the Pacific Alliance, in order to share comparable experiences.

What is meant by climate finance in Chile?

From 2015 to date, Chile has been working on measuring and monitoring environmental and climate financing through various initiatives. Despite not having an established MRV system as yet, progress has been made in the definition of public climate expenditure, based on the target approach proposed by Rio Markers. From this disbursement, climate expenditure corresponds to that which has a targeted directly or indirectly towards mitigation and/or adaptation actions, aimed at reducing or limiting GHG emissions or increasing carbon sequestration; similarly, it refers to finance aimed at reducing vulnerability of human or natural systems to the impacts of climate change and climate-related risks by preserving or enhancing capacity for adaptation and resilience.

What are the climate finance MRV systems that exist or are under development in Chile?

- MRV of international financing: There is no measurement, report and verification system in Chile to identify and monitor international financial flows received by the country for actions and programs that contribute to national and sub-national actions to tackle climate change. There are isolated efforts by the MMA to compile the information to be included in the national communications.
- MRV of private financing: In terms of private finance, there have been no in-depth studies on the country's private finance to fight climate change. There are platform databases of the MMA that fulfill other purposes and that can compile part of this information. However, no efforts have been reported along these lines.
- MRV of public financing: This MRV is under development, with progress reported in terms of measurement efforts, but with no definitions relating to reporting or verification. Chile has a methodological proposal submitted by the MMA for measuring and accounting for investment, current expenditure and fund transfers, with first results expected in the next few months. From the interviews conducted, it seems that the methodology has not undergone validation by the Ministry of Finance (MH).

MRV of public climate finance: Measurement of public expenditure

The MMA has worked on the methodological proposal. As a source of information this takes administrative record databases of purchases of current goods and services, investment projects, personnel expenses and fund transfers, the descriptors of which have further information for a more robust classification in relation to climate change. The sources of information are as follows:

1. For current expenditure: ChileCompra, a state-run platform for service procurement and contracting, which is an attractive State transaction database.
2. For climate investment: The Integrated Bank of Projects (BIP, by the Spanish acronym) of the National Investment System (SNI), under the responsibility of the Ministry of Social Development and Family (MDSF), which has a detailed database.
3. For fund transfers: Website of the Ministry of Finance, which provides a database identifying the institutional origin and destination of fund transfers.
4. For personal expenses: The proposal is to compile a database through the Transparency Law. In this case, the information is not available on a centralized website.

Classification of primary and secondary costs (direct or indirect) comes from previous experiences. Initiatives that have an explicit climate change objective are fully accounted for (100%), while those whose ultimate target are not climate change, but whose execution contributes in terms of mitigation and/or adaptation, are accounted for with weighting. Thus, expenditure is classified based on weights proposed by the Climate Public Expenditure and Institutional Review (CPEIR) methodology and supported by expert opinion.

This methodology involves applying the Classification of the Functions of the Government (COFOG) extended to environmental and climate expenditure, adding expenditure on natural resources and natural disasters, to respond to the country's different accounting requirements in a context of a joint effort and with classification criteria that can be standardized.

The proposal calls for a search taxonomy to filter databases according to key texts that allow the selection of the initiatives to be accounted for in the climate finance MRV system.

This taxonomy should be validated by the ETICC and MMA stakeholders, and once applied it must undergo a validation process that has not been defined as yet. The MMA is currently finishing some methodological aspects to obtain measurement results in the coming months.

Challenges and recommendations

The Ministry of Finance plays a fundamental role in the methodological definition and systematization of the MMA's improved proposal to estimate climate expenditure, so its involvement is urgent. The institutional review reveals that there is an institutional apparatus for climate finance, with clear roles for the MH and the MMA, with a possible coordination platform through the ETICC and political deliberation through the CMS. However, there is a major challenge in terms of coordination and decision-making related to the MRV of climate finance between both institutions. The experiences reviewed and the interviews conducted allow us to identify an institutional gap in terms of governance and collaborative work specific to the financing MRV.

The methodological framework for estimating public expenditure considers the following challenges and recommendations:

- Moving forward with the weighting criteria of Climate Change expenditure in a secondary manner through the ETICC is recommended.
- It is critical to advance with systematizing the processing of information sources by implementing database filters and having centralized and decentralized validation spaces considering the implementation of the COFOG.cl classification.
- Taxonomy is key: progress must be made in validating filter keywords that must be complemented and validated with ETICC stakeholders.

With respect to the MRV of private financing, it should be noted that it is not on the current agenda of key actors. The suggestion is to take advantage of the opportunity offered by platforms such as PRTR, Huella Chile and SEA for bottom-up survey of climate finance information from the private sector.

In terms of international MRV there is little progress. Replicating local examples such as the resource monitoring by the Strategic Investment Fund (FIE) of the Ministry of Economy, through agile monitoring, is recommended.

Finally, it should be noted that major progress in measuring climate change public expenditure has been made, but without doubt there is room for improvement and great challenges in terms of coordination with the MH to develop an MRV system for public, private and internationally-supported climate finance. The strengths of such an MRV system are widely recognized in terms of facilitating the management and allocation of resources, allowing the establishment of controls and alerts, facilitating decision making, and defining workflows suited to the country's climate challenges. For this reason, it is urgent to continue progressing with this challenge at country level.

1 Introduction

The Technical Sub-group on Measurement, Report and Verification (SGT-MRV) of the Pacific Alliance (PA) seeks to enable a collaborative discussion on the effectiveness of MRV systems and their evolution in and between the countries that belong to the PA. One of the main issues in terms of coordination is Climate Finance MRV. In this regard, countries have defined as a priority objective the establishment of a common definition of climate finance and moving towards a protocol with common minimum criteria for recording, monitoring and reporting in each country. This includes private and public expenditures, as well as national and international sources of resources.

Within this framework, this report is aimed at surveying the state of development of these practices in Chile, identifying regulatory instruments, technological platforms, and initiatives already implemented (or under implementation) related to reporting, monitoring, and verification of climate finance information. To address this goal, bibliographic records were compiled and this, along with interviews of key stakeholders and the consultancy's expertise, allowed this report to be prepared.

The national climate finance policy allows us to understand that the governance of this MRV should be based on the roles of the Ministry of Finance and the Ministry of the Environment. However, there is no common agenda with clear roles and a collaborative roadmap between these institutions. This was one of the main challenges for preparing this report, since we only managed to interview stakeholders from the Ministry of Environment, as summarized below:

- José Venegas, a professional hired by the MMA, through the Capacity-building Initiative for Transparency (CBIT)¹¹, to develop an accounting methodology for public climate finance.
- Valeria Pizarro, a professional from the Office of Climate Change, hired through the World Bank for the area of Climate Finance.
- Rodrigo Céspedes, professional of the COP25 Climate Action Team, in the area of International Financing (among others).
- Rodrigo Bórquez, from the Department of Environmental Economics of the MMA.

¹¹ Capacity-Building Initiative for Transparency (CBIT) seeking to help developing countries meet the enhanced transparency framework defined in Article 13 of the Paris Agreement.

The report is separated into the following sections, starting with the political and institutional background in climate finance, moving on to learning from similar experiences and the state-of-the-art in the design and implementation of climate finance MRV in the country.

2 Policy and Institutional Structure Related to Climate Change

2.1. Institutional Structure for Climate Change in Chile

The national institutional structure for climate change is set out in the National Action Plan on Climate Change 2017-2022 (PANCC), which has an inter-sectoral and territorial focus and is led by the Council of Ministers for Sustainability (CMS)²; it defines an Inter-Ministerial Technical Team for Climate Change (ETICC, by the Spanish acronym)³, coordinated by the Ministry of the Environment (MMA) and the Regional Climate Change Committees (CORECC).

The CMS is the highest deliberative body for public policy and general regulation on environmental matters, where the country's policy on climate change is decided, among others. The technical operational and inter-ministerial coordination corresponds to the ETICC. These bodies are both chaired by the MMA and include the participation of members of ministries, constituting the main instances of inter-ministerial coordination and communication for purposes related to climate change. Specifically within the framework of climate finance, the institutional structure lies with the Ministry of Finance (MH) and the Ministry of the Environment (MMA), both of which belong to the CMS and the ETICC.

The National Determined Contribution (NDC) submitted on April 2020 states that the MH is responsible for updating the Financial Strategy on Climate Change every five years. The leadership of the MH in these matters makes sense and is consistent with its institutional role associated with the definition and scope of public policies and its budget. The MH, through its Budget Office (DIPRES, by the Spanish

²² The CMS is chaired by the MMA and is made up of the ministers of Agriculture, Finance, Health, Economy, Development and Reconstruction, Energy, Public Works, Housing and Urban Planning, Transport and Telecommunications, Mining and Social Development.

³ The ETICC is made up of the focal points responsible for Climate Change within the different ministries (Finance, Foreign Affairs, National Defense, Social Development, Agriculture, Education, Energy, Health, Housing and Urban Planning, Public Works, Transport and Telecommunications, Public Mining, the Undersecretariat of Fisheries and Aquaculture, the economic development agency CORFO of the Ministry of Economy, the Ministry of the Environment, among others) and the Agency for Sustainability and Climate Change.

acronym), has the mission of ensuring the efficient allocation and use of public resources within the framework of fiscal policy, by applying systems and instruments of financial management, programming and management control. In this context, it influences the coordination, design, implementation and evaluation of all public policies. Therefore, the involvement of this institution is strategic in the challenge posed by climate change for the country's development, and particularly for monitoring climate finance.

For its part, the MMA is responsible for proposing policies and formulating climate change programs and action plans, ensuring cross-cutting participation of the different public services, a role that it executes through the Office of Climate Change (OCC). Given the cross-sectoral nature of climate change, the OCC coordinates the public services through the ETICC, seeking institutional arrangements and agreements that allow the development of efficient climate policies. Funds available for the MMA's OCC and for ETICC's services to carry out the actions aimed at fighting climate change in conjunction with the different ministries and related public services mainly come from the allocation of the public budget, coordinated by the MH in accordance with the procedures established in the Budget Law. Another important source of financing is external funds based on bilateral or multilateral support, whose financial flows are aimed at contributing to actions and programs to address climate change.

In the context of international financing, it should be noted that the MH is the Designated National Authority of the Green Climate Fund⁴, being responsible for the proper implementation and evaluation of these international funds, supported by a Technical Secretariat constituted by the MH, the MMA and the Ministry of Foreign Affairs. It should also be noted that the MH co-chairs the Coalition of Finance Ministers for Climate Action; and that has led the management of sovereign green bonds with the technical support of the MMA, leading Chile to become the first country in the Americas to issue this type of bond. With this, in addition to the launch of the green and social bond market on the Santiago Stock Exchange and the issuance of the first corporate green bonds in the country, the MH hopes to promote

⁴ The Green Climate Fund (GCF) is an international fund of the United Nations Framework Convention on Climate Change (UNFCCC), created in 2010, whose objective is to promote a paradigm shift towards low-emission, climate change resilient development in developing countries. The Designated National Authority is the focal point for communications and coordination between the country and the GCF.

the development of local markets and help attract foreign investment to support the country's needs for sustainable infrastructure⁵.

This institutional review allows us to see that there is an institutional apparatus for climate finance in place, with roles assigned to the MMA and the MH, a possible platform for coordination through the ETICC, and political deliberation through the CMS. However, there is a major challenge in terms of coordination and decision-making related to climate finance MRV between both institutions. The experiences reviewed and the interviews allow us to identify an institutional gap in terms of governance and collaborative work specific to financing MRV. There is no common agenda with defined roles or a clear roadmap in these matters, which defines a primary and great challenge to advance with the MRV system.

2.2. Strategy and national policy on climate finance

Climate change is understood as a long-term, cross-cutting problem, involving complex interactions between climatic, social, economic, environmental and political processes. Consequently, identifying prioritized adaptation and mitigation needs in the country and defining a short-, medium- and long-term financing strategy that allows these needs to be addressed is required to move forward on a path of low-carbon development that is resilient to the impacts of climate change.

Chile faces major challenges to reduce and manage climate change risks. Changes are already evident in the annual averages of some climate variables, with increased mean temperatures, reduced rainfall in much of the national territory, and shrinking snow cover in the mountain range. Likewise, the country has been and will continue to be exposed to a greater frequency and magnitude of extreme weather events, such as a 15-year megadrought, an increase in heat waves and fires, frosts, storms and floods, landslides, among others, which lead to a greater frequency and magnitude of emergencies to which people and the different productive sectors of the country are exposed.

Given the country's high degree of vulnerability, great efforts will be required, imposing the need to redefine the style of development in a new framework of sustainable development, with increasing pressure on the climate finance strategy. This is how the inclusion of climate change in economic, fiscal and financing policy

⁵ Green Bond Framework, Ministry of Finance (MH), 2019.

becomes a necessity, and can be understood as an essential framework to implement climate objectives and ensure that resources are used more effectively to address climate policy in the country.

The Climate Change bill (2020) defines, in Art. 32, that the Ministry of Finance will be responsible for preparing the National Financial Strategy on Climate Change (EFCC), in coordination with the Ministry of the Environment, and the other experienced public services. Indicating its main guidelines and taking into account the objectives incorporated in the Long-Term Climate Strategy (ECLP) and in the National Determined Contribution (NDC), the specific circumstances of the relevant industrial and economic sectors, as well as the availability of economic and human resources from the public sector. Likewise, the Draft Law defines that the EFCC must incorporate an evaluation of the outcomes of the annual analysis of public and private climate expenditure, carried out by the Budget Office of the Ministry of Finance.

During the same year (2019), Chile presented its first EFCC prepared by the Ministry of Finance within the context of COP25. This strategy seeks to establish the guidelines and enabling conditions for moving onto a low-carbon, climate-resilient economy, and thus implement the climate and sustainable development objectives that allow neutral greenhouse gas (GHG) emissions to be achieved by 2050.

The first objective of the EFCC has to do with the MRV of climate finance. It focuses on generating information, data and analysis to mobilize capital flows under an institutional framework of policies and measures consistent with the country's climate objectives, growth priorities, fiscal responsibility and sustainable development with a long-term vision (EFCC, 2019). A specific measure in this area is aimed at "evaluating the feasibility of identifying public expenditure on climate action", through the definition of a methodology.

The second objective of the EFCC seeks to promote the design and issuance of financial and economic instruments and market development. The EFCC acknowledges that the national budget is one of the main instruments through which the State commits resources to implement public policies and carry out its growth agenda; however, it also reveals the need to continue generating enabling environments that allow the creation of new instruments and expansion of the scope of existing ones, including green taxes, green financial instruments of Banco del Estado de Chile and state development agency CORFO, risk reduction insurances, carbon markets, among others. At international level, the efforts are focused on

strengthening the capacity to raise financing from bilateral or multilateral sources, the issuance of new sovereign green bonds, among others.

Likewise, in the context of international commitments, Chile has committed to fight climate change and support the common objective of the countries that are part of the UNFCCC through various actions. In response to the Lima COP20 call to communicate national contributions ahead of the highly anticipated Paris Agreement at COP21, Chile submitted its National Determined Contribution in September 2015 (NDC 2015), which was ratified later in January 2017 after the Paris Agreement. Particularly in terms of climate finance, in the NDC 2015 the country undertakes to conduct a "recurrent analysis of public expenditure on climate change to be updated every year from 2020," under the responsibility of the Ministry of Finance.

In line with this commitment and with the EFCC, Chile has recently presented the update of its NDC (April 2020), emphasizing its commitment to the implementation of the Climate Finance Strategy as of 2020 and its update every five years. In particular, in Means of Implementation – Finance, the NDC defines establishing a work plan during 2020, which allows progress to be made on a fiscal framework for determining climate expenditure, both direct and indirect⁶, in line with efforts to improve the efficiency and quality of public expenditure. It also indicates that the implementation of this work plan will be subject to the availability of resources, in accordance with the approval of the corresponding Budget Law.

All efforts foreseen with the EFCC are also consistent with the 2030 Agenda of the United Nations that establishes the Sustainable Development Goals (SDGs). Mainly with Goal 13 that explicitly establishes the purpose of "taking urgent action to combat climate change and its impacts," which underscores the fact that societies must have a financing strategy in line with local needs to advance along the path of sustainable development and green growth, low in emissions and resilient to climate change.

As can be seen, the national policy on climate finance has been consistent over time in declaring the importance and need to manage the climate financing strategy, based on the monitoring and evaluation of the resources allocated, both public and private, and coming from abroad. Given the impact that Climate Change has on the economy, the Chilean state should have technical and evaluative information, both

⁶ The definition of direct and indirect climate expenditure has been adopted from the results and lessons learned in previous initiatives aimed at defining a suitable methodology to estimate Climate Expenditure. This definition is presented hereinafter.

on the effectiveness of such expenditure and on the challenges or future requirements, to have adequate adaptation and mitigation public policies, being a fundamental part for decision making.

In this sense, the interviewees for this report agree on the advantages of having an MRV system that would allow identification of the use of resources, assessing the efficiency of this use and managing their allocation, ensuring continuous and flexible financing targeted at the relevant challenges that climate change imposes for a sustainable, low-carbon and climate resilient development.

National experiences related to climate finance accounting and monitoring are reviewed hereinafter, together with the lessons learned for an MRV system, and then the current status of MRV of public, private and international financing is described.

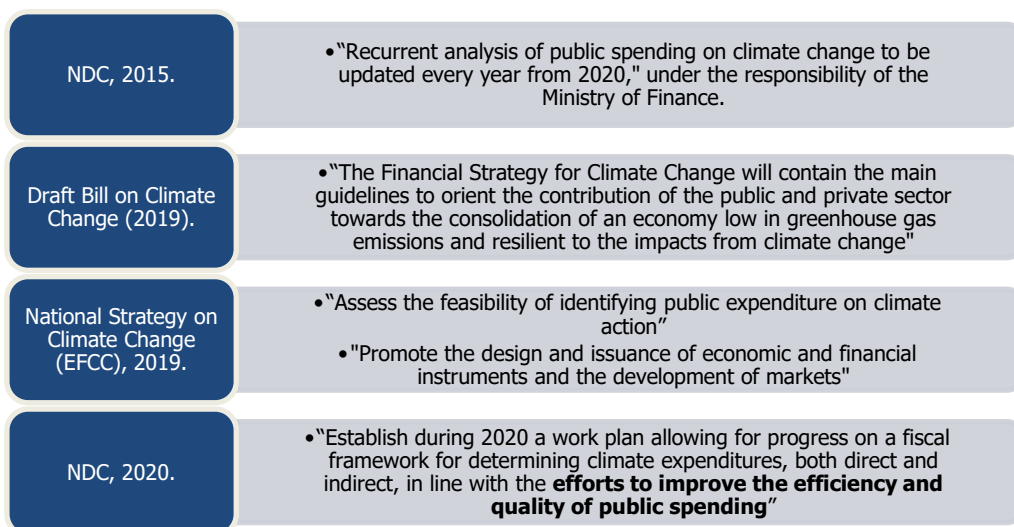


Figure 2. Summary of Policy Instruments for Climate Finance in Chile

3 MRV of Public Financing: Related Experiences

3.1. Experiences in Related Financial Accounting

From 2015 to date, Chile has been making efforts to measure and monitor environmental and climate finance through various initiatives. Among them, the work carried out from 2016 to 2018 in the preparation and application of the methodology proposed by the UNDP, Climate Public Expenditure and Institutional Review

(CPEIR), stands out. This is a diagnostic tool that assesses the opportunities and limitations to incorporate climate change problems in the process of allocation and execution of national and sub-national budget expenditure.

This pilot exercise brought about relevant learning, especially in terms of key definitions, methodologies and protocols, as well as the importance of actively engaging in the process of measuring the services that are responsible for the country's public finances.

Likewise, there are some similar accounting initiatives carried out by the country in areas complementary to climate change. Noteworthy are the estimation of Public Expenditure on Environmental Protection (GPPA, by the Spanish acronym) and the Biodiversity Finance Initiative (BIOFIN). A brief description of these initiatives and the synergies foreseen with the MRV of climate finance are presented below.

Public Expenditure on Environmental Protection (GPPA)⁷

The expenditure on environmental protection (GPPA) refers to "statistics on expenditure made as a response from the society to environmental problems" (ECLAC, 2015). Specifically, it can be defined as disbursements to finance activities whose fundamental purpose is to prevent, reduce and remove pollution and other forms of environmental degradation. Synergies with public expenditure on climate change are evident, given that expenditure on mitigation and adaptation actions can co-benefit some efforts aimed at preventing, reducing and removing factors that degrade the environment (or vice versa).

In 2010 the country committed to the OECD to report the expenditure made by Chilean society on environmental protection. In response to this, the Chilean Environment Ministry (MMA), in collaboration with the Economic Commission for Latin America and the Caribbean (ECLAC) estimated for the first time the public expenditure on environmental protection (GPPA) under international statistical standards. Key players such as the Budget Office of the Ministry of Finance (DIPRES), the Ministry of Agriculture and the Undersecretariat for Regional and Administrative Development (SUBDERE) were invited to participate in this initiative.

The methodology used was the Classification of Environmental Protection Activities (CEPA) and it follows the recommendations of the System of Environmental-

⁷ ECLAC, 2015.

Economic Accounting (SEEA, 2012), which considers as "environmental protection activity" those actions whose end objective (*causa finalis*) is the protection of the environment or the management of natural resources⁸. For this first official exercise, the calculation considered solely the central government –excluding regional and local governments– and of this, a group limited to 30 public services with environmental competence, which represent the majority of the GPPA, but not the whole. With these considerations, it was estimated that the GPPA associated exclusively to the central government reached \$145.042 billion pesos in 2012, accounting for 0.1% of GDP for that year.

Afterward, according to figures published by ECLAC, in 2016 the environmental protection expenditure of Chile's central government was only 0.09% of GDP. Finally, a recent study conducted during a parliamentary technical advisory⁹ stands out, which estimates the environmental protection expenditure between 2015 and 2019 based on the same ECLAC methodology (2015)¹⁰, the results of which are presented in Table 1 of Annex 1. In short, in 2016, the estimated expenditure on environmental protection in this study is 1.4% of GDP, higher than the ECLAC estimate and where the differences may be attributable to the discretion of the accounting criteria used by the author of the study and the public services included.

Finance for Biodiversity (BIOFIN)¹¹

The Finance Initiative for Biodiversity (BIOFIN, 2018) of the UNDP sought to help mobilize resources to finance the fulfillment of goals set under the Convention on Biological Diversity (CBD) agreed by the Conference of the Parties, which include safeguarding ecosystems and guaranteeing ecosystem services relevant to human well-being (BIOFIN, n. d.) It was launched in 2012 and in 2017 it reached 30 participating countries, including Chile. A relevant aspect of the initiative was its international nature and the encouraged exchange of experiences between countries. In Chile, although BIOFIN was part of the UNDP, work was done together

⁸ For this estimation, only environmental protection was taken into account.

⁹ https://www.bcn.cl/obtienearchivo?id=repositorio/10221/27434/1/BCN_Gasto_gubernamental_en_proteccion_medioambiental_edPM.pdf

¹⁰ The estimate considers the resources allocated via the Budget Law to chapters and programs assigned to the budget lines corresponding to the ministries of the Environment, Agriculture, Economy, Public Works, Mining and Energy.

¹¹ BIOFIN, n. d.; UNDP, 2018.

with strategic partners such as the Ministry of Finance, the Ministry of Economy, the Ministry of Environment and the private sector.

To help achieve the biodiversity goals, BIOFIN provides a methodology that allows countries to measure their current expenditures on biodiversity, assess their financial needs in the medium-term, and identify solutions to cover their financing deficits. This methodology has a series of steps, with standouts being a review of the existing policy and financing, an analysis of public and private expenditures and the implementation of financial solutions, among others. Synergies with Climate Public Expenditure (CPE) are similar to the previous case, as biodiversity actions can be considered as expenditure on adaptation to climate change; or the preservation of biodiversity can be considered as expenditure on carbon sequestration (mitigation). Methodologically, GPPA and CPE similarities include the three initiatives estimating the resources allocated through the Budget Law, identifying budget chapters and programs assigned to the items corresponding to the public services considered, with outcomes subject to the accounting criteria and the public services taken into consideration.

BIOFIN Chile focused mainly on public financing and it measured public expenditure on biodiversity in the ministries of Economy, Agriculture, Energy, Mining and Environment. Along these lines, BIOFIN (2017) estimated the public expenditure on biodiversity of Chile's central government, in the indicated items, showing that this item has a low incidence on fiscal budgets, averaging 0.12% for 2010-2014 and accounting for 0.036% of GDP in 2014 (see Figure 1 of Annex 1).

Climate expenditure: Pilot CPEIR in Chile and Single Form Proposal

The Climate Public Expenditure and Institutional Review (CPEIR) is a diagnostic tool that assesses the opportunities and limitations to incorporate climate change problems into the process of allocating and executing national and sub-national budget expenditure. The CPEIR analytical framework is based on three fundamental pillars: Policy Analysis, Institutional Analysis, and Climate Public Expenditure Analysis (UNDP, 2012). The analytical approach is based on the ability to link the allocation (and expenditure) of institutional resources with climate change public policies.

The 'policy analysis' pillar seeks to review the policy framework related to climate change and analyze how these policies translate into programs and instruments and monitoring mechanisms. In turn, the pillar of 'institutional analysis' is aimed at

studying the roles and responsibilities of institutions and their capacities in formulating, implementing and coordinating climate responses. Finally, the pillar of 'climate public expenditure analysis' reviews the budgeting and planning process, as well as its coordination with climate change financing policies and programs (adaptation, mitigation, climate risk management), involving public funds and cooperation partners.

The goal set when applying the methodology in Chile, between 2016 and 2017, was to contribute to the systematization of a process of reporting and analysis of public expenditure on climate change adaptation and mitigation under the CPEIR methodology to strengthen climate finance institutional and analytical capacity both within the Ministry of Environment and the Ministry of Finance.

Under a top-down approach, information was collected on the budgetary execution of each Ministry with the DIPRES. The first problem identified in this analysis is that pro-climate public policies are not related to specific budget programs, except in a few minor cases.

Therefore, it was necessary to contrast this data with information gathered in the ministries with a bottom-up approach, which links pro-climate policy and expenditure with more precision. Work was done directly with the professionals in charge of designing and implementing policies related to climate change and with those who work on budget preparation and execution. With them, projects related to climate change were identified and registered for the 2010-2015 period as the first exercise.

It is worth highlighting some of the technical barriers identified during the CPEIR pilot exercise:

- The eligibility criteria for accounting for policies aimed at mitigation actions, adaptation actions or a mix of both (mitigation-adaptation) could alter the estimated climate public expenditure considerably. The concept of mitigation is rather limited, since it relates to a specific objective, which is to reduce or remove GHG emissions. However, in adaptation there are many gray areas, where the policies' main objective can contribute to adapt to the effects of climate change.
- Indirect expenditures are partially accounted for, weighted according to a CPEIR relevance matrix, based on the level of the effect and the ability to monitor this expense. This weighting did not undergo a validation process during the pilot exercise, being necessary for future implementations.

- Public policies are not directly related to budget programs. A policy may be reflected in different programs or in a fraction of some of them. This requires a bottom-up approach to the different initiatives (policies, programs and projects), with a case-by-case analysis. Consequently, knowledge and experience are needed among the professionals involved in the design and implementation of policies, as well as among those who work in the budgets and disbursements of each of the public services considered. However, when scaling the implementation, the discussion of whether a case-by-case analysis will be feasible is still open, given the complexity of working individually on the different budget lines.

Based on the need to use a bottom-up approach to climate initiatives (policies, programs and projects), requiring a case-by-case analysis, coordinated work with the MMA's Environmental Accounts Unit and the BIOFIN Project (Finance for Biodiversity) was conducted to create a single form to register expenditures, including public expenditure on protection of the environment (GPPA), biodiversity and climate change, so that in future implementations it can respond to the requirement for continuous monitoring and reporting of such expenditures. The objective of the proposal was to have the form validated and standardized in an online single registration system, allowing the analysis to be scaled up to all public institutions, facilitating data collection and processing through suitable information modeling.

In a brief description, the form's structure includes three different sections (see Figure 3): identification of the expenditure's agent; classification and target of the expenditure on investment services and goods; and an administrative classification of the expenditure. The first section is aimed at individualizing the expenditure executor. The second section is aimed at identifying whether it is a climate public expenditure, an expenditure on environment protection, on natural resources and/or a mix. In the third and last section, related to the expenditure administrative classification, budget data on the production of services and the financing of investment goods related to climate change are collected. This form was proposed in 2018 and was not subsequently implemented, but it was revised in the current methodological proposal that is discussed below.

All the initiatives previously described are interrelated and there are even public activities that will have to be accounted for in more than one of these initiatives. However, joint work to integrate the requirements of public accounting and statistics

would allow for adequate recording and traceability in estimating the country's efforts. An important factor is also that an integrated exercise can significantly reduce the transaction costs for gathering the information.

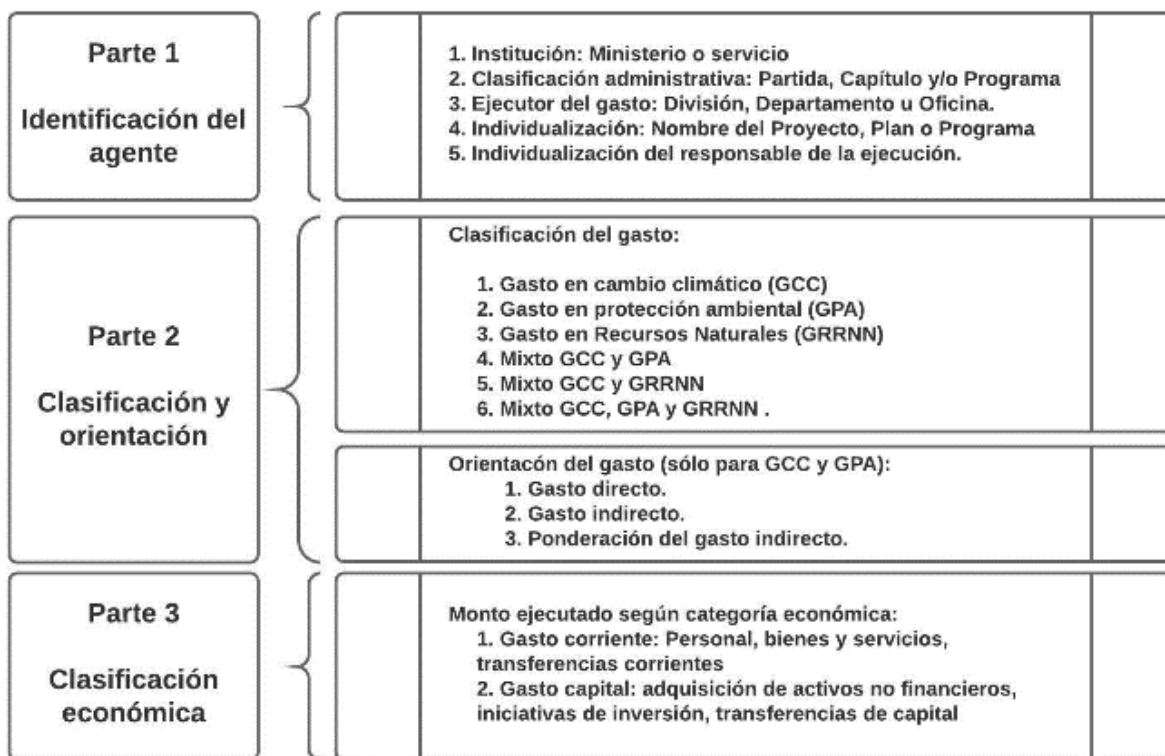


Figure 3. Structure of the form to collect data on climate expenditure

Climate Public Expenditure Accounting – CBIT Project in Chile

As part of Chile's efforts, between 2019 and 2020 the country started a project to define an improved methodology for estimating public climate expenditure. This effort has been funded by the Capacity-Building Initiative for Transparency (CBIT - Chile), which seeks to help developing countries comply in a timely manner with the enhanced transparency framework defined in Article 13 of the Paris Agreement.

CBIT Chile aims to strengthen the transparency framework of the Chilean NDC. Regarding climate expenditure, the following three products are being addressed:

- Methodological guides for climate expenditure accounting.
- Training and coordination between climate finance teams.
- Preparation of the single climate expenditure form and pilot implementation.

Work related to the design of an accounting methodology for public expenditure has a duration of one year as of August 2019 and is being carried out in the Finance Unit of the MMA's Climate Change Office, led by Alfonso Galarce and being implemented through a public expenditure measurement project carried out by the consultant Mr. José Venegas. The specific proposal that this group is working on is described in Chapter 4, but before addressing it, the conceptual framework and key definitions that are part of the learning of all the initiatives prior to CBIT are reviewed.

3.2. Lessons learned and key definitions

Based on the aforementioned experiences in financial accounting in related matters, key learning and definitions that have been considered in the methodological discussion currently addressed by the MMA for measuring public climate finance are highlighted below.

3.2.1. Definition of climate expenditure

As there is no agreed definition of climate expenditure, the CPEIR pilot implementation in Chile proposes to follow the "Rio Markers" (OECD, 2013) definitions, where: (i) Expenditure on mitigation is understood as expenditure on activities that contribute to stabilizing the concentration of GHG in the atmosphere at levels that prevent a dangerous anthropogenic disturbance of the climate system, by promoting efforts to reduce, limit or remove GHG emissions; (ii) Expenditure on adaptation refers to expenditure on activities aimed at reducing vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing resilience and the ability to adapt and/or by helping reduce exposure to them; and (iii) Mixed, such as expenditure on activity that contributes to both mitigation and adaptation.

Understanding that the previous classification is not sufficient, in the CPEIR pilot implementation in Chile, principles were validated to distinguish the initiatives targeted at climate change directly (principal objective) and indirectly (significant objective), following the same Rio Markers, in an adaptation of the *causa finalis* approach. Specific principles were agreed to identify the expenditure target (see

Figure 4). Indirect expenses are not fully accounted but are weighted according to a relevance matrix¹².

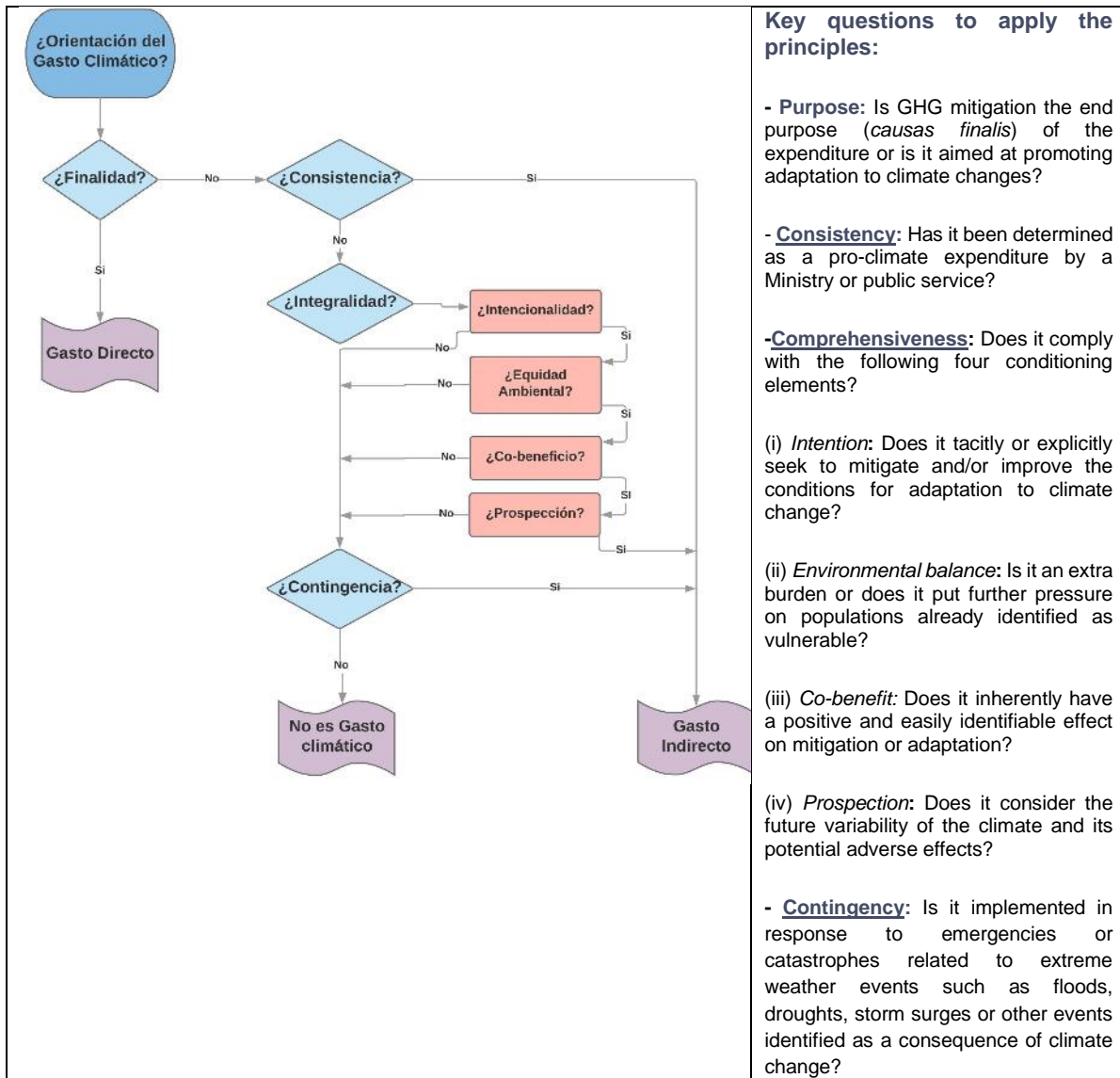


Figure 4. Process to determine the "orientation" of climate expenditure. Source: Prepared by the author

¹² The relevance matrix proposed by the CPEIR is based on two general criteria: (i) the level of the effect or positive externality in climate change (high, medium, low or marginal); and (ii) feasibility to identify and monitor it in the future.

National authorities have not made an official decision regarding the definition of climate expenditure, but they recognize the direct and indirect target criteria in the publication of their NDC, where, as part of Chile's contributions, they commit to prepare a work plan during 2020 that would allow progress on a fiscal framework for determining climate expenditure, both direct and indirect.

The NDC submitted in March 2020 partially adopted these terms in the section "Contribution in Climate Finance", defining as a contribution to continue working in the determination of direct and indirect climate expenditure.

3.2.2. Economic items to account

From the perspective of society, resources aimed at addressing climate change represent an investment in common goods and future public goods UNDP (2018). However, this definition may be different between public and private accounting. Thus, a fundamental question arises: What kind of disbursements will be measured? In Chile, this question was addressed in studies on private expenditure funded by UNDP, as well as in the pilot implementation of the CPEIR methodology to estimate Public Climate Expenditure. The key definitions of both lessons are summarized below.

Private expenditure or investment

The experience of UNDP (2018) reviews the categories of costs used from the private funding standpoint, among which the following types of costs are identified:

- **Capital expenditure:** Costs incurred for implementing a project, such as pre-investment studies and engineering design, land, site installation, civil works, machinery and equipment, permits, patents, taxes, monitoring and advice, among others.
- **Operational expenditure:** Costs to ensure the normal operation of a project, such as: wages, basic services (electric power, water, telephone, etc.), leases, materials and supplies, fuels, permits, patents, advertising, financial costs, insurance, taxes, among others.
- **Maintenance expenditure:** Costs that allow facilities to continue operating, such as: maintenance of equipment, machinery and buildings, spare parts, replacement of minor equipment, periodic repairs (painting, patching, resealing).

Using these items is of interest for the measurement of private climate finance, since private companies normally classify their transactions and accounting under these concepts, which facilitates applicability¹³.

In Chile, the main mechanism to collect private information on compliance with environmental regulations is part of the platform of the Pollutants Release and Transfer Registry (RETC, by the Spanish acronym) of the Environment Ministry (MMA). Through this platform, different tracking instruments have been progressively incorporated, where the private actor is responsible for submitting the information that subsequently goes through different verification mechanisms, but not validation. As an example, the green tax defines annually the agents of society that must pay taxes according to the level of activity declared by private actors themselves through this platform; on the other hand, actors that want to estimate their carbon footprint based on the Chile Footprint Program must also enter their background information and its follow-up over time on the RETC platform. As such, RETC has become a one-stop platform with a high value of cooperation to systematize private information, which can eventually be used to collect data on private climate finance.

Another platform that collects private information, Capex or investment data in particular, is the Environmental Assessment Service (SEA, by the Spanish acronym). Using this platform is mandatory for all private investments that intervene in the territory and that can generate an environmental impact; in this system, environmental impact studies and statements must be entered by project, going through an evaluation process to obtain the environmental permits for their execution. This platform takes into account the declared Capex and the investment planning.

Fiscal Policy and Public Expenditure

In the pilot experience of implementing the CPEIR in Chile, it is highlighted that the Chilean fiscal policy has a Structural Balance rule, aimed at reducing the cyclical effects on fiscal revenues, creating the conditions for permanent expenditure to evolve according to the long-term, structural income. Conceptually, this means that tax revenue is estimated based on a growth path and, based on this trend, fiscal

¹³ These items can also be identified as CAPEX (Capital expenditure) and OPEX (Operational expenditure).

expenditure is made available. This element is emphasized, as it implies a great challenge in understanding how climate change would put pressure on fiscal expenditure in the medium and long term. Indeed, the current and projected impact of climate change entail a change in the variables determining economic growth, social conditions and ecosystems (ECLAC, 2015), imposing new challenges to the country given the high cost of sustainable and climate resilient development.

Efforts to achieve sustainable development, extreme events and adaptation requirements will affect the country's economic growth and/or call for increased public expenditure. In this scenario, it is a priority to incorporate these new trends into the fiscal planning, forcing us to rethink public expenditure estimation.

A second key element is to focus efforts so that the state and its institutions get the best possible outcome based on the goods and resources available. This poses the major challenge of moving towards the definition of a result-based budget, through efficient public policies, with a measurement system that allows tracking and assessing expenditure efficiency.

The implementation of mitigation and adaptation processes through efficient public policies must be defined within a framework of sustainable and resilient development, under the new conditions imposed by climate change. Along these lines, assessment and tracking of these policies are a necessary management tool to guide the decision-making process and support the redefinition and planning of efficient policies; with an institutional framework and budgets that allow execution of these policies, ensuring the achievement of their objectives.

In this context, the emphasis is on the need to account for climate public expenditure and to move towards a Results Based Budgeting. Regarding the structure of public finances, the Chilean state is part of the Public Budget International Association, so its organization and methodology are homogeneous with the public budgets of the region. The Chilean public budget is established annually and identifies expenditures according to an institutional classification consisting of current expenditure¹⁴, capital

¹⁴ Expenditure whose purpose is the provision of goods and services by the government. It includes wages and salaries, the use of goods and services and the consumption of fixed capital, derived from the addition of expenditure in remunerations, goods and services and current transfers (ECLAC-INEGI, 2015).

expenditure¹⁵, transfers¹⁶, and subsidies¹⁷. The concept of “expenditure” is widely used in public finances, where public expenditure corresponds to resources mobilized and the transfers made by the state to satisfy citizens’ needs (see Figure 5).

The following classification is to be used by every institution when presenting its budget:

- **Budget Line:** Higher level of the classification assigned to the Presidency of the Republic, the National Congress, the Judiciary, the Office of the Comptroller General of the Republic, the Public Ministry, each of the various Ministries, and the "Public Treasury," the latter containing the fiscal income estimate and the fiscal expenditure and contributions.
- **Budget Chapter:** Subdivision of the Budget Line, which corresponds to each of the organizations that identify themselves with budgets approved directly by the Budget Law.
- **Budget Program:** Subdivisions of Chapters, according to specific functions or objectives identified within the budgets of public bodies¹⁸.

This means that our budget system, and the information instruments that feed it, are organized in terms of the objective to which they respond. This, down to the most disaggregated level of the Budget Program, which corresponds to a definition of accounting management that allows the independent identification of each of the budget items according to their nature and associated with any of the institutional objectives defined in the strategic planning of the institution.

¹⁵ Outward payments for purchasing assets that will be used during different accounting periods. This expenditure is mainly associated with capital goods (machinery and equipment) and the execution of works (ECLAC-INEGI, 2015).

¹⁶ Transaction in which one institutional unit supplies another with a good, service or asset without receiving any good, service or asset in return (INEGI, 2013).

¹⁷ Current unrequited payments made by the government to other economic units. According to INEGI (2013), subsidies or grants are intended to "influence their levels of production, the sale price of their products or salaries in the units that intervene in the production."

¹⁸ Official Decree No. 854 of the Ministry of Finance dated September 29, 2004. Disseminated through the document INSTRUCTIONS FOR THE IMPLEMENTATION OF THE PUBLIC SECTOR BUDGET LAW, published each year together with the Budget Law, available at http://www.dipres.gob.cl/594/articles-116653_doc_pdf.pdf

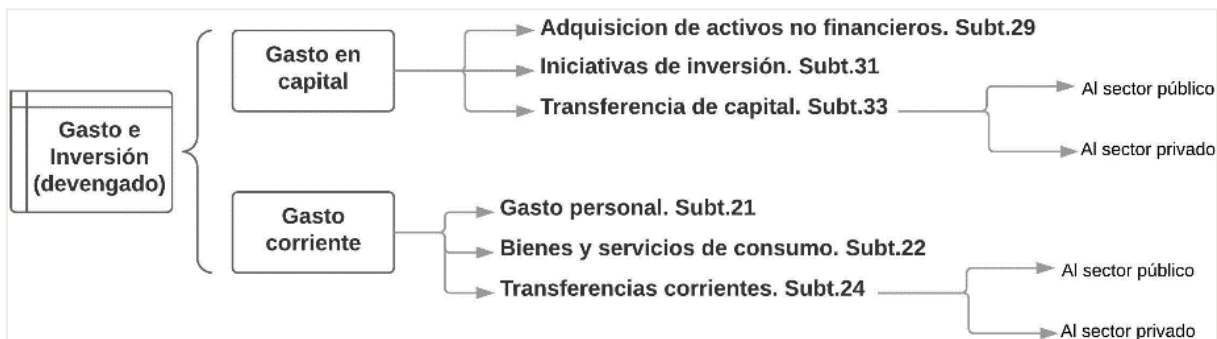


Figure 5. Categories of public expenditure and investment in Chile

In this context, each Budget Program is classified according to the object or nature of the expenditure, which corresponds to the classification of budget transactions according to their origin in relation to income, and the reasons or purposes for which they are disbursed. This classification has the following levels:

Subheading: Group of budgetary operations of similar characteristics or nature that comprise a set of items.

- Item: Represents a 'significant reason' for income or expenditure¹⁹.
- Allocation: Corresponds to a 'specific reason' for income or expenditure.
- Sub-allocation: Subdivision of the allocation in 'more specific' concepts.

A gap has been identified in the pilot implementation of the CPEIR methodology in Chile. Although the budget information is classified by object, any of the levels allow the identification of climate expenditure directly; it depends on what is understood by climate expenditure, who is carrying out the classification and the level of detail included in the expenditure description.

In turn, when the national budget is analyzed using the Results-Based Budget²⁰ concept, Public Programs are considered, which correspond to government actions

¹⁹ Definitions available in the document "Instructions for the Implementation of the Public Sector Budget Law Year 2014." Budget office DIPRES, Ministry of Finance.

²⁰ The Results-Based Budgeting is a management-level decision-making model used by OECD countries, which seeks to integrate performance information into the budget process, linking the

conducted to satisfy a specific need of the country. This definition of Public Programs is not necessarily equivalent to the concept of Budgetary Programs, which is an institutional classification rather than a sorting of specific actions to respond to a common objective, this being a concept included in the national budget within the items of budget allocation and sub-allocation within each budget program. The difference in the definitions of Budgetary Programs and Public Programs is included in the budget system through the annual definition of the Evaluation of Public Programs, where there is an implicit discrepancy with the definition of Budgetary Program when defining the Public Programs that are the subject of each evaluation.

3.2.3. Sources of information for measuring public expenditure

Budget and Budgetary Execution

Each year the Republic's Budget is approved by the National Congress through the Budget Law, which includes all these institutional classifications according to the nature of revenues and expenditure. After the budget is approved, and once the budget year has started, each institution reports on the budget changes that will be made within the fiscal year. This is communicated through the Updated Budget, from which monthly and quarterly reports on budget execution are delivered, thus accounting for actual expenditure. The information used to account for budget execution is that stored in the State Financial Management Information System (SIGFE, by the Spanish acronym), which is organized according to the classifications and items considered within the Budget Law. That is, a classification according to the nature of the expenditure, but which reaches the maximum level of disaggregation up to the Budget Program level, with Public Programs being subsumed within each of the expenditure items.

Thus, there is public information available on: The Budget Law; the amendments made to the Budget Law; and the Reports on the Execution of the Budget Law.

allocation of resources to measurable results of the products they finance, instead of considering the allocation of resources based only on the inputs purchased, and which is reflected by the classification of the budget law.

Budget analysis based on results

The Budget Directorate (DIPRES), the institution in charge of the formulation, analysis, follow-up and monitoring of the country's budget, has a Management Control System that generates systematic information on the results of the different initiatives funded with the public budget. This system has performance results established at the level of each of the Budgetary Programs included within the annual budget year, and of a group of ex ante and ex post evaluation instruments applied to a subset of Public Programs in force in each budget year.

The instruments that provide information on Public Programs at ex ante level are:

- Form E: Instrument required since the end of the last decade for each of the public programs representing a 'new action' (New Programs), and those requesting a budget amendment from one year to the next. This form sets out, generally, the objectives of each public program submitted for ex ante evaluation at goal and purpose level, incorporating the components of each objective and the main activities within them.
- New Program Sheets: Diagnostic presentation that is assessed at the time of requesting the budget, being a supplementary instrument to the budget application. Public programs of non-social nature are assessed by the DIPRES, while social programs are evaluated by the Ministry of Social Development (MDS).

This 'ex ante' evaluation system is fairly new, undergoing start-up stages within the period considered in this project, so the information contained in the aforementioned instruments should only be used as preliminary guidance for identifying adaptation and mitigation actions. Later, at a data validation stage, institutions could present an updated and improved definition of objectives for both instruments. For this exercise, we had access to a list of general objectives prepared by the DIPRES for each public program using one of these two instruments.

On the other hand, the instruments that provide information on Public Programs at ex post level are:

- Public Program Assessment Reports: There are three lines of these reports: Public Program Assessments (EPG, by the Spanish acronym); Institutional

- Expenditure Assessments (EGI) and Impact Assessments (EI). EPG and EI reports have a definition of objectives for each public program assessed, which has been validated by the institutions subject to assessment. It should be noted that each year a subset of public programs is evaluated, which are equivalent to 30 or 40 programs on average.
- **Institutional Response:** Institutional feedback submitted by each of the institutions assessed regarding the results of the assessment report. Since these evaluation reports are sent to Congress, the institutional response is the stage of validation of the assessment by the DIPRES, so any possible disagreement between the objectives analyzed within the evaluation and the institution view will be included in the official letter that accounts for this institutional response.
 - **Commitment Follow-up Reports:** A series of commitments are established with each of the institutions assessed, and their compliance is reported to the DIPRES in accordance with a previously established schedule. If a commitment to modify the objectives of public programs has been established, the development and implementation of these changes are reported in these follow-up reports.

It should be noted that the information included in these instruments is available on the DIPRES website. Ex-post evaluation instruments are a source of validated information on the objectives of each program, so they can be used as a source to analyze whether they correspond to adaptation and/or mitigation actions for climate expenditure purposes. At the same time, at least the reports of the EPG line have detailed budgetary information, especially estimated to develop economic performance indicators at the Public Program level.

Difficulties in using the instruments of the ex post evaluation system are related to the number of programs that have such evaluations. This may imply that only a few mitigation and adaptation initiatives incorporated into the coverage of this project have such assessments. The second difficulty is the subsequent classification of objectives according to the definitions of adaptation and mitigation used for implementing the CPEIR methodology in Chile, therefore, when there are doubts regarding the objectives of the programs to be considered, it is recommended that each financial unit be consulted in a decentralized manner.

4 MRV of Public Climate Finance Measurement Proposal

The system of measurement, reporting and verification of public financing in Chile has made some progress mainly in defining a methodology for measuring climate finance. Building on the experience of Chile's CPEIR project (MMA, 2016b), the aforementioned lessons learned and the single expenditure form proposed within the project developed by the Department of Environmental Information (MMA, 2018), the MMA is currently developing an improved methodology. This involves compiling climate data from non-accounting-budgetary sources. The preliminary implementation of this methodology has been manual and has allowed for processing data and obtaining partial and initial results on climate investments and transfers.

The implementation of a methodology for identifying climate expenditure from the accounting cycle of budget formulation and execution implies a major provision of professional hours by accounting departments and climate-related project developers for the identification and classification of the expenditure. Indeed, in the experiences of implementing the CPEIR methodology (as well as in the GPPA and BIOFIN experiences), the data on climate expenditure is mainly extracted from the accounting records of the government budget execution, which include three levels of detail: Budget Line, Budget Chapter and Budget Program. From these, the current expenditure on goods and services (subheading 22), the public investment (subheading 25), capital expenditure (personal expenditure, subheading 21), and transfers (subheading 29) are of particular interest.

In practice, some of that work is done in a centralized manner (centralized budget information, PC) by stakeholders of the MMA; and, on the other hand, work is done within the public services that contribute professional resources for these projects (decentralized budget information, PD). As discussed in previous sections, at none of these levels can climate expenditure be identified. In accordance with the CPEIR experience, more detailed background information in the registry must be analyzed, probably up to Levels 5 or 6, where the classification may include projects, works or activities allowing identification of climate expenditure. To carry out this work, the level of detail in the information is critical.

As a result, from the experiences based on the CPEIR methodology, the main problem is related to the participation of many actors and the lag between the time

of expenditure and the identification and recording of the climate expenditure (more than a year).

The methodology improved by the MMA, currently proposed under the CBIT Chile project considers these gaps and proposes a methodological innovation based on a decentralized data collection approach, focusing on the following key elements:

- 1) Data gathering from non-financial sources (administrative rather than budgetary records). Use of administrative records of transactions on current goods and services, investments, cash transfers and personnel expenses (non-traditional sources).
- 2) Use of a classification of government expenditure by function (COFOG), extended to environmental and climate expenditure.
- 3) Use of a primary and secondary approach for climate expenditure.
- 4) Identification of the climate component by searching for words in the texts describing the expenditure.

The main details of the methodology are described below, followed by some preliminary results.

4.1. Data gathering from administrative records

The improved MMA methodology considers replacing traditional sources of accounting records with modern centralized administrative sources of detailed public expenditure management (micro data). Namely, these are:

- 1) Current expenditure: ChileCompra²¹ allows the identification of climate expenditure on goods and services to be addressed. This source sorts data by transaction instead of by account. It is a decentralized public service, with centralized management of the purchases of goods and services. ChileCompra is dependent on the Ministry of Finance and was created by Public Procurement Law No. 19,886, which went into force on August 29, 2003. ChileCompra performs the centralized management of purchases of goods and services through the Public Market technology platform

²¹ ChileCompra is a state platform to buy and contract the requirements of more than 800 public organizations. It brings together the demand of public buyers and the supply of thousands of private providers in one place. It is a decentralized public service, dependent on the Ministry of Finance, and subject to the supervision of the President of the Republic. <https://www.chilecompra.cl/que-es-chilecompra/>

(www.mercadopublico.cl). This market manages the demand and supply of more than 850 public organizations and thousands of private providers. Over two million procurement operations are conducted every year. In accordance with the State Transparency Law, the records of purchases are found in a publicly accessible database, and in greater detail in the description of the expenditure objective.

- 2) Climate investment: A similar scheme of datasheets and databases is available at the Integrated Bank of Projects (BIP) of the National Investment System (SNI), under the Ministry of Social Development and Family (MDSF). There are also descriptors for each investment project and a publicly accessible database.
- 3) Transfers: The Ministry of Finance website makes available a public database allowing identification of the origin and institutional destination of each money transfer, with a description that may be insufficient in some cases.
- 4) Personnel expenditure: Gathering this data is proposed based on the Transparency Law. In this case, the information is not available on a centralized website. It is necessary to look in each ministry for the details of personnel expenses. First, organization charts of the ministries must be analyzed and processed to identify those units that allocate resources to climate expenditure. For example, units in the ministries of Energy, Public Works, Agriculture, among others.

It should be noted that the data taken from these sources is not exclusive. For instance, investments resulting in purchases can be part of the ChileCompra database. In principle, ChileCompra should contain data on investments, even though the best way to identify this information would be through the SNI. Thus, the accounting footprint that goes from the SNI to ChileCompra must be taken into account analyzing consistency, completeness and gaps that may exist in the data on climate expenditure.

There is a similar situation in the transfers-investment footprint and therefore in the data cross-reference between transfers and ChileCompra. Before an investment or purchase of goods and services is approved, its financing may come from a transfer. So, to carry out the analysis indicated in the previous paragraph, cross checking between the three sources must be conducted.

Apart from these analyses, the main objective is to avoid any double accounting or duplication of climate expenditure.

4.2. Using a classification based on functions (COFOG)

The Classification of the Functions of Government (COFOG) was established in 1980 by the United Nations Statistical Division (UNSD) and the OECD, and it has not undergone substantive reviews despite the economic dynamics of the last 20 years and challenges of sustainable economy in particular.

COFOG is currently used in most countries that adhere to the IMF's public finance rules. However, its implementation poses some problems for the purposes of identifying environmental and climate expenditure. First, it classifies expenditure on a single function according to the main purpose (*causa finalis*). However, an expense can satisfy more than one function at the same time. In this case, it is necessary to discriminate by primary and secondary purpose or objective.

A second problem lies in the detail of the budget registry. In Chile the COFOG is applied, insufficiently, at Program level at most, leaving out levels with greater detail that would allow discrimination between the main or secondary objective in climate change, environmental protection or other. Thus, for rigorous implementation, the COFOG should be applied up to the fifth or sixth level of expenditure disaggregation. For example, in some countries the level of project, work or activity is reached. In this way, it is possible to observe the detail of environmental and climate expenditure with greater precision.

To overcome these gaps, the current methodological proposal (under the CBIT Chile project) suggests progressing to an extended COFOG that has been provisionally called COFOG.cl. This COFOG maintains the classification of Public Expenditure on Environmental Protection (GPPA) as subclass 05.1, but incorporates 05.2 Natural Resources Management, 05.3 Climate Expenditure and 05.4 Natural Disasters. Climate and disaster expenditure are a second level classification since these are transversal with COFOG's first level. But there is no other efficient way to introduce it in the current COFOG as an opening of the existing classes. The following table shows the provisional detail of class 5 with the new subclasses 5.2, 5.3 and 5.4.

Table 1. Extended COFOG proposal (COFOG.cl). Source:MMA, 2020

Cod	Finalidad del gasto	Cod	Finalidad del gasto
01	Servicios públicos generales	05.3	Cambio Climático
02	Defensa	05.3.1	Información y conocimiento
03	Orden público y seguridad	05.3.1.1	Medidas de Mitigación
04	Asuntos económicos	05.3.1.2	Medidas de Adaptación
05	Gasto ambiental y climático	05.3.1.3	Medidas mixtas
05.1	Protección del medio ambiente	05.3.2	Institucionalidad
05.1.1	Protección del aire y del clima	05.3.2.1	Medidas de Mitigación
05.1.2	Gestión de aguas residuales	05.3.2.1	Medidas de Adaptación
05.1.3	Gestión de residuos	05.3.2.2	Medidas mixtas
05.1.4	Protección y recuperación de tierra, aguas subterráneas y aguas superficiales	05.3.3	Gestión de riesgos
05.1.5	Reducción de ruidos y vibraciones	05.3.4	Suministros básicos y resiliencia urbana
05.1.6	Protección de la biodiversidad y de los paisajes	05.3.5	Protección Social
05.1.7	Protección contra las radiaciones	05.3.6	Inversión en activos fijos y biológicos
05.1.8	Investigación y desarrollo para la protección del ambiente	05.3.6.1	Medidas de Mitigación
05.1.9	Otras actividades de protección ambiental	05.3.6.2	Medidas de Adaptación
05.2	Gestión de recursos	05.3.6.3	Medidas mixtas
05.2.1	Gestión de recursos minerales y energéticos	05.4	Desastres naturales
05.2.2	Gestión de recursos madereros	05.4.1	Por procesos internos de la tierra
05.2.3	Gestión de recursos acuáticos	05.4.2	Por procesos en la superficie de la tierra
05.2.4	Gestión de otros recursos biológicos	05.4.3	Por fenómenos meteorológicos e hidrológicos
05.2.5	Gestión de recursos hídricos	05.4.4	Origen biológico
05.2.6	Actividades de I&D para la gestión de recursos	06	Vivienda y servicios comunitarios
05.2.7	Otras actividades de gestión de recursos	07	Salud
		08	Actividades recreativas, cultura y religión
		09	Educación
		10	Protección social

4.3. Use of primary and secondary focus

The improved methodology considers the lessons learned from the CPEIR experience regarding the expenditure approach. It distinguishes between main and secondary expenditure and includes a tentative weighting of both that can be used in standard projects. Secondary expenditure is not fully accounted for (100%), but is weighted according to a climate relevance matrix proposed by the CPEIR, based on two general criteria: (i) the level of the effect or positive externality in climate change (high, medium, low or marginal); and (ii) feasibility to identify and monitor it in the future.

The weightings have a degree of subjectivity, marked by those who make them, being relative estimates subject to technical discussion. In any case, this is not possible in a methodology based on centralized registers. To improve this aspect, it is proposed that several professionals participate in establishing these weightings. While it is true that these weightings can be taken by default from the CPEIR or other references, the analysis must be done based on the descriptors for each project with its own characteristics and products.

4.4. Identifying the climate component using text search

Section 5.1.1 describes the proposal for gathering data from non-administrative records and identifies the sources of information available for each required subheading. However, to estimate the expenditure, databases need to be processed, selecting those expenses that can be classified according to the extended COFOG to account for expenditure on Climate Change, Environment Protection (GPPA), Natural Resources Management and Natural Disasters.

Identification actions must be developed according to the characteristics of the data and their classifications. Each database (investment, current expenditure) is likely to require different procedures. It is proposed that using a text filter should be considered in the expenditure description to conduct the search. Thus, climate expenditure is identified by processing the texts that describe the different projects or other expenses in the databases or in the purchase or acquisition data sheets.

Identification can be done by searching for key words such as adaptation or mitigation. So far the following keywords have been used²².

Table 2. Keywords to filter the climate component. Source: MMA, 2020

Adaptation	Climatic	Water resources
Wastewater	Natural disasters	Energy resources
Biodiversity	Ecology	Water resources
Biosphere	Ecological	Wood resources
Biosphere	Electro mobility	Mineral resources
Climate change	Extreme events	Biosphere reserve
Catastrophes	Climate expenditure	Waste
Climatic catastrophes	Mitigation	Sustainable
Climate	Environmental Protection	Sustaining

However, text search in descriptors is not the only way to identify allocations attributable to climate change. There are some other elements that contribute to

²² It should be noted that certain precautions must be taken due to the lack of standardization in expenditure descriptors. For example, depending on the search engine, when appropriate try using words with and without accents or when it comes to compound terms, also try with the keyword of the term only. For example: water resource, try with water.

identification, such as the ministry or service that submits the project. Public services that are most susceptible to climate expenditure can be identified. And from this ranking, greater dedication and care can be used in the project-by-project analysis. For example, ministries such as Defense and Justice have a low probability of engaging in this kind of expenditure. A search for key texts will thus be enough. On the other hand, other ministries such as Energy or Public Works should be subject to careful scrutiny to filter projects with a component of climate expenditure. Moreover, it should be considered that there are some companies, such as Metro, whose projects can undoubtedly be classified under climate change almost without exception.

The alphabetical orders of the descriptors are another search filter. These allow projects to be ruled out in masse without the possibility of involving climate expenditure. Then, a more refined search of terms/words can be conducted with the projects that have not been ruled out to continue narrowing the search.

Identifying the climate component is a process that involves learning. The set of keywords should be built up as new terms come up, which may not have previously been considered as likely to be climate related.

The methodology will be consolidated when validations are carried out with the professionals who technically mediate in the ministries responsible for the projects or acquisitions. This situation does not prevent preliminary results from being obtained in a centralized way, based on the filters and text search already mentioned.

4.5. General model for data gathering

Figure 6 shows the general model for data collection under the approach set out in centralized records. The model follows the guidelines established in the Chilean National Plan of Environmental Accounts (MMA, 2016).

The definitions of frameworks, data, sources, standards, and classifications define the content and methodology of data processing. It should be noted that the different stages do not constitute a mechanical sequence of steps. In practice, the different stages can overlap, and the processes can mean going back, redefining or progressing to apply part of the definitions or phases addressed.

The first part of the data flow has been reviewed throughout the document. Regarding data processing stages in this methodology, the following stand out (MMA, 2020).

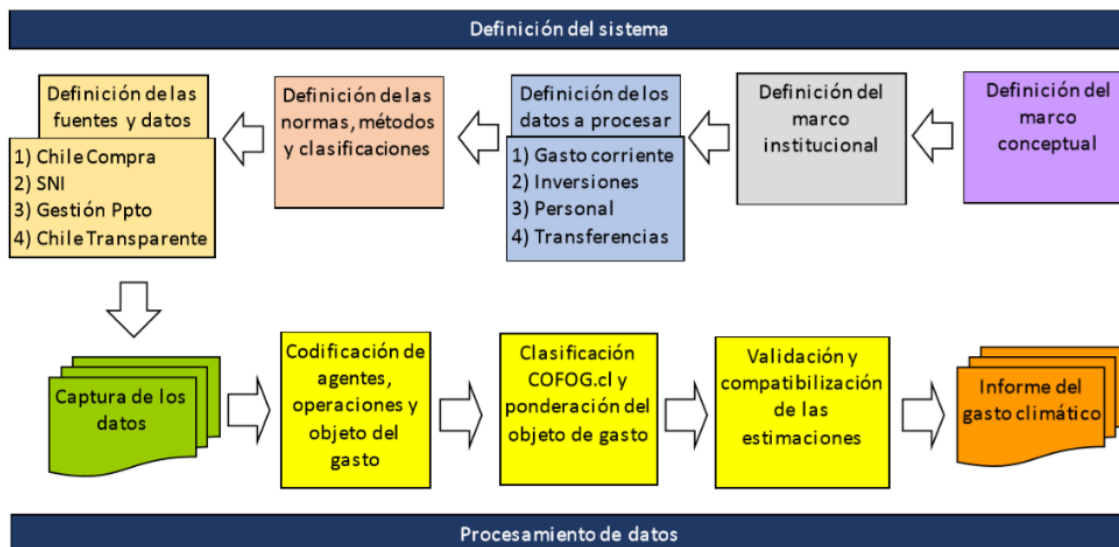


Figure 6. Process model for collecting data on climate expenditure. Source:MMA, 2020

- Data capture. The data is taken from the original sources and transferred to one or more Access databases, depending on the volume. For any source, the data model that will standardize all the databases involved will be used.
- Coding. The extracted data must be encoded for efficient storage, validation, compatibility and consultation of the data. If the data is provided according to the data model of this methodology by the source institutions, it will save many professional hours of data processing. Otherwise, public access data does not include classification codes, so these will have to be designed and implemented. This is the case of the SNI database that constitutes the first work in progress. The request for coded information in accordance with the purposes of this methodology would have prevented a timely and expeditious start of the compilation process. This is why public data was used.
- COFOG.cl classification and weighting. In accordance with the above, a double COFOG.cl classification of the expenditure is made at this stage: one referring to the main expenditure and another to the secondary expenditure. In this way the purpose of climate expenditure is identified as primary or secondary. Once the expenditure has been identified, the percentage of the total that will be

associated with climate expenditure has to be weighted, whether it is primary or secondary. A percentage is defined as default in each of the COFOG.ci classes. However, in each case this weighting is only referential and can be modified according to the experts' analysis.

- Validation and compatibility of estimates. In short, the climate expenditure defined case by case in the previous stage results in an estimate. And this estimate must be compared with other data sources. A typical case is to consider expenditures made by a ministry defined from its own records of expenditures on climate projects. Those records –or the addition of the reported amounts– must be checked to be compatible with those obtained by this methodology.
- Results presentation. The identified, weighted and validated climate expenditure data is included or added in various queries to the database. With the resulting tables, graphs, infographics and other data displays, a report can be prepared on climate expenditure corresponding to each component (current expenditure, investment, personnel expenditure and transfers) and the global report that considers the total expenditure.

Preliminary results of this initiative are presented in Annex 2. As can be seen, the efforts described for the MRV of public climate finance have made some progress, mainly in the definition of the measurement methodology, with some gaps in terms of taxonomy, inter-institutional coordination and methodological systematization, among others. There remains the challenge of addressing the reporting and verification of the MRV.

5 MRV of International Finance

Currently, there is not a measurement, registration and validation system in place in Chile to identify and track the international financial flows received for initiatives and programs that contribute to national and sub-national actions to tackle climate change. There are no protocols or procedures for any of the components of an MRV system.

There are isolated measurement efforts, based on gathering and systematizing data on international financing, in order to incorporate it into the country's national communications. In January 2020, brief work was conducted to account for the international resources obtained and used in the negotiating process at COP25, in

order to gather the evidence requested for the inquiry carried out by the Chamber of Deputies into the Minister of Environment, Carolina Schmidt. This accounting was carried out by the Ministry of the Environment, through the COP25 Climate Action Team.

Currently, the same team is compiling the information needed to build the chapter on "Climate Change Needs and Support Received" for the Fourth National Communication to be submitted under the United Nations Framework Convention on Climate Change. In this section, in addition to other elements, the international support received is reported, whether this is received in the form of financial resources, capacity building and technical assistance or technology transfer.

Once the information has been gathered, it is expected to be cross-validated through a process of consultation of bilateral and multilateral support entities. This means comparing the execution of funds in the country with the records reported by donors, such as the IDB, the World Bank, the European Union, the United Nations, Canada, Sweden, the Green Climate Fund, among others. This validation and verification will depend on the quality and speed of the response of donor entities.

For an MRV of international contributions, local examples of fund tracking can be replicated, such as the resource monitoring system of the Strategic Investment Fund (FIE) of the Ministry of Economy. This is based on agile monitoring of investments made in key strategic projects that promote the economic transformation of the country. Based on a digital platform that allows the monitoring to be standardized, each agent must upload the project and update the information on the execution of activities and the expenditure or investment, among other things. This type of platform could be used with international funds, since there is a limited number of institutions and projects. It would allow for a continuous review of deviations, in order to make decisions regarding possible modifications and even to redirect resources.

The MMA has shown interest and recognizes the benefits of such an MRV system. Among other things, it is emphasized that the identification of international financial flows would allow the assessment of whether its focus is consistent with the national policies and needs for development in general terms and in relation to climate change in particular. However, there is currently no formal coordinated effort among relevant stakeholders to address MRV in this matter.

6 MRV of Private Financing

On the subject of private financing, no in-depth studies have been conducted on the country's private climate finance. A first scoping was carried out during 2017 and 2018 (UNDP, 2018), with the purpose of addressing the analysis of private climate finance through the implementation of the UNDP's methodology of "Tracking Climate Finance Flows at the National Level", and thus contribute to the development of a comprehensive climate fiscal framework that allows the country to meet its commitments on climate change. At this first stage, the scope setting for the analysis of national private climate finance is being done, along with a proposal of guidelines for the implementation of the second stage, related to data collection and presentation of information.

The scoping highlighted a series of recommendations to move towards measurement of Private Climate Investment, aiming to address the lack of information and previous experience in this area. It proposed carrying out a pilot exercise with 75 companies in the energy generation sector, with the aim of developing a platform that allows companies to self-report the necessary climate information to estimate their climate investment. Possible synergies with the climate change expenditure are mainly limited to accounting for transfers between the public and private sectors. Its correct accounting is necessary to avoid double accounting or wrongly assigning responsibilities for expenditure.

In 2019, there was an initiative with IDB funds, which sought to work on surveying the actions carried out by private agents, along with the organization of forums for dialogue with the private sector to produce commitments and common visions on mitigation and adaptation to climate change. This was to be implemented through the Agency for Sustainability and Climate Change (ASCC), in coordination with the MMA to serve groups of companies, with a focus on small and medium-sized companies belonging to regional unions. However, the initiative was not implemented and these resources are currently being reallocated.

At present, there are no ongoing efforts associated with identifying private finance, and there are still many gaps to be addressed in this area. However, there is a major opportunity through two MMA platforms: Huella Chile; the Pollutant Release and Transfer Registry (RETC); and even the SEA. These three platforms collect information from the private sector in different circumstances, which can be adapted to receive information related to climate finance from the private sector. In particular,

Huella Chile, led by the Office of Climate Change, is aimed at the declaration of the country's corporate carbon footprint, both from the private and public sectors. This platform can be adapted to encourage the declaration of adaptation actions, as well as finance linked to both mitigation and adaptation to implement these actions.

7 Final Comments

The Finance Strategy against Climate Change stresses that the identification of climate expenditure will enable sufficient and, insofar as it is possible, standardized and comparable information to support decision-making on public finances relevant to the Climate Finance Actions (EFCC, 2019). This message becomes even more important with the incorporation of these requirements into the Draft Bill on Climate Change and the NDC update (2020).

Previous experiences show significant learning, which is included in the current methodological proposal on which the MMA has been working (under the CBIT Chile initiative). One of the big gaps is related the lack of coordination with public services engaged in climate finance. It would have been interesting if the Ministry of Finance (MH) had participated in the design of the methodology, since this ministry is responsible for complying with the commitment of estimating the Expenditure on Climate Change, established both the Bill and the current NDC, and in its own climate finance strategy. Likewise, its participation would add value to the methodology, since it could strengthen the use of the extended COFOG classifiers in an ex ante manner. It should be noted that attempts were made to reach out to the MH to get their comments and contributions. An interview was requested through the Consultancy and the OCC team, in order to obtain their feedback regarding climate finance MRV in Chile, but all of this was unsuccessful.

Contributions from previous experiences in estimating climate expenditure and the main contributions of the undergoing CBIT Chile initiative are briefly explained below; and, finally, certain challenges that certainly continue to be relevant to advance in the design of financing strategies that would contribute to the path of low emission, climate-resilient development are also listed.

A. Contributions of the CPEIR pilot project to the new methodology:

- Definition of concepts and principles: There is no international consensus on the definition of "climate expenditure", nor is there a methodology or functional classification for obtaining it. This pilot exercise allowed progression on a first definition proposal that was considered in the NDC (2020).
- Proposal of a Single Registry System: Learning in data gathering resulted in a measurement tool that will allow more reliable information to be collected. This has been proposed, but not used.
- Proposal of a climate expenditure taxonomy and relevance matrix that allows weighting of expenditure in climate change categorized as secondary expenditure.

B. Contributions of the improved MMA methodology (through the CBIT initiative):

- Administrative sources of information: As a source of information the proposal takes the databases of the administrative records of acquisitions of current goods and services, investment projects, personnel expenses and transfers, the descriptors of which have further information to develop a more robust classification in relation to climate change. This allows us to eliminate the problem of linking public policies with CPEIR budget programs.
- Classification as primary and secondary expenditure. The methodology adopts previous experience, and classifies the expenditure based on weights defined in accordance with the CPEIR experience and based on experts' opinions.
- Synergy with other financial accounting requirements. This methodology involves applying the function-based classification of expenditure (COGOG) extended to environmental and climate expenditure, and adding expenditure on natural resources and natural disasters. This would allow response to different accounting requirements in the context of a coordinated effort and with classification criteria that can be standardized.
- Applying this methodology, considering the focus on centralized and/or decentralized records, ensures the achievement of results at the end of the accounting period without delay. It is even possible to get closer to the real time of the record.
- The proposal has two options: an *ex post* centralized approach (once the expenditure has been incurred) by an entity centralizing the identification of

climate expenditure and an *ex ante* decentralized approach (when the project or purchase order is formulated) by those responsible for presenting the expense for approval. Both proposals are not exclusive and can combine their activities to improve the recording of climate expenditure.

C. Challenges and recommendations:

- The new method has a methodological structure that allows us to get closer to the total public expenditure on climate change. However, it does not solve the connection between public policies and programs, the institutional framework for climate change in each sector, and the national budget planning, since it does not focus on evaluating climate change policies. To address this evaluation, a challenge remains to move towards a results-based budget allocation with the strategic participation of the DIPRES of the Ministry of Finance.
- It is proposed to advance in the criteria of weighting the expenditure associated with Climate Change as a secondary objective. It is possible to start using the relevance matrix of the CPEIR methodology, but it will be necessary to validate this weighting with national experts.
- It is necessary to move forward in systematizing the processing of information sources, with the implementation of database filters and with room for centralized and decentralized validation. Considering the implementation of the COFOG.cl classification, the current experience advanced with a manual format, with queries and filters in Excel spreadsheets, the times of which can be reduced by being systematizing them.
- Taxonomy is critical: Progress must be made in the validation of keyword filters that must be supplemented and validated with the key climate change actors; this can be done with the ETICC stakeholders once the methodology and first results are shared with them.
- The Ministry of Finance (MH) plays a fundamental role in the definition of the methodology and systematization of the enhanced MMA proposal to estimate climate expenditure. The MH, through the role of the Budget Office, DIPRES, has a say in the coordination, design, implementation and evaluation of all public policies. Therefore, the involvement of this institution in the challenge posed by the tracking of climate expenditure is strategic.

- No progress has been made in the MRV of private finance. Platforms such as RETC, Huella Chile and SEA offer an opportunity for bottom-up survey of private sector climate finance information.
- Little progress has been reported in the international finance MRV. Local examples can be replicated, such as the resource monitoring of the Strategic Investment Fund (FIE) of the Ministry of Economy. This is based on agile monitoring of investments made in key strategic projects that promote the economic transformation of the country. The MMA recognizes the benefits of an MRV, but currently there are no ongoing efforts along these lines.
- The institutional analysis allows us to appreciate that there is an institutional apparatus for climate finance in place, with clear roles for the Ministry of Finance and the MMA, with a possible coordination platform through the ETICC, and political deliberation through the CMS. However, there is a major challenge in terms of coordination and decision-making related to the MRV of climate finance between both institutions. The experiences reviewed and the interviews conducted allow us to identify an institutional gap in terms of governance and collaborative work specific to the finance MRV, as there is no common agenda with definition of roles and a clear roadmap in these matters which forms a first and formidable challenge to move forward with the MRV.

There is no doubt that the MRV in public, private and international climate finance has enormous benefits in terms of facilitating the management and allocation of resources, reducing management complexities, allowing controls and alerts to be established, and increasing transparency and providing the necessary information to make better decisions and define appropriate workflows to deal with the country's climate challenges. In addition, transparency in the tracking and management of resources gives the country greater confidence to be able to apply for and obtain international support in the future.

Interviewees for this report agree on the advantages of having an MRV system that would allow the use of resources to be visualized, assessing the efficiency of this use and managing the allocation of these funds, ensuring continuous financing targeted at the significant challenges that climate change imposes for sustainable, low-carbon and climate-resilient development.

Also and equally important is the fact that Chile has international goals and commitments (NDCs), which explicitly refer to the measurement and reporting of public expenditure on climate change, as well as the definition of a climate financing

strategy for the country to be updated every five years, which must be consistent with Chile's agreed long-term strategy. All of this emphasizes the need to keep moving forward in this challenge of building a climate finance MRV system for the country, which should have common and, hopefully, standardized elements among the countries in the Pacific Alliance.



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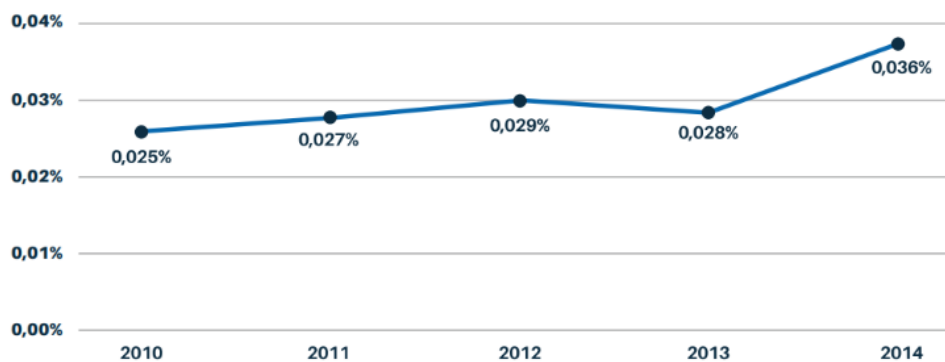
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Annex 1

Table 1: Approach to public expenditure for environmental protection in Chile, 2015 - 2019. In thousand of current pesos. Source: García, 2019.

	Monto asignado en Ley de Presupuesto anual (nominal)				
	2015 (Miles de pesos)	2016 (Miles de pesos)	2017 (Miles de pesos)	2018 (Miles de pesos)	2019 (Miles de pesos)
Ministerio del Medio Ambiente	44.362.990	48.940.067	51.750.704	53.923.799	57.496.903
CONAF	71.776.740	79.940.582	83.832.310	89.746.732	90.054.741
SAG	107.580.807	122.734.655	126.217.163	133.130.595	133.990.966
Parque Metropolitano	19.667.147	23.086.802	27.115.023	31.245.719	32.453.919
Servicio Nacional de Pesca y Acuicultura	29.134.915	32.565.760	36.768.878	38.290.370	33.257.358
Dirección General de Aguas	18.247.961	19.685.361	18.920.646	18.199.090	18.755.866
Dirección de Obras Hidráulicas	131.679.294	142.874.639	137.394.856	135.937.764	145.489.061
Superintendencia de Servicios Sanitarios	9.993.106	10.439.282	10.212.708	10.381.899	10.193.246
Comisión Nacional de Riego	10.998.849	11.935.752	12.561.607	12.855.308	13.047.672
Instituto de Desarrollo Agropecuario (*)	21.702.100	20.889.449	20.496.432	21.029.339	21.554.663
Servicio Nacional de Geología y Minería	25.611.215	27.546.003	29.395.031	28.176.563	28.612.441
Programa apoyo al desarrollo de Energías Renovables no Convencionales	13.168.611	10.024.872	6.805.610	5.088.511	4.512.982
Programa Plan de Acción de Eficiencia Energética	11.932.289	19.423.098	21.867.226	16.380.474	8.252.556
Total Proyección del Medio Ambiente	515.856.024	570.086.322	583.338.194	594.386.163	597.672.374
Total Presupuesto Nacional	38.942.514.929	42.040.361.401	45.373.705.271	48.420.851.596	50.879.683.923
% del Presupuesto Nacional	1,3%	1,4%	1,3%	1,2%	1,2%

Figure 1: Expenditure on biodiversity as proportion of GDP. Source: BIOFIN, n.d.; UNDP, 2018.



Annex 2

The improved methodology in which the MMA is working on (through the CBIT- Chile initiative) has a centralized approach and has been applied to the database of the Integrated Bank of Projects (BIP) of the National Investment System (SNI), which allows estimating climate investment; as well as to transfers, with base information obtained from the public databases of the Ministry of Finance.

The investment analysis was carried out for 2018 and 2019, based on public data provided by the Ministry of Social Development and Family (MDSF). From this experience, it would even be possible to classify the investment each time a project is entered into the BIP-SNI platform (*ex post*) or, better still, incorporate it as a requirement (*ex ante*) for its approval by the MDSF.

The results are mainly referential, and are still being processed. It should be noted that:

- Mining investments that represent an enormous unexplainable volume, focused on SIPETROL investments (ENAP), were not considered.
- The comparison is made between the BIP project execution figures and the investment budget figures.
- No cross-checking or matching is considered. In this context, one of the most important actions would be to compare BIP data with investment data from a specific ministry.
- Another possibility to assess compatibility would be comparing figures with the ChileCompra data. Purchase orders include current expenses on goods and services and acquisitions for investment. Codes of BIP executed projects should be the key for future identification in the ChileCompra database.

This exercise estimates public expenditure on climate change by investment, under the considerations outlined herein, and whose preliminary results are set out in Tables 2 and 3 below.

Table 2. Disbursements of environmental and climate investment. No weighed totals. Source: MMA, 2020.

COFOG.d	Concepto	Gasto principal		Gasto secundario		Total	
		2018	2019	2018	2019	2018	2019
05.1	Gasto en cambio climático	5	3	44	26	49	29
05.2	Gasto en protección ambiental	226	202	4	4	230	206
05.3	Gasto en gestión de recursos naturales	194	137	3	0	197	137
Total registros de la BIP		425	342	51	30	476	372

Monto de inversiones (BIP). Año 2018 y año 2019 (8 meses) en millones \$

COFOG.d	Concepto	Gasto principal		Gasto secundario		Total	
		2018	2019	2018	2019	2018	2019
05.1	Gasto en cambio climático	291	316	61.921	61.969	62.212	62.284
05.2	Gasto en protección ambiental	153.696	129.884	4.361	2.231	158.058	132.115
05.3	Gasto en gestión de recursos naturales	118.400	139.397	201	0	118.601	139.397
Total inversiones (BIP)		272.387	269.597	66.483	64.200	338.871	333.796

Fuente original: Ministerio de Desarrollo Social y Familia. Base de datos BIP-SIN. Clasificación propia de desembolso principal y secundario

Table 3. Government investment (weighed) on climate change. Projects at implementation-stage. Source: MMA, 2020.

(en millones de pesos)

C_COFOG_d	Nombre finalidad	Gasto principal		Gasto secundario		Total	
		2018	2019	2018	2019	2018	2019*
05.3.1	Información y conocimiento	151	96	2.509	103	2.660	199
05.3.1.1	Medidas de Mitigación			51	9	51	9
05.3.1.2	Medidas de Adaptación	151	96	2.264	7	2.415	102
05.3.1.3	Medidas mixtas			194	87	194	87
05.3.2	Institucionalidad			6	16	6	16
05.3.2.1	Medidas de Mitigación			6	16	6	16
05.3.2.2	Medidas de Adaptación						
05.3.2.3	Medidas mixtas						
05.3.3	Gestión de riesgos			73	108	73	108
05.3.4	Suministros básicos y resiliencia						
05.3.5	Protección Social						
05.3.6	Inversión en activos fijos y biológicos	73	182	18.230	19.294	18.303	19.476
05.3.6.1	Medidas de Mitigación	28	56	3.774	2.342	3.802	2.398
05.3.6.2	Medidas de Adaptación	45	126	14.456	16.952	14.501	17.078
05.3.6.3	Medidas mixtas						
05.3.7	Actividades de I&D para el CC				22		22
Total Inversión de gobierno por cambio climático		224	278	20.818	19.544	21.042	19.821

* Proyectos registrados al 12 de septiembre de 2019

Fuente: Estimaciones basadas en: Ministerio de Desarrollo Social. Sistema Nacional de Inversiones

In relation to transfers, the public information of the Ministry of Finance allows access to transfers made under the Law 19,862 by the ministries and services recognized by the law. It even considers transfers of some natural persons for the benefit of programs or items of some ministries or their units. Processing these databases was not easy task. For example, the search description may be too short or abbreviated, and the text search filter may not be sufficient; another difficulty is that transfers other than those under the Law 19,862 don't have public information and thus would be excluded from the analysis; and there is no reference regarding the resulting deviation in the estimate. Preliminary results are presented in Tables 6 and 7.

The centralized methodology proposed is in full implementation. Final results on climate investment for 2018 and 2019 and climate transfers for 2019 should be presented by mid-2020. At the same time, moving towards an optimal solution is intended by presenting and analyzing the methodology with the different protagonists of a decentralized approach; therefore, it will be inter-institutionally validated. Presenting the methodology to the different stakeholders in the ministries that participate in the ETICC, coordinated by the MMA, is expected. One objective is to incorporate participants into compilation tasks, especially into the validation and compatibility of the data arising from this methodological approach. The main objective, however, is to implement a collection methodology based on an *ex ante* classification of projects, transfers and other records within each ministry, making it possible to have data on public expenditure related to climate change within the shortest delay.

Table 4. Estimate of environment and climate transfers, Law 19,862 Source: MMA, 2020.

Número de registros transacciones Ley 19.862. Año 2019			
Concepto	Gasto principal	Gasto secundario	Total
Gasto en cambio climático	8	321	329
Gasto en protección ambiental	439	123	562
Gasto en gestión de recursos naturales	98	182	280
Gasto en desastres naturales	269	1	270
Total registros de transferencias ambientales y climáticas	814	627	842
Total transferencias Ley 19.862			166.103
Participación (%) de los registros de transferencias ambientales y climáticas en el total			0,51%

Monto de transferencias Ley 19.862. Año 2019 (en miles de pesos)			
Concepto	Gasto principal	Gasto secundario	Total
Gasto en cambio climático	21.537.617	1.764.562	23.302.179
Gasto en protección ambiental	8.231.867	24.239	8.256.106
Gasto en gestión de recursos naturales	1.111.208	124.895	1.236.102
Gasto en desastres naturales	9.071.129	7.600	9.078.729
Total transferencias ambientales y climáticas	39.951.821	1.921.296	41.873.116
Total transferencias Ley 19.862			6.301.174.181
Participación (%) de transferencias ambientales y climáticas en el total			0,66%

Table 5. Transfers for climate change 2019. Source: MMA, 2020.

(en miles de pesos)

Concepto	Gasto principal	Gasto secundario	Total
Información y conocimiento	23.217	120.232	143.449
Institucionalidad	21.500.000	81.958	21.581.958
Gestión de riesgos	11.400	35.666	47.066
Suministros básicos y resiliencia		1.052.943	1.052.943
Inversión en activos fijos y biológicos		410.644	410.644
Actividades de investigación y desarrollo para el CC	3.000	19.740	22.740
Otros gastos no especificados		43.379	43.379
Total transferencias ambientales y climáticas	21.537.617	1.764.562	23.302.179
Total transferencias Ley 19.862			6.301.174.181
Participación (%) de transferencias ambientales y climáticas en el total			0,37%