



GEF-7 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Colombia's 2030 MRV Strategic Vision		
Country(ies):	Regional	GEF Project ID:	10121
GEF Agency(ies):	UNDP	GEF Agency Project ID:	6226
Project Executing Entity(s):	Ministry of Environment and Sustainable Development - MADS and Institute of Hydrology, Meteorology and Environmental Studies - IDEAM	Submission Date:	October 2, 2018 Re-submission: November 17, 2018
GEF Focal Area(s):	Climate change	Project Duration (Months)	48

A. INDICATIVE FOCAL/NON-FOCAL AREA ELEMENTS

Programming Directions	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM-3-8	GEFTF	3,791,550	1,000,000
Total Project Cost		3,791,550	1,000,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Strengthen Colombia's capacity for robust monitoring, estimation, reporting, accounting and verification of greenhouse gas emissions and removals.						
Project Components	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Implementing an unified analytical framework for the measuring, reporting and verifying (MRV) of anthropogenic greenhouse gas (GHG) emissions and removals at a national level	TA	1.1. Increased transparency and timeliness of Colombia's GHG inventory process by means of a National GHG Inventory System (SINGEI).	1.1.1. National GHG SINGEI is strengthened. 1.1.2 SINGEI protocols are implemented.	GEFTF	500,000	125,000
	TA	1.2. Uncertainty of the data to estimate GHG emissions from prioritized inventory categories is estimated and managed.	1.2.1 Uncertainty management training program designed and delivered across key data providers for prioritized inventory categories (AFOLU and Energy). 1.2.2 Uncertainty of the data used to estimate emissions and	GEFTF	246,000	50,000

			removals in prioritized GHG inventory categories is estimated and reported.			
	TA	1.3 Project results disseminated to strengthen institutional arrangements and increase global cooperation	1.3.1. Good practices and lessons learned disseminated with relevant national partners and other Parties and initiatives through the Global Coordination Platform and other South-South cooperation networks	GEFTF	60,000	25,000
2. Improving GHG emissions estimates for Colombia's Energy sector	TA	2.1. Reduced uncertainty of the information used to estimate GHG emissions in key Intergovernmental Panel on Climate Change (IPCC) categories of the energy sector.	<p>2.1.1. Tier 2 and/or Tier 3 methods to estimate GHG emissions from stationary combustion and fugitive emissions in the oil & gas sector are developed.</p> <p>2.1.2. Institutional arrangements to improve information flows for the generation of the Colombian Energy Balance (BECO) - including energy use and fuel consumption in mining activities and the manufacturing industry - are established.</p> <p>2.1.3. Procedures for reporting and validation activities related to the Environmental Unified Registry for the Manufacturing</p>	GEFTF	175,000	50,000

			<p>Sector (RUA Manufacturero) is implemented.</p> <p>2.1.4. Country-specific data on key variables to estimate GHG emissions from transportation are developed and/or updated and systematized.</p> <p>2.1.5. Data on fuel use for energy purposes in the commercial, institutional, residential and agricultural sectors and BECO are available at a subnational (department/level) scale.</p>			
	TA	2.2. Policy-relevant GHG emissions indicators are made available to inform sectoral decision-making.	2.2.1. Information flows and policy-relevant indicators for the generation of the BECO, including energy use and fuel consumption (mining and the manufacturing industry), elaborated and strengthened.	GEFTF	0	0
3. Improving GHG emissions and removals estimates, and projections in Colombia's prioritized sectors (Energy and AFOLU)	TA	3.1. Improved estimates of CO ₂ emissions and removals from prioritized AFOLU land-cover related categories through high quality scientific information.	<p>3.1.1. Database providing country-specific emission factors with associated documentation for key land-cover change categories of the AFOLU sector is available.</p> <p>3.1.2. Data gaps on forest fires, logging and firewood consumption filled through an</p>	GEFTF	2,430,000	600,000

			updated National Forestry Information System (SNIF). 3.1.3. Estimates of CO ₂ emissions and removals resulting from carbon stock changes in key land-cover categories of the AFOLU sector are published in Colombia's Third Biennial Update Report (BUR), to be submitted in 2020.			
	TA	3.2. GHG's Scenarios and projections estimated for the Energy and AFOLU sectors, through high quality scientific information.	3.2.1 The methodologies for the calculation of baselines are defined and validated as a main instrument to be used in the construction of the national GHG's scenarios 3.2.2 Scenarios and projections until 2030 are calculated, which will be used in order to adjust the NDC baseline	GEFTF	200,000	150,000
Subtotal				GEFTF	3,611,000	1,000,000
Project Management Cost (PMC)				GEFTF	180,550	0
Total Project Cost				GEFTF	3,791,550	1,000,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)
Recipient Country Government	Institute of Hydrology, Meteorology and Environmental Studies (IDEAM)	In-kind	Recurrent expenditures	400,000
Recipient Country Government	Ministry of Environment and Sustainable Development (MADS)	In-kind	Recurrent expenditures	100,000
Recipient Country Government	Governments of Norway, Germany and The United Kingdom	In-kind	Recurrent expenditures	500,000
Total Co-financing				1,000,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b)	Total (c)=a+b
UNDP	GEFTF	Regional	Climate Change	(select as applicable)	3,791,550	360,197	4,151,747
Total GEF Resources					3,791,550	360,197	4,151,747

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee (b)	Total c = a + b
UNDP	GEFT	Regional	Climate Change	(select as applicable)	50,000	4,750	54,750
Total PPG Amount					50,000	4,750	54,750

F. PROJECT'S TARGET CONTRIBUTIONS TO GEF 7 CORE INDICATORS

Provide the relevant sub-indicator values for this project using the methodologies indicated in the Core Indicator Worksheet provided in Annex B and aggregating them in the table below. Progress in programming against these targets is updated at the time of CEO endorsement, at midterm evaluation, and at terminal evaluation. Achieved targets will be aggregated and reported at anytime during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Project Core Indicators		Expected at PIF
1	Terrestrial protected areas created or under improved management for conservation and sustainable use (Million Hectares)	
2	Marine protected areas created or under improved management for conservation and sustainable use (Million Hectares)	
3	Area of land restored (Million Hectares)	
4	Area of landscapes under improved practices (excluding protected areas)(Million Hectares)	
5	Area of marine habitat under improved practices (excluding protected areas) (Million Hectares)	
	Total area under improved management (Million Hectares)	
6	Greenhouse Gas Emissions Mitigated (million metric tons of CO ₂ e)	
7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management	
8	Globally over-exploited marine fisheries moved to more sustainable levels (thousand metric tons)(Percent of fisheries, by volume)	
9	Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (thousand metric tons of toxic chemicals reduced)	
10	Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)	

11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	Monitored
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Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicators targets are not provided.

Considering the project is focused on the improvement of the information and methods used to estimate GHG emissions in key categories prioritized by national institutions, towards the strengthening of the national and sectoral capacities to tracking progress against the national GHG emissions reductions targets, as well as the effective and efficient use of data and information related to the Indicator 6, it is not possible to estimate a quantity of Greenhouse Gas Emissions Mitigated.

Nevertheless, the deployment of the project will enable a significant improvement on the INGEI and MRV tracking progress of the NDC targets for the AFOLU and energy sectors in Colombia in a consistent manner.

G. PROJECT TAXONOMY

Please fill in the table below for the taxonomic information required of this project. Use the GEF Taxonomy Worksheet provided in Annex C to help you select the most relevant keywords/ topics/themes that best describe this project.

Level 1	Level 2	Level 3	Level 4
Influencing Models	Strengthen institutional capacity and decision-making		
Stakeholders	Beneficiaries Type of Engagement	Information dissemination Participation	
Capacity, Knowledge and Research	Enabling Activities Capacity Development Knowledge Generation and Exchange Knowledge and Learning	Knowledge Management Capacity Development	
Gender Equality	Gender mainstreaming Gender Results Areas	Sex-disaggregated indicators Gender-Sensitive Indicators Capacity Development Knowledge Generation	
Focal Area/Theme	Climate change	Climate Change Mitigation United Nations Framework Convention on Climate Change Rio Markers	Enabling Activities Paris Agreement Climate change mitigation marker of 2 Climate change adaptation marker of 1

PART II: PROJECT JUSTIFICATION

1a. *Project Description*. Briefly describe:

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description); 2) the baseline scenario and any associated baseline projects, 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project; 4) alignment with GEF focal area and/or Impact Program strategies; 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 7) innovation, sustainability and potential for scaling up.

1. Global environmental problems, root causes and barriers that need to be addressed

In Article 13, the Paris Agreement establishes an Enhanced Transparency Framework (hereafter ETF) aimed at providing a clear understanding of climate change action in light of the Convention's ultimate goal of maintaining the average global temperature within a safe boundary. The clarity envisioned in the ETF covers both the tracking of progress towards achieving Parties' Nationally Determined Contributions (NDCs) and adaptation.

Climate change constitutes a major threat to Colombia's development and to its citizens' wellbeing. It has been estimated that an inertial policy scenario would imply, on average, an annual loss of 0.5% of the country's Gross domestic product (GDP) until 2100 (DNP 2014). Also, in its more recent climate change vulnerability and risk national assessment, Colombia found that over 15% of its total area is highly vulnerable to climate change (IDEAM 2017). Other studies point to specific impacts on biodiversity, one of the richest of the planet: by 2040, key biodiversity hotspots in Colombia could be significantly affected by climate change (IAvH 2014).

Conversely, early climate change action could unleash a wide range of development opportunities and accelerate the achievement of national priorities such as securing a long-lasting, stable peace after 50 years of internal armed conflict. Land restoration, climate-smart agriculture and off-grid alternative energy sources are examples of a diverse spectrum of interventions with the potential of rendering both climate and development benefits.

Considering the large costs of climate change as well as the multiple gains that could potentially stem from ambitious action Colombia has maintained a progressive vision in the international negotiations, particularly around transparency-related issues, and has kept an active climate change policy and action agenda over the last decade.

It is in this context and in light of the Paris Agreement provisions that the establishment of a system to robustly monitor and report on the progress attained towards the achievement of its NDC is of paramount importance in Colombia's climate change long term vision. Parallel processes such as its ongoing adhesion process to the Organization for Economic Co-operation and Development (OECD) call for steps to be proactively taken in that direction.

Although the Paris rulebook is still to be developed, Colombia has become increasingly aware of the significant technical, technological and information gaps that need to be addressed in order to enhance the comprehensiveness, timeliness and quality of its MRV task in the field of estimating past and future greenhouse gas emissions and removals. In response to this challenge, the IDEAM is currently developing a long-term MRV vision framed as a MRV 2030 Strategic Plan, a roadmap, which lays out a vision accompanied of a set of milestones, activities and products to realize it.

The MRV 2030 Strategic Plan seeks to generate information by establishing an analytic framework that integrates data from multiple sources on all key variables to estimate historical and future emissions for relevant sectors in Colombia. Integration is necessary to produce consistent and sufficiently detailed information on emissions and removals, although its scales and approaches are diverse. In this way, GHG inventories, NDCs, zero deforestation agreements and other sectoral mitigation initiatives will be monitored based on consistent information that will allow rapid, comparable and different-scale analyzes of the impact of policy, sectoral and territorial interventions.

The main focus of the MRV 2030 Strategic Plan is to increase data completeness and availability in key categories of emissions and removals and to develop the institutional arrangements, technical foundations and tools for systematic, robust national MRV following United Nations Framework Convention on Climate Change (UNFCCC) guidance. At the national level, the MRV system will contribute to track reductions emissions targets defined in the National Determined Contributions (NDC) and strengthen national institutional arrangements by improving estimation, accountability and reporting of emissions and removals, providing high quality data to all the stakeholders that use this information to guide policies, initiatives and projects of mitigation.

It is foreseen that several programs/initiatives, including this proposal, contribute in a synergetic and coordinated manner to the implementation of the MRV Strategic Plan. Together, the AFOLU and Energy sectors comprise around 90% of Colombia's absolute emissions. These sectors also comprise key mitigation and adaptation actions such as sectoral efficiency plans, standards and ambitious low-carbon development initiatives. In the AFOLU sector, these include large-scale cooperation programs intended to provide Reducing Emissions from Deforestation and Forest Degradation (REDD+) results-based financing. Therefore, the support requested to the Capacity building initiative for transparency (CBIT) will concentrate its efforts in developing and enhancing national MRV capacities in these two sectors.

The support from the CBIT will be key to filling critical data and information gaps to produce more transparent, accurate, consistent, complete and comparable estimates of emissions and removals from Colombia’s AFOLU and Energy sectors; as well as to laying the foundations of a multi-stakeholder, coordinated national MRV system to track and produce policy-relevant information on Colombia’s progress in implementing its NDC. As an active player at the climate change negotiations and with its regionally recognized technical capacities in areas such as GHG inventory preparation and forest monitoring, Colombia expects this project to have a positive impact on the efforts of other Latin American countries through knowledge and experience sharing.

2. Baseline scenario or any associated baseline projects

Colombia has and continues to implement several initiatives aimed at improving most of the elements that compose a national MRV system of emissions and removals. As described in the sections below, major achievements have been attained in the areas of GHG inventories and forest and carbon monitoring. Nevertheless, a comprehensive, national approach to MRV is still at its earliest stages of development. Stronger institutional arrangements and country-specific and scientifically sound data generation processes for key inventory categories are needs that demand priority attention and which this project proposal aims at fulfilling.

IDEAM is the responsible for coordinating the elaboration of the National Communications (NCs) and the BURs on Climate Change (for the time being, this mission is under the Decree 291 of 2004). The first two NCs and the first BUR, submitted to the UNFCCC, were elaborated with Global Environment Facility (GEF) resources, IDEAM’s counterpart in kind, and the United Nations Development Programme (PNUD) as implementing agency. In the same way, the second BUR will be elaborated with the IDEAM’s coordination and the direct participation of MADS, Ministry of Agriculture and Rural Development, the National Department of Statistics (DANE), the Mining & Energy Planning Unit (UPME), amongst others.

Colombia ratified the UNFCCC and the Kyoto Protocol through Acts 164 of 1994 and 629 of 2000, respectively. In line with its obligations under the Convention, Colombia has submitted three NCs, the first BUR and its Intended Nationally Determined Contributions (INDC) (Table 1). NCs provide updated information about Colombia’s national circumstances, mitigation actions and a GHG inventory as well as a more important insight on the countries vulnerability to climate change and contributions to climate change mitigation. Regarding the Paris Agreement, after it was approved by the Congress of the Republic by Law 1844 of 2017, and the Constitutional Court declared that this law is consistent with the constitution, finally on July 2018 Colombia formally ratified the Paris Agreement to the UNFCCC.

The MRV for Colombia has enjoyed the support of the National Government, through the National Development Plan (NDP 2014-2018), expressed in the law 1753 of 2015 which, in its article 175, determines the regulation of this system and the National Register of Reduction of Emissions of GHG (RENARE). This record is an integral part of the accounting system of reduction and removal of emissions, containing in its structure the national action programs and projects for REDD+.

As a result of these commitments, the direction of Climate Change of the MADS advances in the construction of this record, projecting the developments in technology and policy terms in order to ensure their interaction and interconnectivity with the Environmental Information System of Colombia (SIAC).

In addition, the Decree 298 of 2016 established the National System of Climate Change (SISCLIMA), in order to coordinate, articulate, formulate and follow up on the strategies, plans, programs, among others, in the field of adaptation to climate change and mitigation of GHG emissions, which includes a Committee of Technical and Scientific Information on Climate Change.

This system is aligned with the National Climate Change Policy and defines the basic elements that must be addressed for the design and implementation of the MRV system of Colombia, which shall provide inputs for the preparation of national inventories and NCs.

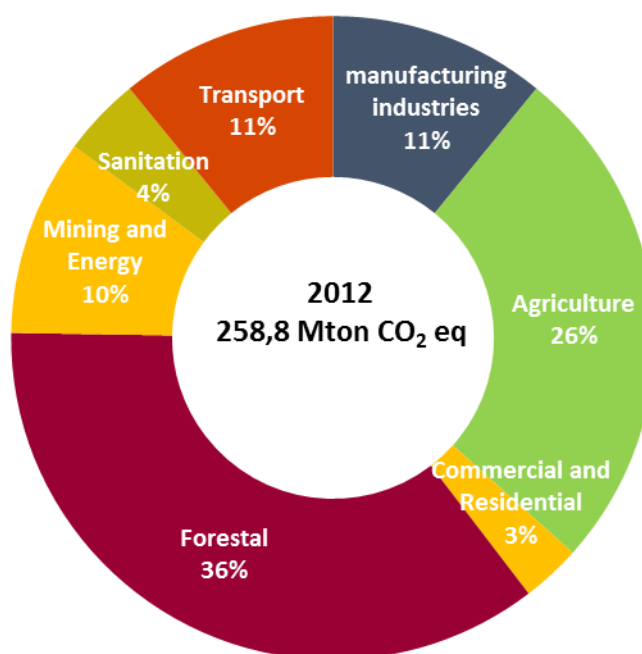
Table 1. Documents submitted by Colombia to the UNFCCC

Instrument	Submission date	Main topics included
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First NC	December 2001	Insights on the country's position in the context of global climate change. Information on the vulnerability of Colombia's coastal areas, glaciers, high-mountain areas, and human health to climate change. Included the First national GHG Inventory (1990-1994).
Second NC	December 2010	GHG inventory (2000-2004) presented new findings on the country's vulnerability to climate change, national-level climate scenarios, areas and sectors in which mitigation actions to be implemented, guidelines about potential adaptation, measures and information on adaptation projects under implementation.
First BUR	December 2015	National circumstances description, national inventory of GHG emissions (2010-2014), description of on-going mitigations actions and projects, progress on the national MRV and support needs.
INDC	September 2015	Colombia committed to reduce its GHG emissions by 20% with respect to the projected Business-as-Usual Scenario (BAU) by 2030. Subject to the provision of international support, Colombia could increase its ambition from 20% reduction to 30%. The type of target is deviation with respect to a projected BAU scenario and the scope is economy-wide target. It covers 100% of national emissions; all emission sectors acknowledged by the IPCC and include the 6 gases acknowledged by the Kyoto protocol. In the INDC's adaptation component, the country has the goal of increasing its resilience and adaptive capacity, through 10 sectorial and territorial actions prioritized by 2030.
Third NC	July 2017	Updated information about Colombia's national circumstances, mitigation actions and a GHG inventory based on the 2006 IPCC Guidelines for the years 1990-2012; as well as a more complete analysis on the country's vulnerability to climate change and the progress the country has attained with regards to adaptation.

According to the last GHG inventory for the years 1990-2012, Colombia increased its emissions from 0.37% of global emissions to 0.42% in the last years, Colombia is ranked 40th among 184 countries that monitors the World Resources Institute (WRI) in global emissions of GHG and it is ranked 5th among 32 countries from Latin America and the Caribbean.

In 2012 Colombia emitted 258 million tones of GHG emissions, the sectors of energy, agricultural and forest are the biggest sources of GHG emissions in the country. The main emissions in 2012 are from the conversion of natural forests to grasslands and other forest lands as shrub lands and secondary vegetation (together they represent 74% of the forestry sector and 27% of the total emissions). Fossil fuel emissions in the transport sector also represent an important contribution with 10% in the country's total emission as it is shown in the following chart.



Source: IDEAM, GHG Inventory 2012 Third National Communication on Climate Change

Currently, Colombia is preparing the Second BUR to be submitted to the UNFCCC in December 2018. This will build on findings and recommendations from previous and on-going NC and BUR work, as well as lessons learned and capacity-building needs. The International Consultation and Analysis (ICA) process identified the following needs of improvement:

- Upgrade the institutional arrangements presentation. It should include a more detailed description, specifically, the process for the preparation of the BURs and the support needed for their preparation on a continuous basis, provisions for public consultation and other forms of stakeholder engagement.
- Include in the national GHG inventory uncertainty levels associated with inventory data, emissions due to biomass burning in the AFOLU sector (NMVOCs, CO and NOx) and key category analysis.
- Name and description of the mitigation action, including information on the nature of the action and coverage (i.e. sectors and gases), quantitative goals and progress indicators.
- Strengthen the reporting of financial, technology transfer, and capacity building needs.

Improvement of the GHG inventory process

Since the submission of its First NC to the UNFCCC, Colombia has made significant progress in national GHG inventory development. The Technical Analysis Summary Report¹ on Colombia's First BUR commended the country for its efforts to produce a consistent inventory time series and apply the most recent IPCC guidance on National GHG inventories, and acknowledged the improvements made in areas such as transparency and accuracy through, respectively, enhanced formats and methods. Further, in 2016, Colombia released an updated GHG inventory² which improves on the basis of the previous one in key aspects such as presenting detailed descriptions of the estimation methods used, providing readers with data bases and emissions estimates by IPCC sector, economic sector and provinces (*departamentos*).

¹ <http://unfccc.int/resource/docs/2016/tasr/col.pdf>

² <http://documentacion.ideam.gov.co/openbiblio/bvirtual/023634/023634.html>

Currently, IDEAM has prioritized and, is receiving support, to develop a web platform for the national GHG inventory system (SINGEI) backed by protocols and institutional arrangements on data transfer and information sharing. A number of initiatives have been supporting this effort (Table 2).

Table 2. Recently implemented initiatives that provide support to GHG inventory development and improvement in Colombia

Project/Initiative	Agency	Period	Key outcomes in relation with SINGEI and GHG inventory improvement
Colombia's Third NC and First BUR to the UNFCCC	The GEF (UNDP as implementing agency)	2013 – 2017	<ul style="list-style-type: none"> • Inventory standardization initiated. • Development of GHG inventory improvement plans. • Improved sectoral engagement and coordination in GHG inventory preparation.
Resources to Advance Low Emission Development Strategies Implementation (RALI)	U.S. Agency for International Development (USAID)	2016 – 2017 (continuation TBC)	<ul style="list-style-type: none"> • Concept design of SINGEI and underlying parameters and tools for inventory data gathering and management.
Information Matters	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	2016 – 2017	<ul style="list-style-type: none"> • GHG inventory protocols developed and discussed with key sectoral actors.
United Nations Programme on REDD+ (UN-REDD+)	Food and Agriculture Organization (FAO)	2015 – 2017	<ul style="list-style-type: none"> • Development of protocols to estimate emissions and removals under the Wetlands category of the AFOLU sector. • Development of inventory improvement plans and stakeholder mapping for the AFOLU sector. • Implementation of sectoral activities to enhance engagement with data providers in the AFOLU sector.
Colombia's Second BUR to the UNFCCC	GEF (UNDP as implementing agency)	2018 – 2019	<ul style="list-style-type: none"> • Implementation of inventory improvement plans and protocols developed under previous initiatives.

As part of the Third NC process, Colombia designed and implemented the SINGEI, which delivered initial results in July 2017. Implementation included activities such as (i) the design and standardization of the activity data bases and emission factors; (ii) consolidation of databases with activity data and emission factors used for the estimates of the 1990 to 2012 inventories; (iii) design and standardization of protocols for data collection, quality control and estimation of emissions and uncertainty; and (iv) systematization of calculation processes.

Building on the progress made by the Third NC project, IDEAM is currently improving the MRV system by improving data elements, strengthening institutional arrangements, improving calculation and reporting methodologies, and designing an electronic platform design that will support inventory and mitigation data management. These activities have been implemented with the support of international cooperation projects such's the RALI initiative (USAID), GEF Heart of the Amazon and UN-REDD+.

Improvement of emissions and removals estimates for key inventory categories

Besides the national GHG inventory system, the Third NC designed an improvement plan for each GHG sector. These plans were built from the weaknesses, gaps and opportunities for improvement identified during the process of preparing the GHG inventories for the first BUR and the Third NC. Improvement plans are mainly focused on the

reduction of uncertainty and the implementation of specific activities to promote improvement of flows and availability of information, as well as in the identification of possible new sources of information to obtain greater level of detail.

i) *Energy*: Data sources for inventory development in the energy sector are largely concentrated in two national agencies, namely DANE and UPME. These two agencies have improved their capacity to systematically collect data to develop national energy indicators as well as the BECO over time. However, as official energy sector information has traditionally followed a top-down approach in Colombia, there is little availability of disaggregated activity data and country-specific measurements that allow for refinements in the estimation in GHG emissions from key sources, such as transport, mining and oil & gas activities, and logging for energy purposes, among others.

Although a few initiatives have helped creating stronger coordination between IDEAM as the national inventory compiler and relevant agencies such as UPME and DANE and increased awareness around the inventory process, standardized practice for data collection and flows and technical capacity development for key data providers are still required in order to ensure high-quality, timely emissions reports now and into the future. In addition, no initiative has so far addressed data gaps that need to be filled before Colombia can move onto improved estimation methods in the Energy sector.

ii) *Agriculture, Forestry and Other Land Use (AFOLU)*: Colombia has established a Forest and Carbon Monitoring System (SMBYC) whose operation, led by IDEAM under MADS guidance, is based on a methodology that integrates tools for the pre-processing and semi-automated processing of satellite imagery to detect and quantify the changes in the extension of forest cover at a national level on a 1:100.000 - scale map, enabling the possibility of identifying the loss of forest cover by deforestation³.

Similarly, to estimate carbon stock changes and emissions resulting from forest dynamics, the SMBYC has compiled data and develop protocols which have been applied to GHG inventory, Forest Reference Emissions Level (FREL) and REDD+ results development and reporting.

Key data gaps in the AFOLU sector, however, continue to exist. For instance, there is an impendent need to develop spatially explicit data sets to asses land cover changes for all IPCC 2006 land classes and more accurate and complete data on the use of forests, forest degradation and agricultural activities that constitute key sources of emissions and removals. Similarly information systems and subsystems intended to capture and manage activity data generated by local providers such as the SNIF need to be strengthen and/or disseminated in order to achieve a fluid interaction with both the GHG inventory system and its end users.

One of the biggest obstacles to producing more accurate emission estimates is related to the limited availability of country-specific emission factors in key AFOLU sub-categories. Given that nearly half of Colombia’s net emissions are concentrated in the AFOLU sector, Colombia would secure improved inventories and emission scenarios in the near future by addressing data gaps on these areas.

Several (ongoing and planned) efforts exist on this front and complement each other. Table 3 summarizes the most relevant initiatives contributing to the MRV Strategic Plan.

Table 3. Ongoing initiatives that contribute to the MRV Strategic Plan

Project/Initiative	Agency	Period	Key outcomes in relation with the improvement of emissions and removals estimates for AFOLU
REDD+ Early Movers (REM)	Kreditanstalt für Wiederaufbau (KfW) – Norwegian Agency for Development Cooperation (NORAD)– UK Department of Energy & Climate Change (DECC)	2014 – 2019	<ul style="list-style-type: none"> Supports the development and implementation of a MRV improvement plan with a focus on SMBYC.

³ A methodology to identify and generate national-level data on forest degradation is currently under development.

	(Fondo Patrimonio as implementing agency)		
GEF – Heart of the Amazon	The GEF (Fondo Patrimonio as implementing agency)	2014 – 2018	<ul style="list-style-type: none"> Supports the development and implementation of a MRV improvement plan with a focus on early detection of deforestation and data collection on forest carbon in Colombia’s Amazon region.
GEF – Amazon Sustainable Landscapes	The GEF (Fondo Patrimonio as implementing agency)	2017 – 2020	<ul style="list-style-type: none"> Supports data collection and analysis on carbon fluxes in specific areas of Colombia’s Amazon region.
Joint Declaration of Intent	Norway's International Climate and Forest Initiative (NICFI) (IADB’s Colombia Sostenible as implementation mechanism)	2016 – 2021	<ul style="list-style-type: none"> Expected to support the improvement of activity data on land cover and land cover change at a National level and the development of emission factors related to key subcategories of the AFOLU sector, focusing on Colombia’s Pacific and Caribbean natural regions.
ISFL – BioCarbon Fund (Technical Assistance)	US Department of State – German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMUB) – UK DECC through The Word Bank	2018 – 2020	<ul style="list-style-type: none"> Expected to support the improvement of activity data on land cover and land cover change and the development of emission factors related to key subcategories of the AFOLU sector, focusing on Colombia’s Orinoquia natural region.
Forest Carbon Partnership Facility (FCPF)	The Word Bank	2018 – 2020	<ul style="list-style-type: none"> Expected to support the improvement of information on the drivers of land use change and land use management practices.
SilvaCarbon - MOJA	USAID – US Forest Service	2017 – TBC	<ul style="list-style-type: none"> Piloting of a unified analytical framework to estimate GHG historic and future emissions and removals in the AFOLU sector.
Inter-American Development Bank (IADB) – Technical Cooperation	IADB	2018 – 2019	<ul style="list-style-type: none"> Expected to support the improvement of activity data on forest fires, logging and wood products mobilization; activity data generation on land cover change at a national level and the development of emission factors related to key subcategories of the AFOLU sector, focusing on Colombia’s Amazon region.
UN-REDD+	FAO	2015 – 2017	<ul style="list-style-type: none"> Supported the development of a proposed methodology to monitor forest degradation in Colombia and activity data generation on the conversion of natural forests (under the Forestland inventory category) into other land categories.
Forest 2020	UK Space Agency	2018 – 2020	<ul style="list-style-type: none"> Expected to support the improvement of activity data generation on forestland remaining forestland in Colombia (forest degradation, forest fires and logging).
Sustainable Cattle Ranching in Colombia	FEDEGAN, The Nature Conservancy	2014 – 2018	<ul style="list-style-type: none"> Produces key information on different standard classes of livestock and pastoral systems in Colombia.

	(TNC), International Center for Livestock Research for Rural Development (CIPAV), Fondo Acción		
Princeton University – International Center for Tropical Agriculture (CIAT) – FEDEGAN Collaboration	Ministry of Agriculture and Sustainable Development of Colombia	2015 – 2020	<ul style="list-style-type: none"> Activity data within the framework of "agricultural synergies" were used to calculate the emission factors for enteric fermentation for Colombia's livestock regions, using the software RUMINANT.
BIORUM	National University of Colombia - Ministry of Agriculture and Rural Development of Colombia	2014 – 2020	<ul style="list-style-type: none"> Standardization of methodologies for the calculation of methane and nitrous oxide. Research centers implementing the project are key allies to estimate emissions within the frames of Colombia's GHG inventory.

Reporting of emissions and removals and systematic MRV

In light of its climate change policy and the resulting enforcement of economic instruments such a form of carbon pricing and carbon offsetting, Colombia published the regulatory and technical framework for the establishment of a national MRV system that allows for transparent, consistent, complete, comparable and as far as possible accurate measurement and reporting of GHG emissions and removals, and mitigation actions, both at the national and international levels (National law 1931/2018 and Resolution 1447/2018)

A number of initiatives have produced outcomes that contribute to this end (Table 4) directly or indirectly serve purposes that are relevant to emissions accounting such as reducing uncertainties in emissions estimations and improving consistency of data across different scales of mitigation actions/monitoring.

Table 4. Ongoing and finalized initiatives that provide support to reporting and transparency in Colombia

Project/Initiative	Agency	Period	Key purpose in relation with the improvement of emissions and removals estimates for AFOLU
National law of Climate Change	MADS	2015 - 2018	Create the National Information System of Climate Change, and establishes specific provisions about NREF, SMByC, inter alia.
National registry for mitigation actions, MRV system and accounting system regulation	MADS and IDEAM	2017 - 2018	Establishes the first accounting rules for the mitigation actions (including AFOLU). As well as main characteristics of the National Registry for mitigation actions, MRV and accounting systems
REDD+ registry regulation	MADS and IDEAM with support from the FCPF and UN-REDD+	2015 – 2018	Improved tracking of REDD+ under results – bases initiatives.
Accounting Rules	GIZ	2015 – 2017	Identified key gaps and priority

			actions to develop a robust national GHG accounting system.
Third NC – Uncertainty estimation & management	IDEAM and UNDP Colombia	2013 – 2017	Contributed to developing national capacities to estimate and report on the uncertainty of the GHG inventory results.
Second BUR	IDEAM and UNDP Colombia	2017-2019	Currently actualizing the GHG inventory for 2013 and 2014 and updating GHG inventory improvement plans. Additionally testing the protocols provided by the Third NC on Climate Change in the frame of the SINGEI.
MOJA / SEPAC (Dynamic System of GHG Emissions and Projections for the AFOLU sector in Colombia)	IDEAM and SilvaCarbon	2017 – TBD	Currently testing the applicability of a unified analytical framework to establish an integrated national MRV system for AFOLU.
Initiative for Climate Action Transparency - ICAT	MADS - ICAT	TBD	Support to national institutional arrangements in order to improve transparency under the Paris Agreement

In spite of the different activities and existing contributions in related areas, Colombia is yet to establish an integrated national MRV system, including accounting rules for GHG emissions and removals against Colombia’s NDC as well as integrated information systems to gather and manage information from local initiatives.

Furthermore, cross-cutting areas that are critical to designing and applying an reporting framework such as uncertainty management and reporting, both at IDEAM and in those agencies producing and reporting activity data are in need of capacity development (e.g. developing procedures and other arrangements to produce enhanced uncertainty estimates and reports in the future).

3. The proposed alternative scenario, GEF focal area⁴ strategies, with a brief description of expected outcomes and components of the project

This project’s aim is to address key capacity and information gaps for Colombia to improve its monitoring, estimation, reporting and accounting of GHG emissions and removals at a national level, with a focus on the country’s two key emitting sectors: energy and AFOLU.

The proposed intervention will be critical to help Colombia achieve its commitments under Article 13 of the Paris Agreement. Its actions have been grouped into three main components:

- Component 1: Implementing a unified analytical framework for the MRV of anthropogenic GHG emissions and removals at a national level.
- Component 2: Improving GHG emissions estimates for Colombia’s Energy sector.
- Component 3: Improving GHG emissions and removals estimates, and projections in Colombia’s prioritized sectors (Energy and AFOLU).

These components and their key activities are described in the sub-sections below.

⁴ For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

Component 1: Implementing an unified analytical framework for the measuring, reporting and verifying MRV of anthropogenic GHG emissions and removals at a national level

As previously discussed and despite significant improvements on key MRV instruments such as the GHG inventory and its NDC projections, Colombia is yet to implement a comprehensive, unified framework to estimate GHG emissions in a systematic, internally consistent manner. Under Component 1 of this project, two cross-cutting actions to set in place such system will be implemented. This will add – and align with – other key actions, planned or ongoing, such as the RALI and SilvaCarbon Programs by USAID, and the World Bank’s Initiative on Sustainable Forest Landscapes (BioCarbon Fund).

The key outcomes to be delivered under Component 1 are:

Outcome 1.1 Increased transparency and timeliness of Colombia's GHG inventory process by means of a National GHG Inventory System (SINGEI)

Colombia’s First BUR and Third NC demonstrated that high quality national GHG inventories are possible, even in the face of information and knowledge gaps. However, these two reports and the challenges associated with coordinating multiple information sources on a cyclical basis – vis-à-vis expected and more strict reporting and verification rules under the Paris ETF - have brought to the fore the need for developing standards, protocols and tools for standardized collection, storage and management of data to prepare updated estimates of Colombia’s GHG emissions and removals.

This investment will build upon the results of the RALI initiative, a project implemented during 2017 with the financial support of the USAID. This project made important progress in the design of a comprehensive electronic platform to collect data (activity data and emissions factors) for the GHG inventory. Results of this project included the general design of the platform based on the identification of data requirements, definition of technological needs and the construction of a road map for implementation.

Under **Output 1.1.1** CBIT funds will be used to strengthen national GHG inventory system in Colombia by supporting software development and implementation of the SINGEI platform to be hosted and administered by IDEAM. SINGEI will be a tool to support making decisions processes and promote effective exchange of data and information. The SINGEI platform will facilitate the analysis of information and tracking of activities of all relevant sectors, and will enable stakeholders/end-users to access good quality information and develop analyses according to their needs. To assure sustainability of the investment, the platform will be integrated to the existing national environmental information system SIAC administered by IDEAM. SIAC is Colombia’s centralized platform for environmental information management at national level and facilitation of access to environmental indicators generated by IDEAM and other institutions part of the National Environmental System (SINA). Responsibilities of IDEAM includes the management of platforms, integration of information, sustainability of information generation processes, maintenance of existing platforms developed by IDEAM and management of interoperability among existing information systems. It is expected that investments under this output will be complemented by technical cooperation from the Joint Declaration of Intent, BioCarbon Fund, etc.

Activities proposed under **Output 1.1.2** will support Colombia to undertake the necessary structural refinement of the current information exchange protocols and tools for all relevant sector of the GHG inventory (Energy, IPPU, AFOLU & Waste), considering characteristics, data gaps and capacities of each data provider.

Outcome 1.2 Uncertainty of the data used to estimate GHG emissions from prioritized inventory categories is estimated and managed

During 2016-2017, IDEAM, as part of the Third NC process, facilitated the development of improvement plans for each GHG sector. Main purpose of this improvement plans is to improve GHG emissions estimations and reduce uncertainty. All improvements plans identified weaknesses and information gaps for all categories, and based on these determined improvement opportunities for each category and subcategories, according to the 2006 IPCC Guidelines.

Output 1.2.1 proposes to design an uncertainty management and estimation training program for data providers from prioritized inventory categories (AFOLU and Energy). This program will contribute to increase capacities of sectors to manage data, generate estimations and reduce uncertainty of activity data and emission factors. Activities include design and implementation of the training program including the definition of contents and structure, methodological protocols and training activities. Data providers already identified and willing to participate in this training program are:

Ministry of Agriculture and Rural Development, UPME, DANE and Agricultural and Livestock Research Corporation (CORPOICA).

One of the priority areas of improvement of national GHG inventories in Colombia, as established in the national inventory's improvement plans, is the availability of quantitative information on the uncertainty levels associated with activity data used to produce emission estimates. To date, this information is derived from the application of an expert judgement methodology which, although accepted by the most recent IPCC Guidance, has several limitations such as not allowing for targeted decisions on where data improvement are more necessary to produce more accurate emissions estimates. In this context, activities under **Output 1.2.2** will be focused on estimation of uncertainty of quantitative activity data in the prioritized inventory categories (AFOLU and Energy) through statistical methodologies.

With this intervention, Colombia will be able to increase a currently limited capacity to estimate and report on uncertainty at the level of activity data in line with SINGEI efforts, involving and directly benefitting key data providers. As a result, a first report on the uncertainty of activity data will be included in Colombia's Third (and subsequent) BURs.

Outcome 1.3 Project results disseminated to strengthen institutional arrangements and increase global cooperation

Activities under this Outcome will be targeted to disseminate lessons learned and good practices. Taking into account the need to increase collaboration among relevant sectors, under Output 1.3.1., the project will promote multi-stakeholders dialogues and participatory spaces to discuss results and improve understanding of monitoring and reporting processes and methods. Additionally, the project will promote activities to share lessons learned, methodological frameworks, good practices and other results with other Parties and initiatives through the Global Coordination Platform and other South-South cooperation networks

Component 2: Improving GHG emissions estimates for Colombia's Energy sector

According to the Third National Communication, Energy was the second most emitting sector in Colombia at 78 Mton CO_{2-eq} in 2012, about 30% of the country's total emissions. Therefore, enhancing monitoring and reporting for Energy would produce a significant, positive impact on national inventories. As referred before, during 2016-2017, IDEAM facilitated the definition of sectoral plans to improve GHG emissions estimations and reduce uncertainty, according to the 2006 IPCC Guidelines. Table 5 presents the improvement activities identified for the energy sector, which were taken into account to define activities under Component 2.

Table 5. Improvement activities identified for the Energy Sector, which were taken into account to define CBIT activities

Category	Subcategory	Improvement Activity	Institutions
1A1 Energy Industries	1A1b Petroleum Refining	Development of emission factors for Tier 2 and/or Tier 3 for stationary combustion for GHG emissions in the oil & gas sector	Colombian Petroleum Company (ECOPETROL) UPME Universidad Nacional
1A1 Energy Industries	1A1c Manufacture of Solid Fuels and other energy industries	Institutional arrangements to improve information flows for the generation of the BECO - including energy use and fuel consumption in mining activities	Ministerio de Minas Colombian Mining Association (ACM) National Mining Agency (ANM) UPME
1A2 Manufacturing Industries and Construction	1A2a 1A2b 1A2c 1A2d 1A2e 1A2f 1A2g 1A2h 1A2j	Institutional arrangements to improve information flows for the generation of the BECO - including energy use and fuel consumption in Manufacturing Sector	DANE UPME IDEAM

	1A2l 1A2m		
1A2 Manufacturing Industries and Construction	1A2a 1A2b 1A2c 1A2d 1A2e 1A2f 1A2g 1A2h 1A2j 1A2l 1A2m	Strengthening of the <i>RUA Manufacturero</i>	IDEAM MADS
1A3 Transport	1A3b 1A3bi 1A3bii 1A3biii 1A3biv 1A3eii	Development of emission factors for Tier 2 and/or Tier 3 for stationary combustion for GHG emissions	
1A4 Other Sector	1A4a Commercial / Institutional 1A4b Residential 1A4C Agricultural /Forestry /Fishing/farming	Institutional arrangements to improve information flows for the generation of the BECO - including energy use and fuel consumption in institutional, residential, commercial and agricultural sectors	UPME DANE IDEAM Superintendence of Residential Public Services (SSPD)

Therefore, Component 2 of this project focuses on improving the information and methods used to estimate GHG emissions in key energy categories prioritized taking into account the improvement plan defined for this sector. Activities include, among others, the development of country-specific emission factors, activity data refinement, the consolidation of institutional arrangements for MRV through protocols and targeted training activities and the development of policy-relevant information to facilitate improved sectoral mitigation decisions. Taking into account that in the short and medium term the National GHG inventory (INGEI) will include reporting of mitigation actions implemented by relevant sectors, it is very important to improve estimation of emission factors for oil and gas, mining and manufacturing industry.

Outcome 2.1 Reduced uncertainty of the information used to estimate GHG emissions in key IPCC categories of the energy sector

Because of the methods adopted to develop energy balances in Colombia, activity data used to estimate energy emissions in GHG inventories – although systematically produced by - is still highly aggregated. Similarly, due to costs and capacity constraints, the country has not developed country-specific emission factors to improve the accuracy of emission estimates for key energy categories.

Taking into account the improvement plan for energy sector, this intervention will thus focus on improving the information and methods (Tier 2 or Tier 3, as needed) used to estimate and report on GHG emissions in the energy sector by:

- a. **Output 2.1.1** Development of country-specific emission factors – particularly for stationary combustion and fugitive emissions in the oil & gas sector: Specific studies will be conducted taking into account the technology of combustion and emissions control technology. These studies will be developed through agreements between ECOPETROL and universities research groups.

- b. **Output 2.1.2** Institutional arrangements to improve information flows for the generation of the BECO - including energy use and fuel consumption in mining activities and the manufacturing industry - are established: Mining and manufacturing companies and UPME will be engaged in order to establish institutional arrangements to collect information. Project will support technical workshops and other activities to facilitate dialogue among relevant stakeholders targeted to improve information management.
- c. **Output 2.1.3** Procedures for reporting, and validation activities related to the *RUA Manufacturero* are implemented; Project activities will support IDEAM capacities to collect information about total consumption of energy in the form of consumed energy and the consumption of other energy sources (for fixed sources) different to those used as raw material. Local environmental authorities and companies will be trained in order to validate and report information required by the platform and review information reported by environmental authorities, UPME and DANE.
- d. **Output 2.1.4** Development and systematization of country-specific data on key variables to estimate GHG emissions from transportation: activities will be focused on the development of emission factors for Tier 2 and/or Tier 3 for stationary combustion for GHG emissions other than CO₂ through the execution of specific studies involving existing national programs that measure indirect emissions of GHG such as NO_x, CO and NMVOC.
- e. **Output 2.1.5** Refining BECO activity data on fuel consumption for energy purposes in the commercial, institutional, residential and agricultural sectors: Protocols will be developed to review consistency and improve activity data quality of the information reported by public services providers in order to capture province-level specificities and variations for the residential, commercial and institutional sectors.

With this intervention, Colombia will improve sectoral capacities needed to i) enhance monitoring and reporting on key variables required to estimate emissions in key categories in the energy sector; ii) strengthen national instruments, such as BECO, so they better respond to the purpose of developing GHG inventories; and iii) report to the UNFCCC Tier 2 and Tier 3 emissions estimates for prioritized categories in the Energy Sector for the first time.

Outcome 2.2 Policy-relevant GHG emissions indicators are made available to inform sectoral decision-making

Colombia's Mining and Energy Sector is currently developing a sectoral climate change plan that includes measures to reduce emissions in accordance with the NDC. In order to support sound policy, and even project – level decision making on mitigation options, it will be necessary to promote a closer collaboration between key stakeholders in the Mining and Energy Sector and the entities in charge of compiling sectoral data, such as the UPME, and IDEAM. Activities will involve several stakeholders, however the project will emphasize on the Manufacturing sector, taking into account that according to 2012 GHG inventory this sector is emitting 11% of the country's total emissions and mitigation potential in this kind of industries is high.

This collaboration can be fostered by, based on existing instruments for data collection on key energy variables, jointly developing sectoral-relevant GHG emissions indicators and update them periodically, which implies the creation of an effective, unifying information exchange mechanism between the above mentioned actors.

Taking into account results of Outcome 2.1, activities under **Output 2.2.1** will be targeted to improve information flows and create policy-relevant indicators for the generation of the BECO, including energy use and fuel consumption in mining activities and the manufacturing industry through arrangements for the transfer of information between mining and manufacturing companies and UPME, in order to integrate this information to the BECO and subsequently to IDEAM for the estimation of the INGEI.

As a result of this intervention, Colombia will produce national and program/project – level information relevant to provide guidance to sectoral stakeholders to plan on mitigation measures and actions based on the carbon impacts of their decisions. All outputs were prioritized taking into account that UPME has made a commitment with the generation of information and improve estimation of emission factors for CO₂ for Colombian fossil fuels.

Component 3: Improving GHG emissions and removals estimates, and projections in Colombia's prioritized sectors (Energy and AFOLU)

Activities under this component are targeted to improve quality of data and information on emissions, removals and projections in the AFOLU and Energy sectors using, in all cases where is possible, a Tier 2 level, based on country-specific data. To achieve this, carbon contents in the main compartments established in the IPCC 2006 guidelines will be determined, and the carbon fluxes in lands subject to change dynamics will be measured. Likewise, for the Energy sector, the aim is to strengthen the estimation of sectoral baselines, emissions projection, and estimation of fugitive

emissions for use of fossil fuels (oil and natural gas). By its nature, this task requires a collaborative approach and engagement of private sector, thus this component foresees the development of technological tools and institutional arrangements to promote this collaboration in a transparent and efficient manner.

One of the most critical aspects to improve quality of information on emissions and removals in both sectors is the lack of information on, in case of AFOLU, related to carbon stocks and flows in different ecosystems and, consequently, emission factors to evaluate impact of transformation of natural ecosystems into other land use categories. In the case of Energy sector, it is mainly related to own emission factors, as well as baselines, congruent with the national estimations on the GHG Inventory, especially related to transport sector. Currently, national reports have used default emission factors provided by the IPCC, which introduces important uncertainties in the estimates, taking into account the diversity of ecosystems, and the relevance of the Energy sector within the national emissions.

Since 2011, by implementing the National Forest Inventory, IDEAM has advanced in the compilation and generation of data to estimate the carbon stocks stored in the aerial biomass in natural forests of the country, identifying analytical methods to reduce uncertainty, taking into account the characteristics of the information available to do it. Although these efforts have provided transparent, complete, consistent and accurate information for Colombia, it is necessary to continue generating updated data on the carbon contents stored in forest and non-forest cover, specially in the Andean region due the lack of funding for this region of the country.

In case of the Energy sector, despite calculation of the GHG Inventory using the IPCC 2006 guidelines; involvement of the sectors on information gathering, and the quality evaluation of the GHG Inventory through peer review, all used during the Third National Communication and the first BUR, which have made possible to advance substantially, regarding the estimations made on the First and Second National Communications; still necessary to work on methodological approaches and calculations that better reflect the national reality.

Outcome 3.1 Improved estimates of CO₂ emissions and removals from prioritized AFOLU land-cover related categories through high quality scientific information

Land conversion alone is responsible for the emission of approx. 1.7 Gt of CO₂e in Colombia every year. Nevertheless, due to a lack of country-specific data, Colombia continues to apply default emission factors to estimate emissions stemming from forests and non-forest land transitions to other types of land. For this reason, AFOLU sector calculations, and thus a major element of national inventories and projections, show an implicit high degree of uncertainty, which can be largely attributed to inadequate estimates of transition rates between different post-deforestation uses, the associated emissions/removals, legacy fluxes, and the potential carbon storage in non-forest land (e.g. grassland, cropland and secondary vegetation).

In line with international commitments on transparency under the UNFCCC and the Paris Agreement, Colombia aims at establishing a robust national GHG reporting and accounting system to track mitigation actions against Colombia's NDC. Robust reporting and accounting are intrinsically related to the notion of knowing, reducing and managing the uncertainties of emissions estimates. In order to produce more accurate estimates of GHG emissions for key activities, sources and sinks, CBIT funding will support specific activities to gather and analyze field data on the carbon stored in the different pools in forests and non-forest lands under varying management practices, following a robust statistical framework.

In line with the above, taking into account the data needs and information requirements identified by IDEAM in the INGEI improvement plan for the AFOLU sector, this intervention will provide the data and information necessary to improve the estimation and reporting GHG emissions in this priority sector.

Output 3.1.1 will be targeted to update estimates of carbon stored in aboveground biomass and generates information on carbon density in soils and woody debris used to calculate its national GHG inventory. Activities include: i) establishing a set of new plots of the National Forest Inventory (NFI), ii) the re-measurement of previously established plots of the NFI, iii) carbon measurements in elevation gradients, iv) monitoring carbon stocks changes in High Andean forests, and v) chronosequencing analysis.

This intervention constitutes a gigantic technical, logistical, and economic effort to improve access to high-quality scientific information to estimate CO₂ emissions/removals from prioritized AFOLU key categories using a Tier 2 method based on country-specific data. Generation of information about vegetation carbon dynamics requires important field, laboratory and deskwork. Generation on data on CO₂ emissions and removals and estimation of forest carbon

stock changes requires establishment of new sampling plots in natural forest areas and other land covers and re-measurement of existing plots, besides all the other activities associated to the phases of sample processing, laboratory studies (e.g. soils, debris, isotopes, etc.), herbarium work, sample and data storage, statistical analysis, among others. IDEAM plans to establish about 100 NFI plots, establish 200 chronosequencing plots, re-measure 30 1-ha plots, and establish 40 permanent plots along altitudinal gradients that range from 500-2800 m asl in well-preserved forests on the Andean mountain ranges of Colombia.

In this context, IDEAM will generate standardized data, complementary to that produced by the NFI⁵, and provide information on:

- a) Carbon stored in three carbon pools (i.e. aboveground biomass, soils and necromass) in natural forest and non-forest land uses.
- b) Annual growth rates in mature undisturbed forests, which is of great importance within the AFOLU sector, especially in the estimation of carbon stocks a change in non-managed forest lands over time.
- c) The variation of carbon stocks along well-defined temperature gradients in Tropical Mountain Forests (TMF) located in the steep slopes of the Andean Mountain Range, which is required to parameterize the models used to estimate net carbon changes in scenarios of climate change.
- d) Emissions/removals and legacy fluxes related to changes in land use and land cover. Along with this, a database with updated information on emission factors for selected key land cover change categories of Colombia's GHG inventory will be produced.

On the other hand, as no standardized approach has been applied to date for the collection and processing of data on forest fires, logging and firewood consumption in Colombia, these constitute an important source of uncertainty for key land-use related categories in the AFOLU sector. Under **Output 3.1.1** CBIT will also support implementation of the SNIF, Colombia's official information platform to collect data on forest activities, by updating existing information, improving data analysis options and providing regional data providers with the training and other capacity-building activities to be able to report in a consistent and timely manner.

Thus **Output 3.1.2** will be focused on supporting instruments and mechanisms necessary to handle the available information on forest fires, logging and firewood consumption, guaranteeing its integration and interoperability with SIAC and other systems that, by their nature, manage information regarding the condition and state of the forests of Colombia. The overall aim of this key action is to develop standards, protocols, processes and technological solutions for the capture, generation, processing, flow, dissemination and administration of information generated by the forestry sector, ensuring the access of different actors to the data, information, services and products needed to use and manage in an appropriate and effective manner the forestry resources of the country.

Finally, based on information compiled/generated through the actions described above, on **Output 3.1.3** IDEAM will update GHG emissions/removals estimates published in Colombia's Third BUR.

Outcome 3.2 GHG's Scenarios and projections estimated for the Energy and AFOLU sectors, through high quality scientific information.

Bearing in mind what will be not only the revision process of the NDC but also the new Compliance Period within the Paris Agreement, it is very important for Colombia to be able to advance on the improvement of its information regarding emissions behaviors, in a way that be consistent with the National GHG Inventories. To achieve this, the Project seeks to strengthen national capacities, through the development and validation of methodologies for the estimation of emission scenarios and projections for both AFOLU and Energy, which are the main emission sources in Colombia. Strengthening capacities in emission projection will allow to standardize methodologies to systematize the calculations, making more efficient the intersectorial negotiation processes for revision and/or establishment of new reduction goals, as well as, to improve the reporting mechanisms, so Colombia will gain significantly on its transparency frameworks.

⁵ IDEAM has established 303 plots of the Forest National Inventory. According to the statistical framework, the FNI will need the measurement of more than 1.400 plots.

To achieve this result, the **Output 3.2.1** will define and validate methodologies for calculation and projection of sectoral and national baselines. With this information, the Project will substantially strengthen the construction process of national inventories, as well as, facilitating updating of baselines, and periodic revision of the NDC.

Furthermore, in order to accomplish Outcome 3.2, and closing the cycle begun with the methodological strengthening, through **Output 3.2.2**, the country will count at the end of the project with scenarios and projections at 2030 calculated and adjusted for both sectors, AFOLU and Energy. This information will be key to guide in a solid, effective and scientifically supported way, the sectorial decision making, to define their mitigation actions, and their NDC's accomplishment.

4. Alignment with GEF focal área and/or Impact Program Strategies

The project is primarily aligned with GEF Focal Area CCM-3-8, “Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through capacity building initiative for transparency”

Investments under this proposal will strengthen national and sectoral capacities to tracking progress against the national GHG emissions reductions targets, as well as the effective and efficient use of data and information

In this sense, the project aim to strength national institutional capacities for the implementation of the transparency framework of the Paris Agreement through the improvement of GHG national inventories as the most important component of the MRV tracking progress of the implementation the NDC.

With this purpose, the country has prioritized AFOLU and energy sectors, aiming to improve data and estimation processes of the GHG national inventory that also will enable the estimation of the impact of mitigation actions in the GHG improving national capacities for the transparency of action reports.

5. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCE, SCCF and co-financing

Taking into account Paris Agreement Article 13 provisions, activities proposed will contribute to improve national estimates and generate country-specific data (Tier2 - Tier3), promote good practice methodologies according to IPCC and involve relevant sectors in order to strengthen the national institutional framework. It is also important to note that since 2013 Colombia has been working on developing national systems for monitoring, reporting and verification for GHG emission reductions and climate financing, which have been designed in order to facilitate monitoring progress towards achieving the iNDC. Currently Colombia has a great progress in designing the National Registry of Reduction of GHG Emissions –RENARE, which is a technological instrument of the MRV System for the management of information at the national level on GHG mitigation initiatives, including programs and projects of actions for the Reduction of Emissions due to Deforestation and Forest Degradation of Colombia - REDD +. Regarding finance and support, the national planning department is implementing the MRV System of Climate Finance. Activities will also contribute to improve existing monitoring and reporting systems and increase capacities of relevant sectors, which will increase transparency in monitoring and reporting processes.

Due to the nature of the CBIT Program under the GEF this project is financed on a full-agreed cost basis. Although co-financing is not a mandatory requirement, Colombia’s commitment to enhance the transparency of its MRV activities is reflected in ongoing programs and other initiatives, which are complementary to this project, as well as other institutional in-kind contributions. These have been included as co-financing in Table C of this document.

As described in the sections above, Colombia has made a tremendous effort – underpinned by institutional improvement plans - to produce enhanced reports on its GHG emissions and removals both internationally and for domestic purposes. However, with a NDC in place and new challenges under the ETF of the Paris Agreement stemming from the need to conduct robust NDC tracking and raise NDC ambition over time, the actions so far undertaken by Colombia on this front will need to be accelerated and scaled up. Colombia’s aspiration, which this CBIT proposal will directly contribute to, is to design and rapidly deploy more sophisticated tools that, in combination with better data, are able to produce multi-scale and yet consistent information on the country’s progress towards meeting its NDC.

For countries such as Colombia, the strengthening of MRV referred to in the Paris Agreement implies to continuously improve monitoring and reporting systems of GHG emissions and removals at the national level. This has to be done based on five essential principles established by the IPCC: Transparency, Precision, Comprehensiveness, Coherence

and Comparability of the information reported and used to produce reports. Therefore, this proposal is targeted to progressively develop national mechanisms and capacities to address two fundamental challenges:

1. International reports should be increasingly frequent, transparent and robust. To fulfill this commitment, the country must fill information gaps starting with the activities and sources that emit (or remove) most of the emissions. In addition, it should ensure synchrony and consistency in the interactions and information flows among all the stakeholders and instruments - such as the INGEI and the NDC - that are part of these reports.
2. Effective monitoring of the National Climate Change Policy mainly implies that there is consistent and comparable information on climate change mitigation progress for the productive sectors, departments and municipalities of the country. At the same time, this requires compatible methodologies and clear rules to integrate information generated on multiple scales, from the policies and measures of sustainable rural development foreseen by the Government, the Nationally Appropriate Mitigation Actions (NAMAs) and private initiatives of smaller scale.

Therefore, taking into account Paris Agreement Article 13 provisions, activities proposed will contribute to improve national estimates and generate country-specific data (Tier 2 – Tier 3), promote good practice methodologies according to IPCC and involve relevant sectors in order to strengthen the national institutional framework. Results will improve national inventory reports of emissions and removals and contribute to track progress made in implementing and achieving emission reduction targets defined in the Colombia's NDC.

Taking into account GAP identified by International Consultation and Analysis (ICA) process, in order to enhance transparency framework activities will also contribute to improving existing monitoring and reporting systems and increase capacities of relevant sectors, which will increase transparency in monitoring and reporting processes. It is important to note that Colombia has been working on developing national systems for monitoring, reporting and verification for GHG emission reductions and climate financing, which have been designed in order to facilitate monitoring progress towards achieving the NDC. Currently Colombia has a great progress in the design of the RENARE, which is a technological instrument of the MRV System for the management of information at the national level on GHG mitigation initiatives, including programs and projects of actions for the REDD+. Regarding finance and support, the National Planning Department (DNP) is implementing the MRV System of Climate Finance. The purpose is to measure, report and verify existing flows of climate finance in Colombia and gather information in an easily accessible platform. Additionally the project will build on and contribute to strengthen existing platforms implemented by IDEAM such as the SIAC, the SNIF, and the SMBYC.

All activities, outcomes and outputs included in this proposal are fully consistent with the Programming directions for the CBIT (GEF/C.50/06) and, as summarized below, have global environmental benefits and indirect adaptation benefits.

With the investments proposed in this project, Colombia is proactively taking steps towards establishing a comprehensive, robust MRV system of emission and removals that is able to capture and respond to future international transparency requirements and to key policy questions and decisions on low-carbon development which, in the absence of such a system, would have to be addressed on a project-by-project basis – arguably a more costly approach.

6. Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The global environmental benefits are related to Colombia's increased ability to meet its NDC commitments by means of having and providing adequate access (e.g. to the government, the private sector and the civil society) to improved information on how the country is performing against its targets. The broad dissemination of more accurate data on key activities and country-specific emission factors as a result of implementing this project will transversally increase the quality of emissions estimates at all scales, thus the robustness of mitigation action.

Along the same lines, several pieces of sectoral information such as changes in forest and non-forest ecosystems over time and data on livestock will be useful in producing future analysis on how productive systems respond to climate change, an essential element of adaptation planning. More indirectly, the research programs this project will promote are expected to motivate an increased number of students and scientists to engage in climate science – related activities, thereby creating a virtuous circle in which the principle of 'continuous improvement' underpinning this intervention is expanded from government agencies to a broader base of stakeholders which includes academic institutions.

7. Innovation, sustainability and potential for scaling up

The proposed project is part of an unprecedented initiative by IDEAM of long-term strategizing on MRV of GHG emissions and removals for the AFOLU sector. It comprises a range of activities which in spite of building on existing capacities, methods and tools, are entirely new to the Colombian context. New research fields will be explored in collaboration with private companies, sectorial research centers and/or national universities.

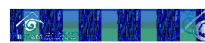
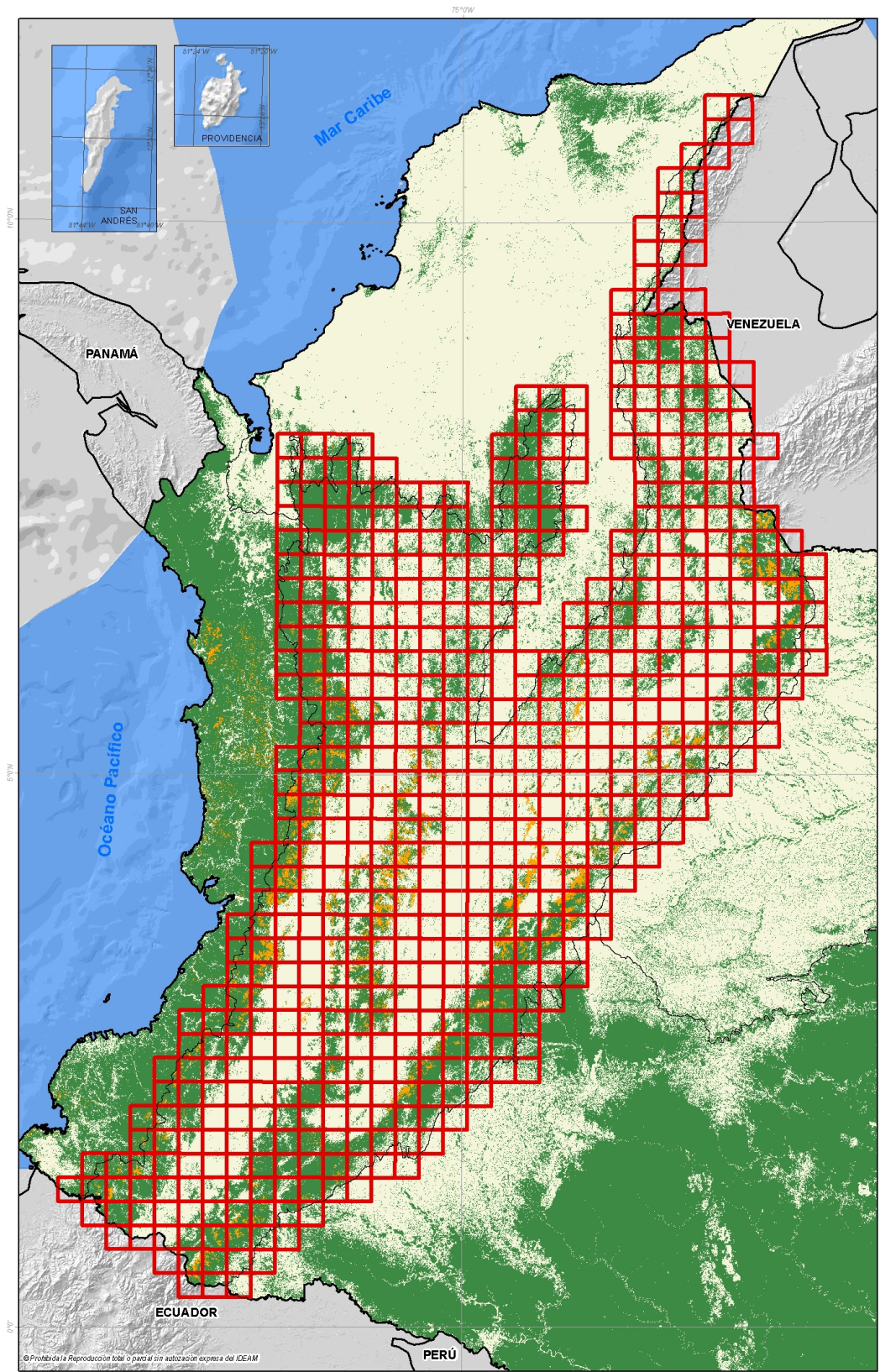
The project will be coordinated by IDEAM, Colombia's designated institution for inventory preparation, climate change research and reporting to the UNFCCC. Over time, IDEAM has developed the expertise and technical capacity needed to provide guidance to and interact with a broad range of agencies across the entire country for the purpose of generating and disseminating information in the area of climate change. However, in order to be able to carry out research activities across diverse regions within the country, IDEAM proposes a collaborative model for data gathering, transfer, processing and publishing which will in turn have a positive effect on existing institutional arrangements and promote the creation of new ones. This approach increases the sustainability of interventions as a number of stakeholders will bear responsibility and commitment to the achievement of the proposed outcomes.

This intervention is expected to run in parallel with consistent and fully complementary programs under IDEAM's coordination such as the Technical Assistance of the ISFL – BioCarbon Fund, REM and the MRV component of the Joint Declaration of Intent between Colombia, Norway, Germany and the UK, among others. Thus, the results obtained will add up to a larger purpose of establishing a robust, long-term AFOLU system which first phase of implementation will be anchored in a number of programs to be periodically reviewed and permanently tracked.

The proposed intervention is ambitious in scope and scale. Some activities, particularly those under components 1 and 3, have a national coverage and impact. In addition, the proposed work on activity data, forest inventorying and development of emission factors for key AFOLU categories will take place in Colombia's Andean region, the second largest and most emitting, and the most diverse in terms of landscapes. The project's results as well as experiences collected in obtaining them could potentially be applicable to countries in the Latin America region with biophysical similarities. Likewise, for Energy sector (second more relevant in terms of national emissions: 26% of the total historical emissions from 1990 to 2014, reported by the BUR-2), the proposed activities will allow a huge advance on information quality to improve emissions calculation, as well as, the proposal of new mitigation measures.

1b. *Project Map and Coordinates.* Please provide geo-referenced information and map where the project interventions will take place.

The main activities of the proposal are to be developed in Bogotá (Colombia) where the different institutions that are involved in this proposal are based. Nevertheless, the proposed work on activity data, forest inventorying and development of emission factors for key AFOLU categories will take place in Colombia's Andean region, as is shown in the following map:



REPÚBLICA DE COLOMBIA
 INSTITUTO DE HIDROLOGÍA,
 METEOROLOGÍA Y ESTUDIOS
 AMBIENTALES

**Marco geostatístico
 Inventario Forestal Nacional
 Región andina
 24Km X 24 Km**

Sistema de Monitores de
 Bosques y Carbono
 para Colombia - SMCYC
 2018

Legenda

Marco Geostatístico IFN

- Andes
- Cobertura**
- Bosque
- No Bosque Estable
- Sin Información

Convenciones

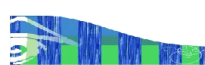
- Limite Región Natural
- Limite Nacional
- Mares y Cuerpos de Agua



Escala
 1:5,000,000

Información de Referencia

Sistema de Referencia: MAGNA - SIRGAS
Zona: Central
Elipsoide: GRS80
Origen de Coordenadas: 75° 04' 29.0285" Longitud W
 04° 38' 46.3215" Latitud N
Valores arbitrarios de Coordenadas: 1000000 metros Norte
 1000000 metros Este
Fuente: IDEAM, MADIS, Patrimonio Natural, Ecopetrol, Gel - Banco Mundial
Cartografía Base: IGAC, 2010.
Tipo de Imágenes: LANDSAT
Salida Gráfica: Álvaro Cuñillos, Angélica Dagnel, José Julián González
Revisó:



2. *Stakeholders*. Select the stakeholders that have participated in consultations during the project identification phase:

- Indigenous Peoples and Local Communities;
Civil Society Organizations;
 Private Sector Entities;
 If None of the above, please explain why.

The MRV 2030 Strategic Plan in which will be framed this project, has been discussed in the *Research, production and communication of information of climate change Committee of SISCLIMA*, where different institutional actors are involved as the Ministry of Energy and Mining and Ministry of Agriculture, other Ministries and Research National institutions.

Additionally, meetings and workshops conducted over the course of the second BUR and other different on going projects mentioned above, have provided ample opportunity to consult with project stakeholders (public and private) regarding the focus of this CBIT proposal.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

The institutional umbrella of this project is the SISCLIMA, created under the Decree 298/2015. SISCLIMA involves ministries and planning institutions dealing with climate changes strategies and programs. Its main objective is to coordinate, articulate, formulate, monitor and evaluate politics, rules, strategies, plans, programs, projects, actions and measures in the area of adaptation to climate change and mitigation of GHG which cross cutting nature implies participation of public and private institutions from national and subnational level. Table 6 describes the main stakeholders to be involved in this project.

Table 6. Stakeholders to be engaged in the propose project.

Stakeholder	Main role	Engagement in the project
Ministry of Environment and Sustainable Development (MADS)	Establishing public policies on sustainable development and environment at a national level	<ul style="list-style-type: none"> MADS will provide high-level and technical guidance to maintain a strong connection between the project with National Climate Change Policy and the SIAC. As the GEF's focal point, MADS will provide support to IDEAM in establishing an effective exchange with the GEF.
Institute of Hydrology, Meteorology and Environmental Studies (IDEAM)	Generation of official information and monitoring of natural resources at national level	<ul style="list-style-type: none"> IDEAM will lead technically components of the project related to generation and analysis of data, design and implementation of information platforms, engagement of relevant sector, among others. As technical coordination of the SIAC, IDEAM will integrate results of the project into existing information platforms and monitoring systems.
National Mining and Energy Planning Unit (UPME)	Generating official information from the mining and energy sectors in Colombia as well as technical inputs for sectoral decision-making	<ul style="list-style-type: none"> UPME will co-execute with IDEAM the activities related to developing improved data to estimate emissions in the energy sector.
National Department on Statistics (DANE)	Generating official national statistics for Colombia	<ul style="list-style-type: none"> DANE will support the implementation of activities related to capacity development on uncertainty estimation and reporting.

Colombian Corporation for Agricultural Research (CORPOICA)	Contribute to technical change and improvement in the agricultural sector in Colombia	<ul style="list-style-type: none"> CORPOICA will co-execute activities on activity data and emission factor improvement for livestock-related categories of the GHG inventory.
Regional Environmental Authorities (CARs)	Administering renewable natural resources within their jurisdiction	<ul style="list-style-type: none"> Issue permits, if applicable, and provide access to locally gathered information that is relevant to the project. Provide consent and assistance, if needed, to activities related to data collection within their jurisdiction. Co-execute activities related to activity data improvement on forestland remaining forestland.
Universities and research centers	Conducting scientific and applied research on climate change – related topics	<ul style="list-style-type: none"> Will co-execute data collection and analysis activities and provide existing connections with other local institutions, including communities (e.g. Universidad Nacional de Colombia, Pontificia Universidad Javeriana, UPTC).
Non-governmental organizations	Conducting scientific and applied research on climate change – related topics	<ul style="list-style-type: none"> Will co-execute data collection and analysis activities and provide existing connections with other local institutions, including communities (e.g. TNC, WWF, Fundación Natura).
National Federation of Cattle Ranchers (FEDEGAN)	Private association that comprises cattle ranchers in Colombia	<ul style="list-style-type: none"> FEDEGAN will co-execute activities on activity data and emission factor improvement for livestock-related categories of the GHG inventory.
Local and indigenous communities	Inhabiting Colombia's rural areas with subsistence/productive purposes	<ul style="list-style-type: none"> Whenever project activities, particularly those related to field data collection, fall into local communities' territories, these will be informed of such activities and, upon their willingness to participate, engaged in their execution.

3. *Gender Equality and Women's Empowerment.* Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? yes /no / tbd ; If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or

generating socio-economic benefits or services for women.

Will the project's results framework or logical framework include gender-sensitive indicators? Yes X /no / tbd

Although this project does not draw directly on gender issues, nor it considers gender equality among its core objectives, project preparation and implementation will adhere to the principles and provided in Colombia's policy guidance on Gender Equality⁶.

Taking into account the important role women play on climate change (adaptation and mitigation), but also the challenges to identify, make visible and help tackle those gender disparities throughout quantitative and qualitative data, the gender perspective will be included in all 3 components of the project:

- On Components 1 and 2 the focus will be in the analysis of current indicators, the identification when possible of the inclusion of gender and differential approaches variables (sex, ethnicity, age, among others), to promote that from now on, they are gender sensitive. In addition, when working towards the strengthening of the information systems, there is expected to provide tools to collect, process and statistical data analysis with a gender perspective as well.
- Related to Component 3, the aim of the project is to mainstream the gender perspective trough the following actions: create and strength capacities of the team project and the IDEAM on gender issues; provide useful information and tools to raise a baseline with gender sensitive information; incorporate a gender perspective in the establishment of criteria to do the field work; and incorporate the gender analysis in all the progress reports.

Furthermore, the implementing authorities will follow the guidelines of the GSP Gender Responsive National Communications Toolkit and will also take into account the GEF Gender Equality Action Plan (GEAP).

Additionally, taking into account that under the UNDP Low Emission Capacity Building (LECB) Programme is going to include gender considerations in the road map to be deveolped to accomplish the NDC of Colombia, it will be further seek to articulate the work of this Programme and the gender perspective to be included in the components of this CBIT project.

4. Private sector engagement. Will there be private sector engagement in the project? (yes /no). Please briefly explain the rationale behind your answer.

As the project is focused on improving the capacity of governments to undertake transparency obligations, the private sector will not be directly engaged in the project. However, indirect engagement of the project sector will take place further in the implementation of the project or beyond its life cycle, as the activities related to improve quality of data and information on emissions and removals in the AFOLU and Enegy sectors, requires collaboration of private sector and would imply in the future the development of technological tools and arrangement which would boost the engagement of this sector in the process related to the MRV system.

Additionally, by the nature of this project, it would be promote more and better information, as well as improve accessibility to information to different actors, including private sector.

5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved or may be resulting from project implementation, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

Table 7. Risks in the propose project.

Type of Risk	Description	Likelihood	Prevention and/or Mitigation Strategy
Institutional	Staff turnover	High	Processes and activities will be documented under a standardized approach so impacts of staff turnover are lower and institutional memory is secured
	Duplication of efforts	Low	Project management tools and

Type of Risk	Description	Likelihood	Prevention and/or Mitigation Strategy
			coordination arrangements will be defined and applied throughout project implementation so teams across components as well as other initiatives are aware of progress obtained under the CBIT project.
	Lack of communication and coordination among agencies participating in the project	Medium	Regular meetings or similar mechanisms will be established between the CBIT project coordination and other relevant initiatives.
Logistical	Lack of access to field data collection areas due to security concerns or climatic conditions	High	Planning of data collection activities will map and factor in these potential risks and establish technical alternatives to be triggered in case these risks materialize.
	Sudden increase in travel costs to areas with difficult access	High	Buffer budgets to be factored in when planning for field data activities.
	Data collection activities are delayed due to local concerns	High	Implement protocols on social local community information and participation (existing).
Technical	Restrictions on data and information sharing among participating agencies	Medium	Develop formal agreements to facilitate information sharing under conditions that are favorable for all Parties.
	Data quality is affected by external factors	Low	Implementing Quality Control protocols.
Political	Lack of political support at the national and jurisdictional levels	Low	Disseminate project information, provide periodic progress reports and maintain an effective communications strategy throughout the project's implementation.

6. *Coordination.* Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The project will conform a Project Steering Committee responsible for making management decisions and conformed by representatives of UNDP, MADS, IDEAM and other relevant partners, according to their participation in the implementation of the project and which will be confirmed in the phase of the project formulation. UNDP will be the implementing agency and IDEAM and MADS will be the executing partners.

As the leading agencies in charge of technically coordinating and implementing Colombia's MRV arrangements, IDEAM and the Ministry of Environment and Sustainable Development act as a focal points in a broad number of projects that are relevant to the CBIT project, including most of the outlined in the tables in Part II of this proposal. In addition, by being an active part of key regional and global initiatives such as Group on Earth Observations (GEO), Amazon Cooperation Treaty Organization (OTCA), the Latin American GHG inventory network and others, the lessons learnt while planning and executing this project can be effectively transferred to other countries interested in advancing similar proposals under the GEF. The following are the key initiatives with which close coordination will be secured:

- GEF *Corazón de la Amazonia*: technical coordination of the MRV component is under IDEAM's responsibility.
- GEF 6, Trinational Project on biodiversity conservation in the Amazon: technical coordination of the MRV activities is under IDEAM's responsibility.

- Joint Declaration of Intent with Norway, Germany and the UK; REM and ISFL BioCarbon Fund: activities and components are complementary to the ones proposed in this CBIT project. Technical coordination of the MRV activities is under IDEAM's responsibility.

Other international cooperation initiatives will contribute to the present proposal as described below:

Project Name	International Cooperation Agency	Objective	Period (time)	Main Tasks
ICAT	UNEP-DTU	Development of the National Vision 2030 of MRV and generation of protocols and guidelines for MRV and M&E.	2018	Build the strategic vision 2030 of the MRV at the national level on the basis of the existing inputs as a document MRV, documentation of the different existing platforms and institutional arrangements. Assess the needs of regulation from the National Policy on Climate Change on the MRV system and assess their possible impacts with the aim of having an information system that is sustainable at the institutional, legal, technical and financial level. Generate a strategy for follow-up, feedback and capacity building for climate change policy monitoring
Second BUR	UNEP-GEF	Preparation and delivery of second BUR to the UNFCCC, in order to meet their obligations under the Convention (Decision 1/CP.16, paragraph 60, and Decision 2/CP.17, paragraph 41 and annex III).	2018 and 2019	GHG Inventory for 2013 and 2014 Update GHG inventory improvement plans Test the protocols provided by the Third NC on Climate Change in the frame of the SINGEI.
Partnership for Transparency	GIZ - BMUB	Support to the implementation of NDC	2018 and 2019	To be determine

The project will also actively facilitate knowledge exchanges and lessons learnt by being actively engaged in the CBIT global coordination platform and by providing feedbacks on inter alia project implementation barriers, lessons learnt and other significant elements related to MRV and NDC. By participating in this platform, Colombia is also interested in learning from others and in engaging in technical discussions with countries implementing similar efforts. A person from Colombia's CBIT project team will be fully committed to support such exchange and to upload relevant information on the platform.

7. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how:

- National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC
- National Action Program (NAP) under UNCCD
- ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury
- Minamata Initial Assessment (MIA) under Minamata Convention
- National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD
- National Communications (NC) under UNFCCC
- Technology Needs Assessment (TNA) under UNFCCC
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD

- National Implementation Plan (NIP) under POPs
- Poverty Reduction Strategy Paper (PRSP)
- National Portfolio Formulation Exercise (NPFE) under GEFSEC
- Biennial Update Report (BUR) under UNFCCC
- Others

As explained above, this project directly contributes to the enhancement of Colombia’s *NCs, BURs and NDCs*. On one hand, it will essentially generate and make public the information needed to increase the accuracy of the emission estimates that Colombia reports to the UNFCCC in its GHG inventories and uses in the development of national projections and sectorial planning tools for mitigation. This will be done for Colombia’s most significant emissions and removals categories, covering the most significant pools and gases in the AFOLU and Energy sectors. The more country-specific information is made available and applied to national planning and international reporting, as expected in this project, the better and more transparent the contributions of Colombia to the global fight against climate change will be.

Now that Colombia formally ratified the Paris Agreement in July 2018, Colombia has its first NDC, and this GEF-CBIT project proposal is of a major relevance for the country, and for the transparency principle under the Paris Agreement.

8. Knowledge Management. Outline the “Knowledge Management Approach” for the project and how it will contribute to the project’s overall impact, including plans to learn from relevant projects, initiatives and evaluations.

Knowledge management itself is at the heart of the proposed interventions. One of the central elements of this proposal, SINGEI, is intended to be a platform in which a broad public comprising the civil society, academia, private companies, Ministries and local governments have access to transparent and reliable information on the countries emissions and how are these estimated.

In addition, a capacity development program on uncertainty (see component 1) which targets key officers from agencies and organizations in charge of supplying information to estimate and project emissions will be implemented. Lastly, the research processes underlying the development of country-specific data bases on activity data and emission factors will open up new lines of work in Colombian universities and research centers, a positive impact that will transcend for decades after this project is finished, and thus provide sustainability and secure long-lasting beneficial impacts to the Colombian society as a whole.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
David Olarte and Laura Bermudez	Head (e) of the International Affairs Office and GEF Operational Focal Point (respectively)	MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT	09/27/2018

**PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES
(when possible)**

GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, item F to the extent applicable to your proposed project. Progress in programming against these targets for the project will be aggregated and reported at anytime during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part I, item G by ticking the most relevant keywords/ topics/themes that best describe this project.

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input type="checkbox"/> Convene multi-stakeholder alliances		
	<input type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input type="checkbox"/> Financial intermediaries and market facilitators	
		<input type="checkbox"/> Large corporations	
		<input type="checkbox"/> SMEs	
		<input type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input checked="" type="checkbox"/> Beneficiaries		
	<input type="checkbox"/> Local Communities		
	<input type="checkbox"/> Civil Society		
		<input type="checkbox"/> Community Based Organization	
		<input type="checkbox"/> Non-Governmental Organization	
		<input type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input type="checkbox"/> Partnership	
		<input type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input type="checkbox"/> Communications		
		<input type="checkbox"/> Awareness Raising	
		<input type="checkbox"/> Education	
		<input type="checkbox"/> Public Campaigns	
		<input type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input checked="" type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input type="checkbox"/> Learning		
		<input type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	
		<input type="checkbox"/> Indicators to Measure Change	
	<input type="checkbox"/> Innovation		
	<input type="checkbox"/> Knowledge and Learning		
		<input type="checkbox"/> Knowledge Management	
		<input type="checkbox"/> Innovation	
		<input type="checkbox"/> Capacity Development	

		<input type="checkbox"/> Learning	
	<input type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality	<input checked="" type="checkbox"/> Gender Mainstreaming		
		<input type="checkbox"/> Beneficiaries	
		<input type="checkbox"/> Women groups	
		<input checked="" type="checkbox"/> Sex-disaggregated indicators	
		<input checked="" type="checkbox"/> Gender-sensitive indicators	
	<input type="checkbox"/> Gender results areas		
		<input type="checkbox"/> Access and control over natural resources	
		<input type="checkbox"/> Participation and leadership	
		<input type="checkbox"/> Access to benefits and services	
		<input type="checkbox"/> Capacity development	
		<input type="checkbox"/> Awareness raising	
		<input type="checkbox"/> Knowledge generation	
<input type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (?Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain
			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Sahara Africa	
			<input type="checkbox"/> Resilience (climate and shocks)
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	
			<input type="checkbox"/> Integrated urban planning
			<input type="checkbox"/> Urban sustainability framework
			<input type="checkbox"/> Transport and Mobility
			<input type="checkbox"/> Buildings
			<input type="checkbox"/> Municipal waste management
			<input type="checkbox"/> Green space

			<input type="checkbox"/> Urban Biodiversity
			<input type="checkbox"/> Urban Food Systems
			<input type="checkbox"/> Energy efficiency
			<input type="checkbox"/> Municipal Financing
			<input type="checkbox"/> Global Platform for Sustainable Cities
			<input type="checkbox"/> Urban Resilience
	<input type="checkbox"/> Biodiversity		
		<input type="checkbox"/> Protected Areas and Landscapes	
			<input type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas
			<input type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input type="checkbox"/> Community Based Natural Resource Management
		<input type="checkbox"/> Mainstreaming	
			<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)
			<input type="checkbox"/> Tourism
			<input type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input type="checkbox"/> Temperate Forests
			<input type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input type="checkbox"/> Desert
		<input type="checkbox"/> Financial and Accounting	
			<input type="checkbox"/> Payment for Ecosystem Services
			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests		
		<input type="checkbox"/> Forest and Landscape Restoration	
			<input type="checkbox"/> REDD/REDD+
		<input type="checkbox"/> Forest	
			<input type="checkbox"/> Amazon
			<input type="checkbox"/> Congo

			<input type="checkbox"/> Drylands
	<input type="checkbox"/> Land Degradation		
		<input type="checkbox"/> Sustainable Land Management	
			<input type="checkbox"/> Restoration and Rehabilitation of Degraded Lands
			<input type="checkbox"/> Ecosystem Approach
			<input type="checkbox"/> Integrated and Cross-sectoral approach
			<input type="checkbox"/> Community-Based NRM
			<input type="checkbox"/> Sustainable Livelihoods
			<input type="checkbox"/> Income Generating Activities
			<input type="checkbox"/> Sustainable Agriculture
			<input type="checkbox"/> Sustainable Pasture Management
			<input type="checkbox"/> Sustainable Forest/Woodland Management
			<input type="checkbox"/> Improved Soil and Water Management Techniques
			<input type="checkbox"/> Sustainable Fire Management
			<input type="checkbox"/> Drought Mitigation/Early Warning
		<input type="checkbox"/> Land Degradation Neutrality	
			<input type="checkbox"/> Land Productivity
			<input type="checkbox"/> Land Cover and Land cover change
			<input type="checkbox"/> Carbon stocks above or below ground
		<input type="checkbox"/> Food Security	
	<input type="checkbox"/> International Waters		
		<input type="checkbox"/> Ship	
		<input type="checkbox"/> Coastal	
		<input type="checkbox"/> Freshwater	
			<input type="checkbox"/> Aquifer
			<input type="checkbox"/> River Basin
			<input type="checkbox"/> Lake Basin
		<input type="checkbox"/> Learning	
		<input type="checkbox"/> Fisheries	
		<input type="checkbox"/> Persistent toxic substances	
		<input type="checkbox"/> SIDS : Small Island Dev States	
		<input type="checkbox"/> Targeted Research	
		<input type="checkbox"/> Pollution	
			<input type="checkbox"/> Persistent toxic substances
			<input type="checkbox"/> Plastics
			<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
			<input type="checkbox"/> Nutrient pollution from Wastewater
		<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		<input type="checkbox"/> Strategic Action Plan Implementation	
		<input type="checkbox"/> Areas Beyond National Jurisdiction	
		<input type="checkbox"/> Large Marine Ecosystems	
		<input type="checkbox"/> Private Sector	
		<input type="checkbox"/> Aquaculture	
		<input type="checkbox"/> Marine Protected Area	
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangrove
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Seagrasses
			<input type="checkbox"/> Polar Ecosystems
			<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste		
		<input type="checkbox"/> Mercury	
		<input type="checkbox"/> Artisanal and Scale Gold Mining	
		<input type="checkbox"/> Coal Fired Power Plants	
		<input type="checkbox"/> Coal Fired Industrial Boilers	
		<input type="checkbox"/> Cement	
		<input type="checkbox"/> Non-Ferrous Metals Production	

		<input type="checkbox"/> Ozone	
		<input type="checkbox"/> Persistent Organic Pollutants	
		<input type="checkbox"/> Unintentional Persistent Organic Pollutants	
		<input type="checkbox"/> Sound Management of chemicals and Waste	
		<input type="checkbox"/> Waste Management	
			<input type="checkbox"/> Hazardous Waste Management
			<input type="checkbox"/> Industrial Waste
			<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Emissions	
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	
		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input checked="" type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity
			<input type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input checked="" type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input checked="" type="checkbox"/> Enabling Activities
		<input type="checkbox"/> Technology Transfer	
			<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
			<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
			<input type="checkbox"/> Endogenous technology
			<input type="checkbox"/> Technology Needs Assessment
			<input type="checkbox"/> Adaptation Tech Transfer
		<input checked="" type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Nationally Determined Contribution
			<input checked="" type="checkbox"/> Paris Agreement
			<input type="checkbox"/> Sustainable Development Goals

		X Climate Finance (Rio Markers)	<input type="checkbox"/> Climate Change Mitigation 1 <input checked="" type="checkbox"/> Climate Change Mitigation 2 <input checked="" type="checkbox"/> Climate Change Adaptation 1 <input type="checkbox"/> Climate Change Adaptation 2
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