



# Colombia Article 6 Readiness and Needs Assessment

A Technical Brief



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## GGGI Technical Brief

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This technical brief aims to highlight the key recommendations after assessing the readiness and needs of Colombia to implement mitigation activities under the Article 6 of the Paris Agreement framework. This assessment is part of the Supporting Preparedness for Article 6 Cooperation (SPAR6C) program, a German funded initiative led by GGGI with a consortium including Carbon Limits, GFA Consulting, Kommunalkredit Public Consulting, and United Nations Environment Program Copenhagen Climate Centre.

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# SPAR6C

Supporting Preparedness for  
Article 6 Cooperation



# Colombia Article 6

## Readiness and Needs Assessment

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## List of Acronyms

AFOLU	Agriculture, Forestry, and other Land Use
ASOCARBONO	Colombian Association of Carbon Market Actors
BAU	Business as Usual
CDM	Clean Development Mechanism
CIF	Forest Incentive Certificate
CSO	Civil Society Organizations
DANE	National Administrative Department of Statistics
DIAN	National Tax and Customs Directorate
ETS	Emission Trading System
IDEAM	Institute of Hydrology, Meteorology and Environmental Studies
ITMO	Internationally Transferred Mitigation Outcomes
MADS	Ministry of Environment and Sustainable Development
MRV	Monitoring, Reporting, and Verification
MtCO <sub>2</sub> e	Million tonnes of carbon dioxide equivalent
NAMA	Nationally Appropriate Mitigation Action
NDC	Nationally Determined Contribution
ONAC	National Accreditation Organ of Colombia
PNCTE	National Emissions Trading System
RENARE	National Emission Reduction Registry
RNA	Readiness and Needs Assessment
SPAR6C	Supporting Preparedness for Article 6 Cooperation
TCAF	Transformative Carbon Asset Facility
UNFCCC	United Nations Framework Convention on Climate Change

## Assessing Article 6 Readiness



In the context of international carbon markets under the Paris Agreement, the concept of “readiness” refers to the preparedness of a country to effectively engage in Article 6 collaboration. Readiness involves the development of policies, infrastructures, capacities, and systems that enable countries to strategically participate in Article 6 activities (Michaelowa et al., 2021). This readiness is crucial because it allows both seller and buyer countries to transparently trade and account for the exchange of carbon credits.

The Supporting Preparedness for Article 6 Cooperation (SPAR6C) program aims to enhance climate ambition and to support countries in engaging in cooperative approaches under Article 6 of the Paris Agreement. The SPAR6C program conducted assessments in late 2022 to early 2023, to examine the needs of each country in its portfolio – Colombia, Pakistan, Thailand and Zambia - in terms of context and capacity for carbon market participation under Article 6. The findings helped identify the specific technical assistance and capacity-building activities that the program would take to enhance a country’s readiness and ability to implement mitigation activities.

To assess a country’s readiness for participation in Article 6, a thorough evaluation was carried out, considering several important aspects:

- 1 The general requirements for Colombia to participate in Article 6.
- 2 NDC and the long-term strategy (E2050) and their relationship with Article 6.
- 3 The state and structure of carbon markets in Colombia.
- 4 Cycle of activities and MRV for the implementation of Article 6.
- 5 Environmental and social safeguards.
- 6 Sectoral analysis.

The RNA has been developed after interviewing 24 local stakeholders across national institutions, companies, and civil society organizations (CSOs). The final version of the RNA was validated and reviewed by the Ministry of Environment and Sustainable Development of Colombia and presented at the SPAR6C launch event in May 2023.

# Overview of Key Findings



## Colombia

The Readiness and Needs Assessment (RNA) for Article 6 Implementation in Colombia reveals that the country is well positioned to strategically benefit from carbon trading under Article 6 of the Paris Agreement. The main objective for Colombia is to implement and fulfill the Nationally Determined Contribution (NDC) and use the carbon market to drive climate action. At the core of improving Article 6 readiness, therefore, is improving readiness to leverage both international and existing domestic market mechanisms. This technical brief provides a summary of the RNA undertaken by SPAR6C and provides key findings and recommendations for increasing Colombia's Article 6 readiness.



### 1 NDC Assessment and Article 6 requirements

Colombia's updated NDC has a strong target to reduce emissions by 51% below Business as Usual (BAU) by 2030<sup>1</sup>. Colombia is exploring different options to finance NDC mitigation actions, including the carbon market under Article 6 of the Paris Agreement. The Long-term strategy E2050 proposes a transformational vision of the economy to reach net zero. The country already follows many requirements of the Enhanced Transparency Framework for the national GHG inventories.

In this context, the RNA has identified several elements that need to be developed to enable the development of mitigation projects, as well as a regulatory framework that fulfils the entire Paris Rulebook and ensures the best conditions for participation in the international carbon market.

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1. Gobierno de Colombia (2020). Actualización de la Contribución Determinada a Nivel Nacional de Colombia (NDC). <https://www.minambiente.gov.co/cambio-climatico-y-gestion-del-riesgo/documentos-oficiales-contribuciones-nacionalmente-determinadas/>.

### 2 Institutional and Legal Arrangements

Colombia has made important progress regarding the legal framework for climate change action, including a Climate Change and a Climate Action Law which together established an Emission Trading System (ETS) and set sectoral targets. Initial regulations on monitoring, reporting, and verification (MRV) and a national registry have been developed, however, the country needs to develop additional regulations to fill gaps in the carbon market, particularly its oversight approach, A6 authorization and approval process and safeguards regime.

Colombia's current MRV system is under revision to strengthen it and improve data accuracy.

### 3 Key recommended sectors for developing mitigation activities under Article 6 in Colombia

Although the sectors that can participate in the market have not yet been defined by the government, the energy sector is best positioned with regards to implementation, capabilities, and data quality, followed by the industry and housing and waste management sectors. However, most carbon market projects and programs are currently in the forestry and land use sector.

### 4 Private Sector readiness

The Colombian government has recognized that public, private, and blended and other financial instruments are required to promote investment in various mitigation activities. Financial institutions are also increasing their capacity to generate these instruments to fund mitigation projects.

However, there are still barriers for private developers to access resources to implement climate actions. Most carbon projects are currently developed by private actors. The Colombian Association of Carbon Market Actors (ASOCARBONO) aims to strengthen and consolidate carbon markets in the country and brings together industry representatives, developers, validators and verifiers, certifiers and registries, and non-governmental entities.

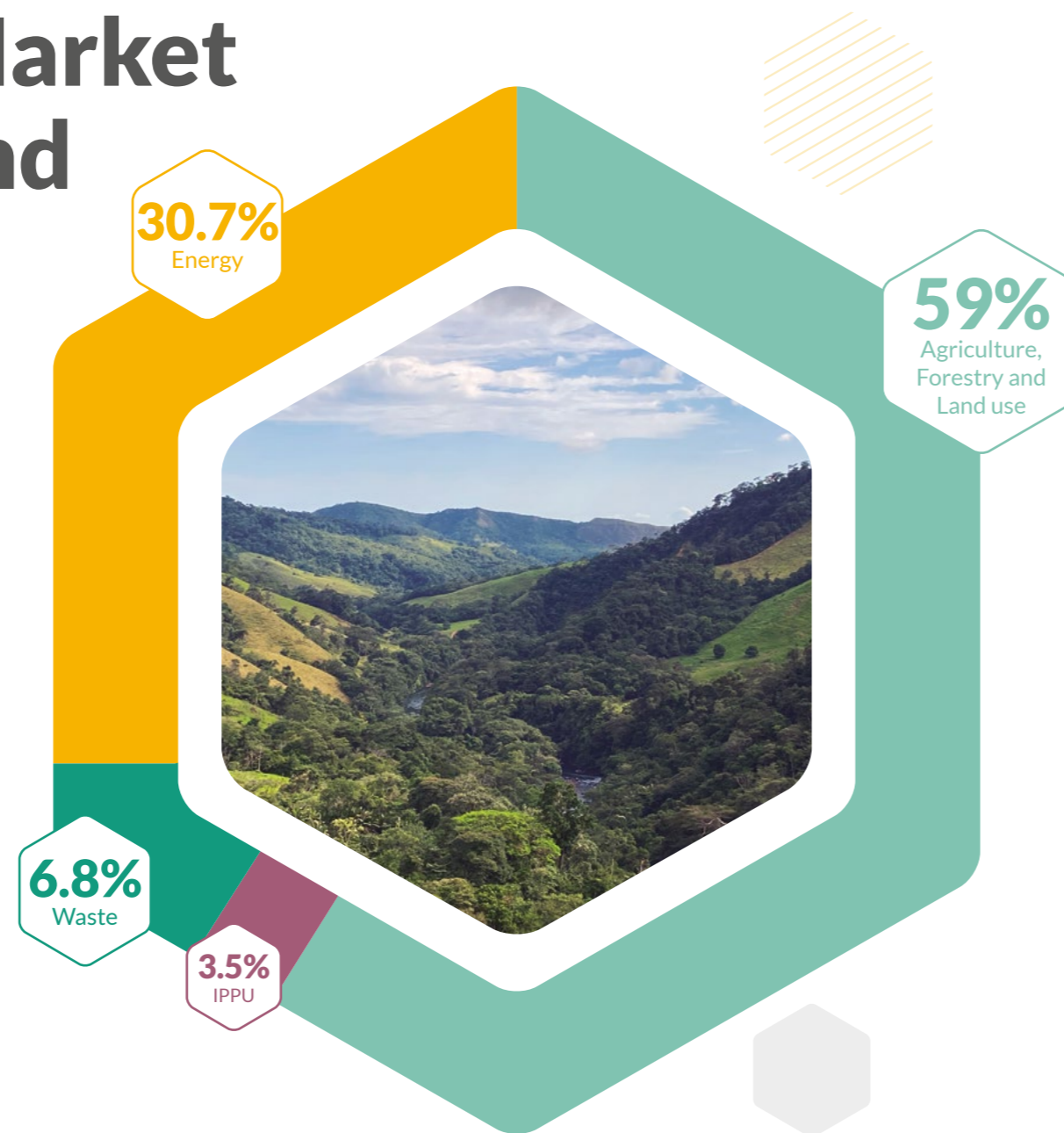
# Colombia's Market Objectives and Mitigation Profile

## Overview

Colombia is a country located in the northwestern tip of South America, whose territory is included in the intertropical zone. According to the National Administrative Department of Statistics, the country's population was approximately 51 million in 2021. In 2021, the economy grew at a rate of 10.6%, with a strong post-pandemic recovery. In 2022, GDP grew by 7.5%, an increase led by the manufacturing sector with 9.8% growth.

In its NDC, Colombia has committed to reducing its GHG emissions to 169.4 MtCO<sub>2</sub>e (a 51% reduction) by 2030, as shown in Figure 2. Colombia's NDC target is not divided into conditional and unconditional components, but does include a portfolio of 32 sectoral measures and more than 100 territorial and corporate actions. Likewise, the 2050 Strategy (E2050) offers new mitigation options to achieve carbon neutrality and climate resilience by 2050.

Colombia has a long experience in carbon markets, starting with the Clean Development Mechanism (CDM) which has registered about 72 projects since 2012 in Colombia. In addition, Colombia



has established carbon pricing and market instruments as mechanisms to promote low-carbon fuels and the development of other mitigation projects. The carbon tax was enacted in 2016 and has stimulated the voluntary carbon market through the non-causation mechanism that allows taxpayers to offset GHG emissions through emission reduction or removal certificates, thereby allowing them to avoid the tax payment.

In 2018, the Law for the Management of Climate Change established the National Emissions Trading System (PNCTE), the

design of which is pending. The country's participation in international markets has mainly been motivated by the sale of carbon credits in voluntary markets. Colombia signed an MoU with Singapore in 2022 on Article 6 cooperation and has developed the BioCarbon Fund program with the World Bank to credit emissions reductions from the agriculture, forestry, and land use (AFOLU) sector in the Orinoquia (Eastern Plains).

Similarly, Colombia is working with the World Bank to develop a solid waste management crediting program with the Transformative Carbon Asset Facility (TCAF).

Figure 1: Colombia's GHG emissions breakdown by sector (2018)<sup>2</sup>

Figure 1 shows Colombia's latest GHG emissions inventory for 2018 which was estimated at 303 MtCO<sub>2</sub>e. The largest sector contributing to emissions is agriculture, forestry and land use (59.1%), followed by energy (30.7%), waste (6.8%) and IPPU (3.5%). CO<sub>2</sub> removals amounted to -23.8 MtCO<sub>2</sub>e. As a result, net emissions (net balance) for 2018 are estimated at 279.2 MtCO<sub>2</sub>e.

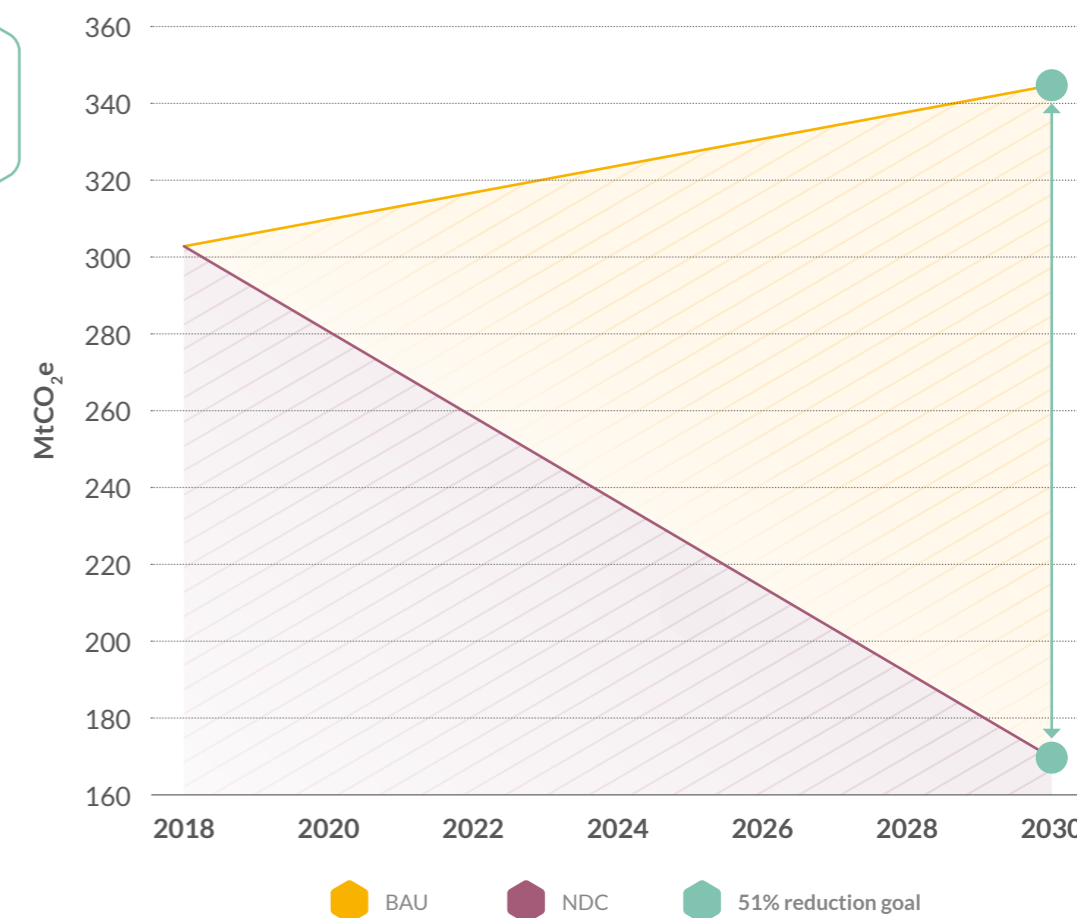



Figure 2: Colombia's Emissions Reduction Goal


Achieving these transformational targets requires a sizeable investment between USD 2.342 billion and USD 3.791 billion annually to finance mitigation targets, which represents between 0.7% and 1.2% of the GDP for 2021 according to the National Climate Finance Strategy. This is an opportunity to explore different financial mechanisms such as carbon markets, to achieve the ambitious emission reduction target.

2. Colombia. (2022). Report of the National Greenhouse Gas Inventory 1990-2018 and Black Carbon 2010-2018 of Colombia: Third Biennial Update Report on Climate Change, BUR3, submitted to the United Nations Framework Convention on Climate Change. National Inventory Reports (NIR). <https://unfccc.int/sites/default/files/resource/Annex%20BUR3%20COLOMBIA.pdf>

# Colombia: Article 6 Participation and Initial Report Requirements

Countries that participate in cooperative approaches under Article 6 of the Paris Agreement must ensure that their participation is consistent with the Article 6.2 guidance. This includes:

 Meeting the participation requirements listed in paragraph 4 of the Article 6 guidance; and

 Submitting an initial report, no later than the authorization of ITMOs (or where practical), which requires countries to communicate specific decisions including the choice of ITMO metrics and an accounting approach for applying corresponding adjustments.

REQUIREMENTS	STATUS CHECK	NOTES
<b>Participation Requirements</b>		
 It is a party to the Paris Agreement	Yes	Colombia adopted the Paris Agreement with Law 1844 of 2017 and deposited its instrument of ratification at the UN in 2018
It has prepared, communicated, and is maintaining an NDC	Yes	The most recent National Inventory with the time series 1990-2018 was submitted to the UNFCCC in December 2021 through its Third Biennial Update Report
It has arrangements in place for authorizing the use of ITMOs towards achievement of NDCs	In progress	Colombia does not have an authorization procedure for ITMOs. Regulations relating to the authorization may be derived. The Directorate of Climate Change and Risk Management of the Ministry of Environment and Sustainable Development (MADS) has been designated as the A 6.4 Authority to the UNFCCC
It has arrangements and infrastructure in place for tracking ITMOs	In progress	Colombia has a National Emission Reduction Registry (RENARE); however, it is under discussion if this will be the same for ITMOs. RENARE has not been in operation since August 2022 due to a court order, greatly affecting market transparency
It has provided the most recent national inventory report	Yes	The most recent National Inventory with the time series 1990-2018 was submitted to the UNFCCC in December 2021 through its Third Biennial Update Report
Its participation contributes to the implementation of its NDC LT-LEDS, if it has submitted one, and the long-term goals of the Paris Agreement	No cooperative approaches currently approved	Colombia has submitted its long-term strategy (E2050)
<b>Initial Report</b>		
 Choose an ITMO metric and methodology	Yes	CO <sub>2</sub> e is the metric indicated in the NDC
Choose the method for applying corresponding adjustments (Define accounting approach for single- and multi-year targets)	Yes	Single-year target, however, in the NDC the country indicates that a carbon budget will be defined for the 2020-2030 period
Describe and quantify the NDC	Yes	NDC: -51% below BAU in 2030 (max 169.4 Mt CO <sub>2</sub> e)

# State of Institutional and Legal Arrangements: Key Gaps Identified and Actions Proposed

Colombia has a comprehensive legislative framework on climate change. Decree 298 of 2016 created the National Climate Change System, with the Intersectoral Commission on Climate Change as the highest coordinating body for public policy in this area. However, addressing gaps in the legal frameworks, private sector engagement, and institutional capacity will be crucial for the successful implementation of Article 6 transactions and achieving the country's mitigation targets.

## Overarching Climate Change Mitigation Policies

Law 1931 of 2018 on Climate Change Management established the Comprehensive Sectoral and Territorial Climate Change Management Plans.

Climate Action Act 2169 of 2021 codified NDC mitigation and adaptation targets with obligations on minimum targets for each sector under the leadership of ministries. The law created the Study Commission for the Promotion and Development of Carbon Markets, which will issue recommendations for the regulation and promotion of carbon markets.

Resolution 1447 of 2018 regulates the MRV system for mitigation actions and the RENARE registry, including the accounting rules for emissions and removals in projects and programs.

Article 230 paragraph 2 of Law 2294 creates the obligation for all AFOLU mitigation initiatives to comply with REDD+ safeguards.



## Institutional Setup and Capacity



Carbon market governance is divided among several entities. MADS is responsible for regulation of the ETS, MRV, setting the parameters for project design and the A6.4 authority. The Institute of Hydrology, Meteorology and Environmental Studies (IDEAM) manages RENARE, UNFCCC reporting and GHG inventories. The National Accreditation Organ of Colombia (ONAC) accredits validation and verification bodies and oversees them. The Ministry of Finance and Public Credit, together with the National Tax and Customs Directorate (DIAN) and MADS, handle the mechanism of non-causation.



Between 2003 and 2021, 393 carbon projects were developed in Colombia, representing 1.4% of the certified emission reductions issued worldwide—which positions Colombia as an important player in the region. ASOCARBONO provides capacity building for actors in the carbon market.



There are still areas without clear institutional responsibilities as well as limitations with transparency of carbon market projects.



## Legal and Regulatory Assessment



The country has identified priority regulations required to facilitate its Article 6 engagement. Regulatory gaps in certification standards, additionality, market oversight and reporting must be addressed. In addition, for Article 6, the arrangements for approval and authorization for 6.4 and 6.2, as well as model contracts for 6.2 need to be established.

The legal nature and ownership of emission reductions and hence ITMOs have not yet been fully resolved in Colombia.



## Proposed Actions



Develop an Article 6 engagement strategy including risk management, opportunities, and a business plan.



Determine sectors or investment lines eligible for Article 6.



Designate the entity responsible for the authorization, control, and monitoring of projects, compliance with safeguards, and regulating the operation of the MRV system.



Define the governance framework for reporting required under Article 6.

3. IDEAM, Fundación Natura, PNUD, MADS, DNP, Cancillería (2022). Informe del Inventario Nacional de Gases Efecto Invernadero 1990-2018 y Carbono Negro 2010-2018 de Colombia. Tercer informe bienal de actualización de cambio climático, BUR3. Dirigido a la convención Marco de las Naciones Unidas sobre Cambio Climático, IDEAM, Fundación Natura, PNUD, MADS, DNP, CANCELLERÍA, FMAM. Bogotá D.C., Colombia. <https://unfccc.int/documents/510821>



# Sectoral Challenges and Opportunities

Colombia's climate priorities align with its NDC's six mitigation sectors distributed by lead ministries: energy, agriculture industry, transport, waste and housing, and environment, which includes deforestation and restoration<sup>4</sup>. These sectors are strategically chosen, as they offer significant potential for GHG reduction while fostering sustainable national development and climate resilience. The overall projected emissions in the Colombian reference scenario by 2030 are 345.8 Mt CO<sub>2</sub>e, where the main emitting sector is AFOLU with 50%, followed by energy with 36%, waste with 8% and industrial products and product use with 5%.

1

## Energy sector

The emission reduction potential calculated in the NDC is 14.45 MtCO<sub>2</sub>e, which represents a reduction of 11.57% of emissions in the sector. Sector experts state that the implementation of the Integrated Mining and Energy Climate Change Management Plan would lead to the achievement of 46% of the proposed goal. The main needs identified are to strengthen capacities to permeate climate action and to improve and systematize the collection of information.

4. Gobierno de Colombia (2020). Portafolio de Medidas Sectoriales De Mitigación Del Cambio Climático. Contribución Determinada a Nivel Nacional (NDC) de Colombia. <https://www.minambiente.gov.co/wp-content/uploads/2021/10/portafolio-de-medidas-sectoriales-de-mitigacion-de-cambio-climatico-contribucion-determinada-Colombia-ndc-2020.pdf>

2

## Agriculture

The commitment is to reduce 22 MtCO<sub>2</sub>e by 2030, which would represent a 28.5% drop in sectoral emissions. The main needs identified are to strengthen capacities in project formulation and to advance in monitoring and reporting of ongoing actions and achieved results. Although the sector has some financial instruments such as the Forest Incentive Certificate (CIF) in place, they are not being used as expected and are not generating the projected outcomes. Moving forward with the BioCarbon Fund Program and the cattle ranching Nationally Appropriate Mitigation Action (NAMA) remain significant challenges.

3

## Waste and Housing

The commitment to reduce emissions given by the Ministry of Housing, City and Territory portfolio is 1.42 MtCO<sub>2</sub>e, which represents a 5% reduction in emissions from the waste sector. This commitment is reflected in the measures in the NDC and in the Comprehensive Plan for the Management of Climate Change City and Territory. The main need is to encourage private sector contribution to some of the investments.

4

## Transport

The specific emission reduction commitment of the Ministry of Transport portfolio is 5.77 MtCO<sub>2</sub>e, which represents a reduction of 10.2% of emissions of the sector. This commitment is reflected in the seven measures quantified and agreed by the Ministry of Transport in the NDC. The MRV system to measure the results of the actions needs to be strengthened to reduce uncertainty and to account for all results.

5

## Industry

The sectoral commitment is to reduce 4.65 MtCO<sub>2</sub>e which represents a reduction of 25.25% of industry emissions in 2030. This can be addressed by measures such as industrial energy efficiency and improved logistics operations, as quantified and agreed by the Ministry of Industry in the NDC and in the Integrated industry Climate Change Management Plan. The main need in the industry sector is to include the private sector more actively in planning and acknowledging the actions already implemented. Furthermore, measurement mechanisms and emission factors need to be improved.

6

## Environmental

Emissions from land-use change in 2030 are estimated at 97.36 MtCO<sub>2</sub>e, while emissions from substitute products of ozone-depleting substances are estimated at 7.68 MtCO<sub>2</sub>e in 2030. MADS aims to achieve a 60% reduction in emissions from deforestation. Curbing deforestation rates to reach its NDC goal of 50,000 ha in 2030 remains the biggest challenge. Colombia still needs to decide on its way forward with a REDD+ program at the national level by which it could seek eligibility for Article 6. The main need in this sector is to implement the actions required to reduce deforestation, and to strengthen RENARE.

# Financing Mitigation Activities

Between 2012 and 2021 about 6 billion USD in climate finance was mobilized, of which 1 billion USD was allocated to mitigation. However, the country has a climate finance gap equal to about 1.04% of 2021 GDP<sup>5</sup>. It is estimated that three-quarters of the actions needed to comply with its NDC are underfunded.

One of the instruments developed to increase financing is the Climate Financing Corridor, which seeks to match sectoral demand with the resources available for climate action activities. Another important resource mobilization effort is in the green taxonomy, which makes it easier for banks to identify green investments for differentiated financial products and to improve the accounting of efforts already made.

Colombia's MRV platform identified four main sources of climate finance. These are:



**Domestic public funding** (national and subnational) representing **54%** of total funding (**27%** for mitigation)

5. DNP, PNUD, ONU ambiente (2022). Estrategia Nacional de Financiamiento Climático. Programa de alistamiento para el Fondo Verde del Clima (FVC) y otras fuentes de financiamiento - PNUD, WRI y ONU ambiente. [https://colaboracion.dnp.gov.co/CDT/Ambiente/Finanzas%20del%20Clima/Estrategia\\_Nacional\\_de\\_Financiamiento\\_Climatico.pdf](https://colaboracion.dnp.gov.co/CDT/Ambiente/Finanzas%20del%20Clima/Estrategia_Nacional_de_Financiamiento_Climatico.pdf)



**Private finance**, with a share of **10%** (**32%** for mitigation)



**International public finance**, corresponding to **22%** (**36%** for mitigation)



**Financial sector finance**, representing **14%** (**73%** for mitigation)

Although several instruments were specified in the climate finance strategy, carbon markets were not included. The uncertainty surrounding the availability of funding through Article 6 may be a reason for this omission. Further exploration of financing models and activity types appropriate for integrating carbon finance is needed. In line with this, Colombia is working on the development of the Article 6 strategy, considering the potential economic benefits that could be used to increase the ambition on the NDC implementation.

# SPAR6C Interventions in Colombia

Considering the needs identified in the RNA, the SPAR6C program defined five strategic lines of work for 2023-2024:

## 1 Development of regulations and norms necessary for participation in Article 6

The primary Article 6 regulation is being developed by the Ministry of Environment and Sustainable Development with the support of the program. This support began by defining the existing regulatory constraints and requirements for the authorization process and commercialization of emission reductions, validation and verification, carbon accounting and traceability of ITMO transactions for both Article 6.2 and 6.4.

## 2 Building a country strategy for participation in Article 6

A business case for Article 6 engagement will be developed taking into account the national needs for NDC implementation. Building on this, a strategy will be developed to include key opportunities, risks and mitigation approaches, and identification of types of transactions that could optimize benefits and increase the ambition of climate action in the country. This strategy will also identify the investment lines that will be available for international transactions in the carbon market.

The strategy will also be informed by ongoing negotiation with initiatives that could develop into Article 6 Programs, such as the Joint Declaration of Intent with Norway, the United Kingdom and Germany, the Biocarbon Fund, and the MoU with Singapore.

Colombia is in the process of defining the investment lines to access the international carbon market under Article 6. Once the investment lines are clear, the program will move forward to build two pilot projects that could serve as the basis for ITMO transactions.

## 3 Strengthening MRV including specific needs for Article 6

An in-depth analysis of the UNFCCC requirements to reflect Article 6 transactions into the national NDC accounting is under development. It considers the national registry and the need to fulfil the requirements described in the rulebook, as well as the corresponding adjustments of the transactions and the GHG national inventory, the NDC targets and the reporting obligations.

## 4 Consolidation of robust technical information on how Article 6 can catalyze NDC implementation

Recognizing the importance of achieving the NDC, the program will generate additional information to evaluate the potential impacts Article 6 transactions could have on the national economy, including the benefits of promoting new investments and improving social conditions. This will include helping MADS establish a robust safeguards regime for non-AFOLU sectors.

## 5 Article 6 capacity building program for the most relevant actors

An Article 6 capacity building program is being developed, considering the different actors and their needs in the international carbon market.



This technical brief provides a summary of key findings and insights collected between August 2022 and May 2023 date as part of the design of the SPAR6C program in Colombia. Data collection, consultation, and analysis were conducted by GGGI Colombia in support of the Ministry of Environment and Sustainable Development. The full report of the Readiness and Needs Aseessment for Article 6 in Colombia will be made available (in Spanish) at GGGI's and SPAR6C websites in early 2024. For further information please write to [ivan.valencia@gggi.org](mailto:ivan.valencia@gggi.org)

# SPAR6C

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