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# CLIMATE FINANCE MRV - MEXICO

## Baseline Report Series

AP MRV

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# Mexico Report



## 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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# Contenido

## Acronyms

AFD: French Development Agency *(Agence Française de Développement)*

AMEXCID: Mexican Agency for International Development Cooperation (*Agencia Mexicana de Cooperación Internacional para el Desarrollo*)

AT-CC: Transverse Annex 16. Resources for Adaptation and Mitigation of the Effects of Climate Change *(Anexo Transversal 16. Recursos para la Adaptación y Mitigación de los Efectos del Cambio Climático)*

BANOBRAS: Banco Nacional de Obras y Servicios Públicos

IDB: Inter-American Development Bank

BIOFIN: Biodiversity Finance Initiative

WB: World Bankmjsaez

BTR: Biennial Transparency Report

BUR: Biennial Update Report

C3: Climate Change Council

CICC: Inter-ministerial Commission on Climate Change *(Comisión Intersecretarial de Cambio Climático)*

UNFCCC: United Nations Framework Convention on Climate Change

CNBV: National Banking and Securities Commission *(Comisión Nacional Bancaria y de Valores)*

COP: Conference of the Parties

DEA: Danish Energy Agency

ENCC: National Strategy for Climate Change *(Estrategia Nacional de Cambio Climático)*

FCC: Climate Change Fund *(Fondo para el Cambio Climático)*

GEF: Global Environment Facility

GCF: Green Climate Fund

GHG: Greenhouse Gases

GFLAC: Climate Finance Group of Latin America and the Caribbean *(Grupo de Financiamiento Climático para América Latina y el Caribe)*

GGGI: Global Green Growth Institute

GIZ: German Cooperation Agency

WBG: World Bank Group

GT-FIN: Technical Financing Group *(Grupo Técnico de Financiamiento)*

INECC: National Institute of Ecology and Climate Change *(Instituto Nacional de Ecología y Cambio Climático)*

INEGI: National Institute of Statistics and Geography *(Instituto Nacional de Estadística y Geografía)*

KfW: German Development Bank

LFPRH: Federal Budget and Fiscal Responsibility Law *(Ley Federal de Presupuesto y Responsabilidad Hacendaria)*

LGCC: General Law on Climate Change *(Ley General de Cambio Climático)*

MDBs: Multilateral Development Banks

mdd: million dollars

mdp: million pesos

MIR: Results Indicator Matrices *(Matrices Indicadoras de Resultados)*

MRV: Measurement, Reporting and Verification

NAFIN: Nacional Financiera

NDA: Designated National Authority

NDCs: Nationally Determined Contributions

IFOs: International Financial Organizations

PECC: Special Program on Climate Change *(Programa Especial de Cambio Climático)*

UNDP: United Nations Development Program

PEF: Federation Expenditure Budget *(Presupuesto de Egresos de la Federación)*

RENCID: National Registry of International Development Cooperation *(Registro Nacional de Cooperación Internacional para el Desarrollo)*

RENE: National Registry of Emissions *(Registro Nacional de Emisiones)*

SARAS: Environmental and Social Risk Management System *(Sistema de Administración de Riesgos Ambientales y Sociales)*

SED: Transversal Advancement Module and Performance Evaluation System *(Módulo de Avance de Transversales y el Sistema de Evaluación del Desempeño)*

SIAT-NDC: Information and Actions System for Transparency, a Nationally Determined Contribution component *(Sistema de Información y Acciones para la Transparencia, componente Contribución Nacionalmente Determinada)*

SEMARNAT: Ministry of the Environment and Natural Resources *(Secretaría de Medio Ambiente y Recursos Naturales)*

SINACC: National System of Climate Change *(Sistema Nacional de Cambio Climático)*

SHCP: Ministry of Finance and Public Credit *(Secretaría de Hacienda y Crédito Público)*

SHF: Federal Mortgage Society *(Sociedad Hipotecaria Federal)*

UED: Performance Evaluation Unit *(Unidad de Evaluación del Desempeño)*

UNEP FI: UN Environment Programme Finance Initiative

USAID: United States Agency for International Development

# 1 Executive Summary

The Paris Agreement recognizes the importance of making finance flows consistent with low-carbon, climate-resilient development. Nationally Determined Contributions (NDCs) integrate countries' commitments to achieve the goals set under the Paris Agreement and represent progress towards accountability for climate actions.

Moving towards sustainable development requires political will and financial resources aimed at actions to mitigate and adapt to climate change. In this respect, Mexico passed its General Law on Climate Change (LGCC, by its Spanish acronym) in 2012. Additionally, in its National Strategy for Climate Change, Vision 10-20-40, the country acknowledges that the development of Measurement, Reporting and Verification (MRV) instruments will provide transparency and certainty of actions, and contribute to the correct and efficient execution of public and private, national and international resources. This is in line with the enhanced transparency framework for support, provided or received by the Parties, established in Article 13 of the Paris Agreement.

This report analyses the current situation of creating a Climate Finance MRV in Mexico, in the context of the national policy on climate change, as well as the elements that such an instrument should have in this country: institutional arrangements to enhance transparency, desired characteristics for the reports and the system, provided and received support, periodic information, technical evaluation by independent experts and support available.

Based on a review of the available literature and the conducted interviews, progress in the definition of climate finance and the status of such finance were identified, considering national climate expenditure, international financing received, and climate finance needs. A mapping of relevant actors was carried out and interviews were conducted to get hold of critical information to guide the proper design and implementation of a Climate Finance MRV. Results of these interviews are presented below.

| | |
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| Does your organization use a climate finance classification/definition? | • "Finance to tackle climate change is financing coming from national and international sources (either public or private) aimed at facilitating and implementing the country's climate change policy, as well as actions that contribute to reducing emissions of greenhouse gases and compounds, moving towards low carbon development, conserving and increasing carbon sinks, reducing vulnerability and maintaining and increasing resilience of human and ecological systems to the impacts and negative externalities of climate change, through adaptation measures, as well as development of policies, programs and projects in this area" (INECC, 2020, p. 10).<br>• Financial resources, both own and external, managed and committed by Multilateral Development Banks (MDBs) for development operations and its components, which include activities that mitigate climate change and support adaptation to climate change in developing and emerging economies (MDBs, 2019). |
| What do think would be the most efficient way to use the current systems and the information available to operate the Climate Finance MRV? | • Currently there is information on the environmental accounts generated by the National Institute of Statistics, Geography and Informatics (INEGI). Therefore, having a climate change taxonomy would allow INEGI to estimate the public resources allocated based on the existing information.<br>• The Mexican Agency for International Development Cooperation (AMEXCID) and the Ministry of Finance and Public Credit (SHCP) could conduct a joint coordination so as to provide an estimate |

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| | of the technical cooperation received by the country, since this information isn't accounted for by the SHCP as it doesn't involve financial resources received by the country in a direct manner. |
| What elements do you consider would be key to design an effective Climate Finance MRV? | • Assessing the costs of the commitments established in the NDC. This would provide a reference of the resources needed to achieve the goals.<br>• A climate change taxonomy allowing institutions to categorize the information.<br>• Incorporating basic criteria for adaptation to climate change and geographic visualization. Analysing impact indicators to see if financing actions had an impact on Mexico's NDC. |
| From your point of view, who should produce, capture, and process the information for the Climate Finance MRV? | • The SHCP is responsible for the development of the methodology of "Transverse Annex 16. Resources for Adaptation and Mitigation of the Effects of Climate Change" (AT-CC) and is currently working on the methodology of a green budget, which if considered, could lead to the inclusion of one or more digits in the budget code for monitoring of this kind. At federal level, the green budget methodology is being developed by the Performance Evaluation Unit (UED, by its Spanish acronym).<br>• In accordance with the International Development Cooperation Law, AMEXCID is responsible for the National Registry of International Cooperation for Development (RENCID), where the international development cooperation offered and received by Mexico is quantified.<br>• The SHCP and other agencies and entities of the federal public administration are responsible for reporting expenditure |

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| | execution, so they can provide the necessary information related to climate change. It is advisable to review how areas of opportunity are currently identified and how to have information that truly reflects the resources aimed at mitigation and adaptation to climate change.<br>• INEGI is responsible for national ecological accounts, so if it had a climate change taxonomy, it could calculate estimates with the information currently available in the public account. |
| Where should the Climate Finance MRV be hosted so that information management is sustainable? | • The technological platform would have to be hosted in the Climate Change Information System established in Article 107 of the LGCC. Likewise, it should be on the SHCP's Budget Transparency page.<br>• The system should be housed by the SHCP based on the powers established in its bylaws, Art. 17 and 37. |
| How can it be financially and economically sustainable? | • By using existing mechanisms. For example, in the case of loans from international financial institutions, a criterion to classify the resource as climate finance could be added to the loan authorization form issued by the SHCP.<br>• National development banks can use the Environmental and Social Risk Management System (SARAS) as an input for classifying its operations. On the other hand, the National Banking and Securities Commission (CNBV) could be a key partner for the implementation of SARAS, by encouraging banks to adopt this mechanism and, also, to have a common nomenclature to identify the type of loan (the National Bank of Mexico is making efforts in this regard). |

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| | • Through knowledge management, in order to institutionalize knowledge. Through a knowledge management platform, available on a website. Providing training on climate change for agencies.<br>• Using national capabilities.<br>• An agile and easy-to-use system must be established so people in charge of reporting can send the information. |
| How could the information be made available at sub-national and local levels? | • RENCID could be the repository for sharing information on international cooperation received at state level, whether technical or financial.<br>• Through the sub-national NDC tool, with a financing component. |

## Main findings

The main funders for actions to mitigate and adapt to climate change at national level, identified based on the available information, are the federal government, through the public budget and specialized funds, national development banks and commercial banks. At international level, Mexico has been one of the main countries receiving climate finance from multilateral and bilateral sources. On the other hand, there are commercial banks in the country that are already undertaking sustainable investment strategies. However, there is still no specific mechanism to collect this information or verify how this is being quantified.

In 2016, INECC –supported by the Danish Energy Agency– calculated the economic costs of implementing the 30 unconditional NDC measures to meet the mitigation goal. The aggregated cost amounts to just over 126 billion dollars as calculated in 2017, accrued throughout the 2014-2030 period (INECC, 2018b).

There are institutional arrangements for the Climate Finance MRV already in place. The LGCC established the creation of the National System on Climate Change (SINACC) as a mechanism for concurrence, communication, collaboration, coordination and consultation on the national climate change policy for the different

levels of government. SINACC is made up of the Inter-ministerial Commission on Climate Change (CICC); the Climate Change Council; INECC; the governments of the different federal bodies; a representative of each of the national organizations of legally recognized municipal authorities and representatives of the National Congress (Lower House, 2018).

The CICC is the main permanent mechanism to promote coordinated actions on climate change among the different bodies and entities of the federal public administration. This commission is organized into working groups and one of them is the Financing Working Group (GT-FIN, by its Spanish acronym) that is chaired by the SHCP and whose main function is the coordination of climate finance issues.

Mexico has previous experiences of accounting for climate finance. The National Institute of Ecology and Climate Change (INECC) developed an MRV methodology proposal for finance actions undertaken to adapt to climate change in the country. The Federal Expenditures Budget includes the "Transverse Annex 16. Resources for Adapting and Mitigating the Effects of Climate Change" (AT-CC), which contains the resources allocated to works, actions and services linked to the adaptation and mitigation of the effects of climate change in various bodies and entities of the federal public administration. The report summarizes the proposed methodology, the results obtained and the areas of opportunity.

Challenges faced by Mexico to establish a Climate Finance MRV include: socializing the definition of climate finance used so far; information gaps and uncertain data; poor coordination and communication among the public and private sectors, the civil society, and the public and private banking; and international cooperation.

On the other hand, the following are considered strengths for the establishment of a Climate Finance MRV in Mexico: the constitution of the GT-FIN, chaired by the SHCP; big data from the public sector available for cleansing and analysis; ongoing development of a green budget methodology; and the development of the Information and Actions System for Transparency - a Nationally Determined Contribution component.

## Main recommendations

1. The SHCP, in coordination with SEMARNAT, should lead the efforts for the design and establishment of a Climate Finance MRV.
2. Strengthen coordination and inter-institutional communication links. Formalize institutional arrangements in the context of meetings of the GT-FIN and CICC.
3. Develop climate change taxonomy.
4. Develop a clear methodology for allocating budget to climate change.
5. Consider climate change when developing the green budget methodology.
6. The SHCP should establish a coordination mechanism with the CNBV to obtain information regarding the resources placed by commercial banks.
7. Strengthen coordination between SHCP and AMEXCID so that the latter provides information on the technical cooperation received, including economic amounts.
8. Consider the levels at which information must be reported to avoid double accounting.
9. Define which body, within the framework of the CICC, should host the MRV Climate Finance system - the SHCP standing as a viable option.
10. Convoke sub-national governments to take part in this exercise.
11. Design and implement a working plan with the private sector. The event that Mexico will host in October 2020, the 16th Round Table of the UN Environment Programme Finance Initiative (UNEP FI), can serve as a coordination space.

## 2 Introduction

Mexico is committed to the international community's fight against climate change, and as part of the response to the challenges linked to this phenomenon it has established a legal, regulatory and long-term planning framework embodied in the General Law on Climate Change, published in 2012, which includes the bases for compliance with the Paris Agreement.

The Paris Agreement, signed in December 2015, integrates the mandates related to climate finance MRV systems and transparency, as core aspects of effective implementation of NDCs. Article 13 of the Agreement compels developing countries such as Mexico to report periodically, within the framework of enhanced

transparency, about the support required and received in terms of financing, technology transfer and capacity-building.

Mexico published the LGCC in 2012 and in its National Strategy on Climate Change: 10-20-40 Vision, it recognizes that the development of MRV instruments provides transparency and certainty of actions, and contributes to the correct and efficient execution of public and private, national and international, resources.

In this context, having a Climate Finance MRV system contributes to building trust between donors and recipients and increasing the effectiveness of actions taken. This instrument allows the implementation of climate finance to be quantified and monitored, therefore identifying the gaps. Also, it helps to make the use and allocation of resources more transparent, improving both quality and access to information for better planning of public climate policy, which in turn enables a focused channelling of resources to respond to domestic needs for promoting a low carbon economy and meeting the goals set in the NDC.

Furthermore, one of the advantages of having a robust Climate Finance MRV is the potential to attract additional funds by ensuring transparency, accuracy, and comparability of information. This Baseline Report on Measurement, Reporting and Verification for Climate Change actions in Mexico presents an analysis and diagnosis of these practices in the country, the related regulatory instruments, relevant actors, technological platforms and initiatives already implemented or in the process of being implemented.

This document comprises seven sections that describe the need for a climate finance MRV system in Mexico, based on the national context. Likewise, the report includes an overview of the climate finance situation in the country, describing the main sources of climate finance currently available, the financing needs for complying with the NDCs, as well as the relevant actors participating in this process. Subsequently, the report presents the initiatives implemented both in the country and abroad, and which could serve as lessons learned and best practices for the design and implementation of Mexico's Climate Finance MRV system. Finally, the strengths and weaknesses for implementation of the system in Mexico are presented, followed by recommendations based on this work.

Throughout the document, the concept of climate finance is used. When referring to resources for specific actions to reduce greenhouse gas (GHG) emissions, explicit mention will be made to mitigation financing, and when it comes to specific resources to respond to the impacts of climate change, explicit mention will be made to adaptation finance. As long as there is no distinction between financing assigned to mitigation and adaptation actions, the terms cross-cutting financing or climate finance will be used

# 3 National Context

## 3.1 National Policy on Climate Change

Climate change is a challenge that requires the collective action of society, companies, and governments.

Mexico is committed to the international community in the fight against climate change and has implemented a pragmatic approach that, while reducing emissions and taking measures to reduce the vulnerability of the population, ecosystems and infrastructure, gives continuity to activities necessary for national development and job creation.

As part of the answer to the challenges posed by climate change, Mexico has established a legal, regulatory and long-term planning framework embodied in the General Law on Climate Change (LGCC), published in 2012, which includes the basis for compliance with the Paris Agreement, a National Climate Change Strategy (ENCC) with a vision to 10, 20 and 40 years; Mexico's Climate Change Mid-Century Strategy[1] and the creation of a National Climate Change System (SINACC), a crucial

[1] In accordance with Article 4, paragraph 19, of the Paris Agreement, Mexico submitted its Mid-Century Strategy to the UNFCCC. Mexico's Climate Change Mid-Century Strategy provides the vision, principles, objectives and main lines of action to build a transition from a climate-resilient society to low-emission development. This work also responds to a joint effort by the countries of the North American region, which committed to a North American Climate, Clean Energy and Environment Partnership.

institutional arrangement in this area, involving the three levels of government, the legislature and the civil society.

One of the pillars of the ENCC is the establishment of instruments of Measurement, Reporting and Verification, as well as Monitoring and Evaluation. These instruments provide transparency and certainty of actions, and ensure environmental integrity, comparability, consistency, transparency and accuracy of data. This will allow for evaluation and feedback on the design of climate change policies, promoting their efficiency and impact. In particular, the correct and efficient application of budgetary and international resources, public and private, will have a direct impact on the achievement of the goals set under the national adaptation and mitigation policy (SEMARNAT, 2013).

Mexico also has a Special Climate Change Program 2014-2018 (PECC), which contains specific objectives, strategies and lines of action in the area of mitigation and adaptation to climate change and is currently being reformulated for the 2020-2024 period. The LGCC states that the PECC should contain the budget estimates to implement its objectives and goals, as well as the projects or studies for research, technology transfer, training, dissemination, and financing[2].

Moreover, Mexico has assumed the responsibility of complying with the NDC it accepted in the Paris Agreement and has already submitted six national communications and a biennial update report, thus complying with the transparency mechanisms established in the United Nations Framework Convention on Climate Change (UNFCCC).

In this regard, Mexico has carried out an assessment of the national climate change policy to ensure that its objectives are met and contribute to the reduction of greenhouse gas and compound emissions, thus reducing the vulnerability of the population, ecosystems and productive sectors.

On the other hand, Mexico has been an active player in the definition of the new Sustainable Development Agenda, which includes climate action as one of its objectives. As part of the national actions, the Office of the Presidency of the

[2] Paragraphs V and VI of Article 67 of the LGCC.

Republic leads implementation of the 2030 Agenda as a state commitment that permeates all levels of government. Regarding state and municipal governments, two instances for the deliberation of agreements have been identified to boost local development and promote institutional transformations: the National Conference of Governors and the National Conference of Municipalities of Mexico.

For its part, the Legislative Branch recognizes that legislative work is essential to fulfill the 2030 Sustainable Development Agenda, approving sufficient budgets and laws that guarantee transparency and accountability. For this reason, in August 2016 the Senate of the Republic established the methodology for monitoring implementation of the United Nations Organization's 2030 Sustainable Development Agenda, and in the same year the working group for monitoring compliance with this agenda was formalized.

Participation of the private sector is essential. For this reason, the AMEXCID established the Alliance for Sustainability as a platform for dialogue and action including 80 Mexican companies and multinationals operating in Mexico. This serves as a vehicle for exchanging information on how to integrate the Sustainable Development Goals into business models and how to design international cooperation projects around the 2030 Agenda, among other actions.

Overall, all policy instruments and actions at the national level are geared towards the implementation of national and international commitments on climate change and sustainable development. However, Mexico recognizes that along with policy instruments there must be economic instruments that contribute to attaining the committed goals and to measuring, reporting and verifying the flows of resources that are being allocated and continue to estimate the financing needs; hence the importance of having a national MRV system for Climate Finance. The existing data regarding the state of climate finance in the country will be detailed later.

## 3.2 The National Measurement, Reporting and Verification System for Climate Change

The National Institute of Ecology and Climate Change (INECC) is developing a methodological proposal of an MRV for financing actions of adaptation to climate

change in Mexico, in compliance with Article 13 of the Paris Agreement and in order to support the development of Monitoring and Evaluation schemes. Since this methodology is still a proposal, there are no results of the system being implemented. During this work, essential elements have been identified to give viability and applicability to the system that is being developed, such as:

1. Solid legal foundations;
2. Robust legal framework;
3. Institutions with a clear mandate;
4. Appropriate institutional arrangements considering the three preceding items;
5. Transparent and efficient processes that allow the implementation of an MRV system;
6. Guarantee the integrity, consistency, comparability and accuracy of the information[3].

In line with other reports generated by the INECC, the need to consider information that is already generated by other institutions at national level has been identified, so that it can be used, complemented and reported on periodically. An example of this is the information generated by INEGI, the National Emissions Registry, as well as the statistics published by the SHCP and the public account, which contains information from all the federal bodies. Likewise, it is considered relevant to take into account the information on the Federal Government's budget transparency portal, where it is also possible to consult the alignment of the budget, number of connections and programs with the Sustainable Development Goals[4].

## 4 Measurement, Reporting and Verification (MRV) Obligations

[3] "Analysis of the regulatory context and institutional arrangements for the assignment of measurement, reporting and verification functions in Mexico" *(Análisis del Contexto Regulatorio y de los Arreglos Institucionales para la asignación de funciones de medición, reporte y verificación en México*), General Coordination for Climate Change Mitigation, National Institute of Ecology and Climate Change, November 2018.

[4] https://www.transparenciapresupuestaria.gob.mx/es/PTP/infografia_ppef2020

## 4.1 Article 13 of the Paris Agreement

Under Article 13 of the Paris Agreement, the Enhanced Transparency Framework requires countries to establish solid national MRV systems that will in turn enhance and guide their NDCs. For developing countries, including those in the Latin America and Caribbean region, the lack of strong MRV systems represents a technical, technological and financial challenge as countries make quantitative commitments to the rest of the world of cutting their GHG emissions.

The transparency and accountability system should provide clarity with respect to the measures taken and the support received and provided. The Agreement requires the information submitted by each of the Parties to be subject to an international review by technical experts.

essential to the elaboration and implementation of the Climate Finance MRV system. The figure contains only extracts of the other articles in the Paris Agreement that have some relation with the steps for the construction of a Climate Finance MRV system, both regarding the support that will be received from abroad and the resources channeled by the government for climate finance.

Figure 1 Relevant considerations from other Articles in the Paris Agreement. *Source: Prepared by the author based on the Paris Agreement, 2020.*

- Consistent financing flows for climate change adaptation and mitigation actions;
- Communication of progress results in implementing the NDCs and consistency with the resources mobilized for these purposes;
- Financial support for capacity building and technology transfer;
- Update of national commitments.

## 5 Elements of a Climate Finance Measurement, Reporting and Verification system

MRV systems are needed to understand what sources of financial resources are flowing, for what purpose and how effective they are in triggering investments that mitigate greenhouse gas emissions and/or increase resilience to climate change.

In recent years it has become more common for donors and financial contributors to ask for these types of reports, as well as for increased transparency in the use and destination of resources. In addition, data is needed to ensure that, at national, regional and global levels, actions collectively add up to the requirements of technical experts. Monitoring domestic financial flows is an important part of the planning component of climate finance; while information on financial flows is collected, planning decisions on needs, sources and channels can be adjusted, creating a dynamic planning process.

Capabilities to do this work include the ability to monitor climate finance that is flowing into and out of the national budget. National Communications for the UNFCCC have been used as a platform through which both financial flows and the results of funded interventions can be communicated. The preparation of these communications requires robust financial follow-up systems. These systems should not be limited to international public finance but should also cover national resources and private investments.

According to studies by the German Agency for International Cooperation (GIZ), a system used to measure, report and verify financial flows, technology transfer and capacity building as well as the impact of the support provided, can be defined as a "Support MRV" (Pang et al., n.d.).

In addition to building trust between developed and developing countries, such a system improves effectiveness and international cooperation through transparency and accountability. This creates incentives for private investment by providing a clearer picture of financial flows, trends, sources and purposes of national and international support for climate issues.

From this perspective, the following minimum elements must be defined from the beginning:

1. **What will be measured -** The flow of finance and levels of technology transfer that can be credited to interventions related to mitigation measures.
2. **What will be reported -** The forms of financing, their purpose, sectoral and geographical distribution, leverage of private financing and disbursement.
3. **What will be verified -** The extent of support between donors and beneficiaries, the effectiveness of the support and the cost-benefit impacts.

The following figure shows the elements and modalities to be defined at each stage of the Climate Finance MRV based on the national context:

| Measurement | Reporting | Verification |
|---|---|---|
| • **Financial flows**: from whom to whom, amount, type of financial instrument, private/public, new/ additional.<br>• **Type of support:** financing, technology transfer, consultancy, capacity building.<br>• **Supported activities:** level of impact (national, regional, sectoral, etc).<br>• **Impact of supported measures:** quantitative and qualitative indicators.<br>• **Identify indicators** for the support given and received as well as the **clear responsibles** within the public agencies based on their attributions. | • **Forms of financing:** grants, concessional loans, capital financing, guarantees, etc.<br>• **Purpose of support**: typology: mitigation/ adaptation.<br>• **Distribution of support:** between sectors/activities, geography.<br>• **Leverage of private financing**<br>• **Desired/achieved impact**<br>• **Comparison** with the amount of support pledged by the donor and the amount actually disbursed.<br>• **Collect information in BURs and national communications** and make it available to the public. | • **Extent of support:** comparing data from donors and beneficiaries.<br>• **Effectiveness of support:** actual reduction of GHGs and/or achievement of the priorities of developing countries.<br>• **Cost-benefit impact:** For example for adaptation, green growth development.<br>• Verification is ideally performed **by independent non-political financial experts.** |

Figure 2 Elements to be defined in each stage of the MRV system. Source: Prepared by the author based on data from Pang et al., 2020.

Article 13 of the Paris Agreement establishes a framework of enhanced transparency with flexibility, taking into account the different capacities of the Parties and based on collective experience.

Figure 3 includes the main elements that a Climate Finance MRV system should have based on the guidance provided by the Paris Agreement, but also those elements that Mexico wishes to consider for the design and implementation of the national system. It is worth noting that for Mexico it is important to use the information generated in the Climate Finance MRV system as an input for monitoring compliance with the NDCs and based on the periodicity of accountability to the UNFCCC. For this reason and based on the provisions of Article 13 of the Paris Agreement, Mexico will seek to incorporate and use the main elements that an MRV system for Climate Finance should have, as described below.

Arrangements for transparency. Obtain input for the preparation of national communications, biennial reports and biennial update reports.

Desirable features of the reports and the MRV system.

- Clarity in mitigation and adaptation information.
- A link to facilitate monitoring of NDC progress.
- Generates information on good practices, priorities, needs and shortages. This may serve as a basis for the global stocktake referred to in Article 14 of the Agreement.

Includes support given and received. Information on support given or received from developed countries for the fulfillment of national and international commitments should be recorded. In principle, three basic concepts are considered: financing, technology transfer and capacity building.

Periodic information. Currently, periodic reports on financing are produced at the national level, including climate finance. However, the current information is not in a single place or body, and even within one agency (SHCP) the data is not in the same area or administrative unit. On the other hand, there are no standardized categories for the information collected, nor are there any indicators to measure the impact of the support received, etc., and it is also noted that there is currently no department within the SHCP or any other agency that is collecting information on the private funding that is being channeled into these activities. Having this information would be useful to:

- Make a national emissions inventory using the best practices methodology of the group of experts on climate change;
- Monitor the progress of NDCs;
- Generate information related to the effects of climate change and adaptation work.

Technical evaluation of experts indicated in the Paris Agreement. Implementation and enforcement of the NDC and recommendations on how it can be improved, as well as a review of data consistency.

Support available. Developing countries will receive support to implement this article. In the case of Mexico, a total of $1.8 million dollars are available for this article of the Paris Agreement from the transparency mechanism of the Global Environment Facility (GEF)


Figure 3. Main elements of Climate Finance MRV systems according to the provisions of Article 13 of the Paris Agreement Source: Prepared by the author, 2020.

The Paris Agreement states that a balance should be sought between financial resources for adaptation and those for mitigation, which is not yet the case in practice since, at global level between 2011 and 2016, international climate finance flows for mitigation from developed countries to developing economies were between $8.8 and $24.1 billion dollars, while for the same period adaptation received between $2.6 and $5.1 billion dollars (SCF-UNFCCC, 2018).

# 6 Basic diagnosis

## 6.1 Definition of climate finance in Mexico

In Mexico there are two main definitions of climate finance in which progress has been made. The first one is mentioned in the report of the Sixth National Communication on Climate Change (2018) and the second one was released by the INECC in 2020. However, the current recommendation is to keep the most recent version (INECC, 2020) as it is more complete by including domestic and external sources, as indicated below:

> "Climate change finance is financing coming from sources inside and outside the country (public and private) to facilitate and conduct the implementation of national climate change policy and actions that contribute to reduce greenhouse gas and compound emissions, move towards low-carbon development, preserve and increase carbon sinks, reduce vulnerability and maintain and increase the resilience of human and ecological systems to the negative impacts and externalities of climate change, through adaptation measures, as well as the development of policies, programs and projects in this area"

For its part, the definition of climate finance included in the Sixth National Communication on Climate Change is focused on external sources:

> "International climate change finance is that coming from sources outside the country — of public or private origin— to facilitate and conduct the implementation of national climate change policy and actions that contribute to reduce greenhouse gas emissions, move towards low-carbon development, preserve and increase carbon sinks, reduce vulnerability and maintain and increase the resilience of human and ecological systems to the negative impacts and externalities of climate change, through adaptation measures, as well as the development of policies, programs and projects in this area"

It is important to continue disseminating this approach to defining climate finance in all sectors so that it can be used and harmonized, and thus generate standardized information that will eventually be aggregated.

On the other hand, as part of the challenges already identified by the Government, the SHCP has activated the support offered by the Green Climate Fund (GCF)

through readiness support for the National Designated Authority (NDA) and during 2020 and 2021 it will be implementing this support with the assistance of the Global Green Growth Institute (GGGI).

Among the main activities, the GGGI will sensitize various groups of relevant actors to mobilize more climate finance, including private banks and national development banks. Likewise, it will support two national development banks (*Nacional Financiera and Banco Nacional de Obras y Servicios Públicos*) in their accreditation process as national entities before the GCF.

Through this support, the SHCP will put into operation the Financing Technical Group (GT-FIN) of the Inter-Ministerial Commission on Climate Change (CICC). This group has already been formed and will meet for the first time as soon as face-to-face meetings are possible. Currently it is made of representatives of the 14 public entities that make up the CICC, but through their finance areas, and it is chaired by the SHCP. It is not yet clear which additional actors will be invited to join the group and which sub-groups it will have. The 14 entities are:

1. Ministry of the Interior (*Secretaría de Gobernación*)
2. Ministry of Foreign Affairs (*Secretaría de Relaciones Exteriores*)
3. Ministry of the Navy (*Secretaría de Marina*)
4. Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*)
5. Ministry of Welfare (*Secretaría del Bienestar*)
6. Ministry of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*)
7. Ministry of Energy (*Secretaría de Energía*)
8. Ministry of Economy *(Secretaría de Economía)*
9. Ministry of Rural Development (*Secretaría de Desarrollo Rural*)
10. Ministry of Communications and Transport (*Secretaría de Comunicaciones y Transportes)*
11. Ministry of Public Education (*Secretaría de Educación Pública)*
12. Ministry of Health *(Secretaría de Salud)*
13. Ministry of Tourism *(Secretaría de Turismo)*
14. Ministry of Agrarian, Territorial and Urban Development *(Secretaría de Desarrollo Agrario, Territorial y Urbano)*

The GT-FIN can be used to establish and lead climate finance MRV instruments of federal government policy, capacity building of its agencies and entities, and coordination between them in this area.

## 6.2 State of the art of climate finance in Mexico

### 6.2.1 National climate expenditure

Mexico has historically received climate finance through different multilateral, bilateral and national mechanisms. The data presented below in these sections were taken from the "Sixth National Communication and Second Biennial Update Report to the United Nations Framework Convention on Climate Change", from the final report "Strategic Evaluation of the Transverse Annex to the Federal Climate Change Expenditure Budget" (Evaluación Estratégica del Anexo Transversal del Presupuesto de Egresos de la Federación en materia de Cambio Climático AT-CC) and from the report "Opportunities and barriers to leverage international financing sources to achieve Mexico's sectoral climate objectives, 2018"5, all documents prepared by INECC in coordination with relevant actors.

Up-to-date information and data used by INECC comes from public sources generated by national bodies, international organizations and financial institutions, among others, as well as from interviews with key actors that allow for a greater level of detail.

At the national level, a number of financial mechanisms and instruments associated with and specific for fighting climate change have been created (mitigation and adaptation). Most resources for climate change come from the **Federal Expenditure Budget (PEF)**, which is the instrument that collects the resources that will be allocated in this area through "Transverse Annex 16: Resources for Adaptation and Mitigation of the Effects of Climate Change" (AT-CC)[6], which will be detailed in "Section 5. Previously implemented initiatives". Specialized funds for climate change mitigation and adaptation actions also channel national public resources. For their

[5]Original name in Spanish: *Oportunidades y barreras para aprovechar las fuentes de financiamiento internacional que favorezcan el alcance de los objetivos climáticos sectoriales de México, 2018* (INECC, 2018a) (INECC, 2017) (INECC, 2018)

[6] In the PEF 2020, the AT-CC corresponds to Transversal Annex 10: Resources for Mitigation of the Effects of Climate Change. This name may cause confusion with adaptation-only activities, so from this year it would be necessary to review in detail if it also involves adaptation actions; therefore the methodology used by the SHCP to make the classification becomes important.

part, resources that states or municipalities can allocate for climate change mitigation and adaptation actions are also mostly considered in the PEF or in specialized funds.

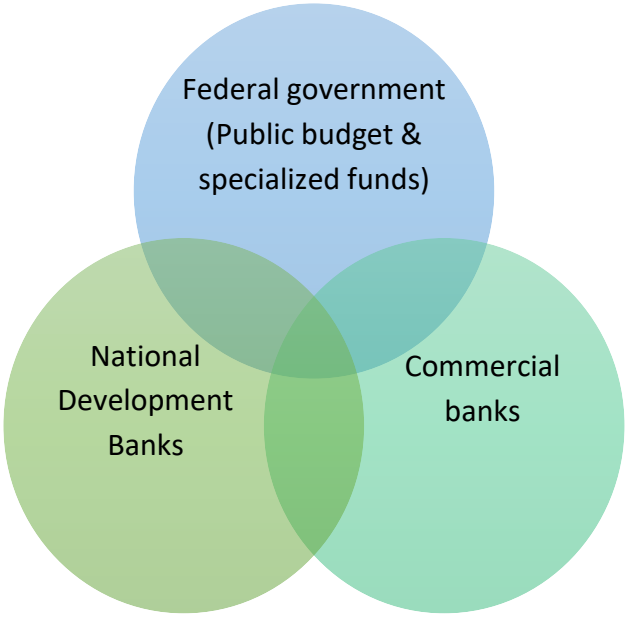


**Figure 4** Main funding sources for mitigation and adaptation to climate change at national level Source: Prepared by the author, 2020.

The role of **national development banks** stands out, as they are key actors not only in mobilizing international climate finance, but also in leveraging domestic resources of public and private investments needed for climate change mitigation and adaptation actions and in promoting environmental and social benefits.

Likewise, among private sources of financing, **commercial banks** are increasingly involved in this area, providing resources for climate change mitigation and adaptation projects through a wide range of financial instruments such as private funds, pension funds, loans, guarantees and other special funds created to address this problem. Mechanisms identified as relevant to the country are described below:

## Federal Expenditure Budget

The PEF is the document that specifies the amount and destination of economic resources required by the Government of Mexico in a fiscal year to meet each of the objectives and goals, committed and demanded, by the different sectors of society. Its importance lies in the fact that it contains the orientation, level of priority, destination and type of expenditure that will be made to meet each of the obligations of the current administration.

Within the PEF, there is the AT-CC, which contains the resources allocated to works, actions and services related to adaptation and mitigation of the effects of climate change in various bodies and entities of the federal public administration. This annex took effect in 2013, following an amendment to the Federal Budget and Fiscal Liability Law (LFPRH, by its Spanish acronym), under the name "Transverse Annex 15: Resources for Mitigation of the Effects of Climate Change." However, this annex evolved in 2015 to include provisions for adaptation, becoming "Transverse Annex 16: Resources for the Adaptation and Mitigation of the Effects of Climate Change" (INECC, 2017).

In 2013, "Transverse Annex 15" accounted for budgetary resources for **climate change mitigation in the amount of $2,246.19 million dollars** distributed in 38 budgetary programs. In 2018, through "Transversal Annex 16", the **budget allocated for mitigation and adaptation actions was $3,247.74 million dollars**, up 44.5% between 2013 and 2018 (INECC, 2018).

Based on an INECC study (2018) into the allocation of resources foreseen for 2018, 40.67% was destined for programs of response to and prevention of natural disasters; 23.43% to agriculture, livestock, fishing and aquaculture projects; 15.78% to environmental and natural resources issues; 13.97% to commercialization of electric power services, energy efficiency and electric power infrastructure projects; 1.78% to risk prevention and infrastructure; 1.46% to energy policy and diversification; and the remaining 4.77% to activities related to environmental education, civil protection, road restructuring and maintenance, health risks, scientific research, development and innovation, and hydrocarbons, among others.

## Specialized funds

In Mexico there are specialized financial instruments, mainly under the legal figure of public management and payment trust funds that have as their mandate, or as part of it, to receive and channel resources for climate finance either from national or international, public or private sources. The main activities funded include research, development and/or implementation of projects.

At present, public trust funds are undergoing a process of review by the authorities (SHCP) and only those that have been created by law or that meet the requirements established in the decree specifically published for this purpose will remain. For this reason, it is possible that not all the funds that will be listed in this section will persist. However, as already mentioned, the list corresponds to those that have allocated resources based on available public information.

Below we present a list of the main trust funds that have allocated resources for mitigation and adaptation to climate change actions, and later a specific section on the Climate Change Fund (FCC) trust fund, which is the main financial instrument for these issues.

Table 1. Main trust funds that have contributed to climate finance. Source: Prepared by the author with information from INECC, 2018.

| Instrument | Objective | Financing |
|---|---|---|
| CONACYT–SENER Energy Sustainability Fund *(Fondo de Sustentabilidad Energética)* | To promote applied scientific and technological research, as well as technological adoption, innovation, assimilation and development in the field of renewable energy sources, energy efficiency, use of clean technologies, and diversification of primary energy sources (CONACYT, 2018b). | During 2016, the Energy Sustainability Fund supported 6 projects worth $36.45 million dollars focused mainly on energy diversification through studies, capacity building and technological innovation (CONACYT, 2016). |
| SEMARNAT-CONACYT Sectoral Fund for Environmental Research *(Fondo Sectorial de Investigación Ambiental)* | To support the requirements of the environmental sector in terms of scientific, technological and innovation research (CONACYT, 2018c). | During 2017 and up to the second quarter of 2018, this fund contributed $1.51 million dollars to 49 projects, of which 22 were focused on |

| | | |
|---|---|---|
| | | environment and natural resources, 7 on agriculture, 6 on climate risk management, 2 on solid waste, 1 on housing, 1 on industry and 9 on cross-cutting issues of climate change (CONACYT, 2018c). |
| CONAVI–CONACYT Sectoral Fund for Scientific and Technological Development for the Promotion of Production, Financing of Housing and Growth of the Housing Sector (*Fondo Sectorial de Desarrollo Científico y Tecnológico para el Fomento de la Producción y Financiamiento de Vivienda y el Crecimiento del Sector Habitacional – Comisión Nacional de Vivienda*) | To promote scientific research, technological development, and innovation by channeling resources to research projects that can generate knowledge, technological developments or innovations in the field of housing (CONACYT, 2018d). | During 2017 and up to the second quarter of 2018, this fund contributed with $76.95 thousand dollars for 7 projects, which were focused on the development of a sustainable housing model, as well as the design of thermo-physical materials for social interest homes (CONACYT, 2018d). |
| National Infrastructure Fund FONADIN *(Fondo Nacional de Infraestructura)* | To make investments in infrastructure, mainly in the communications, solid waste, water, tourism, transport, environment and energy sectors (Presidency of the Republic, 2008).<br><br>Supports the planning, design and execution of infrastructure projects with high social impact or economic profitability involving the public and private sectors. It has various financial mechanisms for recoverable and non-recoverable support. | In 2016, FONADIN authorized more than $1,419.98 million dollars, of which 51% was non-recoverable support and 49% recoverable support. Of the non-recoverable support ($724.19 million dollars), 28% was for solid waste, 18% for road projects, 13% for mass transportation and 41% for other sectors. Of the recoverable support ($695.79 million dollars), the financing was mainly for roads (70%), 11% for energy and the remaining 19% placed in investment funds (BANOBRAS, 2017a). |
| Fund for Energy Transition and Use of Sustainable Energy FOTEASE *(Fondo para la Transición Energética y el Aprovechamiento Sustentable)* | To channel domestic resources to support actions that contribute to the fulfillment of the Transition Strategy to Promote the Use of Cleaner Technologies and Fuels, which includes the national policy for the use of clean energy. Since its creation FOTEASE has | During 2017, the Fund approved $9.19 million dollars to support 5 projects to optimize the use of raw materials for electricity generation, promote infrastructure for electro-mobility, design information platforms on energy policy and |

| | | |
|---|---|---|
| | supported 25 projects related to renewable energy sources, electro-mobility and energy efficiency (SENER, 2018b). | encourage energy partnerships (SENER, 2018b). |

## Climate Change Fund

The Climate Change Fund (FCC) is a specialized trust fund that was created under the General Law on Climate Change (LGCC) on November 30, 2012. The SHCP is the trustor, Nacional Financiera is the trustee and the Ministry of the Environment and Natural Resources (SEMARNAT) is the responsible entity.

It was created to attract and channel public, private, national and international financial resources to support, among others, the implementation of climate change adaptation and mitigation actions with measures such as the implementation of sustainable farming practices, replenishment of aquifers, promotion of ecosystem connectivity and sustainable use of biodiversity, among many others.

"Since its creation, the FCC's equity has been about $11.10 million dollars (NAFIN, 2018a), mainly from budget contributions" (INECC, 2018, p. 64) from SEMARNAT. The FCC has gone through an institutional strengthening process to increase its resource-use capacities, as it has the potential to become the main national instrument for receiving and using resources for the environment and climate change.

This process has been supported by several international collaborators such as the UNDP's Biodiversity Finance Initiative (BIOFIN), GIZ, the French Development Agency (AFD) and the World Bank (WB), among others.

In December 2019, almost eight years after the creation of the FCC, the GEF, through the WB, made the first contribution with international resources to the tune of $1 million dollars (out of a total of $21.7 million dollars) for implementation of the Sustainable Productive Territories project (*Territorios Productivos Sostenibles*), with SEMARNAT being the executing agency.

While the strengthening process is still ongoing, it is important to highlight the importance and entry into operation of this national mechanism.

## State and municipal resources

Additional resources for state or municipal climate change mitigation and adaptation actions, which are not considered in the PEF or in the specialized funds, are those coming from the expenditures and environmental funds[7] of states that have resources earmarked for such actions. However, "(…) very few state governments have a budget allocation and funds to directly earmark financing for their climate change actions and to support their local governments in this respect. Some of the governments that already have this type of vehicle are the governments of Jalisco and Guanajuato (…)" (Alcántara, 2018, p. 36). During 2018, these states allocated $4,342 and $33 million pesos respectively to their climate change budget, and additionally both states have environmental funds with financing earmarked to address climate change and promote the climate agenda of their municipalities (Alcántara, 2018).

According to the Mexican legal framework, states can also implement economic instruments to generate additional income and channel it to climate change mitigation and adaptation actions. These can be fiscal or market instruments and include taxes, fines and duties. However, due to a lack of institutional powers or difficult implementation processes, they are not applicable in most states (Niño, Mendivil & Alonzo, 2017).

## National development banks

Among the national development banks that channel resources for climate change mitigation and adaptation are Banco Nacional de Obras y Servicios Públicos (BANOBRAS), Nacional Financiera (NAFIN) and Sociedad Hipotecaria Federal (SHF).

[7] The Guide to climate finance for federal entities in Mexico (*Guía de financiamiento climático para entidades federativas en México*) (2017) defines an environmental fund as a financial mechanism through which a local government can raise and channel public and private, national and international financial resources to the protection, preservation or conservation of the environment and natural resources.

BANOBRAS' financial instruments related to climate change are focused on financing energy, water, solid waste and urban infrastructure projects. In 2016, the balance of the direct and induced loan portfolio for energy sector projects amounted to $2,084.99 million dollars, and direct and induced financing was granted to 15 energy projects for $687.64 million dollars. In 2017 and 2018, BANOBRAS issued $1,036.68 million dollars in green and social bonds, which are intended to provide financing for sustainable projects, infrastructure works and financial and institutional strengthening of federal entities and municipalities (INECC, 2018).

In 2017 NAFIN allocated $884.33 million dollars through loans and guarantees to energy efficiency projects, renewable energy sources and new transportation systems (INECC, 2018). Financing operations carried out by NAFIN include the issuance of a $500 million dollar green bond and another for $2 billion pesos for the creation of wind farms, business loans, the “renewable energy” program and the financing and risk transfer program for geothermal energy. NAFIN also grants loans in the transport sector through a financing program for the acquisition of hybrid taxis and a financing program for the mass transport vehicle fleet (INECC, 2018a).

In turn, the SHF grants loans for mitigation and adaptation projects in areas related to housing solutions. The EcoCasa I, Ecocasa II and EcoCasa III programs provide funding to developers who build houses for families with incomes below twelve minimum wages and who reduce greenhouse gas emissions by at least 20% compared to a traditional house (INECC, 2018a). From 2013 to the end of the first half of 2018, the EcoCasa program granted $612.97 million dollars from international and national sources, of which 67.30% corresponds to Ecocasa I loans, 26.07% to Ecocasa II and 6.63% to Ecocasa III (INECC, 2018).

### Commercial banks

Among national commercial banks that channel resources for climate change mitigation and adaptation are Grupo Financiero Banorte and Citibanamex. BANORTE, committed to climate change in 2012, creating its Social and Environmental Risk Management System for financing. In 2017, it became the first financial group to join the Principles for Responsible Investment, committing to integrate environmental, social and governance risk criteria into its investment process and AFORE, and joined the call of a group of 390 global investors representing $22 billion dollars in assets. That year BANORTE channeled $479

million dollars in financing for clean energy (BANORTE, 2017). For its part, Citibanamex has granted loans and support to clients with energy, environment, risk management, housing and biodiversity initiatives that have a positive social and environmental impact (INECC, 2018).

Other banks that are also embarking on sustainable investment strategies include BBVA Bancomer, CI Banco and HSBC. Through the various mechanisms of commercial banking, it is estimated that the resources received by Mexico during 2016-2018 amounted to $559.5 million dollars, mainly through loans (GFLAC, s. f.).

### 6.2.2 International financing received

**During 2003-2017, Mexico received the second largest amount of international climate finance in Latin America**, after Brazil (Bird, Schalatek, Watson & Keil, 2017), in the multilateral, bilateral and regional modalities. This allowed design and execution actions in different sectors. "Financing from multilateral and bilateral sources for Mexico, during the period 2017-2018, amounted to $1,299.53 million, corresponding to 30 projects [...]" (INECC, 2018, p.52). In terms of resource distribution, multilateral and bilateral sources allocate 60% to cross-cutting projects, 35% to mitigation and 5% to adaptation. In terms of the number of projects, 13 are cross-cutting ($776.18 million), 13 are related to mitigation ($461.71 million) and 4 to adaptation ($61.64 million) (INECC, 2018), see Figure 5.

For detailed information on each of the 30 international financing projects, please review the table in Annex 2 of the report “Opportunities and barriers to take advantage of international financing sources that favor the achievement of Mexico's sectoral climate objectives”. However, it is worth mentioning that some of the figures presented, particularly in the section on development banking and multiple banking, are being updated by those responsible for this information.

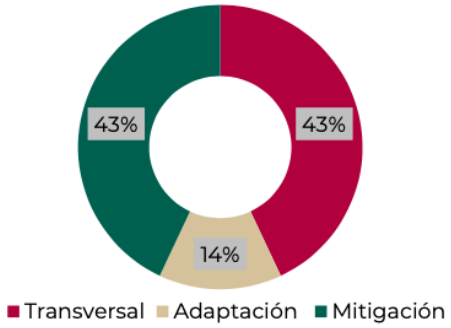


Figure 5. Distribution of international climate finance resources in Mexico for 2017-2018. Source: INECC, 2018.

## Global Environment Facility

The Global Environment Facility (GEF) is one of the financial mechanisms of the UNFCCC, which provides resources to government agencies, civil society organizations, private sector companies, and research institutions for projects focused on areas such as: biodiversity, climate change, chemicals and waste, sustainable forest management, international waters, and land degradation. This fund is capitalized every four years and Mexico is both a donor and recipient country.

During its sixth capitalization, between 2017 and 2018, five projects related to climate change were approved, for a total of $46.83 million dollars, which mostly have a cross-cutting focus (mitigation and adaptation). Projects are focused on capacity-building, institutional arrangements and transparency in climate finance, planning, territorial planning and development requiring climate change considerations, biodiversity, forest governance and energy efficiency. Responsible agencies within GEF are IDB, WB and UNDP, and the executing agencies are BANOBRAS, the Ministry of Energy, SEMARNAT, NAFIN and the United Nations Office for Project Services (UNOPS). The financial instruments are non-refundable resources, traditional and concessional loans as well as technical cooperation (INECC, 2018).

For the seventh GEF replenishment period, Mexico has $64.54 million dollars earmarked for biodiversity projects ($47.04 million), climate change ($13.4 million) and soil degradation ($4.04 million). Mexico launched a national call for bids that closed in May 2019.

## Green Climate Fund

This Fund was adopted in late 2011 as the UNFCCC financial mechanism and became fully operational in 2015. Its purpose is to help meet the climate change mitigation and adaptation objectives of the international community in a balanced manner. The Fund finances projects and programs to reduce greenhouse gas emissions or to adapt to climate change, both in the public and private sectors (Karremans, Brugger, Argüello & Dascal, 2017).

The Fund channels its financing through accredited entities. An entity requesting accreditation must submit an application through the Fund's online Accreditation System, along with a letter prepared by the Designated National Authority or Focal Point, which in the case of Mexico is the SHCP. This in order to generate national capacities for managing the funds in the countries that receive resources. There is only one accredited entity in the country, which is the Mexican Fund for the Conservation of Nature, but two national development banks have also started the accreditation process: NAFIN and BANOBRAS. Financing can also be accessed through multilateral and international entities already accredited.

In 2017 and 2018, Mexico qualified for two global GCF projects. The first was a project led by IDB Invest for $20 million dollars, aimed at reducing emissions in the agricultural sector and at increasing adaptability in Guatemala and Mexico through the creation of a risk distribution mechanism for small and medium-sized companies. The financial instruments used are debts, guarantees, equity and subsidies. The other project is NeXt, of the Global Fund for Energy Efficiency and Renewable Energy Sources, which encompasses 29 countries, including Mexico, and aims to catalyze private sector investment for renewable energy and energy efficiency projects (INECC, 2018). However, until now Mexico has not received resources from the GCF under these facilities nor for other independent projects.

## Inter-American Development Bank

Established in 1959, the IDB helps member countries in Latin America and the Caribbean adapt to the impacts of climate change and reduce greenhouse gas emissions through loans, non-reimbursable resources, and technical assistance. In 2013, it approved the Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (IDB, 2013).

Out of the projects approved for Mexico in 2017 and 2018, seven are specifically related to climate change, and address issues such as integrated water management, renewable energy sources, sustainable housing, transportation and planning, and land management and territorial development with climate change considerations. New resources granted for these 7 projects amount to $680.92 million dollars (INECC, 2018).

Financial instruments used for these projects are technical cooperation through non-refundable loans, loans to the private sector, concessional loans, guarantees, and other types of loans. For these projects, the IDB mainly used resources from the following funds: Chinese Co-financing Fund for Latin America and the Caribbean, and the Small Business Fund for Clean Technologies, Ordinary Capital and Facility (INECC, 2018).

## World Bank

The World Bank Group was created in 1944 and is made up of five institutions: (i) the International Finance Corporation, (ii) the Multilateral Investment Guarantee Agency; (iii) the International Center for Settlement of Investment Disputes; (iv) the International Bank for Reconstruction and Development (IBRD); and (v) the International Development Association (IDA). IBRD and IDA make up the World Bank.

The WB operates as a trust fund for 15 climate finance initiatives, including the Biocarbon Fund, the Forest Carbon Partnership Facility, the Partnership for Market Readiness, as well as the Climate Investment Funds, which comprise the Clean Technology Fund and the Strategic Climate Fund. The World Bank channels resources through low-interest loans, interest-free loans and non-refundable resources (Karremans, Brugger, Argüello & Dascal, 2017).

The World Bank has supported Mexico through its various climate change instruments and service offices since 1989. Up to 2018, the World Bank has supported 37 climate change projects. In 2017, it approved the Dedicated Grant Mechanism for Indigenous Peoples and Local Communities Mexico project, which

has $6 million dollars in non-refundable resources coming from the Strategic Climate Fund, through the Forest Investment Program (INECC, 2018). The project channels resources directly to indigenous peoples and communities through the executing agency, Rainforest Alliance.

#### Bilateral sources

Mexico has received international resources from a number of bilateral sources, including the United Kingdom's International Climate Fund, the German Development Bank (KfW), the German Cooperation Agency (GIZ), the German International Climate Initiative (IKI), the French Development Agency (AFD), the US Agency for International Development (USAID) and the Danish Energy Agency (DEA)[8].

### 6.2.3 Climate finance needs

In April of 2016, Mexico signed the Paris Agreement and thereby confirmed the country's NDCs, with Mexico's unconditional commitment to a 22% reduction in greenhouse gas emissions by 2030 compared with a 2013 business-as-usual scenario that implied not taking any action to stop climate change (Government of the Republic, 2015).

In December 2015, INECC published the document "Commitments for Mitigation and Adaptation to Climate Change for the period 2020-2030", in which 30 measures were proposed for eight economic sectors to support the commitment made by Mexico (Government of the Republic, 2015).

In 2016, INECC, with the support of the DEA, set out to assess the economic cost of implementing the 30 measures of the unconditional NDCs, to meet the GEF

[8] For details and amounts of projects that have received financing from these sources see the table in Annex 2 of the report Opportunities and barriers to leveraging international financing sources to achieve Mexico's sectoral climate objectives *(Oportunidades y barreras para aprovechar las fuentes de financiamiento internacional que favorezcan el alcance de los objetivos climáticos sectoriales de México).*

mitigation goal, within the framework of the Mexico-Denmark Program on Energy and Climate Change Mitigation.

The aggregate cost of the thirty sectoral measures, accrued throughout the 2014-2030 period, was calculated at just over 126 billion dollars in 2017. If this investment is successfully executed, a mitigation of 1,520 million tons of carbon dioxide equivalent is foreseen, compared with a scenario of inaction in the face of climate change during the same period (INECC, 2018b).

Cost assessment performed by INECC is a very valuable input for the Climate Finance MRV, since it provides an estimate of financing needs. This, together with an adequate measurement of what the country currently allocates for actions to mitigate and adapt to climate change, makes it possible to identify financing gaps and therefore channel resources in a targeted manner. In turn, it provides guidance on the type of resources required and the destination sector for an adequate management of resources that contribute to achieving the goals set.

Despite the progress to date, there are major gaps in access to climate finance, mainly for adaptation, as well as in the understanding of the climate finance architecture, the requirements of existing funds, the lack of capacity within national and sub-national institutions to access funds and implement projects, as well as the need to establish conceptual consensus and methodologies for measuring climate finance flows. The Climate Finance MRV can contribute to overcoming these challenges by presenting all the information on the resources that are allocated to climate change mitigation and adaptation actions on a single platform.

## 6.3 Map of relevant actors for a Climate Finance MRV system in Mexico

This section presents a map of key actors in the full process of creating and implementing the MRV Climate Finance system in Mexico. It also covers the origin of some stakeholders that are relevant for this process and some other groups that could be useful in collecting information, obtaining financing or providing feedback on the process.

First, the LGCC, which entered into force in 2012, establishes the creation of SINACC as a mechanism for concurrence, communication, collaboration,

coordination and consultation on national climate change policy among the different levels of government, coordinating efforts to implement effective adaptation and mitigation actions. SINACC is made up of the Inter-ministerial Commission on Climate Change (CICC); the Climate Change Council; INECC; the governments of the different federal bodies; a representative of each of the national organizations of legally recognized municipal authorities and representatives of the National Congress (Lower House, 2018). The composition of the SINACC is presented in Figure 6, which also incorporates the Evaluation Coordination, the body responsible for assessing national climate change policy.

The CICC is the main permanent mechanism for promoting coordination of actions on climate change carried out by the different bodies and entities of the federal public administration. It is made up of the ministers in charge of Environment and Natural Resources; Agriculture, Livestock, Rural Development, Fishing and Food; Health; Communications and Transport; Economy; Tourism; Social Development; Interior; the Navy; Energy; Public Education; Treasury and Public Credit; Foreign Relations; and the Agrarian, Territorial and Urban Development ministry (Lower House, 2018).

In turn, the CICC, as mentioned before, is organized into working groups, one of them being the GT-FIN chaired by the SHCP, whose main function is the coordination of climate finance matters. In this sense, the SHCP has expressed interest and readiness to constitute, within the framework of the GT-FIN, specialized subgroups to address issues of mutual interest. Therefore, having a subgroup (SEMARNAT-SHCP-INECC) within the GT-FIN is recommended for running the Climate Finance MRV.


**Figure 6.** Institutional Framework of the National System on Climate Change Source: SEMARNAT, 2013.

The Climate Change Council (C3) is the permanent consultation body of the CICC and is made up of at least 15 members with recognized experience in climate change from the social, private and academic sectors. Among its functions are advising the CICC and making recommendations for the adoption of policies, actions and goals, as well as monitoring these and NDCs (Lower House, 2018).

The INECC, created under the LGCC, is a decentralized body of the federal public administration, sectorized in SEMARNAT, and whose duties include collaborating in the elaboration of strategies, plans, programs and instruments related to climate change, as well as estimating future costs and benefits of actions to face this phenomenon (SEMARNAT, 2013).

As for public institutions playing a relevant role in designing both public policy on climate change and financial mechanisms and instruments, there are the SHCP and SEMARNAT.

Information regarding the federal budget for climate change can be obtained through the SHCP. Although today there is no specific climate change label for resources, there is a budget based on sustainable development objectives that can facilitate this classification. Likewise, the SHCP concentrates the information regarding the resources assigned by national development banks through loans, subsidies, technical assistance, etc. And this Ministry manages, administers and authorizes any type of resources coming from International Financial Organizations (IFOs), based on the powers established in its bylaws, Articles 17 and 37, which state that The Public Credit Unit is in charge of managing public debt and the International Affairs Unit coordinates the relationship of the Federal Government with IFOs (SHCP, 2017). Additionally, the SHCP prepares budget regulations and guidelines, and thus has great potential to influence the inclusion of NDC commitments.

At the federal level, SEMARNAT is in charge of designing and implementing policies and strategies to reduce GHG emissions and increase adaptation to climate change. For its part, INECC provides technical support to SEMARNAT for the preparation of public policy on climate matters (Lower House, 2018). INEGI is another institution with powers to provide official information and is responsible for national ecological accounts.

The National Congress plays an important role through the approval of the federal budget for climate change.

The National Banking and Securities Commission (CNBV) is also a key actor by being the connection with the commercial banks. And as it is the entity in charge of regulating financial institutions, reliable information could be obtained through it.

Sub-national governments, international cooperation and civil society also play an important role, either in providing, executing and/or allocating climate finance. Although there is an active relationship with these actors, it is essential to strengthen coordination mechanisms. To do this, there is a proposal to take advantage of the platforms that already bring these actors together and incorporate the topics related

to the MRV mechanism on Climate Finance instead of creating new groups or a whole new process that would take longer.

In principle, the following groups are considered relevant for the business sector and private banks: Mexico's Business Coordinating Council (*Consejo Coordinador Empresarial*), the Association of Mexican Banks (ABM) and the Association of Private Capital Funds (AMEXCAP). On the other hand, for sub-national governments, relevant actors would be the National Governors' Conference and, in particular, the environment and climate change general committee *(mesa directiva de medio ambiente y cambio climatico).* In all cases, the leadership of SHCP and SEMARNAT is essential.

Figure 7 outlines the main actors and which entity, or entities have the power to establish specific lines of collaboration and institutionalize their participation in the Climate Finance MRV process. The size of the circles is only indicative.

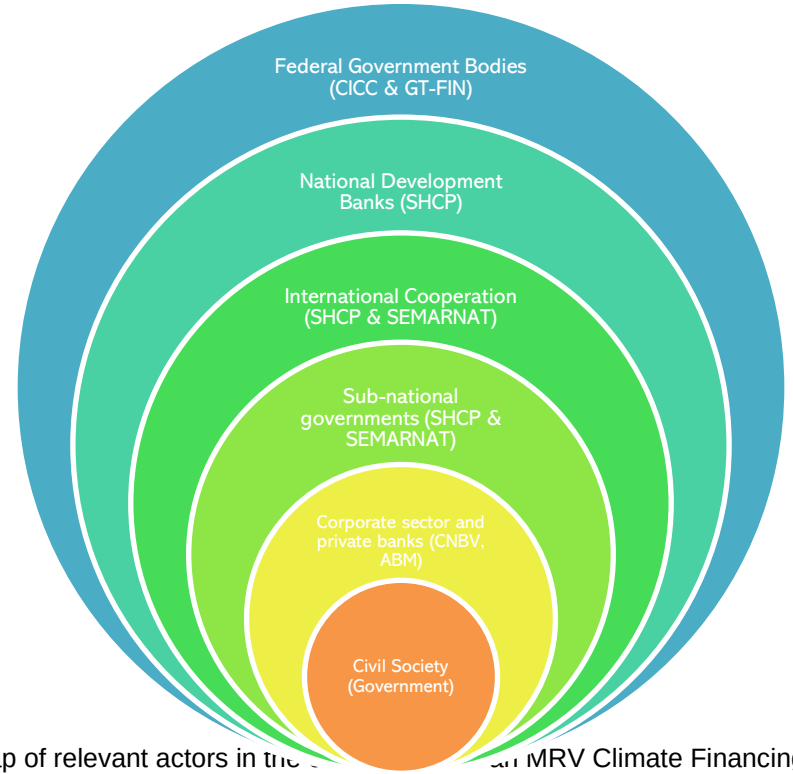


Figure 7. Map of relevant actors in the [illegible] MRV Climate Financing system and proposed actors to coordinate them. Source: Prepared by the author, 2020.

Additionally, the Law of International Cooperation for Development establishes AMEXCID (Lower House, 2015) as the designated entity for managing the registry of international cooperation (coming in and out the country).

The Law establishes the creation of the National Registry of International Cooperation for Development (RENCID), which must contain: a list of the bodies and entities in the Federal Public Administration participating in international cooperation actions; agreements and conventions on international cooperation signed by the Mexican government with other governments and multilateral entities; international cooperation projects and actions in which federal bodies and entities participate as recipients or donors; reports of Mexican and foreign contributors at the end of their international cooperation missions, among others (Lower House, 2015)

The database generated through RENCID can be used to gather information about the international cooperation that Mexico grants, however, international cooperation received is not registered due to the difficulty of tracking it. The registry requires trained personnel, so at times of government changes, where major personnel changes take place, it becomes a greater challenge to generate and obtain information in a timely manner.

### Results of interviews with relevant actors

For the successful development of a Climate Finance MRV system, it is necessary to identify the different institutions that can contribute valuable information or advice, from the moment the project enters the design stage. For preparing this report, personnel from the SHCP, SEMARNAT, INECC, INEGI, AMEXCID, BIOFIN Mexico, IDB and KfW were interviewed. The following table includes the questions posed, as well as a summary of the answers obtained. Questions posed to a specific institution are not included but have been considered in the development of the document.

Table 2 Questions asked to interviewees. Source: Prepared by the author with information obtained through interviews, 2020.

| | |
|---|---|
| Is there a classification of climate finance that your institution uses? | • "Finance to tackle climate change is financing coming from national and international sources (either public or private) aimed at facilitating and implementing the country's climate change policy, as well as actions that contribute to reducing emissions of greenhouse gases and compounds, moving towards low carbon development, conserving and increasing carbon sinks, reducing vulnerability and maintaining and increasing resilience of human and ecological systems to the impacts and negative externalities of climate change, through adaptation measures, as well as development of policies, programs and projects in this area" (INECC, 2020, p. 10).<br>• Financial resources, both own and external, managed and committed by Multilateral Development Banks (MDBs) for development operations and its components, which include activities that mitigate climate change and support adaptation to climate change in developing and emerging economies (MDBs, 2019). |
| What do you consider to be the most efficient way of using current systems and available information for operating the climate finance MRV? | • Currently there is information on the environmental accounts generated by the National Institute of Statistics, Geography and Informatics (INEGI). Therefore, having a climate change taxonomy would allow INEGI to estimate the public resources allocated based on the existing information.<br>• The Mexican Agency for International Development Cooperation (AMEXCID) and the Ministry of Finance and Public Credit (SHCP) could conduct a joint coordination so as to provide an estimate of the technical cooperation received by the country, since this information isn't accounted for by the SHCP as it doesn't involve financial resources received by the country in a direct manner. |
| What elements do you consider would be key to the design of an effective | • Assessing the costs of the commitments established in the NDC. This would provide a reference of the resources that are needed to achieve the goals. |

| | |
|---|---|
| Climate Finance MRV? (such as variables, information display, **filters)** | • A taxonomy of climate change that allows institutions to categorize information.<br>• Incorporating basic adaptation criteria and geographic visualization. Reviewing impact indicators to see if financing actions had an impact on Mexico's NDC. |
| From your point of view, who should produce, capture, and process the information required for the Climate Finance MRV? | • The SHCP is responsible for the development of the AT-CC methodology and is currently working on the methodology of a green budget, which if considered, could lead to the inclusion of one or more digits in the budget code for monitoring of this kind. The green budget methodology at the federal level is being developed by the Performance Evaluation Unit (UED).<br>• AMEXCID, in accordance with International Development Cooperation Law, is responsible for the National Registry of International Development Cooperation (RENCID), where the international development cooperation offered and received by Mexico is quantified.<br>• The SHCP and other agencies and entities of the federal public administration are responsible for reporting expenditure in each period, so they can provide the necessary information related to climate change. It is advisable to review how areas of opportunity are currently identified and how to have information that truly reflects the resources aimed at mitigation and adaptation to climate change.<br>• INEGI is responsible for national ecological accounts, so if it had a climate change taxonomy, it could calculate estimates with the information currently available in the public account. |
| Where should the Climate Finance MRV be housed so that information management is sustainable (that is, so that it does not depend on available | • The technological platform would have to be hosted in the Climate Change Information System established in Article 107 of the LGCC. It should also be on the SHCP's Budget Transparency page. |

| | |
|---|---|
| resources such as international cooperation)? | • The system should be housed by the SHCP based on the powers established in its bylaws, Art. 17 and 37. |
| How can it be financially and economically sustainable? | • By using existing mechanisms. For example, in the case of loans from international financial institutions, a criterion to classify the resource as climate finance could be added to the loan authorization form issued by the SHCP.<br>• National development banks can use the Environmental and Social Risk Management System (SARAS) as an input for classifying its operations. On the other hand, the National Banking and Securities Commission (CNBV) could be a key partner for the implementation of SARAS, by encouraging banks to adopt this mechanism and, also, to have a common nomenclature to identify the type of loan (the National Bank of Mexico is making efforts in this regard).<br>• Through knowledge management, to institutionalize knowledge. Through a knowledge management platform, available on a website. Providing training on climate change for agencies.<br>• Mainstreaming of climate change through training and knowledge management.<br>• By using national capabilities.<br>• A climate change taxonomy is required.<br>• An agile and easy-to-use system must be established, so that those reporting can send the information. |
| How could the information be made available at sub-national and local levels? | • RENCID could be the repository for sharing information on international cooperation received at the state level, whether technical or financial cooperation.<br>• Through the sub-national NDC tool, with a financing component. |

# 7 Previously implemented initiatives

This section presents the previous experiences that have been developed in the country to keep a record of climate finance. The proposed methodology, the results obtained and the main weaknesses that the country saw are summarized here. Also included is a summary of the methodology developed jointly by the MDBs, as well as that used by BIOFIN for biodiversity financing.

Firstly, we describe the methodology proposed by INECC for the MRV applied to financing of actions for adapting to climate change in Mexico, as it is an advanced effort of the federal government in the matter, which involves the different sources of climate financing that have been identified in this report and in various studies. Subsequently, information on the AT-CC is presented, which constitutes an important initiative to monitor national public spending on actions to mitigate and adapt to climate change. The methodology proposed by the Climate Finance Group of Latin America and the Caribbean (GFLAC) for a Climate Finance MRV is summarized below, because it features an important degree of detail in the steps to be followed for the implementation of an MRV and for being a benchmark in climate finance in regional and global processes. Likewise, INEGI's work in the country's ecological national accounts is mentioned, since it is an important starting point on the subject. Finally, the methodology of the MDBs and BIOFIN are presented because they have been applied in the country by these international organizations.

## 7.1 A finance MRV for actions aimed at adapting to climate change in Mexico

INECC, within the framework of the project “Construction of adaptation monitoring and evaluation schemes in Mexico for the formulation of evidence-based public policies” (INECC- CONACYT), developed a “Measurement, Reporting and Verification (MRV) methodological proposal of financing actions for adaptation to climate change in Mexico” (INECC, 2020). This guide focuses on the analysis of the financing options for adaptation actions in Mexico, with public, private, national and international sources; It focuses mainly on the measurement phase, detailing the methodology for obtaining the information.

Six guiding principles for the system are proposed in the guide:

1. **Transparency and accountability**: For the effective implementation of an MRV, it is necessary to expand the levels of transparency and accountability regarding the flows of resources received internationally and assigned via public budget, this through the publication of information on websites and in documents accessible to the general population.

2. **Integrity**: Means that a report must cover all the relevant sources, instruments and uses of funds (types and locations of actions), including national, international, public and private sector financing.

3. **Definition of criteria for adaptation to climate change:** For the best monitoring and reporting, there needs to be a system of characterization and categorization of the actions that will be considered adaptation to climate change.

4. **Criteria for MRV effectiveness**: The effectiveness of an MRV system depends on the integration of elements that lead to an impact analysis of the financial resources, which is complemented by M&E tools relating to adaptation.

5. **Consistency**: Means that a report must be internally consistent with reports from other years. A report is consistent if the same methodologies are used for all years. Under certain circumstances, a report using different methodologies for different years can be considered consistent if it has been transparently recalculated.

6. **Progression over time:** Allowing it to be updated and improved as national priorities or national policy instruments change, or if the requirements of the UNFCCC and / or donors are modified, which ensures the permanence of the MRV (INECC, 2020, Annex 2. p.67).

The framework of the INECC-CONACYT project also included the document “Criteria for monitoring and evaluation of measures to adapt to climate change” (INECC, 2020a). In this document, the following is proposed as a definition of adaptation measures: “[…] a measure for adaptation to climate change seeks to generate the necessary adjustments to respond to impacts that are anticipated or experienced as a result of climate change by reducing vulnerability” (INECC, 2020a,

p. 10). Likewise, in order to evaluate the design of adaptation measures, 12 minimum criteria and two desirable criteria are indicated, which are presented below:

Table 3 Criteria for evaluating a climate change adaptation measure. Source: INECC, 2020a.

| Criterion | Description |
|---|---|
| | *Measure:* |
| Climatic | Addresses current and/or future conditions and problems related directly or indirectly to climate change, variability and extreme climate events, based on available information. |
| Systemic | Must consider the different components of the socio-ecosystem in which it is implemented and the relationships between them. |
| Viability | Includes an analysis of limitations and opportunities that considers economic, technical or technological, social, cultural, institutional, regulatory and/or political variables for its implementation, as well as social and environmental safeguards. |
| Measurability | Considers a baseline (diagnosis of vulnerability to climate change) as well as explicit goals and metrics of its progress, which allows monitoring and evaluation. |
| Capabilities | Strengthens technical, financial, organizational and/or human resources capabilities at the community and institutional level. |
| Local Context | Part of a participatory diagnosis, this addresses specific problems and considers the environmental, social, economic and cultural characteristics of the territory. |
| Governance and Demographics | Actively engages the population and civil society, based on a human rights approach, incorporating their knowledge and experience in all phases of the Adaptation Process and promoting local appropriation of the measure. This approach includes gender, age groups, intergenerational justice, indigenous communities, and populations that are particularly vulnerable to climate change. |

| | |
|---|---|
| Alignment | Being coherent and directed to the territory with instruments of international, national and sub-national policy on development and climate change. |
| Sustainability | Benefits of the measure continue after the implementation period, based on the availability of economic, social and institutional resources needed for continuity. |
| Distribution of Benefits | Must ensure that the distribution of benefits is fair, equitable, inclusive and transparent. |
| Secondary Benefits | Promotes additional positive effects other than the proposed objective, in environmental, social and/or economic variables. May include synergies with mitigation. |
| Desirables: Flexibility and no regrets | The measure can be modified in terms of its structure, design, goals or implementation procedures, should any failure or change in the climatic trajectories or socio-environmental and economic characteristics be identified. |

The methodological proposal points out nine steps to comply with the three phases of a Climate Finance MRV, focusing on the measurement phase which consists of five steps. The information is expected to be updated on an annual basis.

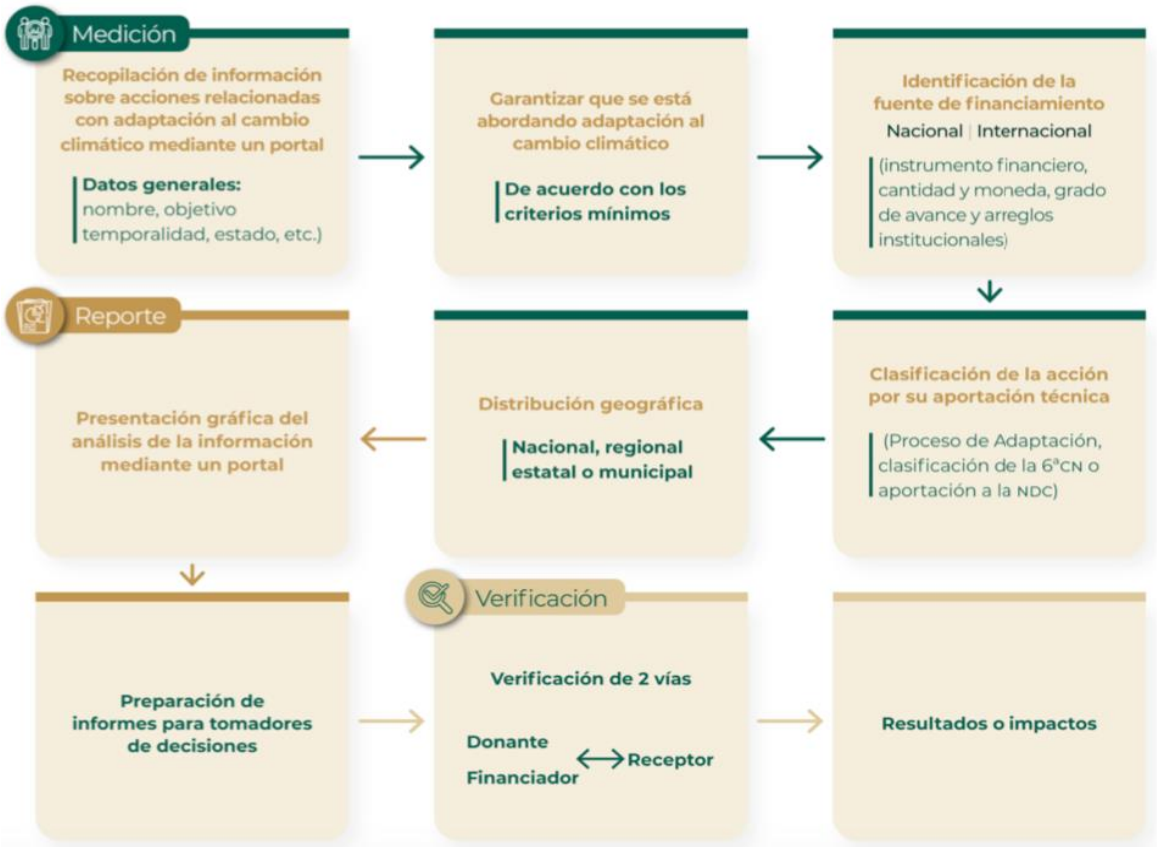


**Figure 8. -** Phases of an MRV for financing of adaptation actions Source: INECC, 2020.

## Measurement Phase

Step 1- Information Gathering. The information on the adaptation actions that are being developed is collected, and the proposed means for this is to fill out a digital form on a web portal. Those responsible for completing this form would be bodies in the public administration, from international cooperation, civil society organizations, and academia, among others. The information to be collected covers general data of the project, the amount and source of financing, technical contributions that include the phases of the adaptation process that are based on the conceptual framework developed by INECC (INECC, 2020), the types of actions taken and their

contribution to the NDC, and finally the geographical distribution. For more details of the information that would be collected see Annex I - Digital form of Annex 2: Proposal for a guide to Measurement, Reporting and Verification (MRV) of support on climate finance for Adaptation in Mexico (INECC, 2020).

Step 2- Ensure that adaptation to climate change is addressed. It is suggested that the information collected be analyzed based on the criteria developed for the design of an adaptation measure. Depending on the fulfillment of said criteria, the analyzed action may continue to the next step. At this point it is not stated which institution would be in charge of the process of evaluating compliance with the criteria.

Step 3- Identification of the source of financing. Once it is determined that the project corresponds to an action to adapt to climate change, the source of financing, the financial instrument, the amount and currency are identified, as well as the institutional arrangements for execution.

Step 4- Classification of the actions by their technical contribution. In this step, four general phases are considered in accordance with the Adaptation Process that has been developed in the country, these being: 1) analysis of current and future vulnerability; 2) design of adaptation measures; 3) implementation of adaptation measures, and 4) monitoring and evaluation (SEMARNAT-INECC, 2018). It is also proposed that the team responsible uses the typology developed for the Sixth National Communication to categorize adaptation actions: institutional arrangements and mechanisms; planning, management and instruments of public policy; laws, guidelines and regulations; physical infrastructure; actions implemented in the territory and/or support given to the population; studies and diagnoses; alert or warning systems; observation and monitoring system; information system; financing and insurance; capacity building and/or strengthening; applied research and technology (SEMARNAT-INECC, 2018). Finally, it is proposed that categorizations be based on the NDC lines of action, which are not mentioned since the NDC update process is underway.

Step 5- Geographical distribution of the action. In this step the scope of the action is identified, and may be at the national, regional, state or municipal level.

Reporting phase

Step 6- Graphical presentation of information analysis through a portal. It is proposed that information be generated automatically for public consultation, including maps, charts of different types, and flow diagrams, among others. Queries, as well as databases, may be downloadable.

Step 7- Preparation of reports for decision makers. Based on the information collected, reports on the trend in financing, areas of opportunity and compliance with the NDC will be prepared. These will be sent to relevant actors prior to the UNFCCC and INECC sessions as inputs for the preparation of National Communications and Biennial Update Reports (BURs) and Biennial Transparency Reports (BTRs).

### Verification phase

Step 8- Two-way verification. This step involves comparing and validating the information provided by two parties involved in a specific adaptation action. At this point, it does not indicate which institution would be in charge of verifying the information.

Step 9- Results and impacts. It is pointed out that monitoring and evaluation tools are required to determine if adaptation actions were carried out effectively and therefore reduced vulnerability to climate change.

### Main results

A first result of this methodological proposal is that "[…] it is necessary to establish a clear mandate on which unit or area will be in charge of administrating the portal, entering the data, maintenance, reviewing and processing the information, and the generation of reports […]" (INECC, 2020, p 90). Similarly, it is pointed out that it will be necessary to generate arrangements that allow the flow of information.

The proposed MRV would be expected to allow a better understanding of the distribution and need for public and private, national and international resources for adaptation actions.

The methodological proposal was made public in February 2020, so it is still necessary to share it with the relevant actors and obtain their feedback. However, in comparison to international experiences conducted in this area, the MRV methodological proposal for financing climate change adaptation actions in Mexico

has elements that are necessary for successful implementation, for example, the definition of an adaptation measure and the criteria for identifying that measure. The proposed digital form identifies relevant information that is required in the reports to inform the UNFCCC about the financial support needed and received, through common tabular formats (UNFCCC, 2019).

The main weakness observed in the proposed methodology is that the digital form has to be filled out by different actors, previously indicated. This implies a high risk of gathering unreliable information if the person capturing the information is not given adequate training in the first instance and then adequate knowledge management skills for institutionalization of the data, since adequate filling out of the information would depend on specific individuals.

It is important to keep in mind that the information analysis phase will also require qualified personnel capable of detecting possible inconsistencies, information gaps or double accounting, therefore, sustainability of such analysis depends on having the necessary financial resources in the agency that is designated as responsible. Additionally, as in the case of RENCID, it would be sensitive to the mobility of trained personnel.

## 7.2 Transverse Annex for Mitigation and Adaptation of the Effects of Climate Change

Regarding national public resources, the definition of transverse annexes is found in the reform of the Federal Law on Budget and Fiscal Responsibility of 2012, where subsection III Bis is added to article 2, stating:

> Transverse Annexes: Appendices of the Budget where Budgetary Programs, components of these and/or Responsible Units concur, and whose resources are destined to works, actions and services related to the development of the following sectors: Equality between Women and Men; Integral Development of Indigenous Peoples and Communities; Youth Development; Special Concurrent Program for Sustainable Rural Development; Science, Technology and Innovation Program; National Strategy for Energy Transition and the Sustainable Use of Energy; Attention to Vulnerable Groups; and Resources for Mitigation of the effects of Climate Change (LFPRH, 2012, p.2).

In the same Law, the SHCP is mandated to send "[...] to the Lower House the methodology, factors, variables and formulas used for the preparation of each of the transverse annexes, reporting on the percentages or quotas that are considered in budgets used for budget programs and/or in the responsible units, when integrating said appendices" (LFPRH, 2012, p.69).

Based on the Law, the SHCP publishes the methodology for the preparation of the AT-CC, where quotas or percentages are determined for the sectors (administrative branches) that make up the annex, these being the Governance; Agriculture, Livestock, Rural Development, Fishing and Food; Communications and Transportation; Economy; Health; Marine; Agrarian, Territorial and Urban Development; Environment and Natural Resources; Energy; Tourism; Salary and Economic Benefits; National Council for Science and Technology; Non-Sectorized Entities; state oil company Petróleos Mexicanos and power company Comisión Federal de Electricidad (HSCP, 2016). The definition of quotas or percentages does not have a justification based on climate change criteria.

The INECC Evaluation Coordination team carried out a Strategic Evaluation of the Transverse Annex of the Federation's Expenditure Budget on Climate Change, with information from the 2013-2017 Federal Expenditure Budgets (PEF in Spanish), with the aim of providing information on the impact and efficiency of public actions in climate change that allows strengthening of the National Climate Change Policy (INECC, 2017).

Among the main findings of the evaluation are the following (INECC, 2017):

- The AT-CC annual planning and budget process does not consider climate change criteria, therefore it cannot be determined if the annex budget programs are linked to the national climate change policy. The criteria are more Budgetary in nature, such as efficiency in public spending, prioritization of support for social and productive programs, austerity and improvement in budgetary efficiency, rationality and budgetary discipline.
- Although the LFPRH states that transverse annexes must contain the methodology used, the evaluation identified that this is limited, in each budget program, to stating the amount and percentage of the total resources considered in each annex. Additionally, the evaluation indicates that the planning and

budget areas generally participate in the AT-CC integration process without involving the substantive areas (technical areas) responsible for the goals of the budget programs.

- There are programs that may impact the climate agenda but are not within the AT-CC, since there is to date no solid methodology, nor criteria, for the selection of the programs that this Annex covers.
- Up to 2017, neither SINACC nor CICC had participated in the integration of the AT-CC, even though SINACC is the mechanism for coordination, communication and consultation with regard to the PNCC, and the CICC has the powers to develop criteria for mainstreaming and integrating public policies.
- Regarding information transparency, the federal government, in compliance with the provisions of the LFPRH and the Federal Law on Transparency and Access to Public Government Information, created the Budgetary Transparency Portal. However, this portal does not include information on the use of resources for transverse annexes.
- Another discovery of the evaluation is that the AT-CC is not observed to be the main source of financing for the lines of action of the PECC, which is the planning instrument that articulates the role of federal government in the matter of climate change. From the interviews that were carried out in the evaluation process, public servants indicated that they do not take into account the lines of action observed in the PECC to decide the budget program and the amount to be included in the AT-CC. Additionally, the integration of the AT-CC is annual, while the PECC is integrated every six years with the participation of the substantive areas of each sector.
- In the analysis carried out as part of the evaluation, specifically for 2014, it was discovered that of the 199 lines of action of the PECC only 37.39% had resources in PEF budget projects. Furthermore, 83 PECC lines of action were financed by 37 PEF budget programs, of which only 23 were part of the AT-CC.
- Finally, there is no way to identify the impact of the actions that make up the transverse annex on climate change since the information registered corresponds only to expenditure for the period, despite the fact that monitoring and evaluation of the actions occurs through the Transversal Advancement Module and the Performance Evaluation System (SED). And although the SED is monitored through Results Indicator Matrices (MIR), this is done with a sectoral and not a cross-sectional approach. The evaluation identified that only

4 of the 53 AT-CC budget programs include climate change objectives in their MIRs.

Among the main recommendations of the evaluation are the following (INECC, 2017):

- That the CICC agree to the establishment of a working group on the AT-CC that formulates the criteria to be considered for mitigation and adaptation to climate change in the integration and monitoring of the AT-CC. Additionally, this working group trains public servants in both the administrative and substantive areas that define the budget programs to be included in the AT-CC.
- That the SHCP publish and update the process for defining the guidelines to be applied in the formulation of the PEF and its transverse annexes.
- That the CICC Technical Secretariat coordinate the work necessary to link the AT-CC and the PECC. And that opportunities are identified for MIRs to include climate change indicators.
- That SINACC strengthen the implementation of bases for coordination between the CICC, C3, INECC, the Congress of the Union, state authorities and municipal authorities.
- That the CICC agree that each of the bodies that comprise it report on the resources that it allocates annually to the AT-CC and how these were deployed in the implementation of PECC lines of action.
- Currently, in its Programming and Budget Manual for Fiscal Year 2020 the SHCP includes Transverse Annex 10: Resources for Mitigating the Effects of Climate Change.

This manual establishes that, in the system used for the 2020 Comprehensive Programming and Budget process, the agencies and entities involved in each transverse annex must record the relationship between the components of the budget key[9] and the amounts or factors that determine the proportion of the

[9] The budget key consists of 36 digits, 2 for branch and/or sector, 3 for responsible unit, 1 for purpose, 1 for function, 2 for sub-function, 3 for institutional activity, 4 for budget program, 5 for object of expenditure, 1 for type of expense, 1 for financing source, 2 for federal entity and 11 for portfolio key.

expenditure for each transverse annex. This record is known as the criteria template (SHCP, 2020).

## 7.3 GFLAC Methodology

GFLAC is an association that works on climate finance issues in Latin America and the Caribbean and promotes the creation of MRV mechanisms. It also promotes mechanisms for monitoring and evaluation to ensure effective and transparent management of national and international resources aimed at mitigation and adaptation of climate change (GFLAC, 2018).

In December 2018, GFLAC carried out the project "Analysis of the International and National Public Budget for Climate Change", commissioned by GIZ, and based on the "Manual for the analysis of international financing and national budgets dealing with climate change" developed by GFLAC. The manual proposes five criteria for tracking public resources from national or international sources: 1) actions expressly assigned and/or labeled for climate change; 2) actions that reduce greenhouse gas emissions and increase natural carbon sinks according to the sectors most responsible for emissions in each country (mitigation); 3) actions that reduce vulnerability or promote adaptation to climate change; 4) actions that have both impacts; and 5) exclusion criteria. The sectors considered were environment, energy, transport, forestry development, agriculture and livestock, natural disasters and cross-cutting, in terms of institutional strengthening, capacity building and transversal elements (Guzmán, Rodríguez & Mejía, 2018).

For public international financing flows, the information was compiled through internet sites, information systems, and interviews, which allowed the authors to identify a list of projects related to climate change. The variables obtained were: sector, subsector, project name, amount (local currency and USD dollars), origin (bilateral, multilateral or multisectoral agency), intermediary institution, destination (national, state or provincial, social sector), project executed by (institution and/or organization), status of execution of the resource (to be disbursed, disbursed, financing concluded, ongoing, others), type of financing (donation, loans, etc.) and timing of the financing. During the 2014-2018 period, climate financing from public multilateral and bilateral sources identified for Mexico amounted to $61,165,646,524

pesos (deflated figure with base year 2017), through 75 projects (Guzmán et al., 2018).

For the flows of national public financing, during the period 2015-2018, the authors analyzed the information in two ways: first looking at the federal budget allocated directly to climate change actions, through the AT-CC, and the secondly through the resources assigned to the agencies of strategic sectors for functions associated with mitigation and adaptation. In 2018 spending on climate change activities was approximately $61,457,800,000 pesos (Guzmán, et al., 2018).

An area of opportunity that is observed in the proposed methodology is the possibility of double accounting of the international financing received and the national public financing destined to climate change projects / actions / programs, mainly in those resources associated with public debt. This is because public debt from OFIs in Mexico is given special treatment in the budget.

This means that the resources from OFIs are received by the Federal Treasury or by the treasury of a decentralized public body as part of the PEF and do not warrant financial additionality, they simply have a different budget label associated with external credit. Thus, the reason why the country assumes debt with the OFIs is that they provide specialized technical assistance to improve public policies and programs. Therefore, the identification of the source of financing in the corresponding budget key would have to be considered in the methodology and would not be accounted in said budget if it was already accounted for within international financing.

Finally, a distinction must be made with national development banking institutions, since in these cases OFI's loan resources are additional and are authorized and guaranteed by the SHCP.

## 7.4 National Ecological Accounts (INEGI)

The INEGI generates this information on an annual basis. It presents the economic value of the impact on the environment and natural resources derived from economic activities in reference to Gross Domestic Product, as well as the amount disbursed for the protection of the environment. It considers international statistical

recommendations and standards such as the 2008 System of National Accounts, the 2012 Environmental and Economic Accounting System and the United Nations Central Framework, among others. It includes tables of results with the environmentally adjusted Net Domestic Product and environmental adjustments, Environmental Protection Expenses, and the Balance of economic assets produced and not produced.

This is one of the main sources of information that has been used to estimate spending on biodiversity and could also serve as a guide to estimate spending on climate change.

## 7.5 The Methodology of Multilateral Development Banks (MDBs)

MDBs including the African Development Bank (AFDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IADB), the Islamic Development Bank and the World Bank Group (WBG), have integrated a methodology to classify the financing they provide in terms of mitigation and adaptation.

In the most recent joint report of the MDBs, the term climate finance refers to the financial resources, both proprietary and external, managed and committed by the MDBs for development operations and their components when these allow activities that mitigate climate change and support adaptation to climate change in developing and emerging economies (MDBs, 2019).

MDBs use two different methodologies to measure adaptation and mitigation financing. The first method is based on incremental costs, the second on a list of activities in sectors and subsectors that reduce greenhouse gases and are compatible with low emissions development. The methodology for measuring mitigation financing is based on the Common Principles for Climate Mitigation

Finance Tracking[10], jointly agreed with the International Development Finance Club (IDFC), and has the following attributes: additionality (type of activity to be carried out), temporality (to the approval of the Board or at the time of the financial commitment), conservativity (conservative approach), granularity (disaggregate the activities that cover mitigation), scope, results of mitigation (project specific data), eligibility (activities compatible with low emissions), exclusions (activities included in the list but that do not mitigate emissions) and avoidance of double accounting (MDBs, 2019).

For its part, the joint methodology for measuring adaptation financing applies a context-specific, site-specific and granular approach, with conservative measurement to avoid over-reporting the financing. It is based on three steps: 1) establish the context of the project's vulnerability to climate change, 2) make a specific statement of the project's intention to reduce vulnerability to climate change, and 3) articulate a direct and clear link between the specific project activities and the project objective to reduce vulnerability to climate change (MDBs, 2019).

The 2018 report established that Mexico received a total of $1,193 million dollars in climate financing from the MDBs in 2018, these being the WBG and the IADB

[10] http://www.worldbank.org/content/dam/Worldbank/document/Climate/common-principles-for-climate-mitigation-finance-tracking.pdf

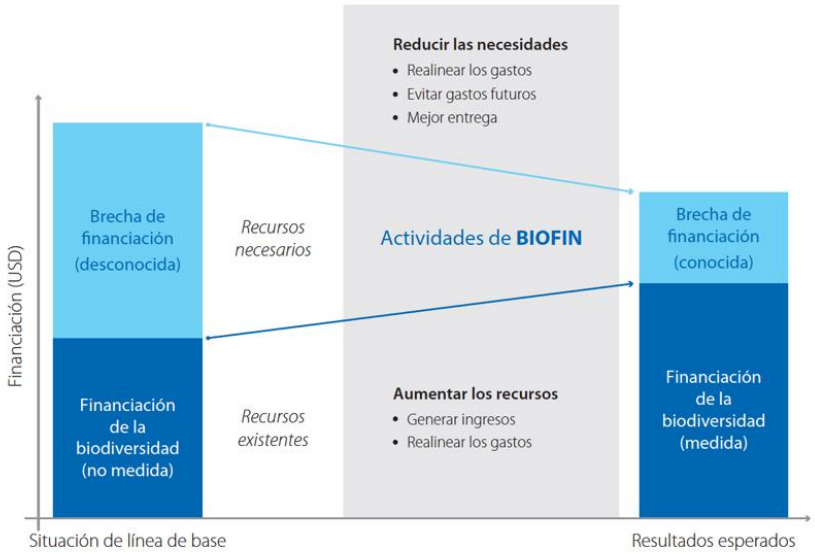


Figure 9. Scope of the Finance for Biodiversity methodology (BIOFIN-UNDP) Source: BIOFIN Methodology

One of its components is the Biodiversity Expenditure Review (BER), which draws on the extensive experience of public spending analyses in various policy areas to calculate the amount earmarked for conservation. In addition to the public sector, it takes into account the expenditures of a wide range of actors, including the private sector, donors and civil society stakeholders.

Biodiversity expenditure is any expenditure that is intended to have a positive impact on biodiversity or to reduce/eliminate pressures on it. These biodiversity expenditures include direct expenditures, which have biodiversity as their primary objective or '*causa finalis*', as well as indirect expenditures, which have biodiversity as a secondary or joint purpose.

The objective is to use detailed data on public, private and civil society budgets, appropriations and expenditures to guide and promote better policies, financing and effects on biodiversity. The BER should generate a comprehensive report, a clear operational summary, and policy documents to help policymakers understand overall trends, challenges, and opportunities in biodiversity spending. This report includes the following:

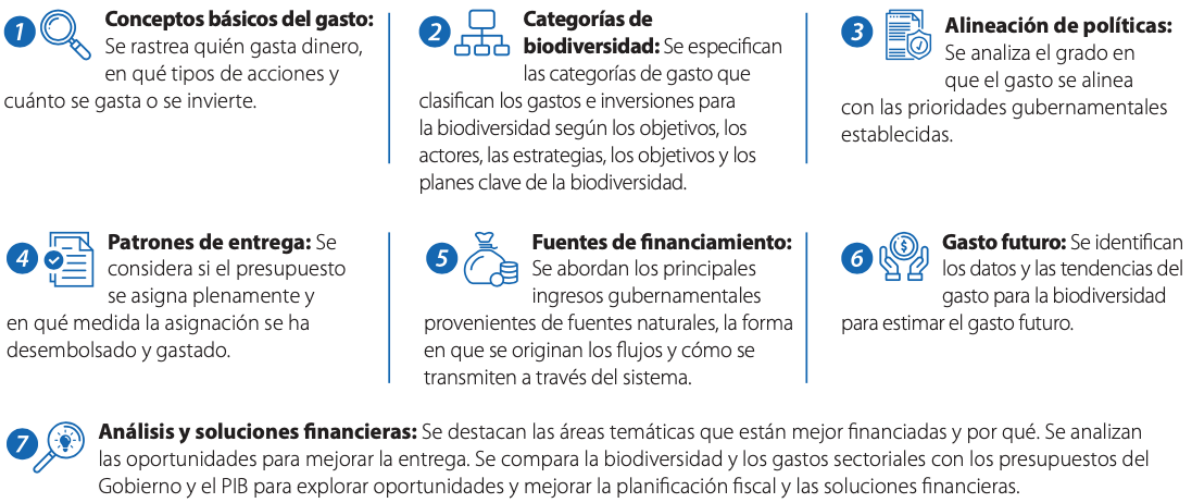


**Figure 10.** Analysis of spending on biodiversity, BIOFIN methodology. Source: BIOFIN methodology.

Some of the elements that could be considered for building the MRV are the steps that have been followed to estimate biodiversity expenditure based on the BIOFIN methodology. As mentioned above recommendations related to this methodology have already been issued and Mexico has been successful in implementing it, and it has even been institutionalized and harmonized already with INEGI, which also represents one of the main sources of information for estimating spending.

**Los cinco pasos de ejecución técnica para el BER se pueden adaptar según la necesidad.**

PASO 4.1

**Preparativos**

Definir el alcance del análisis, identificar las partes interesadas clave (incluido el "cliente" del BER), desarrollar un plan de consulta con las partes interesadas, identificar las fuentes de datos clave y desarrollar un sistema de gestión de datos.

PASO 4.2

**Definir los principales parámetros**

- **4.2A:** Aclarar la definición de gastos para la biodiversidad.
- **4.2B:** Establecer un sistema de clasificación para distribuir los gastos del presupuesto para la biodiversidad.
- **4.2C:** Establecer un sistema para la atribución de gastos primarios y secundarios.
- **4.2D:** Etiquetar los gastos en categorías de biodiversidad, biodiversidad nacional y objetivos de desarrollo sostenible para permitir una comparación de serie cronológica y entre países.

PASO 4.3

**Recopilación de datos**

Identificar y recopilar datos de organizaciones públicas, privadas y de la sociedad civil y otras fuentes.

PASO 4.4

**Análisis de datos**

Analizar los problemas macroeconómicos y su relación con los gastos para la biodiversidad, y revisar los patrones de gastos de las principales organizaciones y sectores involucrados en el financiamiento de la biodiversidad.

- Se analizan los gastos para la biodiversidad en el contexto nacional, incluidas las comparaciones con los ingresos generados por la biodiversidad y los servicios ecosistémicos.
- Se determina la eficacia con la que los presupuestos se ejecutan.

PASO 4.5

**Proyección de gastos futuros**

Analizar las posibles tendencias futuras importantes en los gastos para la biodiversidad para cada organización prioritaria, teniendo en cuenta los supuestos clave (como la inflación prevista, el crecimiento del PIB, etc.) que podrían afectar los gastos futuros.

El capítulo concluye con una orientación acerca de cómo informar a las partes interesadas y los encargados de la toma de decisiones específicos.

**Figure 11**. Steps for executing the VER. Source: BIOFIN methodology.

## 8 Strengths and challenges in implementing the climate finance MRV

Based on research and the available literature, the Climate Finance MRV in Mexico is in the initial stages of construction and at this point it is important to see it as a set of information management processes. There are important advances in establishing a definition of climate finance, which contributes to the design of a

methodology to define and classify actions for mitigation and adaptation to climate change. Estimates of climate finance have been made with the available information, which is often aggregated and dispersed, making it difficult to compare data. There are institutional arrangements established in the LGCC that serve as a framework for implementation and appropriation of the MRV. One of the main examples that could be reviewed and which Mexico could use to make the construction process more efficient is the case of Colombia.

It is also noteworthy that Mexico, unlike other countries in the region and the world, has a very specific treatment of public finances that must be considered for the national Climate Finance MRV. This is mainly in matters of debt, since entering into loans with multilateral or bilateral development banks involved in climate change does not translate into an additional resource in the public budget of the executing agencies (SEMARNAT, INECC, etc.). In Mexico, based on the Federal Budget and Fiscal Responsibility Law and its regulations, external credit is a label that is given to the budgets of the executing agencies to distinguish local counterparts from budgetary resources associated with external credit.

On the other hand, the need to constantly update NDCs, reports etc. is considered an opportunity for continuous improvement, because with practice the capacities and experiences have been strengthened and the learning curve is becoming shorter all the time.

## 8.1 Challenges

One of the most recurrent comments during the interviews and in the available literature, is that there is a consensus regarding the areas of opportunity to standardize the data and have truthful, updated and sufficient information regarding financing for actions of mitigation and adaptation to climate change. Among the main examples are: standardizing the data reported, lack of communication, and compilation of information from the public (different levels of government), private, civil society, public and private banking, international cooperation sectors etc. Although there is information in all these sectors, today there is no place where all that information is concentrated and, therefore, where an analysis can be carried out regarding the actions carried out to comply with the NDCs.

During the interviews, the review of existing studies and the cabinet investigation, the characteristics and challenges in the national context for the implementation of the MRV system were identified, and are summarized in Figure 12.

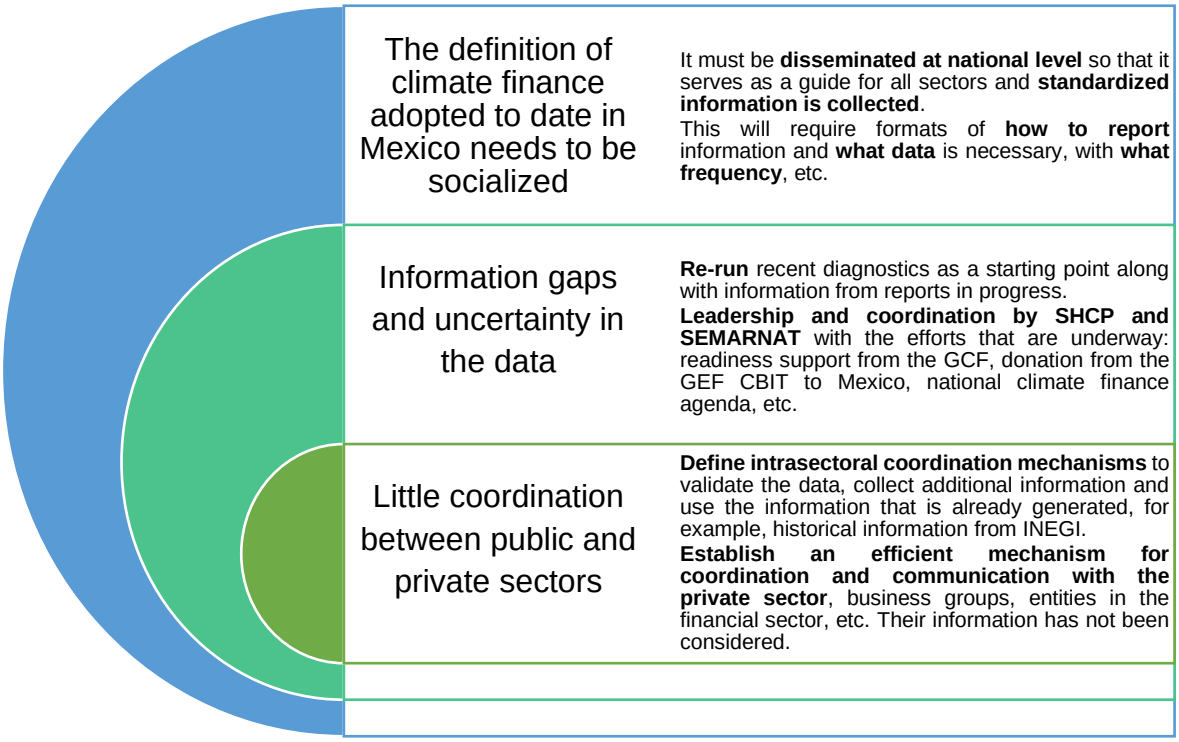


**Figure 12**. Challenges for the implementation of a climate finance MRV system in Mexico Source: Prepared by the author, 2020.

## 8.2 Strengths

In the same way, in the interviews and based on the research carried out, strengths were identified for the establishment of a Climate Finance MRV in this country. Among them, the integration of SINACC, established in the LGCC to coordinate at the different levels of government, and the agreement between the public, private and social sectors on climate change, which in turn has the GT-FIN to address financing issues. So, it is feasible to convene a number of relevant actors.

National advances in the definition of climate finance and in the development of a methodology for a green budget, the latter by SHCP. Likewise, available information, which, with a defined climate change taxonomy, would allow more precise financing estimates.

There is also the construction of the Information and Actions System for Transparency, a Nationally Determined Contribution component (SIAT-NDC), which considers climate finance as a main theme.

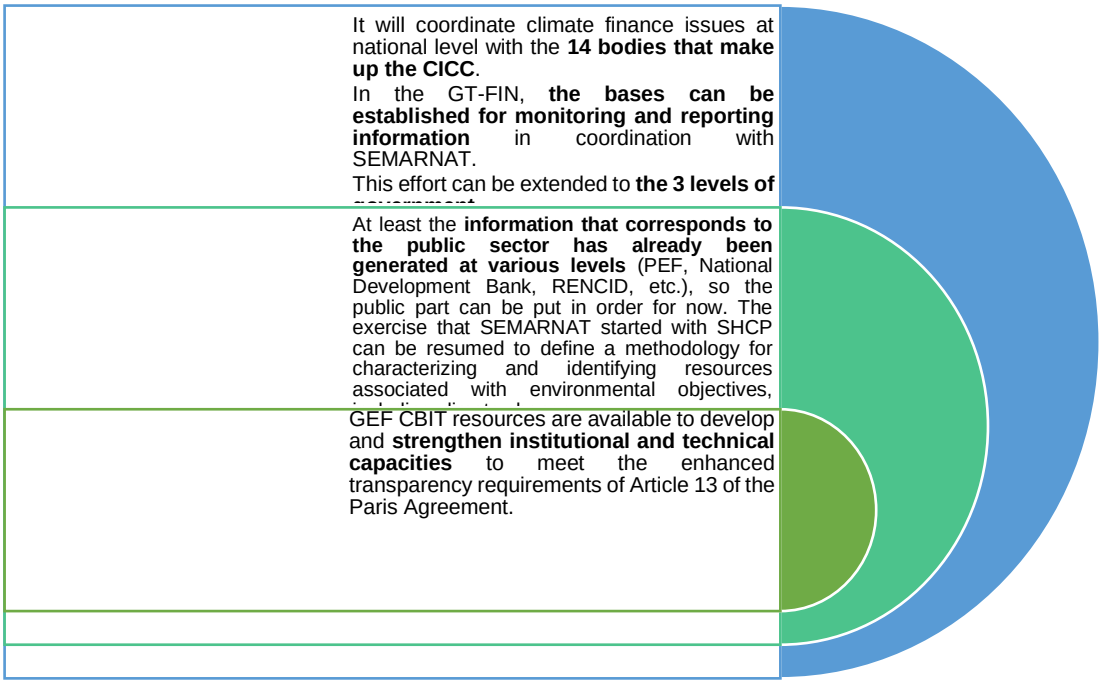


**Figure 13**. Strengths for the implementation of a climate finance MRV system in Mexico. Source: Prepared by the author, 2020.

## 9 Recommendations

1) As mentioned in other sections of this document and complementing the actions that have been identified in previous analyses, for the establishment of a Climate Finance MRV the following is recommended:
2) **SHCP, in coordination with SEMARNAT, should lead these efforts** at the national level.
3) Strengthen the **inter-institutional communication and coordination links** since the efforts that the various actors are undertaking in this matter can complement each other.
4) **Formalize institutional agreements**. Write and adopt the coordination mechanism in the framework of meetings between the GT-FIN and the CICC. Sign the document where those involved adopt the corresponding responsibilities.
5) **Develop a climate change taxonomy** that can be used at the national level by both the public and private sectors. It is suggested that this work be led by INECC in coordination with the SHCP's Performance Evaluation Unit (UED). This taxonomy must effectively seek to contribute to the achievement of the country's mitigation and adaptation goals.
6) **Develop a clear methodology for allocating part of the budget to climate change matters**, since there is currently no justification for the allocation of quotas and percentages in the AT-CC. SHCP and SEMARNAT have started this effort, so it is suggested that they resume it with the inclusion of INECC.
7) **Consider climate change in the development of the green budget methodology**, which the SHCP UED is currently working on, and which could lead to the inclusion of one or more digits in the budget key for such monitoring. This would automate the gathering of information about public resources destined to climate change mitigation and adaptation actions, which would represent an important element in the construction of the Climate Finance MRV, in addition to contributing to a means for institutionalizing this monitoring.
8) Clearly establish the **objective and scope of the Climate Finance MRV in the short term** (the following 12 months) and divide the necessary activities among those responsible for each of them.
9) That the **SHCP should establish a coordination mechanism with the CNBV** to obtain information regarding the resources placed by commercial banks in climate change projects, as well as the source of such financing.

10) **Strengthen coordination between SHCP and AMEXCID** so that the latter provides information on the technical cooperation received, including the economic amount.
11) **Consider the levels at which information should be reported**. It is of utmost importance to avoid double accounting, so given the way in which Mexico manages its public finances, it is suggested that accounting start at a first level with the volume of operations channeled to climate change, taking into consideration the PEF, plus amounts channeled by development banking and private resources (commercial banking). Then at a second level the source of financing, identifying at the national level how much of these resources came from financial instruments of international origin, such as loans or donations.
12) **Convene sub-national governments** to add them to this exercise. The Commission on the Environment, Water Resources and Climate Change could be useful in this respect, since it brings together the Governors and Environment Secretaries of the 32 Federal Entities. It is currently chaired by the Governor of Jalisco.
13) Run a **pilot program gathering sub-national governments** to measure resources for mitigation and adaptation to climate change. This could be based on the exercise that BIOFIN is carrying out with CDMX to determine biodiversity spending.
14) **Design and implement a work plan with the private sector**. In October 2020 Mexico will host the 16th Round Table of the UN Environment Program Finance Initiative (UNEP FI), which can serve as a space for coordination of efforts between different sectors that are actively financing actions for climate change mitigation and adaptation.
15) Establish a **mechanism for monitoring progress** in the implementation of the Climate Finance MRV system.

## 9.1 IT platform and architecture

Based on the research and interviews carried out, the SHCP is identified as a key institution for the registration of climate finance information. This aspect requires input from the SHCP, specifically from the UED. However, at the conclusion of this investigation it was not possible to interview or call personnel from that Unit.

One option is the Information and Actions System for Transparency (SIAT-NDC), a component of Mexico's Nationally Determined Contribution, which is under construction and is considered "an online information system that integrates and monitors mitigation actions, adaptation and financing, at the national and sub-national level, which allows visualization of the degree of progress, as well as identifying, quantifying and integrating the contribution to fulfillment of the goals contained in the Nationally Determined Contributions of Mexico" (SEMARNAT, 2019, p.4).

It is recommended that the unit which, based on its attributions, hosts the Climate Finance MRV system be defined in the framework of the CICC and especially within the GT-FIN. A viable option for the host role is the SHCP. It is essential that this be determined so that from the start the computer platform is developed in consideration of the legal and technological aspects, and even the financial resources, that must be considered for an official federal government site that will serve as the space for handling contributions from the private sector.

## 9.2 Institutional agreements for a Climate Finance MRV in Mexico

Although there are some regulatory elements pending approval by the national authorities, such as the internal regulations of some institutions, it is anticipated that for the Climate Finance MRV to be carried out, there must be an inter-institutional agreement that is legally binding, and based on the attributions and powers of the agencies involved. This means that there should be a formalized instrument that transcends and remains despite changes in administration (six-year terms in the case of Mexico). To do so, consideration should be given to entering into this agreement - and any other institutional arrangements at the area- or unit- level within the agencies involved - independently of the names of the officials who hold the positions at the time the agreements are formalized. Likewise, it is recommended that said institutional arrangements be approved by the CICC and/or the corresponding working groups, for example, the GT-FIN.

In principle, it is recommended that this agreement be signed at least between SHCP, SEMARNAT and INECC. The content should detail the functions that each institution will have, and in which specific phases of the MRV.

Additionally, as mentioned in other sections, it is suggested that existing inter-institutional coordination platforms or mechanisms be used to enable various activities to be carried out such as: information gathering, or bilateral agreements for follow-up.

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## Appendix 1 –
The Paris Agreement

On December 12, 2015, at COP21 in Paris, the Parties to the UNFCCC convention reached a historic agreement to combat climate change and accelerate and intensify the actions and investments necessary for a sustainable future with low carbon emissions. The Paris Agreement builds on the Convention and, for the first time, gives all countries common cause to undertake ambitious efforts to combat and adapt to climate change, with increased support to help developing countries do this. As such, it charts a new direction in the global climate effort.

Unlike other agreements on climate change, the Paris Agreement is a legally binding international treaty. This means that it creates obligations and has procedural mechanisms capable of encouraging the Parties to fulfill their commitments.


**Figure 14.** Summary of the Paris Agreement. Source: Scientific disclosure article “Climate finance for adaptation in Mexico”, November 2018, SEMARNAT-INECC-CONACYT.

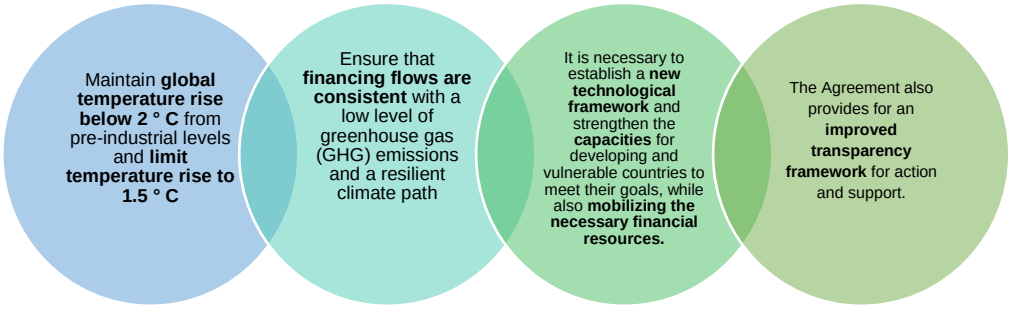


Figure 15. Main goals of the Paris Agreement. Source: Prepared by the author, based on information from the Paris Agreement, 2020.

One way in which the Parties respond to the Paris Agreement is through their NDCs, whereby they commit to reducing their emissions and adapting to climate change, as well as monitoring these endeavors.

However, there is still the challenge that it is not possible to properly manage what cannot be measured, reported and verified. That is why it is necessary to assess whether efforts to mitigate climate change, such as reducing GHG emissions, are proving effective and whether these measures are efficient and robust enough to guarantee compliance with the climate commitments that each country has undertaken.