Part I: Project Information

GEF ID
10932

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **Yes**
NGI **No**

Project Title
Strengthening the national transparency system in Brazil under the Paris Agreement (DataClima+)

Countries
Brazil

Agency(ies)
UNEP

Other Executing Partner(s)
Ministry of Science, Technology and Innovations (MCTI), and FUNBIO (executing partner)

Executing Partner Type
Government

GEF Focal Area
Climate Change

Sector
Mixed & Others

Taxonomy

Focal Areas, Climate Change, United Nations Framework Convention on Climate Change, Capacity Building Initiative for Transparency, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Stakeholders, Private Sector, Civil Society, Non-Governmental Organization, Academia, Type of Engagement, Information Dissemination, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research, Capacity Development

Rio Markers

Climate Change Mitigation

Principal Objective 2

Climate Change Adaptation

Significant Objective 1

Biodiversity

Land Degradation

Submission Date

4/24/2023

Expected Implementation Start

10/1/2023

Expected Completion Date

9/30/2027

Duration

48In Months

Agency Fee($)

364,384.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCM-3-8	Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through capacity building initiative for transparency	GET	3,835,616.00	500,000.00
		Total Project Cost($)	**3,835,616.00**	**500,000.00**

B. Project description summary

Project Objective

Strengthen the national transparency system in Brazil (DataClima+) for informing national policymaking and meeting the requirements of the enhanced transparency framework (ETF) under the Paris Agreement.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Integrated climate data platform	Technical Assistance	1. The Brazilian Government measures, tracks and reports climate data through a robust, consistent, and efficient transparency system	1.1. Data requirements, sources, and gaps for preparing UNFCCC transparency reports and supporting gender-sensitive national policymaking are identified and disseminated to national stakeholders. 1.2. A gender sensitive DataClima+ system is designed, built and made accessible to key stakeholders. 1.3. An institutional mechanism is established for operating DataClima+ by governmental entities. 1.4. Institutional arrangements for entities to provide data to DataClima+	GET	2,114,670.00	200,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			are established. 1.5. A national capacity building programme for DataClima+ is designed and made accessible to national stakeholders. 1.6 A gender-sensitive stakeholder communication and engagement strategy for DataClima+ is designed and implemented with key stakeholders.			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2. Enhanced, gender-sensitive climate transparency modules	Technical Assistance	2. The Brazilian government produces timely climate data and makes it available through DataClima+	2.1. A process manual, databases, tools and templates for using the national GHG inventory report module of DataClima+ (SIRENE module) are available to MCTI. 2.2. A process manual, databases, tools and templates for using the adaptation module of DataClima+ (AdaptaBrasil MCTI module) are available to MCTI. 2.3. A process manual, databases, tools and templates for using the NDC tracking module of DataClima+ are available to MCTI. 2.4. A process manual, databases, tools and templates for using the	GET	983,693.00	100,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			means of implementation module of DataClima+ to track support needed and received are available to MCTI.			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3. National policymaking informed by gender-sensitive climate data	Technical Assistance	3. National policymakers incorporate climate data and analysis into national planning and policy-making efforts	3.1. A process manual, databases, tools and templates are available to national stakeholders for assessing the effectiveness of sectoral policy scenarios for achieving national climate goals through DataClima+ (SINAPSE module). 3.2 Institutional arrangements between governmental entities for integrating DataClima+ into national planning (including the long-term strategy) and budgeting instances are established.	GET	366,739.00	100,000.00
4. Monitoring and Evaluation	Technical Assistance	4. Project is effectively monitored and evaluated	4.1. Monitoring and evaluation products are delivered (see section 9).	GET	187,866.00	

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
				Sub Total ($)	**3,652,968.00**	**400,000.00**
Project Management Cost (PMC)						
				GET	182,648.00	100,000.00
				Sub Total($)	**182,648.00**	**100,000.00**
				Total Project Cost($)	**3,835,616.00**	**500,000.00**

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Science, Technology and Innovation	In-kind	Recurrent expenditures	500,000.00
			Total Co-Financing($)	**500,000.00**

Describe how any "Investment Mobilized" was identified

Not Applicable

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Brazil	Climate Change	CBIT Set-Aside	3,835,616	364,384	4,200,000.00
			Total Grant Resources($)		**3,835,616.00**	**364,384.00**	**4,200,000.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Brazil	Climate Change	CBIT Set-Aside	50,000	4,750	**54,750.00**
			Total Project Costs($)		**50,000.00**	**4,750.00**	**54,750.00**

Core Indicators

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	330	330		
Male	330	330		
Total	660	660	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

It is estimated that the project will have a total of 28 technical workshops, each targeting specific stakeholders. Assuming 20 unique attendants to each, the project will reach out to 560 direct beneficiaries, including staff of Brazilian ministries, national and subnational decision-makers, the private sector, civil society organizations (CSOs) and other relevant stakeholders. Additional beneficiaries are counted from the long-term capacity building courses, i.e. 20 unique beneficiaries from each of the 5 courses in the last year of project execution (i.e. beneficiaries in subsequent years are not counted), resulting in 100 people benefitted by the project for a total of 660. The project's direct beneficiaries are those whose capacity is strengthened in the project?s capacity building sessions under output 1.5. In-person and online training sessions are planned for key stakeholders under each of those outputs. As the gender division within the institutions to be trained is reasonably even, the assumption is that the direct beneficiaries will be split 50/50. Note that this includes only direct beneficiaries.

Part II. Project Justification

1a. Project Description

1) Global environmental and/or adaptation problems, root causes, and barriers that need to be addressed

Adopted in 2015, the Paris Agreement, Article 13, established an Enhanced Transparency Framework (ETF), which increases the climate change transparency ambition and reporting requirements for all Parties to the agreement. At the 24th Conference of Parties, held in Katowice in 2018, countries agreed upon modalities, procedures, and guidelines (MPGs) for the ETF, which will come into force in 2024. In accordance with the Paris Agreement and the MPGs, all Parties to the Paris Agreement are required to prepare and submit biennial transparency reports (BTR), which need to include the following:

- An updated national inventory of greenhouse gas (GHG) emissions by sources and removals by sinks;
- Information on progress towards achieving their nationally determined contribution (NDC); and,
- Information on support needed and received for climate actions.

Moreover, in accordance with the Paris Agreement?s Article 7, each Party should, as appropriate, submit and periodically update an adaptation communication as a component of or in conjunction with other communications or documents.

The above-mentioned MPGs aim to facilitate improved reporting and transparency over time while providing flexibility to those developing country Parties that need it considering their capabilities. In their reports, countries need to clarify capacity constraints and estimate time frames for improvements needed. Furthermore, they should provide as part of the BTR, to the extent possible, information on areas of improvement in relation to the country?s reporting.

Brazil faces significant challenges in complying with the Paris Agreement?s Article 13. Reporting on GHG emissions, support needed and received, NDC implementation, and adaptation action in Brazil is an extremely complex process. This is due to multiple reasons. Firstly, Brazil has complex national circumstances: it has a population of over two hundred million people in a federal system of 26 states (and a federal district), more than 5000 municipalities, and 37 federal ministries. In addition, more than 52 million people live in poverty, and 13 million in extreme poverty,[1] further complicating national priorities and the achievement of sustainable and national developmental goals. Secondly, gathering, compiling, and analyzing climate data is challenging due to the country?s size, federative nature, geographic diversity, and complex GHG emissions profile. On its emission profile, a large portion of GHG emissions comes from land use, land use change, and forestry (LULUCF) from multiple highly significant biomes (the Amazon, the Atlantic Forest, and the Cerrado) and from the agriculture sector. However, there are growing emissions from energy generation and transport, particularly from the country?s multiple megapolises (for instance, Sao Paulo and Rio de Janeiro). Furthermore, with 30

federal ministries, different federal entities have responsibility for the collection of climate (sectoral) data, resulting in the absence of a harmonized and central data storage and analysis process. Finally, the federal structure of the country, with decentralized power and responsibilities between federal, state, and municipal entities, exponentially increases the complexity of identifying international support received and needed for ambitious climate action, as well as identifying adaptation action undertaken and needed. Transversalities and multiple interconnections inherent to the issue of climate transparency, including non-climatic aspects and the nature of data sources, heighten the complexity for Brazil.

Large volumes of raw data are needed to understand and anticipate the effects of climate change in different sectors and regions of Brazil. A holistic and integral approach towards data management is thus required to produce climate transparency information that also considers the co-benefits of climate actions and efforts to implement the sustainable development goals (SDGs). A holistic approach is similarly required to ensure the effective integration of climate information into national planning and policymaking.

The main barriers to strengthening Brazil?s transparency framework to meet the demands of the enhanced transparency framework under the Paris Agreement were identified in Brazil?s Fourth National Communication (2021) and in discussions with key country stakeholders. They can be grouped into the following categories:[2]

B1. Absence of a centralized data framework and insufficient institutional arrangements for collecting, monitoring, and reporting on climate data and using it for policy-making

Brazil has developed data platforms for some elements of the national transparency system, aligning with those identified in the Paris Agreement enhanced transparency framework. The Ministry of Science, Technology, and Innovation (MCTI) has developed a platform for GHG emission inventories (SIRENE), a platform with information on climate change risks and impacts (AdaptaBrasil MCTI), and a platform for supporting policy-making based on climate data and impact of sectoral policies (SINAPSE). On tracking support received, the Ministry of Finance(MF) tracks multilateral and bilateral international public financial support received through internal databases. Furthermore, Brazil has additional sectoral platforms which are designed to track sectoral emissions, efforts, and progress, including the Ministry of Agriculture and Livestock (MAPA)?s Integrated Information System for the Sectoral Plan for Consolidation of a Low-Carbon Economy in Agriculture (SIN-ABC) (currently under development).

While it can be observed that some parts of a national transparency system exist, several gaps exist within each system (discussed in the baseline section), and there is no integrated transparency system with interconnected modules. The aforementioned platforms function independently and have different data structures and underlying IT programming architectures. They were established at different times without considering their interconnectivity or the need for an overarching integrated system. SIRENE was the first platform to be launched, in 2016. MCTI launched AdaptaBrasil MCTI in 2020 and SINAPSE in 2021. The Ministry of Finance has tracked international public finance for some years. There is no platform tracking the implementation of the NDC. This piecemeal approach to developing platforms related to ETF modules is due to many reasons. Primarily, the platforms were developed on a needs basis and depending on the availability of funds. The needs and funding sources often led to different IT architectures. For instance, SINAPSE is based on the Emissions Policy Simulator (EPS), a free and open-source computer model

created by Energy Innovation LLC. It was only with the finalization of the ETF details at COP 26 in Glasgow at the end of 2021 that Brazil had clarity on the extent and scope of its transparency responsibilities. This led to identifying the importance of creating an overarching integrated national transparency system for facilitating compliance with the ETF and climate-sensitive national policymaking. A key challenge that is faced in creating an integrated system is in facilitating connectivity and harmonization of data across platforms that currently have different IT architectures and, perhaps more significantly, different data structures. Creating an integrated platform would require restructuring these elements to facilitate data interconnectivity. However, the results would be powerful. Policymakers would have access to an integrated platform that connects the country?s emissions inventory with NDC tracking, adaptation mapping, and policy projections. Policymakers would be able to track NDC efforts against the business-as-usual scenario built upon the actual inventory and identify scenarios to achieve the NDC based on an assessment of adaptation co-benefits and implemented mitigation efforts.

Furthermore, institutional arrangements and organizational mandates are not yet sufficient to collect data to secure the timely delivery of quality inputs for the different components of the transparency system. Data is not captured or shared in a systematized way. Data-sharing agreements are not officially established for the ministries and institutions participating in measurement, reporting, and verification (MRV) activities, and some input variables become available only after years of delay. Other relevant data sets are obtained through indirect sources, which implies (among other risks) that time series could simply be discontinued at any given moment.[3] This barrier indicates that Brazil needs to take further steps to have an integral, country-level MRV system with a systematized approach to data collection.

Even in the case of the National GHG Inventory component (SIRENE), the MRV of GHG emissions is hampered by the fact that official information is poorly systematized, organized, or available, all sectors considered (Agriculture, Waste, Energy, LULUCF, and Industry).[4] The main barrier identified is the lack of a legal framework establishing responsibilities and the operation of a national system for the National GHG Inventory. Coordination between official entities is still limited.

This decentralized and uncoordinated system of data management and collection means that the preparation of UNFCCC transparency reports is undertaken through an ad-hoc and inefficient process that depends on relationships between the data-providing entities.

Furthermore, even though SIRENE, AdaptaBrasil MCTI, and SINAPSE aim to support decision-making in the context of policies, plans, programs, and projects in the area of climate change related to the generation of scientific knowledge and the adoption of mitigation and adaptation measures, since they are decentralized and unconnected, policymakers do not have a one-stop-shop for climate data, and thus develop policies and strategies through piecemeal information based on their knowledge of available existing data and existing institutional relations.

B2. Uneven development of transparency modules and ad-hoc approaches for complying with the ETF and its MPGs.

While Brazil has made progress in collecting climate data to meet the transparency requirements of the ETF, progress on each transparency module has been uneven, as most of these have been developed at different points in time and without necessarily aiming at the ETF. Consequently, the country still faces significant challenges in preparing reports for the convention.

GHG emission reporting through SIRENE. The GHG inventories platform presents detailed results, including a yearly time series created from the extrapolation of the measured data (i.e. data compiled using financial support during the preparation of NCs). However, SIRENE is still used as a platform for displaying manually entered results rather than a system capable of handling and processing raw data and metadata. While the reporting of inventories is robust, as demonstrated in the consistency and frequency of reporting (see section 2c of the baseline), the private sector is not engaged in reporting on emissions, leading to an incomplete view of the country?s emissions. Provisions for entity-level reporting of GHG emissions - which would be needed to establish a carbon registry that would pave the way for policymaking on carbon pricing - have not been established, and no methodologies are yet available for validating top-down measurements with microdata.

Information on adaptation through AdaptaBrasil MCTI and other platforms.[5] Through AdaptaBrasil, stakeholders can now visualize (at the municipal level) projected climate-related risks and conditioning factors and components (vulnerability, exposure, and climate hazard) on the country?s water supply, energy sector and as related to food security. However, the platform does not specify the risks related to each of these sectors and its conditioning factors, making it only possible to visualize the levels of climate risks in a general manner. More accurate conditioning risk factors are required to be implemented, including as regards vulnerability, exposure, and climate hazards, to support policymakers and stakeholders in decision-making. The platform does not cover other strategic sectors, such as human health, infrastructure, ecosystem services, and, more broadly, the economy. Furthermore, no platform is available to track adaptation efforts undertaken or needed (e.g. to aid in the monitoring of the National Adaptation Plan, discussed below), and actions or support required. No database of adaptation options is available, and synergies between mitigation and adaptation are not considered.

Tracking of efforts to achieve the NDC. To date, Brazil has not developed a platform or systematic process for tracking efforts to achieve its NDC targets. This area requires significant development to support the country in meeting its Paris Agreement and climate convention commitments. In BURs and NCs, the country currently reports a summary of its eight main mitigation actions, which cover the energy, agriculture, and LULUCF sectors. However, no methodology exists to assess the share of the national GHG inventories and the contribution towards the NDC that is explained through these sectorial measures, an element that was brought up in the technical analysis of BUR4 (latest at the time of preparing this project proposal).[6]

Tracking of support received and needed. Brazil has limited arrangements for the tracking of support needed and received. Through the Ministry of Finance, the Ministry of Foreign Affairs, and the Brazilian Agency of Cooperation (ABC), Brazil tracks support provided through multilateral channels and some through bilateral channels with developed countries. However, the ministry?s accounting system is not designed for tracking climate transparency and therefore uses metrics, indicators, and a methodology not consistent with that used in the other modules relevant to the ETF. In addition, Brazil does not have a coordinated approach between ministries and at the sub-national level to report the support needed and received.

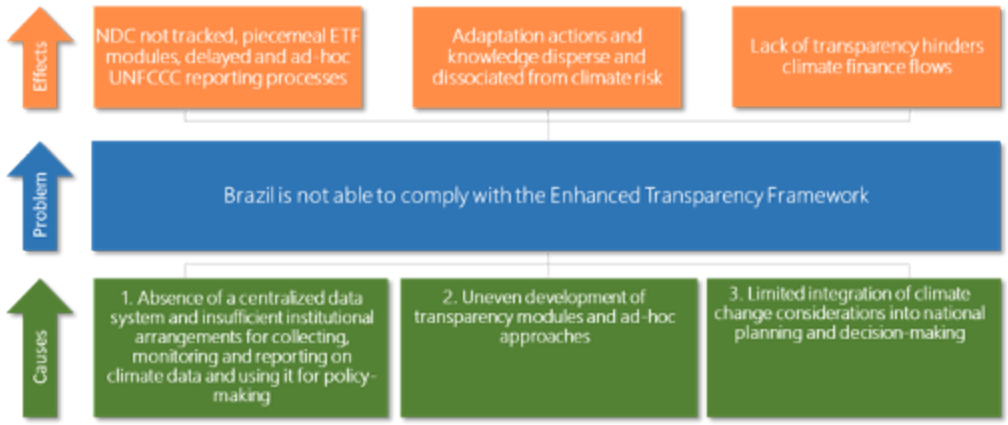
B3. Limited integration of climate change considerations into national planning and decision-making

In addition to informing the UNFCCC on the progress toward achieving the Paris Agreement, the purpose of an efficient, fully integrated climate transparency system is to inform national decision-making processes, starting with high-level national development plans and passing down to geographical, sectoral, and local planning instruments. The NC4 noted that Brazil lacks an official information center for informing decision-making on climate change and faces the barrier of limited resources for structuring and undertaking collaborative modelling of transparency.[7] No government tool allows for the construction of low-carbon and climate-resilient development trajectories in the context of climate change for supporting the formulation of public policies.

In 2021, to bridge the gap identified in the NC4, MCTI launched a new platform, the *National Simulator of Sectoral Policies and Emissions* (SINAPSE). A federal government tool, SINAPSE allows users to create and visualize scenarios of different low-carbon public policy combinations. However, SINAPSE doesn?t consider the adaptation and resilience co-benefits of different scenarios explored. Nor does it consider synergies between multiple policy combinations nor the social implications or economic costs. Finally, SINAPSE doesn?t connect to the other modules of the national MRV system (GHG emissions, adaptation, NDC tracking, support needed and received). Thus, it cannot consider the data of these systems as they are expanded and improved, meaning that SINAPSE continues to be based on incomplete and quickly outdated information.

Perhaps most significantly, there is little awareness of SINAPSE outside of MCTI and its use is limited to a small group of key stakeholders. More generally, all existing platforms' climate transparency data and information (SIRENE, AdaptaBrasil MCTI, SINAPSE) are not mainstreamed into public policy- and decision-making. There are no existing institutional arrangements for drawing on the information of these platforms during national strategic planning processes. Importantly, this means that a future process for developing a long-term low-emission strategy, in accordance with the Paris Agreement, Article 4, paragraph 19, would not necessarily draw on the data and information of these platforms. The provision of data is still perceived as a burden or as a risk, and the reports generated from existing transparency mechanisms currently do not greatly inform political decisions and are seldom consulted outside of the environment sector or academic institutions.

Summary of barriers: project problem tree



2) Baseline scenario and any associated baseline projects

This section presents a deeper discussion of the scenario where these barriers currently materialize. It describes Brazil's existing ecosystem for climate transparency and planned future efforts. It starts by describing the national legal framework for climate action and transparency. This is followed by a description of related institutional arrangements. Following this, an overview is provided of national reporting to the UNFCCC. The fourth sub-section provides an overview of the status of the ETF modules: GHG emissions tracking, adaptation, NDC tracking, and support needed and received. The fifth sub-section highlights tools that support Brazil in drawing on climate data for national policy making. The section concludes with an overview of all baseline projects.

a) Federal framework for climate action

The legal framework on climate change was set by the **National Policy on Climate Change** (PNMC), enacted in 2009 by Law n. 12187. It made official the adoption of a voluntary commitment to the UNFCCC to reduce the country?s GHG emissions between 36.1% and 38.9% by 2020 according to projected levels in a business-as-usual scenario. Such reductions were planned to be achieved by implementing nationally appropriate mitigation actions (NAMAs) and clean development mechanism projects in Brazil. Decree No. 7,390/2010, which regulated the PNMC by defining the national voluntary sector-specific commitment, was later revoked by Decree No. 9,578/2018 in the context of the nationally determined contribution under the Paris Agreement. The objectives of the PNMC, which are mandated to be in line with sustainable development to pursue economic growth, eradication of poverty, and reduction of social inequalities, include:

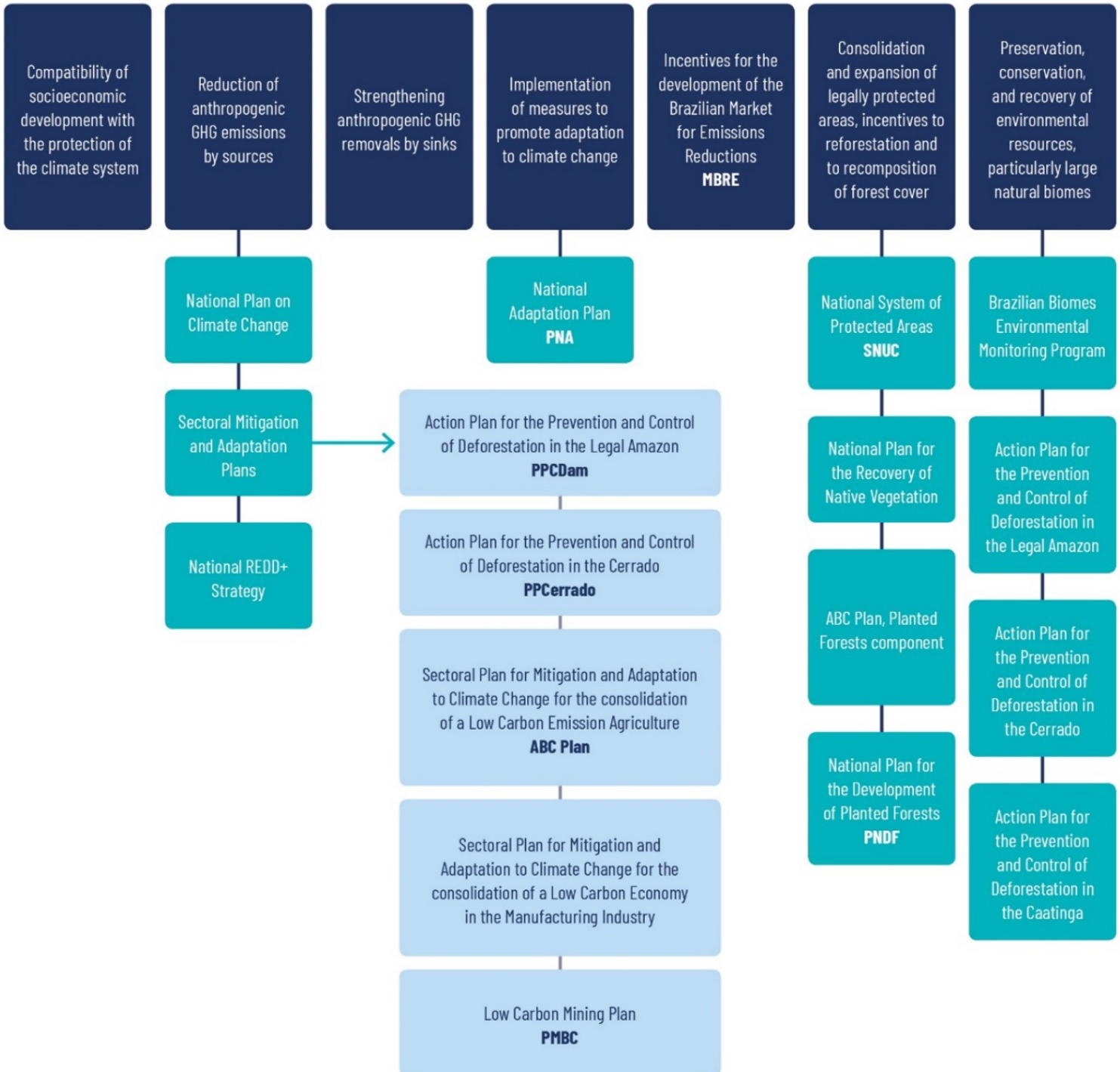
- ? To promote sustainable development while protecting the climate system;
- ? To reduce greenhouse gas emissions from different sources, as well as to strengthen removals of these gases by sinks;
- ? To implement measures to adapt to climate change;
- ? To preserve, conserve and recover natural resources;
- ? To consolidate and expand legally protected areas; and to foster the development of a Brazilian Emissions Reduction Market.

Instruments under the PNMC include, for example, the National Plan on Climate Change; the National Fund on Climate Change; the Action Plans for the Prevention and Control of Deforestation ? Amazon, Cerrado; the Mitigation and Adaptation Plans for Agriculture, Energy, and Charcoal; the National REDD+ Strategy; as well as the National Communications to the UNFCCC and others.

In September 2016,[1] Brazil deposited the instrument of ratification of the Paris Agreement in which the country pledged to adopt measures to reduce GHG emissions through its **Nationally Determined Contribution**, which was updated on March 2022.[2] Through this communication, Brazil confirmed its commitment to reduce its greenhouse gas emissions by 37% in 2025 and 50% in 2030, both compared to 2005. Brazil?s commitments also include a long-term objective to achieve climate neutrality by 2050. All policies, measures and actions to implement Brazil?s NDC derive from the National Policy on Climate Change (Law No. 12,187/2009), the Forest Code (Law No. 12,651/2012), the National System of Conservation Units Law (Law No. 9,985/2000) in addition to related regulation, programs and planning instruments. It is stated that the targets therein communicated will be translated into policies and measures to be detailed and implemented by the Brazilian Federal Government. At COP 26 the Ministry of Environment (MMA) launched the **Guidelines for a national strategy for climate neutrality**,[3] which contains guidelines for different sectors including with regards to agriculture (through the implementation of the ABC+ plan), illegal deforestation, energy sector, CO_2 capture & storage technology, transport, industrial processes & product use, and waste. An official strategy with sector-specific targets to achieve the NDC has not yet been issued by the country.

The **National Adaptation Plan (NAP),** enacted in 2016, has the goal *?to promote management and reduction of climate risk in the face of adverse effects associated with climate change in order to take advantage of emerging opportunities, avoid losses and damages, and build instruments for the adaptation of natural, human, production, and infrastructure systems.?*[4] Thematic and sectoral adaptation strategies were set up for the following sectors: agriculture, water resources, food and nutrition security, biodiversity, cities, disaster risk management, industry and mining, infrastructure (transport, urban mobility and energy), vulnerable peoples and populations, health care, and coastal zones.

Figure 2. Climate Change policies in Brazil[5]


Compatibility of socioeconomic development with the protection of the climate system
Reduction of anthropogenic GHG emissions by sources
Strengthening anthropogenic GHG removals by sinks
Implementation of measures to promote adaptation to climate change
Incentives for the development of the Brazilian Market for Emissions Reductions
MBRE
Consolidation and expansion of legally protected areas, incentives to reforestation and to recomposition of forest cover
Preservation, conservation, and recovery of environmental resources, particularly large natural biomes
National Plan on Climate Change
National Adaptation Plan
PNA
National System of Protected Areas
SNUC
Brazilian Biomes Environmental Monitoring Program
Sectoral Mitigation and Adaptation Plans
Action Plan for the Prevention and Control of Deforestation in the Legal Amazon
PPCDam
National Plan for the Recovery of Native Vegetation
Action Plan for the Prevention and Control of Deforestation in the Legal Amazon
National REDD+ Strategy
Action Plan for the Prevention and Control of Deforestation in the Cerrado
PPCerrado
ABC Plan, Planted Forests component
Action Plan for the Prevention and Control of Deforestation in the Cerrado
Sectoral Plan for Mitigation and Adaptation to Climate Change for the consolidation of a Low Carbon Emission Agriculture
ABC Plan
National Plan for the Development of Planted Forests
PNDF
Action Plan for the Prevention and Control of Deforestation in the Caatinga
Sectoral Plan for Mitigation and Adaptation to Climate Change for the consolidation of a Low Carbon Economy in the Manufacturing Industry
Low Carbon Mining Plan
PMBC

b) Institutional arrangements and reporting to the UNFCCC

The implementation of UNFCCC commitments in the Brazil is characterized by a cross-cutting institutional arrangement through activities at different levels (national and subnational) and sectors (line ministries). One of the main institutional instruments is the **Interministerial Committee on Climate Change and Green Growth (CIMV)**, established by decree no. 10,145/2019 (later replaced by decree no. 10,845/2021).[6] The CIMV is prior consulted on matters related to climate change actions, plans and policies and national and international commitments. The committee also establishes guidelines and designs and coordinates public actions and climate change policies. It further promotes dialogue with the national congress, subnational governments, civil society, the business sector and the scientific-academic sector. The CIMV deliberative body is chaired by the Chief of Staff of the Presidency of the Republic and comprised of various federal ministers (foreign affairs; finance; agriculture, livestock and food supply; regional development; mines and energy; science, technology and innovation; environment; labour and social security, and infrastructure).

On forests, coordination of climate action is undertaken through the **National Committee for REDD+**[7] (CONAREDD+), established in 2015, and the Executive Committee for the Control of Illegal Deforestation and Recovery of Native Vegetation. CONAREDD+ is guided by Decree No. 10,144/2019 and has the purpose of coordinating, enforcing and monitoring the implementation of the National REDD+ Strategy, and coordinating the elaboration of eligibility conditions for REDD+ results-based payments and actions in Brazil accredited by the UNFCCC.[8]

Specifically to climate transparency, the **Ministry of Science, Technology and Innovation** is responsible for the management of climate data, development of climate data systems and production of UNFCCC reports.[9] Through its Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs, the ministry, inter alia:

- ? Manages the National Emissions Registry System (SIRENE), the government?s official platform for measurement, reporting and verification (MRV) of GHG emissions (see section d(1) below);
- ? Manages AdaptaBrasil, the government?s online platform for tracking and providing projections and solutions related to national adaptation to climate change effects (see section d(3) below);
- ? Manages the National Simulator of Sectoral Policies and Emissions (SINAPSE MCTI), a new tool of the Federal Government for the projection of scenarios for the implementation of sectoral public policies with the potential to reduce GHG emissions (see section d(4) below);
- ? Prepares UNFCCC National Communications, Biennial Update Reports and Technology Needs Assessments (TNAs).

Furthermore, it coordinates the implementation of GEF climate mitigation projects and is the country?s National Designated Entity (NDE) for the UNFCCC Technology Mechanism and the Clean Development Mechanism.

Specifically on institutional arrangements for climate transparency, the CIMV monitors the execution of the NDC and related transparency requirements. Notwithstanding the above arrangements, at the Federal Government level (or any other level for that matter), there is not an institutional arrangement for ensuring comprehensive provision of climate data to meet the requirements of the ETF.

Another key institution related to climate change and transparency is the Brazilian Research Network on Global Climate Change (Rede CLIMA), created in 2007 to support the MCTI at the national scope through the contribution of research groups in universities and science and technology institutes. It is also an institutional instrument to assist in the implementation of the Convention, supporting MCTI in preparing UNFCCC transparency reports.

At the civil society level, **the Brazilian Forum on Climate Change (FBMC)** facilitates coordination between civil society and government at the national level. Its aim is to create awareness and mobilizing society towards discussing and taking a stand on problems caused by climate change, as per Presidential Decrees No. 9,082/2017. It is chaired by the Presidency and composed of ministerial authorities as members, plus representatives from civil society. It has ten thematic chambers (TCs), which promote events and meetings, and foster capacity-building and thematic discussions on climate change with the civil society, covering the following themes: Adaptation, Risk Management and Resilience; Forests, Biodiversity, Agriculture and Livestock; Energy; Transport; Industry; Cities and Waste; Financing; Defence and Security; Science, Technology and Innovation; Long-term Vision.

c) National reporting to the United Nations Climate Change Convention

A summary of reporting to the UNFCCC is presented in the following table. Completed national communications (NCs) and biennial update reports (BURs) were funded by the GEF.

Table 2. Official reporting to the UNFCCC

Year	Report	Comments
2004	First National Communication (NC1)	Inventories for 1990 ? 1994.
2010	Second National Communication (NC2)	Inventories for 1990 ? 2005.
2014	First Biennial Update Report (BUR1)	Inventories for 1994, 2000, 2010, as well as mitigation actions, constraints and gaps, and information on the description of domestic MRV arrangements.

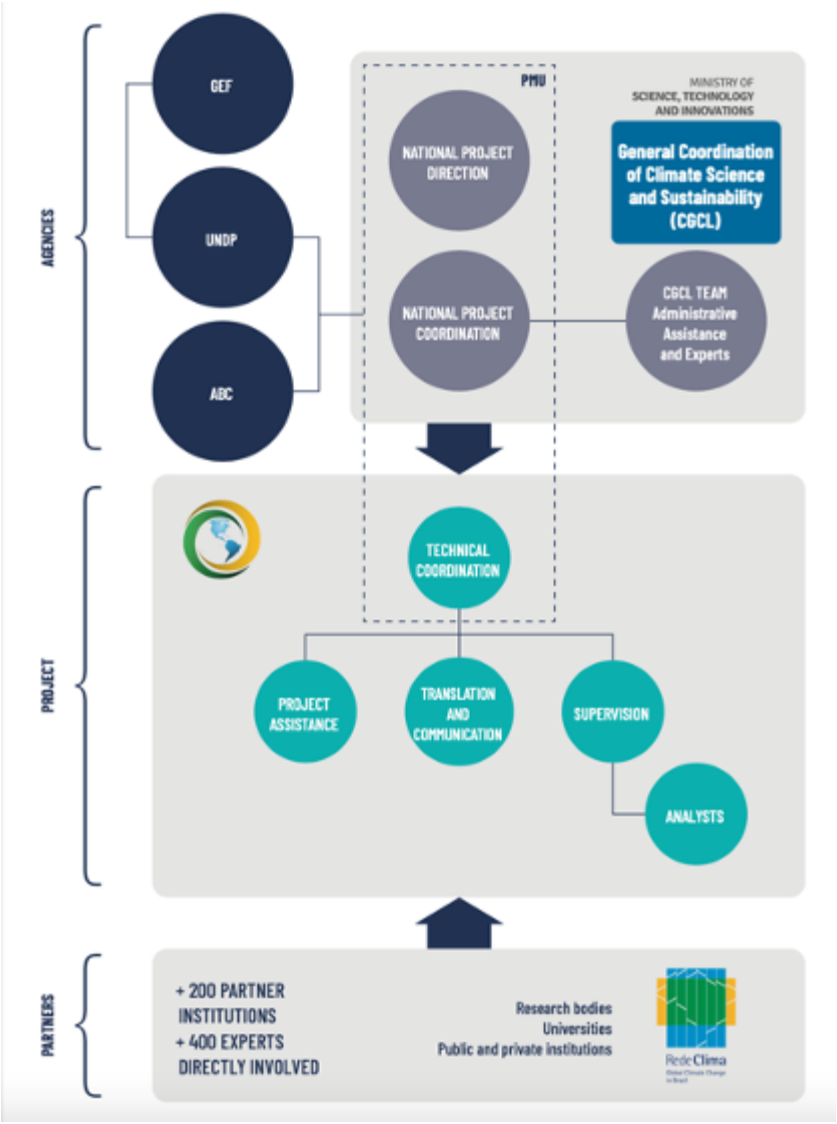
2016	Third National Communication (NC3)	Includes inventories for 1990 ? 2010 but also substantive information on mitigation actions, adaptation, support received and needed and outstanding barriers and challenges.
2017	Second Biennial Update Report (BUR2)	Inventories for 1994, 2000, 2010, 2012, as well as mitigation actions, constraints and gaps, and information on the description of domestic MRV arrangements.
2016	Nationally Determined Contribution (NDC)	Information on national circumstances, mitigation and adaptation actions, means of implementation and use of markets. The NDC gained legally binding status in 2017.
2016	National Adaptation Plan	Plan under implementation with the support of BMU and GIZ under the ProAdapta Project (2017-2022).
2019	Third Biennial Update Report (BUR3)	Inventories for 1990 ? 2015, as well as mitigation actions, constraints and gaps, and information on the description of domestic MRV arrangements.
2020	Updated NDC	Information on national circumstances, mitigation actions, and intention to use market mechanisms.
2020	Fourth National Communication (NC4)	Includes inventories for 1990 ? 2016 but also substantive information on mitigation actions, adaptation, support received & needed and outstanding barriers and challenges Main source for the design of this CBIT project.
2020	Fourth Biennial Update Report (BUR4)	Inventories for 1990 ? 2016, as well as mitigation actions, constraints and gaps, and information on the description of domestic MRV arrangements.
2021	First Technology Needs Assessment TNA	Delivered a Technology Action Plan (TAP), taking into consideration priority sectors and key technologies, with a view to achieving mitigation targets, considering the Brazilian NDC and the country?s strategy for the GCF.

Future reporting	BUR5 (Jun 2023); NC5 (Dec 2024); BTR1 (Dec 2024); BTR2 (Dec 2026).*	GEF combined project 10801: *Fifth National Communication (NC5), Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)* to start in 2023. See section 3 (alternative scenario) for a description of the differences, complementarities and synergies between this project and the proposed GEF/UNEP CBIT project.

* *Estimated completion dates*

Arrangements for the preparation of national communications and Biennial Update Reports / Biennial Transparency Reports (BTRs) are created on an ad-hoc basis, dependent on support from international organizations. For instance, the following figure highlights the project-funded elements of the recently completed NC4 (see section in the diagram ?project?).

Figure 3. General arrangement for the elaboration of Brazil?s fourth national communication[10]



d) Progress on the four key areas of the enhanced transparency framework

1. Tracking greenhouse gas emissions

In October 2017, Brazil established the National Emissions Registry System (SIRENE) through Decree No. 9,172/2017. SIRENE is a computer system developed by the MCTI and based on Microsoft PowerBI, whose main objective is to make available the results of the national inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol. It also makes available information related to other emission accounting initiatives, such as the annual estimates of greenhouse gas emissions and the biennial update report inventory. SIRENE aims to provide security and transparency to the process of preparing inventories of greenhouse gas emissions. If also aims to support decision-making in the context of policies, plans, programs and projects in the area of climate change related to the generation of scientific knowledge and the adoption of mitigation measures.[11] Decree No. 9,172 also establishes voluntary submission of organizational inventories.

SIRENE provides graphs and tables on national emissions, which can be exported in an editable format based on user-selected filters. In addition, all official publications and transparency reports are made available to the general public on the platform. Finally, SIRENE also provides emission and energy scenarios for 2012-2050, which are generated based on information emanating from the project ?Mitigation Options of Greenhouse Gas Emissions in Key Sectors in Brazil?, a GEF project previously executed by MCTI?s Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs (former Coordination of Climate Science and Sustainability, CGCL) with the support of UNEP.

The Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs is responsible for coordinating, managing and maintaining SIRENE. Various public and private entities contribute by providing activity data. They also contribute by developing updated national parameters and emission factors that are relevant to the methodology to be used in the development of GHG emission and removal estimates.

While SIRENE is one of the frontrunners in Brazil?s transparency reporting, it is important to highlight that it is still dependent on manual inputs and the provision of GHG results that are estimated outside of the system. Instead, this module is expected to serve as a consolidated database that can store, process and handle raw data and metadata. As for the organizational inventories, this feature has not yet been designed nor implemented to date, and therefore the platform is not able to validate national top-down measurements and estimates with bottom-up measurements provided by non-state actors. In addition, it is not connected with other sub-systems of the MRV system (on adaptation, support, NDC tracking, long-term scenarios). Without such connectivity, decision-makers are unable to draw on interconnected modules of an integrated climate transparency system to undertaking decision-making processes and national planning in a holistic and cross-cutting manner. Furthermore, there is a need to promote the utility of SIRENE with a broader group of national and sub-national stakeholders, as well as building their capacity, so that they can draw on the platform?s rich data for undertaking evidence-based decision-making.

The following table indicates the evolution of the GHG inventories in Brazil, the results of which are now available through SIRENE. The time series analysis is completed using yearly estimates based on the extrapolation of data from National Communications and BURs. The results show that the most important sectors in terms of emissions are Agriculture, Energy and LULUCF (2016); more detailed information is available in Annex R.

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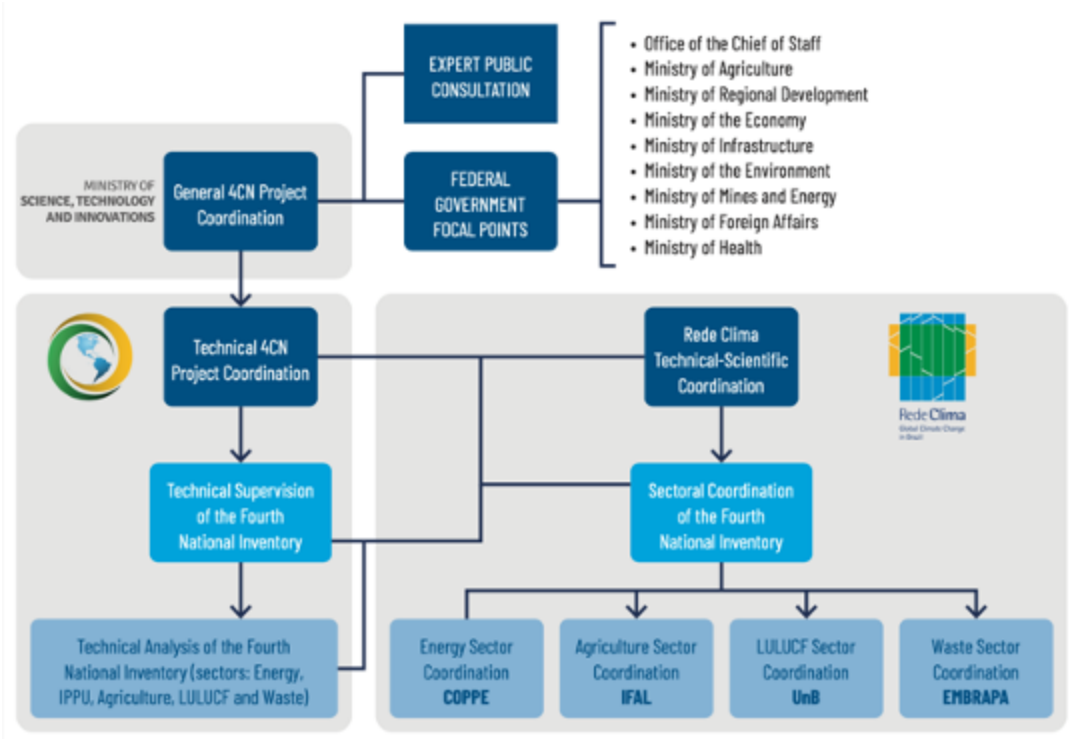
Table 3. Greenhouse gas inventory milestones

Year	Instance	Published data
2004	NC1	Inventories for 1990 ? 1994
2010	NC2	Inventories for 1990 ? 2005
2014	BUR1	Inventories for 1994, 2000, 2010
2016	NC3	Inventories for 1990 ? 2010
2017	BUR2	Inventories for 1994, 2000, 2010, 2012
2019	BUR3	Inventories for 1994 ? 2015
2020	NC4	Inventories for 1990 ? 2016
2020	BUR4	Inventories for 1990 ? 2016

The following diagram illustrates the institutional framework for the development of the Fourth GHG Inventory, consisting of a general coordination, a technical project coordination, and a technical scientific coordination provided by Rede CLIMA under sectoral groups (energy, agriculture, LULUCF, waste)**.**

Figure 4. Institutional arrangement for the development of the Fourth GHG Inventory[12]



	Energy Sector	IPPU Sector	Agriculture Sector	LULUCF Sector	Waste Sector
Rede CLIMA Focal Points	2	1	13	4	3
Experts	46	22	74	124	42
Institutions directly involved	13	7	30	34	12
Institutions indirectly involved	10	21	17	23	6

An additional system was established in May 2022 through Decree N? 11,075, which creates the National System for the Reduction of Greenhouse Gases (*Sistema Nacional de Redu??o de Emiss?es de Gases de Efeito Estufa* ? SINARE). The purpose of this system is to serve as a centralized record of emissions, removals, reductions and compensation of greenhouse gases, as well as a registry for the trade, transfers, transactions and retirement of certified emission reduction credits. Thus, SINARE would serve as the registry for an upcoming local carbon market and following a micro approach at the sector and organizational level. The Decree stating the creation of SINARE also sets the mandate of harmonizing this registry

with the information compiled by SIRENE. However, to date, SINARE nor the legal and institutional architecture for a local carbon market have yet been designed nor operationalized, and no clear timeline or resources are available to implement it.

2. Tracking adaptation efforts and impacts

The Information and Analysis System on the Impacts of Climate Change (AdaptaBrasil MCTI) was established by MCTI through Ordinance No. 3896 of October 16, 2020. It aims to consolidate, integrate and disseminate information that facilitates the analysis of the impacts of climate change observed and projected in the national territory. Through this, it aims to provide key data and information to relevant authorities for designing and undertaking adaptation actions. The platform contributes to the dissemination of knowledge through the analysis of increasingly integrated and updated information on the climate risks of impacts in Brazil, in addition to ensuring that the main results are accessible to decision makers at all levels, as well as researchers, civil society and the private sector.[13]

AdaptaBrasil MCTI is developed through a cooperation between the MCTI, the National Institute of Spatial Research (INPE) and the National Research and Education Network (RNP). Its governance is exercised by a Management Committee composed of two representatives, one incumbent and one alternate, from the three aforementioned institutions.[14]

The technology allows users to access data and composite indicators that express risks of impact across the entire Brazilian territory related to climate change, up to this moment, for three strategic sectors: water resources, energy security and food security. The platform was designed from the aggregation of indicators and indexes to capture the causality relationships and the influence of risk factors. The development of indicators is based on the steps indicated by the Competence Center on Composite Indicators and Scoreboards of the Joint European Research Center (JRC) (NARDO et al., 2008), adapted to national needs and circumstances. The weighting and consolidation of the indicators were based on questionnaires and workshops with specialists, in addition to analyses at multiple spatial (national, regional, state, and municipal) and temporal scales (interval of decadal analysis), with multiple stressors (climatic, biophysical, socioeconomic, public policies, etc.).

The platform is designed on an understanding of the different needs of different target audiences. Users can assemble thematic maps, graphics and other customized reports. In addition, when creating a profile on AdaptaBrasil MCTI, they can recommend content, rate the content available, share their contact details, and access contact details of registered professionals. The platform was launched nationally in October 2021.

While AdaptaBrasil is a major advance in providing information to design-makers on the impacts of climate change, it is under a dynamic process of construction, and has much space to be improved. To serve as an effective design-making tool, the platform needs to provide more specific information on climate related risks, and in doing so, to broaden the climate related risks analyses, as well as be expanded to cover other sectors, including human health, infrastructure and ecosystem services. Different spatial scales also need to be considered, such as sub municipal. It is envisioned that this system can serve to support adaptation efforts, particularly, the National Adaptation Plan, a feature that is still lacking. Moreover, AdaptaBrasil still lacks a database of climate change adaptation options, including policies, programs, actions and technologies with different approaches and levels of governance; nor does it enable the evaluation of different adaptation options, considering criteria such as effectiveness, feasibility and limits, as well as analyses of synergies and trade-offs between adaptation and mitigation strategies. Finally, AdaptaBrasil MCTI is not connected to other modules of the MRV system (SIRENE, NDC tracking, means of implementation, SINAPSE), hampering coherent national reporting of climate action and reducing the effectiveness of policy-makers due to a lack of consideration of co-benefits and synergies between mitigation and adaptation actions.

3. Tracking mitigation actions to achieve the nationally determined contribution

As such, the Brazilian government currently doesn?t have a NDC tracking system that allows it to measure progress of mitigation actions announced in the NDC and their impact in terms of GHG emission reductions. NDC tracking requires that a causal relationship be demonstrated between emission reductions and the actions that have enabled them, besides measuring the progress in their implementation as compared to NDC targets. Considering the complexity of Brazil?s GHG emission profile, the multitude of sectoral emission reduction plans and the plethora of actors at the national, state and municipal level with differing responsibilities, developing a NDC tracking system would play an important role in facilitating coordination between key actors and ensuring efficient use of resources for national climate action.

In 2014, guidelines were established for tracking mitigation actions through a proposed Modular System for Monitoring Actions of Greenhouse Gas Emissions Reduction (SMMARE, acronym in Portuguese). Designed by the Center for Management and Strategic Studies under the execution of the Ministry of the Environment, the aim was to develop a set of indicators that would monitor actions and reductions in GHG emissions achieved through sectoral mitigation plans. SMMARE is part of the MRV strategy for mitigation actions as stipulated in Article 10 of Decree No. 7,390/2010 - updated by Article 23 of Decree No. 9,578, of 2018, of the National Policy on Climate Change. However, SMMARE did not become operational, and no progress was made since 2014 on any modular computer system nor in the full engagement of the line ministries for the production of information. The country shall resume implementation of its transparency arrangements based on the ETF, but no longer for NAMAs.[15]

The link between the country-wide NDC target and each of the sectors in the economy is to be established in the upcoming NDC implementation strategy, expected for 2023. Moreover, Decree N? 11,075/22 (the same one sanctioning the creation of SINARE) establishes the Ministry of Environment and the Ministry of Finance as the responsible entities for the preparation of sectoral mitigation plans, which are to be approved by the Interministerial Committee on Clima Change and Green Growth (CIMV).

4. Tracking support needed and received

The Ministry of Finance tracks international public resources committed to Brazilian entities through multilateral and bilateral channels (Parties included in Annex II of the Convention). Information on multilateral channels is more comprehensive and comparable than bilateral flow data. This is because of technical restrictions: information on bilateral channels only includes resources that have been internalized through a national public entity or implemented under the coordination of a national public entity, while information on multilateral channels also includes resources directed to local private companies. Information available includes the amount and, where possible, information about possible technical training provided, technology transfers facilitated and the project contact.

Regarding support received, the following issues have been identified in meetings with the Ministry of Finance:

- lack of a consistent methodology to identify funding for ?mitigation? and ?adaptation?, as banks involved in these transactions often lack capacities regarding the application of Rio Markers.
- the lack of a methodology that is consistently used in donor and beneficiary countries prevents from having consistent, comparable results in terms of the amounts given (as measured at the source of the funds) and received (as measured in the recipient side).
- Regional projects also have methodological issues in splitting the amount effectively allocated to each country.
- Projects at the sub-national level are also challenging in terms of the reporting of support received, as no centralized record of such support exists.
- Exact timing of the registration of support received was also mentioned as an issue, with projects announcing financing that later fails to materialize. Registration at each disbursement is possible, but significantly harder to monitor as this is usually a multi-year process.

As for support needed, the lack of an NDC compliance strategy was mentioned as a challenge, as a prioritization at the sectoral level is required to rank technical, financial, and technological needs. In terms of systematization of the results, no such efforts have been undertaken yet, and support needed is compiled again each time a national communication is prepared. Moreover, needs are not classified into categories that facilitate decision making and the identification of available sources of finance (e.g. transparency needs, adaptation needs, mitigation needs, etc.), and a direct link with a pipeline of bankable projects does not exist.

While the Ministry of Finance tracks funds received for certain projects and investments, the ministry?s accounting system is not connected to other climate data modules on GHG emissions, adaptation and NDC tracking. Furthermore, the metrics, indicators and methodology used by the Ministry of Finance are not consistent with those used for the other modules. This lack of connectivity and the use of different metrics hampers transparent reporting on the actual scale of climate finance support received by Brazil, as well as hampering the efforts of policymakers to identify the scale and strategic allocation of funds to achieve maximum impact in mitigating and adapting to climate change. In addition, Brazil does not have a coordinated approach between ministries on the reporting of support needed and provided.

e) National tools for facilitating long-term low-emission and climate-resilient development planning

The Ministry of Science, Technology and Innovation (MCTI) of Brazil has the mission of guaranteeing and promoting the advancement of science, technology, innovation and communications aiming at sustainable development and improving the quality of life of the Brazilian society. In this context, MCTI plays the central role in public administration with regards to developing tools and instruments that can support other ministries and governmental actors with undertaking evidence-based public policymaking. The Ministry, as noted previously, is also the lead ministry for developing and managing climate data, particularly with regards to the national GHG emissions inventory, and the preparation of reports to the UNFCCC. In this context, the Ministry plays a key role in developing tools that can facilitate the elaboration of public policy informed by climate data.

In 2021, MCTI launched the *National Simulator of Sectoral Policies and Emissions* (SINAPSE), a new tool of the Federal Government for the projection of scenarios for the implementation of sectoral public policies with the potential to reduce GHG emissions. SINAPSE is the result of a partnership with the research institutes WRI Brasil and Energy Innovation. It is based on the Emissions Policy Simulator (EPS), a free and open-source computer model created by Energy Innovation LLC and adapted for the Brazilian context.

The SINAPSE tool allows the user to simulate future climate mitigation scenarios through 48 policy measures across five sectors at the national level, including transport, buildings, electricity, industry, LULUCF and other cross-cutting actions. The user is able to download the generated scenarios, with all the selected parameters, and visualize results in terms of several different indicators (avoided tCO_2, but also sectoral indicators in terms of health and social benefits, marginal abatement costs, energy consumption, cash flows, among others) which include policy implementation progression rates for future years (intermediate policy compliance targets). The tool makes it possible to identify trajectories that differ from the reference scenario (business as usual) and to determine the viability of different paths for achieving, for example, the targets of the NDC.

SINAPSE has the potential to be a game-changer in supporting Brazilian policy- and decision-makers with developing and prioritizing the introduction of policies to achieve NDC targets. That said, SINAPSE needs improvements to consider the instruments available to achieve the NDC targets. Additionally, it is necessary to make available estimates of the impact on income, employment, and economic growth due to the adoption of sectoral policies. In addition to this, there is still little awareness amongst stakeholders as to the module?s potential in supporting evidence-based policymaking. Massive dissemination of the tool is required targeting key policy- and decision-makers, as well as a wide range of stakeholders and civil society.

To ensure SINAPSE?s effectiveness there is a need for it to be adjusted to reflect the decision-making process in terms of planning, which would facilitate that stakeholders draw upon the system during major national policy and strategy discussions, such as during the future elaboration of the long-term low greenhouse gas emission development strategy to the UNFCCC, in accordance with Paris Agreement, Article 4, paragraph 19. Currently, SINAPSE doesn?t consider adaptation and resilience co-benefits of different trajectories explored. Nor does it consider synergies between multiple policy combinations, nor the resolution to identify impacts at a sub-national level. Finally, SINAPSE doesn?t connect to the other modules of the national MRV system (GHG emissions, adaptation, NDC tracking, support needed and received). Thus, it is unable to take into account national advances, challenges and priorities related to low-emission and climate resilient development already underway or defined.

More broadly, the lack of connectivity between the four modules described in the aforementioned sub-sections means that policymakers are unable to draw on one central database for climate data. Instead, they need to go to three different databases (SIRENE, AdaptaBrasil MCTI, SINAPSE), which have different data structures, layouts and underlying IT programming languages. And, as noted previously, they are unable to access a platform on NDC tracking.

f) Table of baseline projects

Table 4. Baseline projects

Project	Description	Actors, Timeframe
Fourth National Communication 2016 - 2021 and Fourth BUR of Brazil 2018 ? 2021	Supported Brazil in preparing and submitting its Fourth National Communication and Fourth BUR to the UNFCCC. These two reports submitted in 2020 will inform the development of the CBIT project proposal. Subsequent GEF enabling activities will inform the CBIT project implementation and will be developed building up the outputs and outcomes of the CBIT project.	GEF, MCTI, UNDP as Implementing Agency, 2016 - 2021. The Fourth National Communication (NC4) and BUR4 were submitted in 2020 and the project was closed in 2021.

GEF ID: 10801. Fifth National Communication, Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)	Starting in 2023, Brazil will execute a GEF project to support it in preparing four reports to the UNFCCC (with estimated delivery dates in brackets): BUR5 (Jun 2023), NC5 (Dec 2024), BTR1 (Dec 2024), BTR2 (Dec 2026). See section 3 (alternative scenario) for a description of the differences, complementarities and synergies between this project and the proposed GEF/UNEP CBIT project.	GEF, MCTI, UNDP as Implementing Agency. Project to start in 2023.

Climate Change Policy Programme (PoMuC)	Goal: to support selected sections of the National Policy on Climate Change to ensure that they are successfully implemented with the participation of states and municipalities in the implementation of the program and the country?s environmental assets, notably renewable energies, forests and biofuels. Expected impacts: (i) effective, transparent and participatory implementation of the National Strategy for REDD+; (ii) reduced vulnerability of people and ecosystems by supporting the implementation of actions under the National Adaptation Plan; (iii) strengthened Brazilian institutional arrangements; and (iv) improved coordination, cooperation and exchange of experiences among the climate change community, as well as the multiplier effect at national and international levels by disseminating and sharing experiences, lessons learned and work done. Of particular relevance for this CBIT project are PoMuC?s outputs 1 (?transparency system?) and 6 (?emission reporting?). PoMuC?s output 1 is to identify key enabling requisites for the implementation of the PNMC and improve interministerial coordination regarding climate change; PoMuC?s output 6 will provide studies and lessons learned on the implementation of an emission reporting requirement at the organizational level.	GIZ (German technical cooperation implementing agency), Ministry of the Environment, Ministry of Finance, Institute of Applied Economic Research (IPEA). Funded by the Initiative on Climate Change (IKI) of the Ministry of Environment, Nature Conservation, Construction and Nuclear Safety of Germany (BMUB). Period: 2016 ? 2024

GEF: Mitigation options of greenhouse gas emissions in key sectors in Brazil	Several scenario studies have discussed possible alternative futures for Brazil considering current trends and uncertainties. To date the most comprehensive scenario study conducted for Brazil was undertaken under the GEF project ?Mitigation options of greenhouse gas emissions in key sectors in Brazil.? Through the project, the Government of Brazil strengthened its technical capacity in identifying and implementing GHG mitigation actions in key economic sectors (industry, energy, transportation, household and services, LULUCF and other cross-sector alternatives). This project performed an innovative integrated approach to assess different GHG mitigation pathways, which guaranteed the consistency across sectors and the macro-economy. Results are available on the SIRENE platform.	GEF, MCTI, UNEP Period: 2013-2018.
Technology Needs Assessment for the Implementation of Climate Action Plans in Brazil (TNA_BRAZIL)	Goal: to strengthen the technical capacity of the Brazilian government by developing a comprehensive assessment of technological needs for the implementation of climate action plans in Brazil with a view to providing inputs for decision-making processes regarding the fulfilment of GHG mitigation goals, taking into account Brazil?s NDC and strategy for the GCF. Sectors covered are AFOLU and energy, including: precision agriculture; genetic breeding for beef cattle; forestry and genetic improvement of native species; forestry with mixed plantations for restoration; satellite monitoring; hybrid flex vehicles; ethanol fuel cell electric vehicles; industry 4.0; innovative materials for cement; floating photovoltaic solar energy; utilization of agricultural and agro-industrial waste; electric induction-based photovoltaic solar cookers.	GCF, MCTI, UNEP Period: 2019-2021.

Brazil PMR Project (Partnership for Market Readiness)	Goal: to consider the adoption of a carbon pricing instrument as part of the national climate policy in the post-2020 period, and how to leverage the relationship between environmental and socio- economic development objectives. It reviewed various instrument options: (i) price regulation, via an emissions tax; (ii) regulation of quantities, through the adoption of an emissions trading system (ETS, commonly known as carbon market); or (iii) some combination of the two instruments. The project focused on: energy (electricity generation and fuels); the seven subsectors in the Sectoral Plan for Mitigation and Adaptation in the Manufacturing Industry (namely, steel, cement, aluminium, chemistry, lime, glass, and paper and cellulose); and agriculture. PMR comprises technical and financial support for the analysis, rationale and design of GHG pricing instruments, including the preparation of components necessary for their operation, such as a Monitoring, Reporting and Verification system (MRV) on emissions data or tools for recording and tracking certificate transactions or emission permits. A white paper of policy proposals on carbon pricing instrument(s) was delivered. It raised awareness and built knowledge of relevant stakeholders in relation to carbon pricing instruments.	World Bank, Ministry of Finance. Period: 2015-2020

Support for adaptation to Climate Change (ProAdapta): Supporting Brazil in the implementation of its National Agenda for Climate Change Adaptation	Objective: Brazil effectively implements the National Agenda for Climate Change Adaptation and is better prepared for the consequences of climate change. The project is supporting the MMA in its coordinating role using management tools such as the monitoring of adaptation measures. Moreover, it is enabling selected sectors, federal states and municipalities to implement public strategies, methods and instruments and develop measures for adapting to climate change. In addition, the project is running awareness-raising measures to encourage the private sector and civil society to adapt to climate change. The project approach involves improving the framework conditions for adapting to climate change. It supports MMA and other governmental stakeholders in taking account of climate risks in strategies, plans and programmes. Another aim is to raise awareness among decision-makers. Tools are being developed to facilitate climate risk management and mainstreaming climate change adaptation in planning and decision-making processes.	GIZ/BMU, Ministry of Environment (MMA) Funded by German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) Period: 2017 to 2023

Floresta+ Program - policy for the payment of environmental services	Objective: to promote the development of initiatives that can produce innovative solutions for the implementation of the Forest Code its objectives and associated needs, such as promoting the sustainable management (with the purpose of generating income) of forests in general and Legal Reserves and Permanent Preservation Areas in particular, techniques for forest recovery, monitoring and control of deforestation and forest degradation, and enforcement efforts to combat and prevent deforestation and illegal forest degradation.[16] Payment for diverse environmental services activities, including territorial surveillance, protection and monitoring, combat and subsequent restoration of wildfires, soil, biodiversity and water resources conservation, environmental inventories, use of an agroforestry system, reforestation with native trees, natural regeneration and ecological restauration, amongst others. The Program extends to all landholding categories: conservation areas, indigenous lands, settlements and private properties (areas of permanent protection, legal land reserves or their surplus entitlements and land with restricted use), with native vegetation cover in all biomes.	MMA, UNDP, funded by the GCF Period: 2020-2026

Sectoral climate change mitigation and adaptation plan for the consolidation of a low carbon emission economy in agriculture (ABC Plan) ABC+ Plan (revised)	Goal: to ensure the continuous and sustainable improvement of management practices that enhance the production efficiency of agricultural systems resulting in greater economic gains, increased resilience to climate uncertainties and control of GHG emissions. The emission reductions achieved through this Plan are monitored through the ABC Platform. One of the specific objectives of the revised Plan (2021-2030) is to improve the ABC+ information management system, to carry out MRV and M&E of its portfolio of actions and results. Related actions will include: Operationalization of the ABC+ Computerized Governance System (SIGABC), to monitor the implementation of ABC+ promotion actions at national and state level Operationalization of the Multi-institutional Platform for Monitoring GHG Reductions in Agriculture (Platform ABC), to carry out the monitoring of GHG emissions resulting from adoption of Sustainable Production Systems, Practices, Products and Processes (SPS ABC) Improved interaction with the Rural Credit and Pro-agro Operations System (SICOR), and with the Brazilian Securities and Exchange Commission (CVM), for monitoring the adoption of SPS ABC Consolidation, systematization and evaluation of the ABC+ execution results via the ABC Plan Integrated Information System (SINABC) Monitoring and validation of ABC+ by the National Executive Committee of the ABC Plan (CENABC)	Coordinated by the Ministry of Agriculture and Livestock (MAPA), the ABC Plan has national coverage, but its vertical political structure allowed for the development of state and municipal plans. Period: 2010-2020: 2021-2030 (updated plan published in November 2021)[17]

REDD+ for Early Movers MT (REM MT)	The REDD Program for Early Movers MT started in 2017 and aims to remunerate the climate change mitigation efforts of pioneer REDD+ initiatives at the state, subnational, or national levels to foster sustainable development. The main objective of the program is to value existing forests. Sixty percent (60%) of the REM Mato Grosso resources are distributed to family farming sub-programs, traditional peoples and communities in the Amazon, Cerrado, and Pantanal; indigenous territories; and sustainable production, innovation, and markets. The remaining 40% are used for institutional strengthening of state government entities and in the application and development of public policies.	KfW, UK government (BEIS), Secretary of Environment of Mato Grosso

Programa ISA Carbono	The ISA Carbon Program was the first initiative implemented under the Environmental Services Incentive System in Acre, in the form of the REM Program ?remuneration for results?, applicable to actors who had advanced in the REDD preparation process (REDD readiness). The referred program is configured as a REM in the State of Acre; that considers the remuneration or ?award? on (ex-post) results of reductions in greenhouse gas emissions from deforestation. Since 2017, ISA has established technical bases for carbon accounting, participatory structures for building the system, subprograms, implementation strategies, and adopting a benefit-sharing approach called ?stock-flow-pragmatics?. Thus, ensuring a balanced distribution both for the actors who contributed to reducing greenhouse gas emissions (reduction in the flow) and those who still make efforts to maintain the conservation of forests (maintenance of stocks) with the application of financial resources through policies or programs that already exist in the State.	KfW, UK government (BEIS), Secretary of Environment of Acre

?Produce, Conserve and Include? programme (*Programa Produzir, Conservar e Incluir*, PCI Mato Grosso)	The Program was launched in 2015 to raise funds for the State of Mato Grosso to expand and increase the efficiency of agricultural and forestry production, conserve remnants of native vegetation, and restore environmental liabilities. Its specific objectives are the socioeconomic inclusion of family farming, the reduction of emissions, and carbon sequestration through the control of deforestation and the development of a low carbon economy in the region of the State. As actions in progress, the following stand out: consultancy for the development of economic analyses and investment opportunities arising from the PCI strategy; the development of a guide with jurisdictional approaches to support initiatives and companies with their emission reduction commitments; the development of a platform to bring together the initiatives underway in the state that are aligned with the PCI, as well as the financing strategy for forest conservation and low carbon agriculture in the state.	Coordinated by the Government of the State of Mato Grosso Funded by the Initiative for Sustainable Trade ? IDH and REM Mato Grosso Program

AmazonFACE	The program started in 2015 and aims to simulate the future atmosphere of the Amazon and evaluate all the processes that the increase in atmospheric CO2 can alter. In addition, an experiment based on FACE technology for outdoor CO2 enrichment is the first infrastructure of its kind in a tropical country. Its perspective is to assess the effects of the increase in CO2 on the adaptive capacity of the Amazon forest, the biodiversity it shelters, and the ecosystem services it provides.	Coordinated by the National Institute for Research in the Amazon ? INPA Funders/Partners: Unicamp, USP, Embrapa, Alterra Wageningen University, University of Exeter, Technical University of Munich and University of Edinburgh, and FNDCT FINEP/MCTI

ATTO - Torre Alta da Amaz?nia	It is a joint scientific project between Brazil and Germany created in 2011 to understand the complex interactions of the Amazon rainforest with the atmosphere and climate. It is the largest research tower globally at 325m high. It aims to provide scientific results on the integrated understanding of the Amazon system and significantly reduce uncertainties about its impacts on global carbon and water cycles, atmospheric chemistry, and the scenario of climate changes. Its perspective contributes to monitoring and understanding how the Amazon influences the global climate, providing continuous, high-quality meteorological measurements needed to improve regional and global weather forecasting. Furthermore, it facilitates the study of the evolution and impact of extreme climate events and monitoring of the Amazon forest's carbon balance and its resilience/vulnerability to extreme weather events.	Coordinated by the National Institute for Research in the Amazon ? INPA Funders/Partners: FNDCT FINEP/MCTI, Germany, France, and Switzerland

3) Proposed alternative scenario with a description of project components, outcomes, outputs and deliverables

Overview

This CBIT project aims to strengthen Brazil's climate transparency system to meet the ETF requirements under the Paris Agreement. Through DataClima+, Brazil will formalize and streamline the governance of climate data required to comply with ETF requirements and to inform decision-making[1], thus addressing MRV challenges reported in previous National Communications.[2] To produce high-quality climate information, the country will improve and optimize its climate data management cycle, including as related to planning, data collection, data processing and analysis, information publishing and sharing, data preservation, and data reuse. Thus, the project will develop and implement policies, rules, processes, organizational structures, and technologies following the best practices of governance and business process management, with standardized, well-documented procedures that serve as the basis of the organizational knowledge management approach, increasing the system?s efficiency and, more importantly, MCTI?s productivity in preparing subsequent transparency reports. Moreover, the project will implement the institutional arrangements required for the timely reception of raw data and provide the capacity building required to ensure that key stakeholders benefit from the newly developed information system.[3] Thus, DataClima+ consists of:

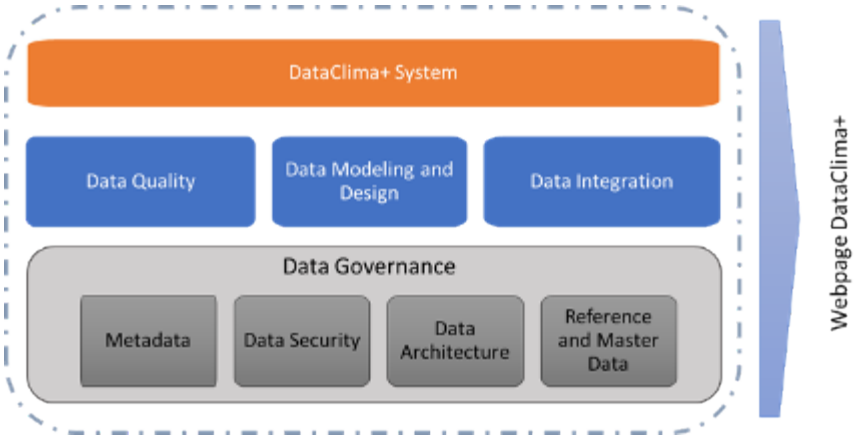
- A thorough, gender-sensitive[4] data inventory (the ?Data Master Plan?), including all required meta-data for each item in it; and a formal data governance structure;
- A modular system, consisting of a core module that provides the environment for re-designed versions of existent modules (SIRENE, AdaptaBrasil, SINAPSE) to interact with newly created ones (NDC tracking, Means of Implementation);
- The hardware where the system and the data will be stored;
- A web platform for displaying the results;
- The set of institutional arrangements for the timely reception of data from the respective data suppliers;
- A documented, standardized and well understood set of processes and pre-defined roles and responsibilities for receiving, storing, handling, and processing data; safe keeping, maintaining and updating the system; displaying the results; introducing changes in the structure without affecting usability, etc.
- A standard set of tools, templates, databases, and manuals to facilitate data integration[5] and system interoperability[6]

In addition to creating this information system, this CBIT will also develop the capacities (human and institutional) for its various stakeholders to benefit from it. In particular, the project will also:

- Design and implement a stakeholder communication and engagement strategy to ensure a participatory design and buy-in from its target audiences.
- Provide training tailored to each stakeholder role (IT staff, MCTI personnel in charge of preparing ETF reports, raw data suppliers, researchers, public officials, etc.).
- Set the institutional and regulatory framework to officially recognize DataClima+ as the one-stop-shop for climate transparency in Brazil.

Thus, the purpose of the system is to significantly enhance the efficiency of ETF reporting and provide public and private decision-makers, researchers, students, health workers, planners, etc., with up-to-date, reliable climate change information.

Figure 5. DataClima+ as an information system[7]



The project is organized in three components[8]:

- **Component 1** focuses on designing and building an integrated climate data system for Brazil, DataClima+, connecting existing databases with new ones. It will also formalize the institutional arrangements needed for supporting data collection, governance, and management through an integrated climate transparency framework so that national efforts are coordinated and efficient. In the case of NDC tracking and support needed and received, new integrated IT modules will be created. Component 1 also includes the stakeholder engagement actions and the capacity building required to ensure system adoption.
- **Component 2** will enhance the individual modules of the integrated climate data platform for complying with the ETF and its MPGs: GHG emissions, adaptation, NDC tracking, and means of implementation (i.e. support needed and received). It will achieve this mainly through the standardization of processes following a Business Process Management approach and through project actions that strengthen databases, tools, templates, and system capacity for each module.
- Finally, **Component 3** will support national policy- and decision-makers to effectively incorporate climate data and projections into their regulatory and planning processes. It will achieve this by strengthening databases, tools, and templates to assess the effectiveness of different sectoral policy scenarios for achieving national climate goals (SINAPSE module). It will also establish institutional arrangements for integrating SINAPSE not only into sectoral and sub-national planning and budgeting instances but also into efforts to prepare a national long-term strategy in accordance with the Paris Agreement, article 4, paragraph 19.

This CBIT project has been designed to complement and build synergies with the GEF combined project 10801, ?*Fifth national communication, biennial update report and biennial transparency reports to the United Nations Framework Convention on Climate Change.*?[9] While the GEF 10801 project supports Brazil with developing specific UNFCCC and Paris Agreement reports for specific deadlines: BUR5 (Jun 2023), NC5 (Dec

2024), BTR1 (Dec 2024), and BTR2 (Dec 2026), the CBIT project has a long-term systemic view, focusing on data governance, management, and integration as a key step in strengthening national institutional capacity on climate transparency. Differences, complementarities, and synergies between the two projects are further discussed in Annex Q of this document.

Each of the components in the proposed project are discussed below, including details on the expected outcomes and outputs, as well as specific details on the deliverables included under each.

Desired transformation upon project completion

The following table summarizes the current context and the transformation that the project aims to achieve to support Brazil to implement an ambitious transparency framework that meets the requirements of the Paris Agreement. Creating such an ambitious transparency framework for a country of Brazil?s geographic size, large population, complex governmental structure and complex GHG emission profile will require broad and deep actions accompanied by sufficient GEF funding. The following table also links the desired transformation to the corresponding outputs that will contribute to this change. The outputs are presented in the following sub-sections.

Table 5. Desired transformation as a result of the CBIT project

The current context	Desired change of behaviour through project (outcome)
Absence of a centralized data framework and insufficient institutional arrangements for collecting, monitoring and reporting on climate data and using it for policymaking.	The Brazilian government measures, tracks, and reports climate data through a robust, integrated, and efficient transparency system. Behavioural change achieved through: - A clear understanding of data needs (output 1.1) - Creation of an integrated national climate data system, DataClima+ (output 1.2), which connects all ETF modules - Development of a coordination and governance mechanism for the system (output 1.3) - Establishing institutional arrangements for providing necessary data (output 1.4) - Building of capacity to use the system (output 1.5) - Promotion of the use of the system, and engagement of all relevant stakeholders (output 1.6)
Uneven development of transparency modules and ad-hoc approaches for complying with the ETF and its MPGs.	The Brazilian Government produces timely and complete climate data and makes it available through DataClima+. Behavioural change achieved through: - Enhancement of the GHG emissions module, SIRENE (output 2.1). Top-down and bottom-up information is mutually consistent. - Enhancement of the adaptation module, AdaptaBrasil MCTI (output 2.2). The adaptation module compiles, organizes and makes available relevant adaptation data, including technical studies and risk assessments. - Creation of NDC tracking module (output 2.3). - Creation of the module on support needed and received (output 2.4).

Limited integration of climate change considerations into national policy- and decision-making.	National policymakers incorporate climate data and policy sectoral analysis into national planning and policy-making efforts. Behavioural change achieved through: - Enhanced platform for assessing future impacts of policy options (output 3.1) - Incorporation of national transparency system into national planning (output 3.2), including through workplans and budgets.

Theory of change

Through its 12 technical outputs[10], the project is expected to develop and operationalize a full-fledged transparency system that builds on existing efforts.

Component 1 focuses on the design of DataClima+, connecting existing databases with new ones, and the full implementation and formalization of the institutional arrangements behind it; component 2 is expected to refine and equalize the level of development of its components (mitigation, adaptation, means of implementation), ensuring that it can efficiently gather, compile, and produce timely and precise transparency information. Lastly, component 3 ensures that DataClima+ is integrated into the national planning instances.

By strengthening and bringing light into the linkage between country needs, support received, and mitigation and adaptation actions, Brazil will be better positioned to manage its NDC targets. This improved understanding will allow the country - the government but also other key stakeholders, including its private actors - to detect sectors and potentials where adaptation actions are most urgently needed, as well as those where emission reductions and resilience targets can be achieved at the lowest cost. Such cycle will ultimately allow Brazil to reduce GHG emissions and increase its resilience to climate risks.

The theory of change depicted below depends on a series of assumptions and drivers. As UNEP?s Glossary of Results Definitions, **assumptions** refer to external conditions necessary for project results to lead to next-level results, over which the project has no control. These include political stability in the country, the continuing political will to fulfil the country?s climate commitments, and continued international funding for climate action. Similarly, **drivers** are defined as external conditions over which the project does have a certain level of control. In this project, this will include the willingness of the key stakeholders, including the private sector, to share data, as this is expected to be facilitated by the project?s establishment of confidential data sharing agreements (component 1); as well as the retention of technical capacities (e.g., by setting adequate incentives in the design of the system), and the conviction of line ministries and other key stakeholders including the private sector of the importance of transparency (e.g., through the full operationalization of DataClima+ following components 1 and 2, the communication campaign and capacity building in component 1, as well as the incorporation of its modules in the national planning instances through component 3).

Figure 6. Theory of change

Component 1: Integrated climate data platform

Outcome 1: The Brazilian government measures, tracks and reports climate data through a robust, consistent, and efficient transparency system.

The barrier that the project will address through this component: B1. Absence of a centralized data framework and insufficient institutional arrangements for collecting, monitoring, and reporting on climate data and using it for policymaking.

Component 1 will design, build, and deploy an integrated climate transparency information system, DataClima+, to become the main and centralized information system for climate change mitigation, adaptation, and means of implementation in Brazil. It will also formalize the institutional framework needed for supporting data collection, governance, and management through an integrated climate transparency framework so that national efforts are coordinated and efficient. Component 1 also includes the stakeholder engagement actions and the capacity building required to ensure system adoption. This will be achieved through the outputs depicted below.

Output 1.1. Data requirements, sources, and gaps for preparing UNFCCC transparency reports and supporting gender-sensitive national policymaking are identified and disseminated to national stakeholders.

This output is mainly concerned with the **preparation of an in-depth Data Master Plan** that will be used as the basis for the design of the DataClima+ system, as well as other preliminary elements that will set the ground for the design phase (system inventory, feature analysis, and ETF compliance strategy).

Output 1.1 ? Deliverables			
Code	**Title**	**Indicative content**	**Key stakeholders**
1.1.1	System inventory	Thorough inventory of all existing systems relevant for climate change transparency, indicating scope, purpose, list of variables, indicators, indexes, and other information collected (quantitative and qualitative), entities in charge, data providers and target users, status (active / idle) and relevant DataClima+ module(s) (mitigation, adaptation, means of implementation).	MCTI, MAPA, MMA, MF, MPO, MDIC, CNI, MME, MS, and any other public / private institution systematically collecting information relevant for the preparation of ETF reports.

1.1.2	Updated vision document and feature analysis	In-depth analysis to identify missing elements and features in each of the modules (existing) and required elements for the modules that will be designed from scratch by the project. The assessment will: - update the preliminary vision document prepared during the PPG phase (including general and specific objectives, scope, users, etc.); - Detailed identification of target audiences and stakeholders (e.g. MCTI staff in charge of operating the system, MCTI staff responsible for the preparation of reports, individual users who use information for academic purposes, public officials who use the information for decision making and establishing policies, Rede Clima staff that will participate in the preparation of reports and training of human resources through the long-term capacity building mechanism, etc.) - building upon ETF requirements, the gap analysis presented in this document, regional and international good practices and other elements or guidance provided by MCTI, establish a specific list of features required in each of the modules in the system. - Detailed concept for the system. This should clearly establish the usage and access levels for each type of user (e.g. MCTI staff responsible for the preparation of reports, data providers, individual users who use information for academic purposes, public officials who use the information for decision making and establishing policies, etc.). - Resolution required to capture gender elements in the system, as well as potential impacts in vulnerable groups (indigenous, afro-descendant communities, and others). - Technical proposal on how to integrate the different databases as five interconnected modules of DataClima+ (SIRENE, AdaptaBrasil, NDC tracking, Means of Implementation, and SINAPSE).	MCTI. This deliverable will be prepared in close coordination with the team in charge of the NC5 project.

		- Technical proposal and specifications on how each of the modules can gather and display information from relevant external sources.[11] - Specification of necessary resources (human and physical assets, including hardware and software, databases, source codes, licenses, design documents as applicable).	
1.1.3	ETF compliance strategy	- Identification of which modules(s) will provide which piece of information to each report to the Convention (national communications, biennial update/transparency report, revisions of nationally determined contributions, preparation of a long-term low GHG emissions development strategy). - Protocol, tentative workplan and timelines for the preparation of future national communications and biennial transparency reports to the Convention. - Roadmap for the integration of the DataClima+ institutional system into report preparation processes. This deliverable will build upon the analyses undertaken through previous projects, including inter alia key deliverables from output 1 of the PoMuC project (described in the baseline section).	MCTI, MF, MPO, MDIC, MMA. This deliverable will be prepared in close coordination with the team in charge of the NC5 project.

1.1.4	Data master plan	The aim of the master plan is to facilitate the preparation of transparency reports on a biennial basis, enabling data collection, the application of higher-tier methodologies, and appropriate adaptation information. The Data master plan will include, as applicable: - Data inventory by module (i.e. comprehensive list of data required to run the DataClima+ system), including all relevant meta data, indication of the templates required for collection, entity / sector / government level providing the data, agreements in place to receive it, and their current status (e.g., periodically received, occasionally received, rarely received, needed but not received, etc.). Data variables will be grouped in categories, to be proposed by the consulting team in charge of this deliverable. - Data collection plan indicating the information flow for the collection of data in each category, the required timeline and associated processes to acquire the information required to run the system and comply with the ETF reporting requirements on time. The data collection plan will also identify the relevant actors and information sources, and establish procedures and criteria to ensure data quality and assurance (e.g. internal analyses, validation of experts, etc.). - Resolution of data required to capture gender elements in the system. - 5-year improvement plan to collect information that is currently unavailable, inaccurate, or not received on time. This will include a detailed workplan that clearly states the priorities for any missing improvements beyond the duration of this CBIT project. - The data master plan will include a section on missing data (aligned with the previous bullet). This will include instructions for replacing any missing information with default values and/or any other estimation means deemed adequate for each case, as well as an assessment of the impact	MCTI, MF, MPO, MDIC, MMA

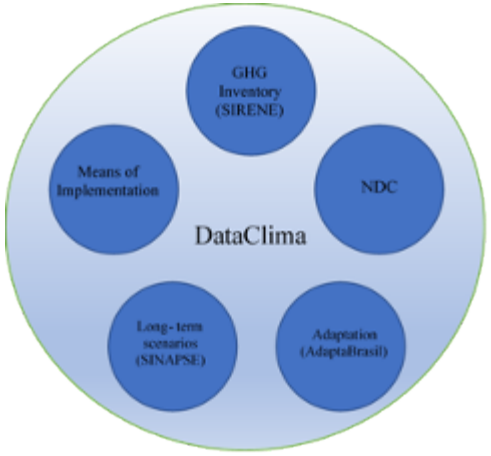
		of replacing the missing information with estimated values.	

Output 1.2. A gender sensitive DataClima+ system is designed, built and made accessible to key stakeholders.

This output will design, build, and operationalize the DataClima+ system. An online platform under MCTI?s management, it will house the four ETF modules and the module on long-term scenarios (see figure 5). As noted in the problem description and baseline, currently these modules either don?t exist or exist as separate unlinked platforms which have different IT architectures and programming languages. Through this output, an integrated data management system will be created which brings together these data modules and ensures that the data of each is interlinked to facilitate cross-fertilization.

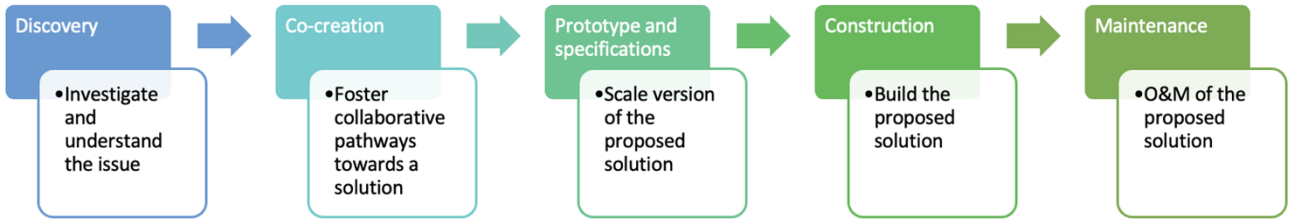
DataClima+ will serve as a centralized platform for data input by key data providers. It will also serve as a central location for climate data usage, facilitating the work of key stakeholders in preparing Convention and Paris Agreement reports and incorporating climate considerations into national policymaking. DataClima+ will also be accessible to the public, enhancing transparency and shedding light on national climate efforts and vulnerabilities. The DataClima+ system (Figure 7) will be comprised of five thematic modules plus a ?core? module that will provide functionality and integration for the system as a whole. Thus, three modules will be designed from scratch (core module, NDC tracking and Means of Implementation), while the remaining three (SIRENE, SINAPSE, and AdaptaBrasil) will need to be adjusted to fit the integrated system.

Figure 7. Conceptual visualization of DataClima+



The National Research and Education Network (RNP) will lead on the design, development, deployment, and initial maintenance of the DataClima+ system (i.e., output 1.1 and 1.2). RNP works with a core team (including a technical coordinator, a project leader, a product owner, and a UX expert) and can bring in other IT and technical experts as deemed necessary. In this case, the IT team will work with transparency experts and MCTI officials to ensure the sustainability and technical relevance of the system. The design will follow the steps depicted in the figure below.

Figure 8. RNP?s system development process



As mentioned in the baseline section, some of the modules will be developed from scratch (i.e. the NDC tracking and means of implementation modules), while others will be adjusted to facilitate interconnectivity, align with ETF requirements, and introduce new features. A detailed account of each of the deliverables under this output is presented below.

Output 1.2 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

1.2.1	Detailed design of DataClima+ core module	The core module will provide the environment for the efficient and integrated execution of the thematic modules in DataClima+, i.e. the common interface between the user and the thematic modules. The design will follow MCTI?s Software Development Guidelines[12] (mainly focusing on the ?conception? and ?design? stages) and RNP?s System Development Process (see figure above). The DAMA-DMBOK[13] is also listed as a valid reference for orienting system design. The design shall include: - Common visual design and layout (environment design), including accessibility considerations (e.g. access through desktop computers, laptops, smartphones, etc.). - Main components in the system (e.g. kernel, process management, files management, security management, etc.), including all the backend required for the system to operate. - Intranet (or similar) system for hosting internal documents and files (e.g. the process manuals for the different modules in DataClima+). - All modules should be made available in Portuguese and in English. The system will include an automatic translation feature that can be adjusted manually for errors. This deliverable will build upon the results from previous projects, including inter alia key deliverables from output 1 of the PoMuC project (described in the baseline section).	MCTI (as responsible for the operation of the system), RNP, IBICT.

1.2.2	Detailed design for the NDC Tracking Module	- The system will be designed in abstract (i.e. independent of specific mitigation measures or sectors) and later be calibrated to reflect specific projects and measures determined in the NDC implementation strategy. - The design will cover the minimum requirements included in the MPGs (section III)[14] and be aligned to the NDC implementation strategy (including any flexibility provisions adopted therein). - The design shall also include a section on lessons learned from regional and international best practices. - All modules should be made available in Portuguese and in English. The system will include an automatic translation feature that can be adjusted manually for errors.	RNP, MCTI, MF, MPO, MDIC, MMA, MAPA (i.e. in relation to the SIN-ABC system) Preparation of this deliverable will require coordination with the development of the NDC implementation strategy, which is currently being discussed (expected for 2023).
1.2.3	Detailed design for the Means of Implementation Module	The design will include the definition of indicators to be used to track financial, technology development and transfer and capacity-building support needed and received under articles 9-11 of the Paris Agreement and aligned to section VI of the ETF MPGs.[15] The system will organize support needed and received into relevant and available categories (e.g. transparency, mitigation, adaptation, gender) and sub-categories (e.g. capacity building, infrastructure, technology, financing). All modules should be made available in Portuguese and in English. The system will include an automatic translation feature that can be adjusted manually for errors.	This deliverable will require coordination between RNP (as system designer) and the Institute for Applied Economic Research and the Brazilian Cooperation Agency of the MRE (responsible for the Brazilian Cooperation for International Development (COBRADI)), as well as with MF, MPO, MDIC.
1.2.4	Re-design of existing modules	This deliverable comprises all the re-design specifications to be introduced in the existing modules (i.e. SIRENE, AdaptaBrasil, SINAPSE) for the integration into the DataClima+ system. All modules should be made available in Portuguese and in English. The system will include an automatic translation feature that can be adjusted manually for errors.	MCTI (as responsible for the operation of the system), RNP (lead IT designer), IBICT.

1.2.5	DataClima+ prototype	A scale-version of the DataClima+ system will be prepared prior to the full-scale deployment, following RNP?s System Development Process (including testing requirements). This prototype includes working versions of all six modules (i.e. core module, SIRENE, AdaptaBrasil, NDC tracking, Means of Implementation, SINAPSE).	RNP as lead IT designer and MCTI.
1.2.6	DataClima+ system and web platform	DataClima+ system according to design specifications (deliverables 1.2.1-1.2.4) designed, developed, and made available for use. All modules should be made available in Portuguese and in English. The platform will include all data compiled through previous efforts (NCs, BURs, etc.) up to the latest data sets available from the 5NC project at the time of the DataClima+ web platform?s launch. A timeline for uploading 5NC data that is not yet available by the platform?s launch will be included.	RNP and MCTI (as responsible for the operation of the system)
1.2.7	DataClima+ operation plan	Reference document stating how the system is managed, updated and kept safe. To include: - Description of functions, maintenance, updating and usage protocols - Process library and process manual for the core system, including a description of each relevant process, linkages to associated templates and databases, as well as roles & responsibilities. Note that module-specific process manuals will be prepared as part of component 2. - 5-year improvement plan for the current processes involved in the operation of DataClima+. - Yearly cost estimates for the operation of DataClima+ (including the cost of the improvement plan) for a period of 5 years, indicating the cost structure for the operation of the system beyond the duration of this CBIT project. - Identification of funding required and sources of funds for the execution of the system beyond the duration of the CBIT project. This will include estimates for any critical data missing in the Data Master Plan (aligned with deliverable 1.1.4).	RNP (as designer / developer) and MCTI (as responsible for the operation of the system). This will involve the ministry?s IT and climate transparency personnel.

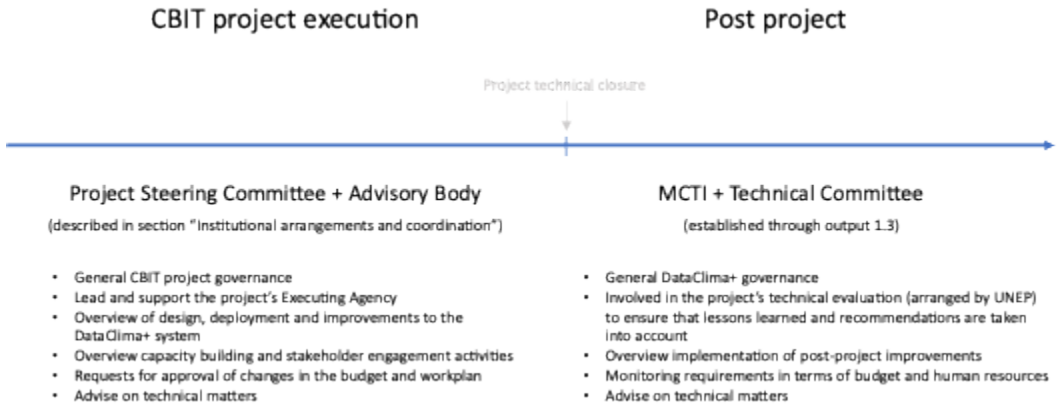
1.2.8	DataClima+ user manual	Module by module user manual and/or others tools (e.g. videos, tutorials, wiki) This documentation will also serve as a basis for the capacity-building module (output 1.5).	These manuals are aimed primarily at system users.

Output 1.3. An institutional mechanism is established for operating DataClima+ by governmental entities.

This output will establish the governance arrangements to make the system operational and sustainable in time. It includes an adoption package, by means of which the government will officially recognize DataClima+ as a centralized transparency system of Brazil. The project will assist the country in drafting and discussing alternatives, and the sanctioning of an appropriate instrument has been established as a project objective in the project?s results framework (Annex A, indicator 3). Thus, the project team will provide support throughout the approval and adoption process.

DataClima+ will be managed by the Ministry of Science, Technology, and Innovation (MCTI). The Ministry will use existing national funding streams to ensure the platform?s annual operation beyond the CBIT project lifetime, based on a detailed cost estimate and operational plan developed through output 1.2 (deliverable 1.2.6). Furthermore, this output will support the creation of a DataClima+ Technical Committee, chaired by MCTI, which will supersede the CBIT project?s Advisory Body beyond GEF funding. Thus, output 1.3 will establish the governance arrangements for the operation of the DataClima+ system beyond GEF funding, ensuring continuity to the work undertaken during the project?s 4-year implementation phase. This governance structure will be in charge of post-project operation and maintenance, including the implementation of any outstanding elements in the improvement plans that will be developed throughout the CBIT project (e.g., the 5-year training strategy in output 1.5, the technical improvement plans in components 2 and 3).

Figure 9. Short and long-term governance arrangements for the DataClima+ system



Details on this output?s deliverables are provided in the table below.

Output 1.3 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**
1.3.1	DataClima+ adoption package	- Draft legislation proposal, including: o Ordinance of the MCTI (?*portaria ministerial*?) institutionalizing DataClima+ as an official data system of the Federative Republic of Brazil o Draft interministerial resolution institutionalizing DataClima+ as an official transparency system of the Federative Republic of Brazil. o Draft executive decree institutionalizing DataClima+ as an official transparency system of the Federative Republic of Brazil. - Adoption strategy and detailed description of the required approval processes at each level. This deliverable will build upon the results from previous projects, including inter alia key deliverables from output 1 of the PoMuC project (described in the baseline section).	MCTI, MMA, MRE, MF, MPO, MDIC, MME, MAPA, Civil House of the President?s Office
1.3.2	DataClima+ Technical Advisory Committee adoption package	The DataClima+ Technical Advisory Committee would be coordinated by the MCTI to serve as a long-term advisory body with regards to DataClima+. This deliverable will include: - draft ordinance establishing the committee, including detailed roles and responsibilities of the committee. - Statute and competences of the Technical Committee on Transparency.	MCTI, MMA, MRE, MF, MPO, MDIC, MME, MAPA, Rede Clima representatives and others
1.3.3	5-year work plan for the DataClima+ Technical Advisory Committee	The workplan will be aligned to the improvement plan for the current processes involved in the operation of DataClima+ (deliverable 1.2.7 above). The workplan will also consider support from the CBIT project team (during the execution phase) as well as the operation and institutional arrangements for the post-project phase.	MCTI, MMA, MRE, MF, MPO, MDIC, MME, MAPA, Rede Clima representatives and others

1.3.4	Support in the adoption process	The project team will provide all required support in the adoption process as per the strategy, including all relevant discussions and modifications to the legal documents. Adoption of one of these legislation proposals has been included as a project goal in the project?s result framework (Annex A, indicator 3). Which instrument is ultimately used will depend on the recommendations in the Adoption Strategy. Note that deliverable 1.3.2 can be merged with the legislation proposal on 1.3.1 .as one single proposal, subject to recommendations from the legal expert. The project will report on the nature of the support given and the status of the adoption process.	MCTI, MMA, MRE, MF, MPO, MDIC, MME, MAPA, Civil House of the President?s Office
1.3.5	DataClima+ Technical Advisory Committee meeting minutes	This will include minutes from the publicly available quarterly meetings held during the final year of the project?s execution phase, when the DataClima+ Technical Advisory Committee will supersede the Advisory Body on Transparency.	MCTI, MMA, MRE, MF, MPO, MDIC, MME, MAPA, Rede Clima representatives and others

Output 1.4. Institutional arrangements for entities to provide data to DataClima+ are established.

This output will provide the institutional arrangements to ensure that all relevant data in the Data Master Plan is received on time, together with a 5-year improvement plan for those that still need additional development of capacities (either on the source or on the receiving end).

The proposed approach is to draft and adopt a ministry resolution that establishes the general framework and arrangements for the provision of data, with case-by-case specifics to be discussed and negotiated under the scope of individual Data Sharing Agreements (DSAs), aligned with the general framework. The proposed approach is expected to reduce uncertainty, ensure the confidential treatment of data and minimum standards for data security, thus accelerating the negotiation of individual agreements.

Due to the relevance of this output for the long-term sustainability of DataClima+, ambitious targets have been set on the quantity of agreements achieved during the project?s lifetime. The objective is that by the end of the CBIT project, Brazil has identified, systematized, categorized, and organized all the meta data required to run the system and has agreements covering 75% of its Data Master Plan, an objective that is laid out in the project?s results framework (see Annex A, indicator 1).

Output 1.4 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

1.4.1	Draft ministerial resolution setting sectoral arrangements for the collection of information	Draft resolution establishing the requirement and setting the general framework for data collection to operate DataClima+ and aligned with the prioritization included in the Data Master Plan (1.1.4). The draft resolution will consider the current status of the data inventory and provide room and flexibility in line with the data collection improvement plan included as part of deliverable 1.1.4 above. The general framework aims at establishing standard requirements and conditions that facilitate the subscription of individual / sectoral Data Sharing Agreements (DSAs). A specific target in terms of subscribed DSAs was included in the project?s results framework (see indicator 1 in Annex A).	MCTI, sectoral representatives for entities providing information
1.4.2	Template(s) and draft(s) for Data Sharing Agreements (DSAs)	Templates aligned with the provisions set out in the general framework (see previous deliverable).[16] The content of a DSA will include, as appropriate: - background information on the needs and mandate of the transparency system - reference to legal framework - objectives of the agreement - confidentiality provisions and commitments - procedures that enable the DataClima+ designated coordinator to provide feedback to the data supplier on priorities for future improvement of the data set - a technical annex containing details of the data to be supplied, including: o unique title of the data set o confidentiality flags o description of the data, including format (electronic format) and scope (time series, detail, nomenclature, categories, geographies) o supplying department or service o deadlines for the supply of data o details of QA/QC measures to be applied to the data prior to supply o uncertainties in the data.	MCTI, data providers (see Annex S)

1.4.3	Support in adoption of legal framework and subscription of DSAs	The project team will provide all required support in the adoption process of the general framework as well as in the subscription of individual DSAs, including all relevant discussions and modifications to the legal documents. Considering that data providers are located in different regions of the country (see Annex S), travels will be needed to engage these stakeholders. The instrument can take the form of DSAs or any other sort of agreement adequate to national circumstances that facilitates the periodic submission of required data in a standardized format. A specific target (in terms of the fraction of the total data requirements for the entire DataClima+ system that has specific agreements in place for the provision of information) is included in the project?s results framework (see indicator 1 in Annex A). Subject to the assessment of the legal experts, the general framework may be integrated to deliverables 1.3.1 and 1.3.2 (adoption instruments of the DataClima+ system). The project will report on the nature of the support given and the status of the adoption and subscription processes.	MCTI, data providers, Civil House of the President?s Office

Output 1.5. A national capacity building programme for DataClima+ is designed and made accessible to national stakeholders.

This output focuses on building the capacity of key stakeholders for operating and using DataClima+. The capacity building mechanism will work at three levels: i) internal capacity building for the MCTI, as system operator and entity in charge of creating ETF reports; ii) data suppliers and system users, and iii) development of long-term capacities, beyond the duration of this CBIT project. The approach is presented in the table below:

Table 6. Capacity building approach

Level & target audience	Scope	Deliverables

Level 1: internal capacity building for the MCTI and relevant IT staff.	Focus on usage of the system for the preparation of ETF reports, but also on technical elements related to system maintenance and updating. This is essential to ensure buy-in of the standardized processes that are to be introduced through the development of the DataClima+ system. This capacity building includes: - Minimum of 6 training sessions for MCTI climate change staff: preparation of ETF reports using DataClima+. - Minimum of 6 training sessions for MCTI IT staff: system maintenance and updating; use of standardized processes.	1.5.1, 1.5.2, 1.5.3, 1.5.6, 1.5.7
Level 2: data providers, data verifiers and system users.	Intensive training aimed at the key stakeholders interacting with the system, focusing on the usage of tools and templates (either existent or new ones developed over the duration of the project) for the provision of information, as well as the use of the system modules for planning and decision-making purposes. Includes: - Minimum of 6 hybrid training sessions for data providers organized by sector (energy, IPPU, agriculture, LULUCF, waste + one on risks, vulnerability, and adaptation) - Minimum of 4 hybrid training sessions on the usage of DataClima+ core modules (inventories, risk and adaptation, NDC tracking and mitigation actions, support needed & received) - Minimum of 2 hybrid training sessions on using DataClima+ as a planning instrument, covering the SINAPSE module. - 4 hybrid peer-to-peer sessions at the international level through the Global CBIT Platform	1.5.1, 1.5.4, 1.5.5, 1.5.6

Level 3: long-term capacity building.	The project will prepare on-demand multimedia courses to provide training for data providers, verifiers, and system users (including public and private decision makers) and beyond the duration of the GEF project. This includes one course for each module (SIRENE, NDC tracking, AdaptaBrasil, Means of Implementation, SINAPSE), to be made available through the DataClima+ web portal.	1.5.1, 1.5.8

As part of this output, peer-sessions will be organized inviting participants from Brazil, the region and other parts of the world through the Global CBIT Platform. This will provide space for sharing experiences and discussing common challenges and lessons learned on topics relevant for the adoption and usage of the new features that are to be developed through this CBIT project.

The tables below provide further information on the content of each of the training modules, as well as the remaining deliverables included in this output.

Output 1.5 ? list of deliverables and Indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

1.5.1	5-year training strategy	The training strategy will include: - a detailed assessment of training needs that differentiates by type of user and considering the three levels indicated in this output, including MCTI staff in charge of operating the system, MCTI staff responsible for the preparation of ETF reports, individual users who use information for academic purposes, public officials who use the information for decision making and establishing policies, Rede Clima staff that will participate in the preparation of reports and entities providing training of human resources through the long-term capacity building mechanism, etc.). The training strategy should also cover training needs required outside of the MCTI, mainly data providers and verifiers. - Prioritization of training needs arranged into a 5-year workplan, thus informing the contents of the training modules under this output (deliverables 1.5.2-1.5.5 and 1.5.8 below). - The training strategy will consider the improvement plans for each module (see component 2), providing training on the new features introduced. - The use of gender-sensitive language and gender-balanced images, voices and examples should be applied in all the produced content. - Note that the strategy will exceed the duration of the CBIT project and therefore will not be limited to the capacity building actions under this output, also considering other sources of training and capacity building such as international cooperation, UNFCCC, the CBIT Global Platform, Rede Clima, etc. Moreover, the strategy should	MCTI staff (as main responsible for the operation of the system and the preparation of ETF reports). However, as shown in the indicative content, the strategy should also cover institutions in Rede Clima and, more broadly, the needs and capacities of public officials, private sector, academy, etc.

		identify a finance strategy to cover these costs beyond the CBIT project.	
1.5.2	Workshops & training sessions: MCTI climate change staff	Covering: - ETF compliance strategy (see output 1.1), identifying which module(s) provide which piece of information to each section of each report under the ETF (national communications, BTRs, NDC update, National Adaptation Plans, preparation of a long-term low GHG emissions development strategy, etc.) - Module-by-module use of the Data Clima+ system. - Use of the Data Clima+ system for the assessment of alternative development pathways and sectoral decision making (mainly but not limited to the SINAPSE module) At least 6 training sessions.	MCTI staff assigned to the preparation of ETF reports (i.e. Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs).
1.5.3	Workshops & training sessions: IT staff	Covering: - System configuration management and audits, as applicable, e.g.: provisions to establish and maintain the integrity of work products, usage of configuration identification, configuration control, balance of configuration activities and configuration audits. - System monitoring and control: as applicable, e.g.: monitoring, analysis and organization of the system performance, identifying possible problems that may affect execution, as well as taking preventive and corrective actions to ensure proper operation. It also includes monitoring and control of risks, data collection, analysis and interpretation of data resulting from measurements. - System periodic updates and maintenance At least 6 training sessions.	MCTI IT staff, IT staff in the Digital Government Secretariat (MF) as well as any other IT teams involved in the maintenance of the operative Data Clima+ system.

1.5.4	Workshops & training sessions: data providers and data verifiers	At least 6 in-person or hybrid training sessions on: - Data required for the system operation - Use of the DataClima+ platform and templates (components 1 and 2) for the timely provision of raw data. - Data submission process - Accuracy and inconsistencies check - Data security and confidentiality - Identification of improvements and data gaps, as well as support in the preparation of a data improvement plan for the providers. The training sessions will be organized by sector (energy, IPPU, agriculture, LULUCF, waste ? one session per sector), also covering risks & vulnerability and adaptation actions (one session).	The list of invited institutions will be refined in line with the stakeholder communication and engagement strategy (output 1.6). A preliminary list is provided in the Annex S ?Preliminary list of data suppliers by module?.
1.5.5	Workshops & training sessions: Data Clima+ core modules	This training will focus on using the Data Clima+ system for: - Accounting of organizational GHG emissions - Assessment of vulnerability and climate risk - Comparing alternative adaptation and mitigation actions - Assessing the impact of on-going adaptation actions - Identifying, quantifying, and reporting support needed and received through the Means of Implementation module. The topics will be arranged into 4 in-person or hybrid sessions. The training modules will be recorded and made available online through the Data Clima+ platform.	MCTI, MMA, MF, MPO, MDIC, public, private and civil society, institutions participating in Rede Clima. Sectoral representatives[17] and local government officials (mainly, in the planning areas).

1.5.6	Workshops & training sessions: DataClima + as a planning instrument	The workshop will cover: - Article ?4 of the Paris Agreement and importance of a LTS. - Overview of the planning processes at the federal, state and municipal level. Long-term scenario analysis, sectoral coverage, links between short-term plans and the NDC, mobilization of finance and technology and relation with the Means of Implementation module. - Sustainable development and just transition. - Assessment of sectoral low-carbon development pathways using the SINAPSE module; use of SINAPSE for the development / update of an NDC strategy and the development/update of sectoral plans. - Scenarios aligned with the NDC: sectoral implications and alignment with planning instruments at the sub-national level. At least 2 in-person or hybrid sessions. The training modules will be recorded and made available online through the Data Clima+ platform.	MCTI, MMA and MF (as entities in charge of developing the LTS/NDC strategy and sectoral mitigation plans), MPO, MDIC, MDR, MTS; public, private and civil society; institutions participating in Rede Clima, Federal planning institutions and Civil House of the President?s Office. Municipal institutions such as the Association of Mayors (Frente Nacional de prefeitos, FNP), etc.

1.5.7	Peer-to-peer sessions	4 peer-to-peer sessions inviting participants from Brazil, the region and other parts of the world through the Global CBIT Platform. This will provide space for sharing experiences and discussing common challenges and lessons learned on topics relevant for the adoption and usage of the new features that are to be developed through this CBIT project. Proposed topics: - adoption of organizational inventories, methodological and institutional aspects. - Tracking and registering of existing adaptation efforts. - Linking mitigation measures with GHG inventories & its contribution to meeting the NDC. - Quantifying and reporting support needed & received. - Modeling alternative pathways to achieve emission reduction targets: from the NDC to sectoral targets. - Other topics may be proposed by MCTI. The project team shall compile the main conclusions of the meetings, share them with the participants and through the project?s communication channels (defined in output 1.6) and store the meeting?s minutes as part of the project?s deliverables.	Institutions in Rede Clima, MCTI staff, MMA, MS, MME, MF, MPO, MDIC, federal planning institutions, Civil House of the President?s Office). Members of the CBIT global platform.

1.5.8	On-demand training courses	Training courses to be made available through the DataClima+ web platform. Includes one course per module, i.e. 5 modules in total: SIRENE, NDC tracking, AdaptaBrasil, Means of Implementation, and SINAPSE. The objective of this capacity is to maintain the training on DataClima+ beyond the CBIT project and ensure its sustainability, which will be permanently available to stakeholders.	All users will be able to access the training courses. These can be relevant for universities and other institutions participating in Rede Clima; institutions such as the National Research and Education Network (RNP), the Brazilian Institute for Science and Technology Information (IBICT), the National School for Public Administration (ENAP), and other academic, research, and educational institutions. Representatives from the private sector (such as the National Industry Confederation ? CNI) will be engaged and encouraged to participate. Representatives from federal and sub-national planning instances will also be engaged and invited to undertake these trainings.

Output 1.6. A gender-sensitive stakeholder communication and engagement strategy for DataClima+ is designed and implemented with key stakeholders.

Strong stakeholder engagement is fundamental for the adoption of a transparency system. A successful communication campaign will enhance the likelihood that data is gathered from the most reliable and relevant sources, and that the transparency system?s outputs can inform decision-making processes across many different sectors. From the point of view of a transparency system, engagement and communication must facilitate i) the collection of data; and ii) the adoption of the MRV?s outputs by stakeholders. The greater the engagement, the better (and more useful) the transparency system will be for evidence-based decision-making and the production of reports.

The purpose of this output is to ensure that key stakeholders are aware of DataClima+ and understand its value in supporting Brazil to meet its international climate commitments and promote climate-sensitive development. In addition, engage key stakeholders in the design of the platform and its different modules, to ensure that it responds to key stakeholder needs, thus contributing to the long-term ownership and buy-in of the system. This output will take an explicit gender approach by stressing the communication of gender aspects from:

? the input data (e.g., energy access, access to natural resources)

? the outputs coming from each module of DataClima+, including ETF reports (e.g., gender elements in the NDCs, BURs/BTRs, Adaptation Plans, support needed and received)

? the governance structures of the CBIT project and DataClima+.

The following deliverables are included as part of this output:

Output 1.6 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

1.6.1	Gender-sensitive multi-stakeholder consultation, communication and engagement strategy	The strategy should include the following elements regarding communication: - Design of a communication campaign, including scope, intended outcomes, key messages according to the evolution of the project, appropriate media (for each type of stakeholder), and a workplan for its implementation. - Visual identity and brand of DataClima+, with user manual - Customer Relations Manager (CRM) mailing - Project presentation video - Templates (presentations, e-mail signatures, promotional materials) - The communication campaign will include specific actions for each module, and an annual online event which informs on yearly progress and how DataClima+ will contribute to ETF preparation and public policymaking. The strategy should include the following elements regarding consultation and engagement: - Objectives of the strategy - Identification of relevant stakeholders from the public and private sector, academia and others, with focus on data providers and system users. The map of relevant stakeholders should build upon the list included in this document (section ?Stakeholders?), identifying relation to the system, location, entities represented by each stakeholder, interests, actual and desired roles, and risks in relation to the development and execution of the system. - Representatives from vulnerable groups (based on gender, race, proximity to areas of high risk, or any other relevant considerations) should likewise be identified and invited to participate in the project. - Stakeholders will be categorized using a power-interest matrix.[18]	All stakeholders. The strategy will establish different approaches for each category.

		- Timing and means of engagement for each stakeholder; engagement workplan. - Assignment of responsibilities within the project team. - Metrics for tracking engagement level. - Specific section on gender considerations for the consultation and engagement campaigns.	
1.6.2	Progress reports of communication, consultation and engagement activities	Consultation and engagement activities are to be kept in dedicated reports that include scope, participants, and main outcomes. Frequency of reporting is half-yearly.	As indicated by the strategy.
1.6.3	DataClima+ launch events	Purpose of this event is to present the (operational) Data Clima+ platform nationally and regionally. This deliverable will include 1 national event for 200 participants and 5 regional events for 50 participants per region.	As indicated by the stakeholder engagement strategy and the communication campaign.

Component 2: Enhanced climate transparency modules

Outcome 2: The Brazilian government produces timely climate data and makes it available through DataClima+.

Barrier addressed through this component: B2. Uneven development of transparency modules and ad-hoc approaches for complying with the ETF and its MPGs.

Starting in 2024, the ETF sets more stringent requirements in terms of the data and the periodicity that is currently reported and submitted to UNFCCC for developing countries. The second component in this project verifies, assesses, and consolidates the more technical aspects of DataClima+, providing appropriate tools to enhance the system designed and fully operationalized in component 1. The approach is to establish module-specific improvement plans that are to be executed during the CBIT project, as well as future improvements that are to inform the continuous evolution of the system beyond GEF funding. Likewise, each output will develop process manuals for each module. Through its focus on the standardization of processes, this component will systematize various improvements that will be introduced through this or other projects (e.g. NC5), delimitating tasks and establishing clear roles and responsibilities. This will reduce the amount of time required for the preparation of ETF reports, enhancing MCTI?s reporting efficiency and facilitating the induction process of new human resources, thus introducing a major enhancement in terms of knowledge management.

To ensure integration and connectivity, the improvement plans under this component will be elaborated by the same entity in charge of the design of the DataClima+ system.

For the development of the outputs in this component, international travels are planned so that the project team and the national staff responsible for ETF reports can participate in training activities, events, and peer exchanges, especially those of UNFCCC.

Each of the enhancements is presented below.

Output 2.1. A process manual, databases, tools and templates for using the national GHG inventory report module of DataClima+ (SIRENE module) are available to MCTI.

Output 2.1 will introduce improvements and new features into the SIRENE module. In particular, this output will provide a detailed process manual that standardizes the collection and processing of data, allowing for a clear depiction of roles and responsibilities and automatization at the DataClima+ level. Regarding new features, this output will develop and systematize tools and templates for the collection, processing and display of organizational GHG inventories. This tool will also seek to establish a quality assurance (QA) process of sectorial emissions with corporations? participation. Supporting the report of entity-level GHG emissions will not only help improve the data for National GHG inventory but may also enable large emitting sources (LES) to annual report GHG emissions, thus providing a building block for carbon pricing policy options such as carbon taxes or defining emissions caps.

The output also includes provisions for adapting and systematizing tools to be developed by UNFCCC (expected to be published in 2024), as well as the standardization of any improvements introduced through the NC5 project.

The following table depicts the deliverables expected for this output:

Output 2.1 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

2.1.1	SIRENE module improvement plan	The main aim of the improvement plan will be to facilitate: - preparation of transparency reports on a biennial basis; - data collection and the application of higher-tier methodologies; - reporting of results of key category analyses and activity data; - reporting on the methodologies and assumptions used for uncertainty analyses; - use of notation keys in GHG inventory tables. The tools shall include: - systematization and standardization of ad-hoc tools developed during the NC5 project; - templates and tools to facilitate the disaggregation of results that could be interconnected with other initiatives, as NDC tracking, SINAPSE, SIN-ABC and others); - integration and standardization, as much as possible, of tools that will be developed by UNFCCC in 2024[19]; - corporate GHG inventories sub-module for SIRENE, including guidelines and considerations for the harmonization with upcoming platforms for mandatory reporting; - Others, as agreed between MCTI and the consulting team; - The improvement plan will also include recommendations for post-project expansion. This deliverable will build upon the results from previous projects, including inter alia key deliverables from output 6 of the PoMuC project (described in the baseline section).	MCTI staff in charge of the operation of DataClima+, NC5 team, CIMV?s working group on 5NC, Rede Clima.
2.1.2	Prototype tools and templates for SIRENE module	Development and deployment of tools as per the improvement plan. A prototype set of tools will be presented to MCTI and the project team for comments and approval	MCTI, entities working with the capacity building module (output 1.5).

2.1.3	Final tools and templates for SIRENE module	Development and deployment of tools as per the development plan. The final version will contemplate the comments and changes required by MCTI after the presentation of the prototypes.	MCTI, entities working with the capacity building module (output 1.5).
2.1.4	SIRENE process manual	Manual in digital format (HTML or similar) containing all relevant standard operating procedures (SOPs) for the SIRENE module, including checklists and step-by-step instructions for any repetitive and recurring tasks. The scope will cover the entire process from the collection of raw data to usage of processed information in ETF reports and the publishing of results in the system?s web portal.	MCTI, entities working with the capacity building module (output 1.5).

Output 2.2. A process manual, databases, tools and templates for using the adaptation module of DataClima+ (AdaptaBrasil MCTI module) are available to MCTI.

The purpose of this output is to enhance the transparency of information on adaptation, including with regards to: enhanced information on climate-related risks and impacts in different sectors; develop information to support identification of nationally-appropriate adaptation solutions; tracking of adaptation actions undertaken and needed.

Deliverables expected for this output are listed below:

Output 2.2 ? list of deliverables and Indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

2.2.1	AdaptaBrasil module expansion plan	The expansion plan will include provisions for: - Information, functionalities, and databases, with a view to improvements of the current database, including additional sectors/themes (human health, infrastructure, biodiversity, disasters, system-wide economic impacts, others to be proposed during the execution phase); - Database of climate change adaptation options and efforts (planned, in implementation and/or further possibilities), including policies, programs, actions and technologies with different approaches and levels of governance; - Registration and analysis of observed impacts related to climate change, in different sectors and themes (IPCC reports, Paris Agreement and other related sources)[20]; - Promotion of the use of the adaptation module into processes of adaptation planning, which includes preparation, monitoring and evaluation of adaptation planning; - Systematization and standardization of tools developed, making it available for adaptation reporting (such as National Communications); - Post-project recommendations and prioritization improvements for the adaptation module. This deliverable will build upon the results from previous projects, including inter alia key deliverables from the ProAdapta project (described in the baseline section).	MCTI, MMA, MS, MAPA, MPA, MTS, MDR, Rede Clima
2.2.2	Prototype databases, tools and templates for AdaptaBrasil module	Development and deployment of tools and databases as per the expansion plan. A prototype set of tools will be presented to MCTI and the project team for comments and approval.	MCTI, MMA, MS, MAPA, Rede Clima
2.2.3	Final databases tools and templates for AdaptaBrasil module	Deployment of tools as per the development plan. The final version will contemplate the comments and changes required by MCTI after the presentation of the prototypes.	MCTI, entities working with the capacity building module (output 1.5).

2.2.4	AdaptaBrasil process manual	Manual in digital format (HTML or similar) containing all relevant standard operating procedures (SOPs) for the AdaptaBrasil module, including checklists and step-by-step instructions for any repetitive and recurring tasks.	MCTI, entities working with the capacity building module (output 1.5).

Output 2.3. A process manual, databases, tools and templates for using the NDC tracking module are available to MCTI.

This output will establish, standardize, and systematize the ecosystem of tools, templates, and databases for the NDC tracking module created in component 1 of this project, populating the newly developed templates using information collected through the NC5 project. The set of tools and databases will be developed at the sectoral and organizational level to allow for active monitoring of any future sectoral mitigation plans resulting from the upcoming NDC strategy.

As mentioned earlier, this will be the first federal government platform on tracking NDC progress. This module will provide a consistent format for national and international tracking of NDC progress, accessible to MCTI and all relevant stakeholders.

Output 2.3 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**
2.3.1	Tools and template development plan for the NDC tracking module	As this module will be newly created, all tools and templates will be developed by the project aligned with the NDC tracking module and the strategy for the implementation of the Brazilian NDC (under development at the time of writing this project document). Moreover, the development plan will include the systematization and standardization of any ad-hoc tools developed during the NC5 project. The development plan will include, as applicable, tools, templates and standards at the project, policy and sectoral level, allowing the establishment of baseline scenarios, identification of gases and sources/sink included in the relevant boundaries, estimation of uncertainty levels, ex-ante estimates and ex-post monitoring arrangements for the tracking of individual (organization / project / policy / sector) contributions towards the NDC targets. The development plan will also include recommendations for post-project expansion.	MCTI. Other entities that should be taken into account include MMA, MAP, MRE, entities in Rede Clima.

2.3.2.	Prototype NDC tracking tools	Development and deployment of tools as per the development plan. A prototype set of tools will be presented to MCTI and the project team for comments and approval.	MCTI, entities working with the capacity building module (output 1.5).
2.3.3	Final NDC tracking tools	Development and deployment of tools as per the development plan. The final version will contemplate the comments and changes required by MCTI after the presentation of the prototypes.	MCTI, entities working with the capacity building module (output 1.5).
2.3.4	NDC tracking module process manual	Manual in digital format (HTML or similar) containing all relevant standard operating procedures (SOPs) for the NDC tracking module, including checklists and step-by-step instructions for any repetitive and recurring tasks.	MCTI, entities working with the capacity building module (output 1.5).

Output 2.4. A process manual, databases, tools and templates for using the means of implementation module of DataClima+ to track support needed and received are available to MCTI.

Similar to the previous, the purpose of output 2.4 is to establish, standardize, and systematize the ecosystem of tools, templates, and databases for the means of implementation module created in component 1 to support the reporting of support needed and received, populating the newly developed set of templates using information collected through the NC5 project.

The templates will standardize the collection of information at different levels (national, sub-national), facilitating the creation of a centralized database for support needed and received. For support needed, the set of tools and templates will allow the establishment of comparable funding proposals on mitigation, adaptation and transparency, which can be then prioritized using exogenous (e.g. an NDC implementation strategy) or endogenous criteria (i.e. user-defined parameters such as theme, scope, location, scale, etc.). As for support received, the templates and tools will allow filtering using different criteria (e.g. regional support, national / sub-national support, timing of approval and timing of disbursements, materialized vs committed support, etc.).

Output 2.4 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**

2.4.1.	Tools and template development plan for the Means of Implementation module	All tools and templates will be aligned, integrated and build upon existing efforts (mainly from the Ministry of Fiinance). The CBIT team will coordinate with the NC5 project to ensure that any ad-hoc tools and templates developed in the context of the latter are properly systematized and all relevant processes and institutional arrangements are duly documented. The development plan will include, as applicable: - tools for the systematic identification, valuation and reporting of barriers and support needed per sector, linking them with support already received and pending gaps; - Standard templates for individual measures (adaptation, mitigation, transparency) that allow for aggregation into a customizable pipeline of projects eligible for climate finance; - Tools for the identification of support received through climate finance including parameters such as regional support, national / sub-national support, timing of approval and timing of disbursements, materialized vs committed support, etc. The development plan will also include recommendations for post-project expansion.	MCTI, MMA, MF, MPO, MDIC, MRE, Rede Clima. Particular focus on coordination with the NC5 project team.
2.4.2.	Prototype tools and templates for the MoI module	Development and deployment of tools as per the improvement plan. A prototype set of tools will be presented to MCTI and the project team for comments and approval.	MCTI, MMA, MF, MPO, MDIC, MRE, Rede Clima. Particular focus on coordination with the NC5 project team.
2.4.3	Final tools and templates for the MoI module	Development and deployment of tools as per the development plan. The final version will contemplate the comments and changes required by MCTI after the presentation of the prototypes.	MCTI, entities working with the capacity building module (output 1.5).
2.4.4	MoI process manual	Manual in digital format (HTML or similar) containing all relevant standard operating procedures (SOPs) for the MoI module, including checklists and step-by-step instructions for any repetitive and recurring tasks.	MCTI, entities working with the capacity building module (output 1.5).

Component 3: National policymaking informed by climate data

Outcome 3: National policymakers incorporate climate data and analysis into national planning and policy-making efforts

Barrier addressed through this component: B3. Limited integration of climate change considerations into national planning and decision-making.

Component 3 focuses on integrating DataClima+ into planning and budgeting processes in Brazil. It also introduces improvements in the SINAPSE module, creating linkages with the rest of the system.

In its NDC, Brazil currently has a net-zero target set for 2050. However, the country is still facing barriers in translating this overarching goal into sector-specific development pathways, as reflected by the fact that the country is yet to produce an NDC implementation strategy and sector-specific decarbonization plans. This is the main challenge addressed by the National Simulator of Sectoral Policies and Emissions (SINAPSE), which is in its early stages of development.

This output will analyse possible connections between national processes and the transparency system, in particular, those of relevance to the setting and the materialization of climate ambition in mitigation and adaptation. The activity will analyse where, when, and how the information generated in the DataClima+ system is relevant to the country?s development planning process and propose measures to ensure its inclusion. These connections intend to maintain consistency between the long-term policies, i.e., the 10-year Federal Development Strategy (*Estrat?gia Federal de Desenvolvimento*), the four-year National Pluriannual Plans (*Planos Plurianuais da Uni?o*), the NDC implementation strategy (covering up to 2050) and the Law of Budgeting Guidelines (*Lei de Diretrizes Or?ament?rias*). The articulation of the NDC, the NDC implementation strategy, and the sectoral decarbonization plans with the budget planning processes will aim to ensure that funds are readily available for climate action; this final aspect will involve the Ministry of Finance and the Ministry of Planning and Budget as key government stakeholders. This way, the project will set the ground for establishing coordination and integrating NDC spending into national budget and development planning. Training activities under component 1 (output 1.5) will provide the required capacities for the use of SINAPSE in the preparation of the NDC strategy, sectoral plans aligned with the latter, and future revisions of the NDC.

The two outputs in this component are presented below.

Output 3.1. A process manual, databases, tools and templates are available to national stakeholders for assessing the effectiveness of sectoral policy scenarios for achieving national climate goals through DataClima+ (SINAPSE module).

The purpose of this output is to enhance the DataClima+ module: National Simulator of Sectoral Policies and Emissions (SINAPSE) with additional coverage and features, to support national and sub-national decision- and policymakers in incorporating climate data into national decision-making and planning processes.

This output will include the following deliverables:

Output 3.1 ? list of deliverables and indicative content

Code	Title	Indicative content	Key stakeholders
3.1.1	SINAPSE expansion plan	Enhanced and additional features for SINAPSE on mitigation actions, as appropriate, including: - modelling synergies and trade-offs between alternative sectoral pathways to achieve the NDC, - analyzing synergies and trade-offs with adaptation aspects (co-benefits, resilience, vulnerability, etc.) - elaboration of multi-year GHG reduction trajectory from a single year reduction target - impact of measures in economic indicators (GDP, income distribution, trade balance, etc.), - Consideration of budget implications for the pathways evaluated (including e.g. cost, fiscal and income distribution effects) - Design and layout improvements to reflect real-life planning processes at the national and sectoral level (short, mid, and long-term). - The expansion plan will also include recommendations for post-project expansion.	MCTI, MMA, MF, MPO, MDIC, Rede Clima, Civil House of the President?s Office.
3.1.2	SINAPSE prototype	Development and deployment of additional features and system updates as per the expansion plan. A prototype set of tools will be presented to MCTI and the project team for comments and approval.	MCTI
3.1.3	SINAPSE	Development and deployment of tools and system updates as per the SINAPSE expansion plan.	MCTI, MMA, MF, MPO, MDIC, Rede Clima, Civil House of the President?s Office.
3.1.4	SINAPSE module process manual	Manual in digital format (HTML or similar) containing all relevant standard operating procedures (SOPs) for the SINAPSE module, including checklists and step-by-step instructions for any repetitive and recurring tasks.	MCTI, entities working with the capacity building module (output 1.5).

Output 3.2. Institutional arrangements between governmental entities for integrating DataClima+ into national planning (including the long-term strategy) and budgeting instances are established.

Through this output, the project will create institutional arrangements to ensure that Brazilian climate data is made available through the national transparency system to support national and sub-national planning and budgeting instances. The national documents and planning processes to be informed include subsequent NDCs, the NDC Implementation Strategy (i.e. the long-term low emission and climate resilient development strategy,

LTS), the 10-year Federal Development Strategy (*Estrat?gia Federal de Desenvolvimento*), and the four-year National Pluriannual Plans (*Planos Plurianuais da Uni?o*).

This output will create the institutional arrangements required to adopt DataClima+ as an official instrument for consideration during planning and budgeting instances, as well as for the preparation of a Long-Term Development Strategy and/or the Strategy for the implementation of Brazilian NDC.

Output 3.2 ? list of deliverables and indicative content			
Code	**Title**	**Indicative content**	**Key stakeholders**
3.2.1	Proposal: integration of Data Clima+ into sectoral and national planning and budgeting	Including: - Thorough description of the planning and budgeting processes at the federal and state level, identifying entry points for the tools and projections made available in the DataClima+ system and its SINAPSE module; - best practices in the LAC region and in other selected countries for the integration of climate impacts and risk projections in decision making processes; - Proposed integration and roadmap for the adoption of DataClima+ as an official planning tool in Brazil; - Identify and determine how to link DataClima+ with the main policy instruments, the Federal Development Strategy (*Estrat?gia Federal de Desenvolvimento*) and the Multiannual Plans (*Planos Plurianuais*). i.e. on periodicity, process, etc.	MCTI, MMA, MF, MPO, MDIC, Rede Clima, Civil House of the President?s Office.

3.2.2	Draft resolution institutionalizing Data Clima+ as an official planning instrument of the Federative Republic of Brazil	Adoption will be achieved through a ministerial resolution recognizing DataClima+ as an official planning instrument of Brazil, establishing its linkages to the main policy instruments, the Federal Development Strategy (*Estrat?gia Federal de Desenvolvimento*) and the Multiannual Plans (*Planos Plurianuais*). This deliverable consists of the draft text for adoption. Annex A (i.e. the project?s results framework) establishes a goal in terms of the actual approval of this draft. The project team will provide all required support in the adoption process as per the strategy, including all relevant discussions and modifications to the legal documents. This deliverable may be merged with 1.3.1 (depending on the assessment of the project team)	MCTI, MMA, MF, MPO, MDIC, Rede Clima, Civil House of the President?s Office.

Component 4. Monitoring and Evaluation

Outcome 4: Project is effectively monitored and evaluated.

Output 4.1. Monitoring and evaluation products are delivered.

Purpose of the output: ensure that the project is effectively monitored and evaluated during its execution.

See section 9.

4) Alignment with GEF Focal Area and/or Impact Program strategies

This CBIT project is addressing GEF Focal Area Climate Mitigation 3-8 ?Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through capacity building initiative for transparency?.

The GEF-7 Climate Change Focal Area Strategy aims to support developing countries to make transformational shifts towards low emission and climate-resilient development pathways. The CBIT, as per paragraph 85 of the COP decision adopting the Paris Agreement, complies with this Focal Area Strategy by:

- ? Strengthening national institutions for transparency-related activities in line with national priorities;
- ? Providing relevant tools, training and assistance for meeting the provisions stipulated in Article 13 of the Agreement; and
- ? Assisting in the improvement of transparency over time.

This CBIT project aims to strengthen institutions to coordinate, manage and implement climate transparency activities in line with national priorities. It will:

- ? Provide a detailed design of Brazil?s climate transparency system, DataClima+, including for the integration of the different databases as interconnected modules, and operationalize the DataClima+ platform (output 1.2);
- ? Establish institutional arrangements which institutionally embed DataClima+ within existing federal government structures (output 1.3);
- ? Develop institutional arrangements between federative entities and data suppliers to ensure the effective and efficient provision of data to populate and maintain DataClima+ up-to-date (output 1.4);
- ? Build institutional and human capacity to use DataClima+ for preparing transparency reports and developing public policy (output 1.5);
- ? Ensure that key stakeholders are aware of DataClima+ and understand its value, and engage them in the design of the platform and its different modules (output 1.6);
- ? Create institutional arrangements which ensure that Brazilian climate data made available through the national transparency system supports national and sub-national planning and budgeting instances, as well as the development of a long-term climate strategy (output 3.2);

The project also aims to build databases, tools, templates and capacity for using the national GHG inventory report module (SIRENE module; output 2.1), the adaptation module (AdaptaBrasil MCTI module; output 2.2), the NDC tracking module (output 2.3) the means of implementation module to track support needed and received (output 2.4); and for assessing the effectiveness of sectoral policy scenarios for achieving national climate goals (SINAPSE module), building upon the other DataClima+ modules (output 3.1), to support national and sub-national decision- and policy-makers in incorporating climate data into national decision-making and planning processes.

Moreover, the improvement of transparency over time will be enabled by several strategies:

- ? Ensuring financial sustainability after the project lifespan by establishing all required governance arrangements for post-project operation (output 1.3) and by mainstreaming transparency activities into national and subnational strategies as well as in budgeting processes: through the establishment of institutional arrangements for integrating DataClima+ into national and sub-national planning and budgeting instances (output 3.2).
- ? Establishing institutional arrangements which embed DataClima+ within federal government structures, ensuring an effective coordination in the provision of data, data quality assurance and control, and operation of DataClima+; as well as an effective and efficient provision of data to populate and maintain up-to-date DataClima+ (Output 1.4). will enable the continuous enhancement of transparency. This will also be possible due to the design and implementation of a short- and long-term national capacity building programme on DataClima+ which will target the preparation of transparency reports and public policy-making (Output 1.5).
- ? Developing the database and related tools, templates and capacity for the MRV of NDC implementation progress will enhance synergies among government actions and allow for its updating in the future (output 2.3);

- ? Elaborating and implementing a stakeholder communication and engagement strategy will help raise awareness and engagement of stakeholders on climate change matters and also disseminate the Paris Agreement (output 1.6);
- ? Ensuring national policy- and decision-makers more effectively incorporate climate data and projections into their regulatory and planning processes, which will allow for better informed policy-making while mainstreaming climate change transparency in the country?s overall planning and policy landscape ? national policies and strategies will be designed and updated in a transparent manner, based on the quality information to be provided by DataClima+ and constantly updated further on (Outputs 3.1 and 3.2).

The CBIT project has been designed to achieve expected benefits through three GEF Strategy 2020 influence models: (i) Transforming policy and regulatory environments; (ii) strengthening of institutional capacity and decision-making processes; and (iii) convening multi-stakeholder alliances.[21]

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

The CBIT programme is designed to improve mandatory reporting of Parties to the UNFCCC. As such, this project is financed on full agreed cost basis. In the case of this programme, eligible activities are described in the GEF document ?Programming directions for the Capacity Building Initiative for Transparency? (GEF/C.50/06). The activities of this project are consistent with the scope of the programming directions. Co-financing is not a necessary requirement for this project. However, there is a foundation of activities that are provided as co-financing which have been considered when estimating in-kind co-finance of USD 500,000 as indicated in table C.

Brazil has already achieved substantive progress concerning climate transparency and reporting to the UNFCCC. It continues to undertake improvements in its different information systems, methodologies and databases. However, the ETF under the Paris Agreement poses greater challenges through more demanding requirements, thus calling for more resources and efforts that enable the country to comply with the new modalities, procedures and guidelines. The CBIT project aims to bridge this increased gap through its additional GEF financing.

Although different institutional arrangements are in place, they are insufficient for adequately collecting, monitoring and reporting on climate data and using it for policymaking. Funds are lacking to finance the development of tools, institutional arrangements and capacity-building that would allow the country to have an integrated climate data platform, which would allow the Brazilian government to measure, track and report climate data through a robust, consistent and efficient transparency system (proposed under Component 1). Through a roadmap for continuous capacity building actions for DataClima+ and its modules, implemented via a strategic partnership with a Brazilian academic institution that is part of the Brazilian Research Network on Global Climate Change, the need of building institutional and human capacity is addressed in a sustainable manner, going beyond the project lifespan (output 1.5).

Moreover, the different databases and systems currently available for climate data management require improvements to produce more accurate and complete climate data. While the National Emissions Registry System (SIRENE) provides security and transparency to the process of GHG

inventories preparation, it is still unable to process raw data automatically, relying on manual handling of files and calculations in semi-automated spreadsheets. Moreover, the system does not yet distinguish or display private sector (corporate) GHG inventories. In addition, SIRENE is not connected to other sub-systems of the MRV system (on adaptation, support, NDC tracking, long-term scenarios). Funding and capacity are lacking to ensure connectivity and further engagement of relevant stakeholders so that climate data can inform evidence-based decision-making. Component 2 under this CBIT project is expected to deliver enhanced climate transparency modules, available through DataClima+.

The platform focused on adaptation, AdaptaBrasil MCTI, is a recent major advance in providing information on the impacts of climate change, but there?s room for improvement. To serve as an effective design-making tool, it needs to provide enhanced resolution and more specific information on climate related risks, to broaden the climate related risks analyses, to cover additional sectors, track national adaptation efforts and provide a database of adaptation options. Furthermore, it needs to enable the evaluation of different adaptation options, considering criteria such as effectiveness, feasibility and limits, as well as analyses of synergies and trade-offs between adaptation and mitigation strategies. Funds are lacking to enable the development of such improvements and to ensure connectivity to other modules of the MRV system with a view to promote coherent national reporting and policymaking.

The modules focused on tracking progress in NDC implementation and support needed and received are still to be developed. Brazil currently doesn?t count with a NDC tracking system that allows the country to measure progress of mitigation actions announced in the NDC and their impact in terms of GHG emission reductions.

Regarding support needed and received, even though the Ministry of Finance tracks funds received for certain projects and investments, this ministry?s accounting system is not connected to the other climate data modules already mentioned. Funds and capacity are lacking to provide for the desired connectivity, coordination between ministries and the use of consistent metrics to ensure transparent reporting and help policymakers identify the scale and strategic allocation of funds to achieve maximum impact in mitigation and adaptation actions.

Finally, the objective of having national policymaking being informed by climate data is currently being supported by the development, at an early stage, of the National Simulator of Sectoral Policies and Emissions (SINAPSE), a new tool for projecting scenarios. This CBIT project intends to introduce further improvements and ensure the dissemination of SINAPSE and that it informs the future elaboration of a long-term low greenhouse gas emission development strategy. Furthermore, SINAPSE doesn?t consider adaptation and resilience co-benefits of different trajectories explored, nor synergies between multiple policy combinations, nor the social implications or economic costs. Finally, SINAPSE doesn?t connect to the other modules of the national MRV system. Component 3 is expected to generate the outcome of having national policymakers incorporating climate data and analysis into national planning and policy-making efforts. More broadly, the lack of connectivity between the four modules means that policymakers are unable to draw one central database for climate data. Instead, they need to go to three different databases (SIRENE, AdaptaBrasil MCTI, SINAPSE), which have different data structures, layouts and underlying IT programming languages.

At the end of the CBIT project, the country will rely on an integrated climate data platform to fulfil the reporting requirements of the ETF under the Paris Agreement and for supporting policymaking, with a view to inform long-term low-emission and climate-resilient development planning.

Hence, the CBIT project will address the identified needs and gaps, advancing the development of a functional robust, consistent and efficient transparency system.

Supporting Brazil to enhance its capacity to comply with the modalities, procedures and guidelines of the enhanced transparency framework through the aforementioned activities will require a level of GEF project funding commensurate with the project?s context and ambition. A country with a population of more than 210 million, with a territory of more than 8 million km?, it also has five distinct climatic zones and significant socio-economic challenges. Few countries in the world have such complex GHG emission profiles or diversities of climate vulnerability. Climate data collection is thus of a large scale and extremely diverse. Another significant challenge is in collecting climate data across such a large territory, containing 26 federative states, one federal district and more than 5000 municipalities. For instance, federal states can directly receive international funding, meaning that the MRV of support received and tracking of NDC actions need to delve into the efforts of a plethora of national and sub-national actors.

Notwithstanding this context, the project is highly ambitious in aiming to support Brazil in developing its first integrated national transparency system, through the online platform DataClima+. This is a major step forward for the country. Significant GEF funding will be required to develop an integrated online platform, within the aforementioned complex and enormous data environment, which harmonizes and connects data across four existing separate platforms (on mitigation, adaptation, support received and climate projections) and a new one created through the project (on NDC tracking). While the GEF 10801 project will develop offline databases for a given timeframe as starting points for certain modules, significant investment will be required to transform these into online modules which have the same IT architecture and data structure as part of an integrated system that can be periodically updated for the preparation of subsequent reports. The allocation of funding across the project outputs is based on an estimation of the human resource and IT infrastructure costs for the work described in detail in chapter 3, based on costs undertaken through other projects in Brazil by MCTI, as well as UNEP?s experience as implementing agency for 12 other CBIT projects in Latin America and the Caribbean.

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

This project will indirectly lead to increased mitigation and adaptation efforts through improved tracking of Brazil?s climate efforts. This project will increase the quality and availability of climate data for Brazil through the transparency system that is to be improved. Moreover, given the linkage between the NDC and the SDGs, and the integration of this linkage into the progress tracking systems, Brazil will have better information of how its climate work is contributing to sustainable development. These effects will translate to a higher ambition when presenting future NDCs and in the long-term low emission strategy.

This project will monitor the main indicators from the CBIT tracking tool, especially Indicator 3-*Quality of MRV Systems*, and Indicator 5-*Qualitative assessment of institutional capacity built for transparency-related activities* proposed under Article 13 of the Paris Agreement, corresponding to indicators B and C in Annex A (project?s results framework). This project is expected to increase the *quality of MRV system* indicator **from a score of 3 in the baseline** (corresponding to a baseline condition where measurement systems are in place for a few activities, improved data quality and methodologies, but not cost or time efficient; wider access to reporting is still limited and information is partial;

verification is rudimentary/non-standardized) **to a post-project score of 7**, corresponding to a system where measurement regarding GHG is broadly done (with widely acceptable methodologies) reporting is periodic with improvements in transparency, and verification is done through more sophisticated methods. As for the *qualitative assessment of institutional capacity built for transparency-related activities* indicator, **Brazil starts from a system with a score of 2** (designated transparency institution exists, but with limited staff and capacity to support and coordinate implementation of transparency activities under Article 13 of Paris Agreement. Institution lacks authority or mandate to coordinate transparency activities under Article 13.), **expecting the project to take the same score to 4** (Designated transparency institution(s) has an organizational unit with standing staff with some capacity to coordinate and implement transparency activities. Institution(s) has clear mandate or authority to coordinate activities under Article 13 of the Paris Agreement, and activities are integrated into national planning and budgeting activities.).

7) Innovativeness, sustainability and potential for scaling up

Innovation

Transitioning to the ETF will require that developing countries improve their MRV systems to comply with the enhanced scope and depth of reporting, which calls for innovation and sustainable institutional arrangements. This CBIT project builds on the innovative approaches and lessons learned during the development of databases, platforms, and systems already in place in Brazil, to create an integrated and robust transparency system that encompasses mitigation, adaptation, means of implementation and long-term low-emission and climate-resilient development planning.

The following innovative aspects of this CBIT project are noteworthy:

- ? Through DataClima+, Brazil will formalize and streamline the governance of climate data required to comply with ETF requirements and to inform decision making. Thus, the project will develop and implement policies, rules, processes, organizational structures and technologies following the best practices of governance and business process management, with standardized, well-documented procedures that serve as the basis of the organizational knowledge management approach, increasing the system?s efficiency and, more importantly, MCTI?s productivity in preparing subsequent transparency reports. Once the governance and management of climate data has been established in DataClima+, the possibilities of future developments and improvements will be numerous, such as computational analysis activities with the use of scientific methods, processes, and algorithms to extract knowledge in an automated way (for example, using artificial intelligence and/or machine learning).
- ? The DataClima+ system will be operationalized through an integrated web platform that will be a one stop shop for climate transparency data (Component 1); it will be tailored to the domestic needs and priorities whilst ensuring a best practice approach to national MRV with effective stakeholder engagement. Transparency in data sources, definitions, methodologies, and assumptions will build trust among countries and stakeholders.
- ? Modules for tracking progress in NDC implementation and support needed and received will be developed to conform with the ETF, since Brazil currently doesn?t count with tools for such ends.

- ? The integration of the different databases and systems will demand ambitious cooperation efforts and innovative institutional arrangements and mechanisms among government ministries and agencies, research institutions, the academia, as well as CSOs and the private sector.
- ? The gender-responsive approach towards the DataClima+ system design (output 1.2) will allow the system to capture gender biases in planning and policy documents such as the NDCs and Adaptation Plans.
- ? Another innovative aspect is related to capacity-building activities, where a national capacity building programme (output 1.5) will be designed and implemented in partnership with a Brazilian academic institution which will develop and implement a roadmap for continuous capacity building actions for DataClima+ and its modules, by designing and implementing courses, training modules, and providing learning materials.

Furthermore, the project will incorporate relevant, innovative solutions drawing upon lessons learned from other CBIT projects through the CBIT Global Coordination Platform.

Sustainability

As described previously, the current approach for preparing reports to comply with the UNFCCC requirements is highly dependent on international capacity and ad-hoc financial support. This project will address this by building the human and institutional capacities to manage and update DataClima+, thus improving the national transparency framework over time, including through a continuous national capacity building programme that will ensure that the capacity is retained into the institutions. The developed capacity building material will also be available. Through the link to the CBIT global project, the project team will be kept up to date with development and requirements of the transparency systems.

Moreover, sustainability shall be enabled by the following strategies:

- ? On ensuring the sustainability of the data system, DataClima+ will be hosted and managed by the Ministry of Science, Technology, and Innovation. The Ministry will use existing national funding streams to ensure the platform?s annual operation beyond the project lifetime, based on a detailed cost estimate and operational plan developed through Output 1.2;
- ? The Ministry of Science, Technology and Innovation will also issue an ordinance institutionalizing DataClima+ as an official data system of the Federative Republic of Brazil (Output 1.3);
- ? On the on-going provision of data, the project will establish institutional arrangements for effective and efficient provision of data to populate and maintain up-to-date DataClima+ (Output 1.4). This will also be possible due to the design and implementation of a national capacity building programme on DataClima+ which will target the preparation of transparency reports and public policy-making (Output 1.5). In particular, the fact that this project will be led by MCTI, that has a team focused on climate data and the preparation of national communication and biennial reports, will ensure that DataClima+ is sustainable.
- ? The project will also ensure sustainability of impact post project by mainstreaming transparency activities into national and subnational strategies as well as in budgeting processes: through the establishment of institutional arrangements for integrating DataClima+ into

national and sub-national planning and budgeting instances and institutional arrangements for integrating DataClima+ into efforts to prepare a long-term low emission and climate resilient development strategy (Output 3.2).

? Component 3 will support national policy- and decision-makers to more effectively incorporate climate data and projections into their regulatory and planning processes, which will allow for better informed policy-making while mainstreaming climate change transparency in the country?s overall planning and policy landscape ? national policies and strategies will be designed and updated in a transparent manner, based on the quality information to be provided by DataClima+ and constantly updated further on (Outputs 3.1 and 3.2).

Scaling up

The activities of this CBIT project can be potentially scaled up, thus contributing to actions undertaken at different scales and in various sectors. DataClima+ will have a modular structure that may allow the inclusion of new elements to accommodate for national planning and reporting needs. Through this CBIT project, Brazil will actively exchange lessons learned with peers, mainly by means of activities undertaken through the CBIT Global Coordination Platform. Through the global platform, the experiences, lessons learnt and best practices garnered during this project can be shared with other developing countries undertaking CBIT projects around the world, thereby offering the opportunity for scaling up and replicating activities in countries that undergo similar processes of enhancing their transparency systems. Moreover, the approach followed by this project can be replicated for similar systems used for the reporting of other conventions (e.g. Convention on Biological Diversity).

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[1] The proposed approach is based on the 2nd edition of the DAMA-DMBOK, *Data Management Body of Knowledge* (2017).

[2] See e.g. Brazil?s Fourth National Communication section 5.3: technological, financial and training needs relating to achieving the Convention?s objectives in Brazil.

[3] An **information system** is a *formal, sociotechnical, organizational system designed to collect, process, store, and distribute information*; it consists of four components: tasks, people, structure (or roles), and technology, all of which are integrated for the collection, storage and processing of raw data into information and digital products that facilitate decision making. This definition follows Piccoli, G. and Pigni, F.. *Information systems for managers* (July 2018). Prospect Press. p. 28.

[4] Gender aspects of the project are further discussed under the ?Gender Equality and Women?s Empowerment? section, below.

[5] *Data integration* refers to the process of combining data obtained from heterogeneous sources and then transforming it into a single coherent data store that provides users with a unified view. Adapted from Maurizio Lenzerini (2002). "*Data Integration: A Theoretical Perspective*". PODS 2002. pp. 233?246.

[6] *Interoperability* refers to the basic ability of different systems to readily connect and exchange information with one another.

[7] **DataClima+ information system - Concepts and Definitions**

Data Quality: Data quality rules, standard measurement methodologies, data remediation standards and procedures.
Data Modeling and Design: Data model management procedures, data modeling naming conventions, definition standards, standard domains, and standard abbreviations.
Data Integration: Standard methods and tools used for data integration and interoperability.
Metadata: Standard business and technical Metadata to be captured, Metadata integration procedures and usage.

Data Security: Data access security standards, monitoring and audit procedures, storage security standards, and training requirements.
Data Architecture: Enterprise data models, tool standards, and system naming conventions.
Reference and Master Data: Reference Data Management control procedures, systems of data record, assertions establishing and mandating use, standards for entity resolution.

[8] A fourth component is included to cover the project?s M&E.
[9] Described in the baseline section.
[10] An additional output was included for the M&E aspects of the project.
[11] For instance, in the case of the agriculture sector, the NDC tracking module should connect to the planned Integrated Information System for the Sectoral Plan for Consolidation of a Low-Carbon Economy in Agriculture (SIN-ABC).
[12] https://ps.mctic.gov.br/
[13] DAMA International. *DMBOK, Data Management Body of Knowledge* (2nd edition). New Jersey: Technics Publications, 2017.
[14] Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement 18/CMA.1.
[15] Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement 18/CMA.1.
[16] See e.g. United Nations Framework Convention on Climate Change Secretariat. *Handbook on institutional arrangements to support MRV/transparency of climate action and support* (2020). Available here.
[17] A list of sector representatives is provided as part of the Annex ?Preliminary list of data suppliers?.
[18] Mendelow, A. (1991). *Stakeholder mapping*. Proceedings of the 2nd International Conference on Information Systems, Cambridge, MA.
[19] A test version of the reporting tool for GHG inventories will be developed by June 2023, with a final version scheduled to be developed by June 2024, subject to the timely availability of sufficient financial resources. The UNFCCC Secretariat will notify Parties when the test version is available. The secretariat encourages Parties to be actively involved in the test phase, both to facilitate capacity building and to generate feedback to help the secretariat prepare the final version. Source: UNFCCC, *FAQ on the operationalization of the Enhanced Transparency Framework* (2021). Available here.
[20] The different elements in the adaptation module (assessment of risks, reporting of on-going actions, etc.) may use different risk and vulnerability definitions; however, the definition used in each case should be made explicit and a methodology for comparing elements that follow different IPCC criteria will be made available.
[21] GEF 2020 ? Strategy for the GEF. Available at : http://www.thegef.org/sites/default/files/publications/GEF-2020Strategies-March2015_CRA_WEB_2.pdf

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[1] MRE, 2016.
[2] Available at: https://unfccc.int/sites/default/files/NDC/2022-06/Updated%20-%20First%20NDC%20-%20%20FINAL%20-%20PDF.pdf
[3]Available at: https://www.gov.br/mma/pt-br/assuntos/climaozoniodesertificacao/clima/diretrizes-para-uma-estrategia-nacional-para-neutralidade-climatica .pdf
[4] MMA, 2016.
[5] NC4 (2021), p. 71.
[6] Original Portuguese version available here.
[7] Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.
[8] See Annex D for further information.
[9] Executive Decree N? 10,845 (2021), art. 14. Other competencies of the MCTI are established in Executive Decree N? 11,334 (2023).

[10] NC4 (2021), p. 74.
[11] https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/sobre-o-sirene.
[12] Ibid., p. 86
[13] https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/cgcl/clima/paginas/adaptabrasil-mcti
[14] Idem.
[15] NC4 (2021), p. 371.
[16] https://www.gov.br/mma/pt-br/assuntos/servicosambientais/florestamais/copy_of_SumarioExecutivo_PilotoFloresta.pdf
https://www.greenclimate.fund/news/gcf-s-first-redd-results-based-payment-boosts-financial-incentive-to-protect-forests
[17] https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/plano-abc/arquivo-publicacoes-plano-abc/final-isbn-plano-setorial-para-adaptacao-a-mudanca-do-clima-e-baixa-emissao-de-carbono-na-agropecuaria-compactado.pdf

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[1] https://g1.globo.com/jornal-nacional/noticia/2020/11/12/ibge-brasil-tem-quase-52-milhoes-de-pessoas-na-pobreza-e-13-milhoes-na-extrema-pobreza.ghtml.

[2] These barriers are further discussed in the baseline section.

[3] The best example is the use of activity data sourced from monitoring reports from projects registered under the Clean Development Mechanism (CDM), which are currently used for the estimation of GHG emissions in the Industrial Processes and Product Use (IPPU) sector, for sub-sectors 2.B.2 (production of Nitric Acid) and Adipic Acid (2.B.3), as well as from the waste sector (5.A). The monitoring reports used as inputs to inform these sections of the national inventory depend on a number of elements outside the control of the data compiler. Moreover, these data sources do not follow a systematic periodicity, nor report the information in a consistent manner, and may simply be discontinued at any given moment. A detailed account of the data sources used for activity data and emission factors can be found in chapter 2 of Brazil?s 4NC report.

[4] Fourth National Communication of Brazil to the United Nations Framework Convention on Climate Change / Secretariat for Research and Scientific Training. Brasilia: Ministry of Science, Technology and Innovations, 202. *Hereinafter* NC4 (2021), p. 404-405

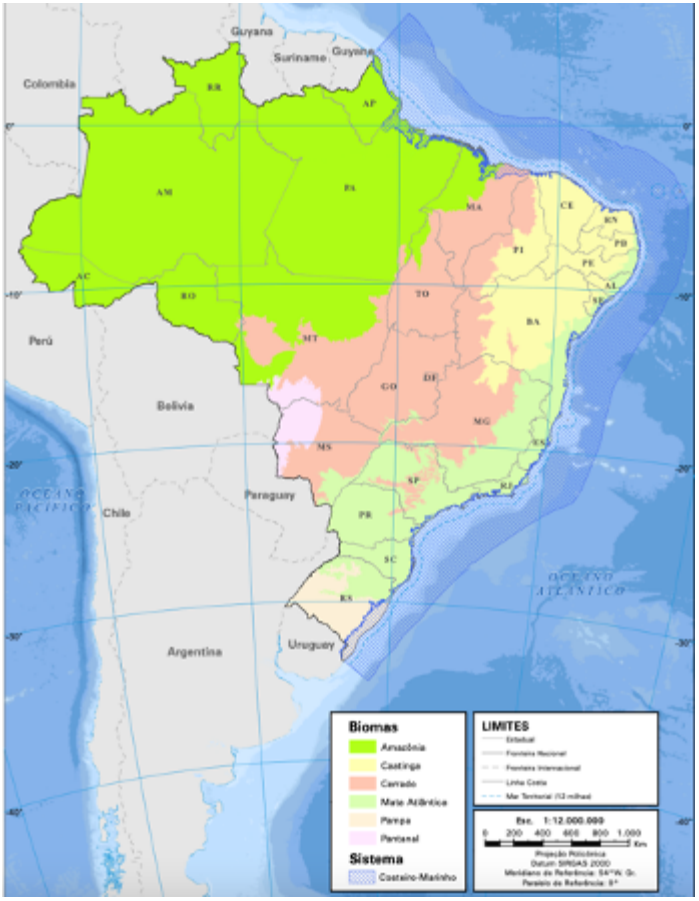
[5] An additional platform (AdaptaClima) was developed in 2017 to compile articles and other relevant information on climate change and climate change adaptation. This platform was not updated beyond 2018.

[6] UNFCCC, *Technical analysis of the fourth biennial update report of Brazil submitted on 31 December 2020* (June 2022), p. 12.

[7] NC4 (2021), p. 404-405.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



Geocoordinates of Brasilia: 15.7975? S, 47.8919? W.

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder consultations during project preparation

A core group was established to discuss project design, consisting of representatives from the Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs of the Ministry of Science, Technology and Innovation (MCTI). Regular meetings were undertaken together with consultants from UNEP. A country mission took place between 26 ? 29 September, during which the team of consultants undertook multiple stakeholder meetings and worked together with MCTI officials to discuss project design.

The core group prepared a map of the main stakeholders for consultation during the PPG phase. In order to present and discuss the project?s scope, approach, activities and expected outcomes, it was defined that working meetings would be held with these stakeholders, who could provide first-hand experiences on the challenges for data generation and integration, in addition to a preliminary survey of existing systems and initiatives, as well as inputs on the key sections of the CBIT proposal: problem tree, baseline and project description.

As a strategy for the meetings with the actors, groups were defined, and hybrid meetings were held at MCTI's premises in Bras?lia. The possibility of participating remotely made the agenda more flexible, ensuring participation and gender balance. Invitations were sent by e-mail and telephone contacts were made to obtain confirmation from the representatives. A summary of the meetings held is available in Annex P.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Engagement foreseen during project execution

A description of the relevant key stakeholders and their role in the CBIT project are provided in the table below. This list as well as the corresponding means and timing of engagement will be further developed as part of output 1.6.

Table 7. Stakeholders

Name of key stakeholder	Scope of work and existing activities with potential to be leveraged	Means and timing of engagement; expected contributions to the project (identified by Component)
Ministries and Government agencies		
Ministry of Science, Technology and Innovation (MCTI)	Responsible for developing and managing SIRENE, AdaptaClima MCTI and SINAPSE MCTI; it prepares NCs and BURs to the UNFCCC.	Leading project ministry supervising the work of the Executing Agency. Nominates the National Project Director and will be responsible for managing the DataClima+ system beyond the duration of the CBIT project.
Ministry of Environment and Climate Change (MMA)	Promotes the adoption of principles and strategies for the knowledge, protection and recovery of the environment, the sustainable use of the natural assets, and the valuation of environmental services and the insertion of the sustainable development in the formulation and implementation of public policies, in a transversal, participative and democratic form at all levels and instances of government and society. Serves as executive secretary to the Interministerial Committee on Climate Change and Green Growth (CIMV). Responsible for the future implementation of SINARE (i.e. Brazil?s carbon registry for an upcoming local carbon market).	Involved in all components as part of the CBIT project governance arrangements as member of the Project Advisory Body. More details provided in the ?Institutional arrangements and coordination? section.
Ministry of Mines and Energy (MME)	Its competence includes geology, mineral and energy possessions; utilization of hydraulic energy, mining and metallurgy; oil, fuels, electric energy, including nuclear. Leads on the preparation of energy balances and energy expansion plans.	Involved in all components as part of the CBIT project governance arrangements as member of the Project Advisory Body. More details provided in the ?Institutional arrangements and coordination? section.
Ministry of Finance, Ministry of Planning and Budgeting, Ministry of Management and Innovation in Public Services, Ministry of Development, Industry, Commerce and Services (ministries formerly integrating the Ministry of Economy, ME)	Main ministries responsible for the formulation and implementation of Brazilian economic policy, dealing with a variety of fiscal and monetary policy issues. Participatory planning and improvement of public management fall under these ministries. The former Ministry of Economy was the main entity providing source information for the support received and needed part of NCs/BURs.	Involved in all components as part of the CBIT project governance arrangements as member of the Project Advisory Body. The project will coordinate work with the ME mainly regarding the support needed & received module of the DataClima+ system. More details provided in the ?Institutional arrangements and coordination? section.

Ministry of Agriculture and Livestock (MAPA)	It is responsible for public policies that promote agriculture and livestock activities, foster agribusiness and regulate related services. Responsible for the Sectoral Climate Change Mitigation and Adaptation Plan for the Consolidation of a Low Carbon Emission Economy in Agriculture (Plano ABC), one of the main climate change actions under execution in Brazil. Also responsible for numerous actions that are directly relevant for mitigation and adaptation actions, e.g. Agro-Climate Risk Zoning, PROAGRO, PROAGRO Mais, Rural Insurnce Premium Subsidy Program (PSR), National Program to Strengthen Family Farming (Pronaf), Harvest Guarantee Program, Family Farming Insurance (SEAF), among many others.	Involved in all components as part of the CBIT project governance arrangements as member of the Project Advisory Body. More details provided in the ?Institutional arrangements and coordination? section. The MAPA is relevant due to its work in the LULUCF sector, especially as governing entity of various sectoral actions and its corresponding M&E system.
Ministry of Foreign Affairs (MRE)	Its mission is to assist the President in foreign policy formulation, to ensure its implementation, to conduct diplomatic relations with other national state governments, international organizations and bodies, and to promote the Brazilian state and society?s interests abroad. UNFCCC focal point; monitoring the unfolding of Article 6 in the Paris Agreement.	Involved in all components as part of the CBIT project governance arrangements as member of the Project Advisory Body. The project will coordinate work with the MRE mainly regarding the support needed & received module of the DataClima+ system. More details provided in the ?Institutional arrangements and coordination? section.

Ministry of Integration and Regional Development (MDR)	The Ministry of Integration and Regional Development (MDR) integrates the various public policies of urban infrastructure and the promotion of regional and productive development. It brings together initiatives that were under the responsibility of the former City Ministries and National Integration (MI), with adaptations to optimize program, resource and funding management. The MDR is responsible for disaster management in urban areas, with urban planning and fighting disasters. In this context, stands out the National Policy on Protection and Civil Defense (PNPDEC, for its acronym in Portuguese) (Law No. 12,608/2012), which provides support to municipalities for the elaboration of Risk Reduction Plans and institutional arrangements between federal, state and municipal Civil Defense. The National Plan for Risk Management and Response to Natural Disasters of 2011 also created the National Center for Monitoring and Early Warnings of Natural Disasters (Cemaden, for its acronym in Portuguese), under the management of the Ministry of Science, Technology and Innovation (MCTI, for its acronym in Portuguese), which monitors natural threats in risk areas in municipalities and issues risk alerts for hydro-geo-meteorological disasters to state and municipal civil defenses.	The MDR will be consulted mainly with regards to the availability of information at the regional level. It will also be of relevance for the improvements in the adaptation module. Means of engagement to be defined in the stakeholder engagement plan (output 1.6).

Ministry of Education (MEC)	The Ministry of Education has as its competence the national education policy; child education; education in general, comprising elementary education, high school, higher education, youth and adult education, vocational and technological education, special education and distance education, except military education; educational evaluation, information and research; university research and extension; teaching and financial assistance to needy families for the schooling of their children or dependents.	The MEC will be consulted mainly with regards to the capacity building mechanism to be established through output 1.5. Means of engagement to be defined in the stakeholder engagement plan (output 1.6).
Ministry of the Civil House (Civil House of the President?s Office)	Responsible for the direct advice of the President in coordinating government actions, including other ministries. They are also responsible for evaluating the legislative proposals that the Chief Executive directs to the Legislative Branch, in addition to taking care of the publication of official acts of the government.	The Ministry of the Civil House will be engaged mainly regarding the adoption of the DataClima+ system as Brazil?s national climate transparency platform. Means of engagement to be defined in the stakeholder engagement plan (output 1.6).
Ministry of Women (MM)	The Ministry of Women (MM) is responsible for the Interministerial and intersectoral articulation of policies for the promotion and protection of women and human rights in Brazil.	Involved in all components as part of the CBIT project governance arrangements as member of the Project Advisory Body. The MM will be engaged mainly in relation to the project?s Gender Action Plan (see section ?Gender equality and women?s empowerment?). Means of engagement to be defined in the stakeholder engagement plan (output 1.6).

Ministry of Health (MS)	Its mission is to provide conditions for the promotion, protection, and recovery of the population?s health, reducing illnesses, controlling of endemic and parasitic diseases and improving health surveillance. The National Program for Monitoring the Quality of Water for Human Consumption (Vigi?gua) is structured based on the principles of the Universal Health System (SUS), and consists of a set of actions in public health to ensure access to water in sufficient quantity and quality compatible with the potability standard, established in the current legislation (Federal Decree n? 79,367/1977), in the Ministry of Health assignment, as a component from health promotion actions and prevention of water borne diseases. As a way of strengthening the response capacity of the Universal Health System (SUS) in the face of emergencies in public health as in the case of disasters, the Ministry of Health has the Environmental Health Surveillance of Risk Associated with Disaster (Vigidesastres) within the scope of the General Coordination of Environmental Health Surveillance (CGEMSP) of the Department of Environmental Health, Workers and Surveillance of Public Health Emergencies (CGVAM / DSASTE). The program promotes the development of actions to be continuously adopted by public health authorities to reduce the risk of exposure of the population, infrastructure, and health professionals to the impacts caused by natural disasters. CGEMSP also manages the Center for Strategic Information in Health Surveillance (CIEVS), whose main objective is the identification of public health emergencies continuously and systematically, and the expansion of the technical capacity to respond to events comprising public health emergencies, including	Data provider for DataClima+ modules, including vulnerability and impact studies; Potential system user for the monitoring of sectoral policies. The Ministry of Health will be consulted mainly regarding improvements in the adaptation module (output 2.2), particularly regarding the construction of population vulnerability indicators. Means of engagement to be defined in the stakeholder engagement plan (output 1.6).

	training of human resources to develop research, control and prevention actions.	
Ministry of Ports and Airports (MPA); Ministry of Transport (MTS) (formerly: Ministry of Infrastructure, MI)	Ministries competent on subjects concerning the national policy for rail, road, waterway, airport and air transport.	Key stakeholder and main potential system users regarding the planning instruments to be developed as part of Component 3 of the project.
Institute for Applied Economics Research (IPEA)	Ministry of Planning?s research institute on economics and planning policies.	Data provider for DataClima+ modules, including various indices and studies in the field of economic development. Potential system user (e.g. regarding the impact of sectoral policies, including fiscal and income-distribution effects). Means of engagement to be defined in the stakeholder engagement plan (output 1.6).
Brazilian Institute of Geography and Statistics (IBGE)	The national organization for demography and statistics.	Key data provider. Means of engagement to be defined in the stakeholder engagement plan (output 1.6).
National Institute for Space Research (INPE)	INPE is a National Institute of Science and Technology (INCT) which produces science and technology in the space areas and the terrestrial environment.	Expertise in content development for National Communications, including climate scenarios and regional and global models; monitoring of land use and forests, with data generation for SIRENE, AdaptaBrasil and SINAPSE. Relevant for all three technical components in this CBIT project.
Brazilian Agricultural Research Corporation (EMBRAPA)	It is a public institution under the aegis of the MAPA. It carries out research, development and innovation for the sustainability of agriculture and animal husbandry.	Data provider for DataClima+ modules; Potential system user for the monitoring of sectoral policies in the agricultural and forestry sector. Relevant for all three technical components in this CBIT project.
Energy Research Office (EPE)	It aims at supporting the Brazilian Ministry of Mines and Energy (MME) energy policies with studies and research on energy planning covering electricity, oil, natural gas and its derivatives and biofuels. Their studies cover the areas of engineering, economics, modelling, policy and environment and where they overlap.	Data provider for DataClima+ modules; Potential system user for the monitoring of sectoral policies in the energy sector. Relevant for all three technical components in this CBIT project, with emphasis in component 3 (SINAPSE).
National Indian Affair Foundation (FUNAI)	A Government agency in charge of indigenous affairs, including the legal right to demarcate Indigenous Territories.	Potential system user for the monitoring of sectoral policies, particularly regarding the adaptation module (components 1 and 2).

Interministerial Commitee for Climate Change and Green Growth (CIMV)	It provides guidance on matters related to climate change actions, plans and policies and national and international commitments. It further promotes dialogue with the national congress, subnational governments, civil society, the business sector, and the scientific-academic sector.	Key actor for the adoption of the system (component 1).
Brazilian Network for Education and Research (RNP, *Rede Brasileira para Educa??o e Pesquisa*)	With over 30 years of experience, RNP is currently responsible for the improvement of network infrastructure at national, metropolitan, and local levels, also providing training, courses, and capacity building services. RNP will lead on the design, IT and capacity building elements of the DataClima+ system	Key partner for developing the DataClima+ system and providing capacity building. RNP will lead on the design, IT and capacity building elements of the DataClima+ system, including outputs 1.1, 1.2,1.5, all the improvements in component 2 and output 3.1.
Regional and local entities		
State Secretariats of Environment (all Brazilian states)	They formulate and coordinate the states? environmental policies	The CBIT Project will involve coordination and consultation with regional entities involved in climate transparency activities. This may involve the establishment of institutional arrangements needed for the smooth functioning of DataClima+. They will also be key stakeholders of component 3, with expectation that they draw on DataClima+ to elaborate public policies.
State Secretariats of Science and Technology (all Brazilian states)	They formulate and coordinate the states? policies on science and technology	
Brazilian Association on State level Environment Entities (ABEMA)	A civil society organization aimed at the institutional strengthening of SISNAMA (National Environment System) and SNRH (National Water Resources System).	
Private Sector		
Brazilian Business Council for Sustainable Development (CEBDS)	A business association that comprises companies that abide by sustainability principles.	The private sector will play a key role in identifying the prioritized sectors and stakeholders with which the government shall establish arrangements in order to enhance the different modules of DataClima+, especially SIRENE regarding corporate GHG inventories (output 2.1). The private sector is also a key data user for the SINAPSE module (output 3.1).
Brazilian National Industry Confederation (CNI)	It has the mission of representing the industry sector, fostering an environment that favours business, competitiveness and sustainable development. It is the leading business organization engaged in promoting growth and competitiveness of the Brazilian Industry.	
Agriculture and Livestock Confederation (CNA)	It takes farmers? demands to the Federal Government, National Congress and High Courts.	
Civil Society Organisations		

Brazilian Forum on Climate Change (FBMC)	It facilitates coordination between civil society and government at the national level. It creates awareness and mobilizes society towards discussing and taking a stand on problems caused by climate change.	Civil society organizations will play a key role in ensuring the effective development of DataClima+, ensuring transparency of climate data. They are expected to participate in the capacity-building programmes, as well as in consultation and validation meetings, exchanges and workshops (output 1.5). Many civil society institutions have already been identified and other institutions are expected to be identified and approached during the project execution phase.
National Confederation of Rural Workers (CONTAG)	It is the main labour union confederation of rural workers in Brazil. It is comprised of 27 federations, representing approximately 20 million rural workers.	
General Workers? Union (UGT)	A civil society organization representing workers? trade unions to represent and defend workers? rights.	
National Council on Extractivist Populations (CNS)	A civil society organization defending the land use model of sustainable extractivist reserves and of its population.	
Missionary Indigenous Council (CIMI)	An organization created by the Brazilian Catholic Church in 1972 with the goal of fighting for the right of the indigenous communities to maintain cultural diversity. It seeks to strengthen the autonomy of such communities to build alternative, multi-ethnic, popular and democratic projects to face the overall trend integrate indigenous peoples to the dominating society.	
Socio-environmental Institute (ISA)	A Brazilian NGO dedicated to indigenous affairs.	
Climate and Society Institute (ICS)	An NGO aimed at engaging civil society in the implementation of climate change policies.	
Patr?cia Galv?o Institue	The Institute's mission is to contribute to the expansion and qualification of public debate on critical issues that affect women's full access to their rights in Brazil.	
Criola	Civil society organization for the promotion of the rights of black women and the construction of a society with values of justice, equity and solidarity.	
Academia		

Brazilian Research Network on Climate Change (Rede CLIMA)	A scientific network with the aim of generating and disseminating knowledge in order to address the challenges inherent to causes and effects of global climate change.	Academia is expected to play a key role in this CBIT project, mainly to share data, research, and participate in capacity building activities.
Brazilian Society for the Progress of Science (SBPC)	It is a civil entity whose objective is to further scientific and technological progress as well as the educational and cultural development of Brazil.	
Brazilian Panel on Climate Change (PBMC)	It functions as an IPCC-like panel of Brazilian scientists issuing authoritative science-based assessments of climate change science, impacts, vulnerability, adaptation, and mitigation options.	

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Gender analysis

Brazil is a signatory to several international conventions and agreements in support of women's rights, which provide an international framework for women's rights in the country, notably: the Convention on the Elimination of All Forms of Discrimination against Women - CEDAW (1979), the Inter-American Commission of Women, the Inter-American Convention to Prevent, Punish and Eradicate Violence Against Women - ?Convention of Bel?m do Par? ? (1994), IV World Conference on Women (Beijing, 1995) and Agenda 2030 and the United Nations Sustainable Development Goals (2015). Brazil also participates in subregional and regional forums for the promotion and defence of women's rights.

At the national level, the main structures of the Brazilian government in promoting gender equality and empowering women involve the institutionalization of gender issues in public policies through the creation of the Special Secretariat for Policies for Women in 2003. Among its main policies are the National Policy for Integral Attention to Women's Health, the National Policy Plan for Women, the Gender Equality Program, among others. Systems for reporting violence against women are in place through the Maria da Penha Law (2006), the National Policy and Pact to Combat Violence against Women (2007), and a law on feminicide (2015). On political participation, since 1997, by law, each party or coalition must fill, in the proportional elections, a minimum of 30% and a maximum of 70% for candidacies of each sex.

Regarding gender data, Brazil counts with the National Gender Information System - SNIG (IBGE, 2014), which aims to structure a broad Gender Statistics Program at IBGE and disseminates its results through compiled reports and a country database, to compile statistical data recommended by the United Nations Statistical Commission, named the Minimum Set of Gender Indicators (CMIG).

Gender indices indicate that, in 2017, women constituted 51.7% of the Brazilian population, with a majority in all Brazilian regions (IBGE, 2018; BRASIL, 2020). The schooling of women grew at all levels of education, and in the 2000s they became the majority of enrolled and graduates both in elementary and secondary education and in higher education.

On the Global Gender Gap Report 2021 (World Economic Forum, 2021)[1], Brazil ranked 93rd globally with a marker of 0.695. The marking of 0.993 was indicated in the 2020 UNDP Gender development index (GDI), which puts the country in the first and highest group of being gender equitable, and a Gender Inequality Index (GII) of 0.408, which ranks it 95th.

According to the 2021 World Economic Forum GGGI, Brazil has already closed gaps on the Health and Survival and Educational Attainment subindexes. On health, 98% of the gap has been closed, and parity has been achieved at all levels of education. When it comes to education, despite no gaps in enrolment rates in either primary, secondary or tertiary education, only 10.7% of Brazilian women in university are enrolled in Science, Technology, Engineering, and Mathematics programmes versus 28.6% of men. This calls for policies to incentivizing women?s enrolment in technical studies which can contribute to opening new and better economic opportunities for them.

Nevertheless, only 13.8% of the Political Empowerment gender gap has been closed to date, ranking Brazil 108th on the 2021 index, with a 4-rank drop since 2020. There are very few women parliamentarians (15.2%, 17.9% gap closed so far) and ministers (10.5%, 11.7% gap closed so far), and a woman has been in a head-of-state role for only five years of the last 50 (12% gap closed so far).

Moreover, the economic gender gap remains large, even though it has narrowed in recent years - women?s participation in the labour market amounts to 62% (80% for males), and the country has reached score 89 concerning such sub-index. Gender gaps also persist in terms of Economic Participation and Opportunity, where only 66.5% of the gap has been closed (ranking 89th), a slight improvement over the previous edition. These gaps manifest primarily in terms of wage and income. To date, 54.2% of the wage equality gap and 56.7% of the income gap have been closed. To a lesser extent, gender gaps also continue in Labour force participation, where 61.9% of adult women and 80.1% of men are in the labour force (77.2% gap closed), as well as in terms of women?s presence in senior roles, where women are 39.4% of all managers (65.1% gap closed). The Human Development Report of the United Nations Development Program (UNDP, 2019) records that, in Brazil, women receive up to 25% less than men doing similar jobs.

Black women are at a disadvantage compared to white women and white men in all indicators, according to IPEA. They represent the least socially protected, with 56.0% of social security coverage (against 70% of coverage among white men). Among women, the evolution of the proportion of the number of white and black elderly women occurs unevenly. Between 1995 and 2009, white women aged 60 and over grew by 4% (from 10% to 14%). Black women, on the other hand, had only 0.9% of variation in their longevity. The average income of a family headed by a white man is R $ 997, while in a family headed by a black woman it is only R $ 491. In 2009, black workers earned, on average, R $ 364.80, and white workers, R $ 421.60. Of the households that receive the Bolsa Fam?lia benefit, 70% are from black families. In 2009, 65.5% of employed women, aged 16 or over, had at least 9 years of study, compared to only 48.7% of black women. The enrolment rate of white women in higher education is 23.8%, while, among black women, this rate is only 9.9% (Source: IPEA, 2011). In this sense, there is a gap to be bridged that combines gender, race and formal education.

The economic empowerment of rural women in Brazil faces many challenges, most of them work predominantly for self-consumption and without earning monetary income - in a job that is essential for food security and that generates unaccounted wealth. They are primarily responsible for the preservation of natural assets and guardians of traditional knowledge, but remain in the minority in access to land, technical assistance and rural assistance services, credits and financing and other productive resources.[2]

Impacts of climate change and the gender issue

It is possible to identify potential relations between climate change and its unequal effects on women's lives in Brazil, increasing gender asymmetries and the oppressions suffered by women. In general, climate change causes greater incidence of disasters, heat waves, cold extremes, sea level rise, longer periods of drought, floods, among others, and can promote the displacement of entire populations of animals, plants, and people. These events can lead to an increase in the number of sick and injured people requiring care, as well as an increase in the average amount of time needed for displacement, water collection, sanitation of food and homes, production and preparation of food for family consumption, etc. Women continue to be primarily responsible for care and domestic tasks, paid and unpaid. Thus, with the effects of climate change, an additional workload (physical and mental) is generated on women, impacting especially those in conditions of greater exposure and vulnerability who have fewer tools and incomes to deal with these changes. On the other hand, the overload on women also implies a reduction in the time available for

education, capacity building, self-care, access to paid jobs, and, consequently, a negative impact on the possibility of income generation and social mobility (Oliveira et al, 2021)[3].

Moreover, the climate impact on agriculture can significantly affect women's lives, given their importance in food production on a global scale. According to FAO et al (2017), rural women are responsible for more than half of food production and also play an important role in preserving biodiversity, as well as ensuring food sovereignty and food security from the production of healthy food. According to the Brazilian Panel on Climate Change (PBMC, 2013), a reduction of the cultivable area in Brazil is predicted, with losses estimated at around 11 million hectares by 2030, negatively influencing productivity. This could affect Brazil's food and nutritional sovereignty and security. This threat could further impact family and subsistence agriculture, from lack of supply to significant increases in food prices, with greater impacts on the poorest populations, who are mostly women.

The issue of land and territories is inextricably connected to the subject of women and the environment in Brazil. The 1988 Federal Constitution was an important milestone in the process of recognizing and enforcing rights for women in the countryside and the forest. It is recognized in the Constitution?s article 189, the rural women's right to land. Almost 30 years later, the National Institute of Colonization and Agrarian Reform (INCRA), published Ordinance No. 981/2003, which determines joint title for men and women married or in a stable relationship, and Normative No. 38/2007, which adjusts mechanisms for enrolling candidates in the National Agrarian Reform Program - PNRA[4]. Only then, women passed from 12.6% holders of agrarian reform lots[5] to 48% between 2008 and 2010.

In 2004, the National Policy for Women set policy guidelines for action, emphasizing sustainable development in rural areas and urban areas, with guarantees of environmental justice, sovereignty and food security. In its first version, from 2004, the PNPM included rural workers across its chapters. The II National Policy Plan for Women - II PNPM[6] reaffirmed the space of women from the countryside and the forest in the field of Brazilian public policies.

From the middle of the first decade of the 2000s, by incorporating the struggle for sustainable development, rural women's movements and the Brazilian State itself opened space for the recognition and strengthening of some forms of production and productive organization in the field historically adopted by rural workers: agroecology, family farming and collectivized work in associations and cooperatives.[7] The relationship between gender and agroecology has started to gain strength more recently, with emphasis on the specificity of women's work in sustainable management and conservation of biodiversity.

According to Oliveira et al (2021) gender strategies to increase women's governance in environmental policies should include institutional capacity building, women's participation in politics, creation, and effective funding of public policy programs for inclusion, adaptation and mitigation, in addition to considering environmental education, communication and citizen participation, intergenerational dialogue, digital inclusion, knowledge management and training in the uses of technology. The inclusion of women in decision-making environments can promote opportunities to reduce gender inequalities in productive and economic processes of low GHG emissions, identifying adaptation capacities and promoting women's resilience to climate change in cities and rural areas, considering the intersection of poverty with other vulnerabilities.

The information presented indicates how relevant the gender perspective is in the current Brazilian context. However, one of the main limitations is related to the absence of relevant data that integrate gender with economic, social, and environmental dimensions. Additionally, the debate on climate change from a gender perspective is still insufficient given the prospects that climate change could aggravate the existing gender gaps.

Gender aspects in the project

The GEF and UNEP have made strong commitments to gender-responsive approaches throughout their work, and it is therefore highly important that this CBIT project aligns to these mandates. The project will thus follow CBIT Programming Directions, the GEF Policy on Gender Mainstreaming and UNEP?s own Gender Policy.

Gender considerations will be present from the very design of a gender-responsive transparency framework. The process will tackle gender in two fronts. On the one hand, DataClima+ will assess (and include in its cost estimates) which data should be collected to endow its modules with the resolution required to capture gender biases. This shall include sex-disaggregated data generation and/or analysis. As such, the system will be designed to assess how costs, benefits and risks arising from NDCs, Adaptation Plans, LTS and mitigation actions are allocated, enabling the identification of potential inequalities before they take place. A specific deliverable is being proposed under ?*Output 1.2.* A gender-sensitive DataClima+ system is designed, built and made accessible to key stakeholders? to ensure that this dimension is included (see deliverable 1.1.2 and 1.1.4). On the other side, the CBIT project will both reflect upon itself in terms of the gender balance of its own governance structures, aiming for balance, participatory approaches, and promoting training activities as well as communication materials with a gender perspective.

Moreover, the project will benefit from the Global Coordination Platform activities on gender, mainly under the output ?Assistance provided to countries with integrating the UNFCCC Gender Action Plan into enhanced transparency frameworks? of the GEF project ?Global Capacity Building Initiative for Transparency (CBIT) Platform.

Gender Action Plan

A Gender Action Plan (?GAP?) is the roadmap for gender activities that a project or institution has adopted for itself for the purpose of redressing existing gender inequalities in a systematic way. The gender action plan is a bridge between gender analysis and implementation, and it is a tool to help translate and make visible findings of the gender analysis in program/project implementation and evaluation.[8] The GAP for this project assesses and sets actions for each of the project?s components from a gender perspective.

Through the duration of the GEF project, a gender specialist will be the main responsible for the implementation of the Gender Action Plan. The specialist will also support the preparation of the Multi-stakeholder consultation and engagement strategy with regards to its gender aspects. The gender specialist will be responsible for the activities and the indicators in the GAP, and report on a half-yearly basis to the CTA. The GAP progress reports will be submitted as an annex to the project?s own half-yearly reporting, including the project implementation reports (PIRs).

The gender specialist will report both to the Chief Technical Advisor and the project?s Steering Committee, which will provide overall supervision and leadership in all matters related to the GAP.

Table 8. Gender Action Plan

Objective	Action	Indicator & end-of-project goal
Component 1: Integrated climate data platform		
The need for gender-disaggregated data and indicators to ensure inclusion of gender considerations in DataClima+.	Approve the gender aspects in the Multi-stakeholder consultation, communication and engagement strategy (deliverable 1.6.1) Ensure that data in the Data Master Plan (deliverable 1.1.4) is required to be sex disaggregated; prepare a report with data gaps whenever such data is unavailable (to be added as part of the Data Master Plan). Establish a gender baseline in which to measure improvements and identify areas of focus. Create a ?how-to? checklist on engendering processes. Identify and include gender-focused NGOs and institutions in the MRV activities, to be used as an input for the stakeholder engagement strategy (output 1.6). Design and implement awareness and knowledge management programs for women, men, and youth, as part of the capacity building activities (output 1.5).	**Indicator G1:** Percentage of women in the operational body within MCTI responsible for managing DataClima+. **Goal:** At least 50% are women. **Indicator G2:** DataClima+ is designed to capture gender considerations in Brazil?s climate actions. **Goal:** Yes/No indicator, the goal is Yes.

Objective	Action	Indicator & end-of-project goal
Ensure participation and active involvement of both men and women throughout the capacity building activities.	Aim for gender balance in capacity building activities. Whenever this is not possible, indicate the root causes and propose potential actions (to be included in the GAP reports, deliverable 4.1.4)	**Indicator G3:** Percentage of women participating in the capacity building activities organised through output 1.5. **Goal:** At least 50% of the participants are women.
Develop gender capacities in the education institution(s) receiving training for the creation of the long-term capacity building mechanism	Revise deliverables and provide guidance and support for the inclusion of gender considerations in the capacity building deliverables (output 1.5).	**Indicator G4:** # of courses, training modules, workshops, or other activities in output 1.5 that are to include gender considerations. **Goal:** All courses, training modules, workshops, or other activities in output 1.5 include gender topics
Component 2: Enhanced climate transparency modules		

Objective	Action	Indicator & end-of-project goal
Ensure modules are refined to include gender indicators	Development gender indicators in climate change actions, to be integrated in the Data Master Plan (deliverable 1.1.4). Establish accountability systems to measure gender equality in the MRV system (output 1.1 and 1.2).	**Indicator G4:** % of DataClima+ modules (including their tools, guidelines and protocols) that include gender indicators **Goal:** 100%, i.e. mitigation (inc. inventories and NDC tracking), adaptation and means of implementation.
Component 3: National policy-making informed by climate data		
Ensure the SINAPSE module is endowed with enough resolution to capture and assess gender differences	Propose gender indicators relevant for modelling evolution pathways and target-setting through the SINAPSE module (component 3).	**Indicator G5:** # of gender indicators in the SINAPSE module **Goal:** At least four gender indicators that react to the actions and policies modelled through SINAPSE

[1]Global Gender Gap Report 2021 (World Economic Forum, 2021), available at: https://www3.weforum.org/docs/WEF_GGGR_2021.pdf

[2] Menicucci, 2012.

[3] M. Olivera, M. G. Podcameni, M. C. Lustosa e L. Gra?a, ?A dimens?o de g?nero no Big Push para a Sustentabilidade no Brasil: as mulheres no contexto da transforma??o social e ecol?gica da economia brasileira?, Documentos de Projetos (LC/TS.2021/6; LC/BRS/TS.2021/1), Santiago e S?o Paulo, Comiss?o Econ?mica para a Am?rica Latina e o Caribe e Funda??o Friedrich Ebert Stiftung, 2021

[4]Cintr?o, R. & Siliprandi, E. 2011. The progress of rural women. In: Barsted, LL & Pitanguy, J. The Progress of Women in Brazil 2003?2010. Rio de Janeiro: CEPIA; Bras?lia: UN Women. 436p.

[5]Agrarian Reform Census. 1997. Advanced Studies, 11 (31), 7-36. https://dx.doi.org/10.1590/S0103-40141997000300002

[6]BRAZIL. 2008. II National Policy Plan for Women

[7] Madsen, 2015

[8] Global Environmental Facility, *Guidelines on Gender Equality* (2017), para. 23

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

Does the project?s results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

Private sector representatives are essential to consult in the establishment of an integrated climate transparency framework, as they are key entities to implement many of actions needed to mitigate and adapt to climate change. This includes both small private actors, and big farmers, but also companies within industry, and confederations such as the Brazilian Business Council for Sustainable Development, the Brazilian National Industry Confederation, and the Agriculture and Livestock Confederation. These have been engaged since the PPG stage and will remain throughout project execution.

The private sector will play a key role in identifying the prioritized sectors and stakeholders with which the government shall establish arrangements in order to enhance the different modules of DataClima+, especially SIRENE with regard to reporting corporate GHG inventories (output 2.1). A preliminary list of potential data suppliers is presented in Annex S. Under component 1, the private sector will be engaged through Data Sharing Agreements to enhance the accuracy of data collected and included in the integrated system.

Moreover, private sector actors are expected to participate in capacity building activities, as they will be data providers as well as users of the system and modules to be established and enhanced.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Risk is defined as the effect of uncertainty on a project objective. It is formulated in terms of ?future events?. Risks were validated during the project preparation grant phase through detailed stakeholder consultations and tools including the UNEP Safeguard Risk Identification Form (SRIF), the gender analysis and the theory of change. A qualitative 1-5 scale has been used to characterize risks with regards to likelihood (probability of occurrence: 1 = not likely, 5 = expected) and potential negative impact on achieving project objectives (1 = negligible; 5 = extreme). In accordance with the combination of likelihood and impact, each risk is assessed as low (green), moderate (yellow), substantial (orange) or high (red) as indicated in the table below. COVID risks are identified in the sections following the below table:

Table 7: Risk Categorization

		Likelihood				
		1	2	3	4	5
Impact	5					
	4					
	3					
	2					
	1					

Table 9. Project risks

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
1	Climate risk High impact climatic events disrupt project activities, damages infrastructure, and effect overall project execution. *For details see the ?climate risk assessment? section following this table.*	Climate	1	2	As most of the project activities will take place within the capital of Brasilia, it is unlikely that any major weather event spurred on by climate change will affect implementation significantly. Some national travel is planned within the project, but these can be rescheduled in the case of major disturbance. On country's priorities, a significant climate change related weather event is likely to underline the importance of having monitoring and evaluation systems for climate action. Moreover, this project is financially insulated as it counts with its own funding. Management of data will be cloud-based, minimizing the risk of data loss.	MCTI in collaboration with INPE	Throughout the project.

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
2	Political prioritization Lack of political buy-in leads to reduced support for the maintenance of DataClima+ or lack of usage for decision making and planning. Note: political prioritization may be affected by local and external events, including civil unrest, aggravation of the COVID pandemic, international crises / war, extreme weather events, etc.) *Also refer to the ?climate risk assessment? and the ?COVID-19 risk assessment? sections following this table.*	Political / Financial	2	4	The likelihood of this risk is mid-low, as Brazil has developed a robust policy framework on climate change and made several instruments official, including the National Plan on Climate Change and the National Adaptation Plan. The strategy for the NDC implementation (establishing sectoral commitments and low-carbon development pathways) is expected to be published during project execution. The main tool to mitigate this risk is given by the formal adoption for the DataClima+ system. While the sanctioning of governmental resolution falls outside the control of any CBIT project, MCTI has set to itself the objective of achieving the publication of a formal adoption instrument by the end of project execution. This instrument could take various forms and is included as a target as part of indicator 4 in the project?s Results Framework (Annex A). Achieving this goal will therefore be one of the key objectives of the project team and fall under UNEP?s M&E activities throughout execution. The project aims to further mitigate this risk through a strong stakeholder communication and engagement campaign (output 1.6) that will include government actors. The long-term capacity building mechanism (output 1.5) is also expected to contribute to	EA, MCTI (National Project Director), PSC	Throughout the project

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
					the creation of long-term political buy-in. The Projects? Steering Committee (PSC), with the support of the Advisory Body and the overall guidance from the National Project Director will be the key actors in the implementation structure to monitor this risk and ensure that the project remains aligned with national priorities. MCTI has a long history in leading national efforts on climate transparency to the UNFCCC, including in preparing national communications and biennial update reports. MCTI has a dedicated team which will continue post project.		

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
3	Procurement risk Slow or complex processes lead to delays in budget execution. Note: this risk may also result from external factors, such as an aggravation of the COVID pandemic, delays in the supply chain from international conflict, etc. *Also refer to the ?climate risk assessment? and the ?COVID-19 risk assessment? sections following this table.*	Administrative / Financial	2	3	The project has chosen Funbio to be the EA of this project. Funbio brings in expertise in the development of GEF projects, thus reducing the likelihood of delays. The base team will be required to prepare yearly procurement plans that include contingency analyses and mitigation plans for risks affecting key procurement processes. For example, procurement processes may be affected by the pandemic. At the beginning of project execution, the workplan will be re-evaluated taking into consideration any on-going risks due to COVID-19. Staff will be cross trained so that leave absences do not affect procurement processes.	EA, base team, IA	At the beginning of the project and at the beginning of each fiscal year

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
4	Stakeholder engagement Lack of civil society interest in transparency leads to project outputs failing to achieve their intended outcomes and impacts. This risk can materialize either as lack of participation in the project?s activities and/or reluctance to share data required for the operation of DataClima+. Note: this risk may also result from external factors, such as an aggravation of the COVID pandemic. *Also refer to the ?climate risk assessment? and the ?COVID-19 risk assessment?*	Social	2	4	The project will mitigate this risk mainly through the development and implementation of a multi-stakeholder communication, consultation, and engagement plan (output 1.6). The establishment of a long-term capacity building programme with a local education institution (output 1.5) will also contribute to the mainstreaming of climate change and transparency topics. As for the sharing of information, the project will develop an institutional mechanism for operating DataClima+ (output 1.3) as well as institutional arrangements between existing federative and private entities to ensure an effective coordination in the provision of data, data quality assurance and control, and operation of DataClima+ (Output 1.4). The latter includes a general framework that guarantees the confidentiality of the information shared, thus facilitating the subscription of individual DSAs.	EA	Throughout the project, with key focus on year 1.

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
	sections following this table.						
5	Gender risk Gender issues are not effectively incorporated into project processes and products, leading to project outputs and outcomes that are not gender sensitive.	Social	1	2	The project will mitigate this risk by executing a gender action plan (see section 3), which reviews each output in the project through a gender perspective, identifying specific risks and mitigation measures in each case. The project?s Gender Specialist will lead the execution of (and ensure compliance with) the Gender Action Plan.	EA, Gender Specialist, PSC	Throughout the project.

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
6	Delays in implementation of required activities undertaken by other projects Some CBIT activities and deliverables may depend on baseline activities outside the scope of the project team. This includes e.g. delays in the execution of the (GEF funded) NC5 project or in the publishing of the strategy for the implementation of the NDC.	Organizational	3	3	The project was designed so that key deliverables from other (external) projects / activities (mainly any ad-hoc tools or templates that are developed through the NC5 project) fall under the same department within the MCTI, namely, the Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs. Thus, any delays from these key partner projects will be detected as soon as they begin to materialize, allowing for a prompt adjustment in the workplan to advance with other activities that are not dependent on these outputs. It is also important to stress that the tools, templates and databases for this CBIT project will be developed in abstract, i.e. they won?t require specific data for their operationalization. However, the project will make its best efforts to populate the newly developed tools with real-life data compiled through the NC5 project and the NDC implementation strategy.	MCTI (National Project Director)	Throughout the project, with focus on year 1

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
7	Staff turnover risk / lack of capacity retention During project execution, staff (and consultant) turnover may cause delays from the selection, appointment, and induction of new consultants/staff. On a broader level, staff turnover may result in loss of knowledge on the use of the DataClima+ system, including knowledge on GHG emissions reporting, the use of the platform for the elaboration of international reports, and the loss of improved understanding of climate related activities in the country.	Organizational	3	3	The Knowledge Management (described in part II, section 8 of this document) is one of the main design elements included to mitigate the potential impact of staff and consultant turnover, as well as to enforce the retention of created capacities. On one side, the project aims to establish a full-fledged knowledge management for DataClima+, creating standardized processes that are clearly depicted and documented in the relevant Process Manuals (output 1.2 and all the outputs in component 2). On the other side, the project will have its own (i.e. internal) knowledge management approach to ensure that the project?s actions are documented and based on predefined approaches, ensuring that any potential turnover (both in the project?s base team and in the supporting staff from MCTI) have minimum negative impact on the project?s execution. From a long run perspective, the capacity building programme (output 1.5) will follow a train-the-trainer approach creating capacities in education institutions to generate a pool of skilled resources that are capable of ?operating? the modules in the DataClima+, as well as professionals that can interact and benefit from its processed information, applying it for decision making throughout a variety of sectors.	The CTA is the main responsible for the KM of the project. Capacity building activities are assigned to different consultants as per the project?s workplan.	Throughout the project

#	Risk description	Risk category	Risk rating: likelihood	Risk rating: impact	Risk mitigation strategy	Whom	When
8	Coordination risk Lack of coordination leads to a duplication of efforts, monitoring systems and platforms.	Organizational	3	3	This CBIT project is Brazil?s effort to tackle this very issue. Coordination with other ministries will take place through the project?s Steering Committee and Advisory Body, but also through MCTI?s participation in the Interministerial Committee on Climate Change and Green Growth (CIMV). Moreover, the system adoption regulations (see output 1.3, particularly, deliverable 1.3.1 and 1.3.2) will clearly define the scope, roles and responsibilities of the country's transparency ecosystem, of which DataClima+ will be the leading effort. The main responsible for Interministerial coordination will be the project?s National Coordinator.	National Project Coordinator.	Throughout the project

COVID-19 risk

Evolution of the pandemic in Brazil

In 2020 and 2021 the pandemic took a heavy toll on public health in Brazil, although mass vaccination is being quite successful in preventing hospitals from becoming overwhelmed as of 2022. Still, a pre-existing economic recession trend is seriously aggravated.[1] These factors are negatively affecting jobs, income, mortality rates, life expectancy, public and private investment, social vulnerability, gender-bias and several other development indicators.[2]

According to OECD Economic Forecast Summary (December 2021), Brazil national GDP growth is projected to slow down to 1.4% in 2022 and 2.1% in 2023. The vaccination campaign has accelerated and economic activity, underpinned by private consumption and investment, restarted as restrictions were lifted. Exports have benefited from the global recovery, the robust demand for commodities and a weak exchange rate. However, supply

bottlenecks, lower purchasing power, higher interest rates and policy uncertainty have slowed the pace of recovery. The labour market is recovering with some delay and unemployment remains above pre-pandemic levels.[3]

Demographic trends and lifestyle trends are gradually being shaped by the pandemic in different ways: e.g., the emergence of home office and the fast digitalization of certain services are worth noting. Reduced mobility due to the COVID-19 pandemic in 2020 and 2021 will certainly result in a short-term reduction in urban-based GHG emissions. However, those apparently ?positive effects? of the reduced mobility on the environment have already been considered as a temporary effect and not very significant.

The following are the main challenges related to the COVID-19 pandemic identified for the project:

- ? Low prioritization by public agents and local actors regarding the activities of the project in face of the urgencies resulting from the COVID-19 pandemic. Resource targeting to minimize the crisis caused by the pandemic can decrease the availability of efforts to implement the actions of the project. A change in stakeholder priorities can also take place as a result of the pandemic, shifting institutional efforts and resources towards the fight against COVID-19.
- ? Challenges for engaging stakeholders and civil society due to the social distancing required by the pandemic. Thus, strong dialogue between the different governmental actors involved in the project and an intense participatory process is essential.
- ? Challenges on data management, since the context of the pandemic can lead to possible distortions in the collection of data and baseline mapping of project plans and actions.
- ? Lockdown and movement restrictions: mobility restrictions and the need for social distancing due to the pandemic could lead to reduced possibility for activities that have traditionally required in-person participation, such as workshops, meetings, trainings and consultations.
- ? Slowdown of procurement processes, i.e. procurement processes can be paralysed or slowed down depending on the evolution of the pandemic and the offices it affects.
- ? Staff turn-over due to the illness: long leave periods to recover from the symptoms can cause delays in the execution of project activities.

Mitigation measures

Measures and protocols in relation to the pandemic are regulated by national and local entities, including at the state and municipal levels.

Key measures to mitigate risks will adopt a dynamic approach and include the following:

- ? In the event of mobility restrictions and the need for social distancing, alternative and innovate forms of meeting organization and communication will be implemented (i.e. using online platforms). This approach was already used during the PPG phase, were hybrid meetings were used to ensure maximum attendancy of relevant stakeholders. The impacts of the pandemic have meant that such technologies are already becoming commonplace and acceptable for usage by a broad range of stakeholders. This approach is foreseen for the execution of the project, depending on the evolution of the pandemic. However, it is important to strategically define the best communication model to be

adopted in the different products of the project. The stakeholder communication and engagement strategy (output 1.6) will consider this, also taking into account restrictions in access to internet by relevant stakeholders. Also during the PPG phase, an additional mitigation measure was the contracting of additional local support, to support the preparation of the on-site visit and the post-visit follow up activities.

? As for the procurement risk, UNEP will require that the EA updates the procurement plan with every expenditure report, including contingency analyses and mitigation plans for risks affecting key procurement processes.

? MCTI will cross-train staff so that if a staff member contracts COVID-19 and is on leave during their recovery, activities can continue. The CBIT project will have its own (i.e. internal) knowledge management approach to ensure that the project?s actions are documented and based on predefined approaches, ensuring that any potential turnover (both in the project?s base team and in the supporting staff from MCTI) have minimum negative impact on the project?s execution. From a broader point of view, the DataClima+ system itself will serve as a federal knowledge management system for transparency.

? Regarding the shift in public sector priorities during an outbreak, it is expected that any negative impacts attributable to the pandemic in the short-run are reversed by increased interest in climate change risk in the medium to long-term, as it becomes clear that the consequences of climate change can be far worse than those of the pandemic. A stakeholder communication and engagement strategy (output 1.6) and a national capacity-building programme on DataClima+ (output 1.5) and the integration of climate data and projections into policy-and decision-making processes (under output 3.1) will serve as mitigation measures concerning this aspect.

Opportunity analysis

The COVID-19 crisis has demonstrated the importance of transparency in building trust which represent a great opportunity for this CBIT project. The timing of the project could enable Brazil to further guide activities which will be vital for maintaining momentum for action on climate change. In this context, an improved climate transparency system which can better track the progress of implementation, and thus evaluate the effectiveness of different measures, becomes a potentially powerful tool to "build back better". The CBIT project will provide an integrated data management system, tools and capacity to collect and analyse data for the implementation and tracking of mitigation and adaptation actions and use in policy-making and long-term planning. The increased transparency and available information will allow national policy planners and decision-makers to formulate climate-informed policies and include better-informed climate considerations in national planning and in post-COVID-19 recovery plans and strategies. The information that shall be generated and made available through a national MRV system to be implemented by CBIT will serve as key input to guide greener and more resilient investments and contribute to their mainstreaming in national planning processes.

Moreover, the context provides an opportunity to have budget savings and reallocation in the CBIT project budget, as several events could be held virtually. Budget savings related to traveling and venue costs could be reallocated to more substantive activities. Additionally, COVID-19 introduces the opportunity to slowly introduce e-governance (online public service provision and delivery without physical interactions) over time, enabling service provisions in both rural and urban areas. In fact, given the long-term need of practicing social distancing, COVID-19 is likely to introduce policy changes to many global meetings and conferences including those of the UNFCCC, GEF, UNCBD, UNCCD to enable innovative and digital modalities to be fully employed, applied and rolled out to countries. This is likely to change the travel-intensive modalities of conducting Convention businesses, thus contributing to its long-term desired outcome.

The aspects below can enhance the objectives of the project:

- ? The project has the opportunity to support Brazil in undertaking a green economic recovery post-pandemic.
- ? The increased digitalization of the Brazilian population and local government working modalities presents an opportunity for the effective adoption of the digital modules and use of DataClima+. The pandemic has forced a quick upgrading of skills of all local administrators, which paves the way for more openness to adopting and using the project-created online planning tools.
- ? Another key opportunity is for the project to build upon and support national initiatives promoting a green recovery from the pandemic. Since March 2020, the national government has adopted measures to support citizens and economic sectors most hit by the pandemic. With regards to promoting economic recovery, the government has not announced a single plan or strategy, but through its Ministry of Finance has announced a series of measures for support income resilience and recovery.

Climate risk assessment

At the June 2018 Council, the GEF?s Scientific and Technical Advisory Panel (STAP) issued clarified and codified screening guidelines. With respect to climate risk, the guidelines ask:

(i) How will the project?s objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately?

Following IPCC (2012),[4] **hazard** is defined as the potential occurrence of a natural or human-induced physical event that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources.[5] **Exposure** is employed to refer to the presence (location) of people, livelihoods, environmental services and resources, infrastructure, or economic, social, or cultural assets in places in which hazard events may occur. **Vulnerability** is defined as the propensity or predisposition to be adversely affected, and it encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. In the context of the assessment of climate impacts, **risk** results from the interaction of vulnerability (of the affected system), the likelihood of the occurrence of a climate related hazard, and exposure to the latter.

This section discusses climate risks in the context of a) the duration of the project and its activities, but also (and more importantly) in the context of b) the transparency system that will be established and is expected to exist well beyond the timeframe of this CBIT project. Climate risks are its very core: all its outputs have been designed and shaped precisely from the need to raise awareness on climate risks - and provide tools to mitigate them.

The NC4 highlighted important climatic risks such as a significant increase in temperature and in extreme drought events, floods, fires, and hotspots in all Brazilian biomes (Brazil, 2020). Such projections are in line with information in the Open Government Partnership Report (OGP), an initiative of the Federal Government that disseminates and supports the exercise of government practices related to transparency, access to public information, and social participation (mobilization and articulation).[6] According to the report, led by MCTI related to Commitment 9 of the Open Government and

Climate, the incidence of extreme climatic events has increased significantly in Brazil. Only in the period between 2013-2017, its environmental impacts were registered in 68% of the municipalities and, within those, 50% were associated with extreme climatic conditions of droughts, floods, storms or floods.

Excess or scarcity of rainfall is primarily responsible for the physical processes that threaten Brazil's population and economic activities. Accordingly, NC4 identified droughts, floods, and coastal floods as the most critical climatic extremes events observed between 2014 and 2018. NC4 considers different scenarios of the negative impact of climate change at different IPCC representative concentration pathways (4.5 and 8.4) and refines them to small spatial scales of 20km lat-Ion, using the Eta regional model, the English Hadley Centre Global Environmental Model (HadGEM2-ES), the Japanese global Model for Interdisciplinary Research on Climate (MIROC5), and the Brazilian Earth System Model (BESM). This results and data of the NC4 was drawn upon for the elaboration of this climate risk analysis.

Historically, droughts in Brazil are more predominant in the Northeast region. The years between 2012 and 2017 marked the worst drought in history in the Brazilian semiarid region, with six consecutive years of rainfall below average. However, in recent years, this has also become a problem in the Central-West and Southeast regions. One example is the water crisis that hit the Metropolitan Region (RM) of S?o Paulo between 2014 and 2016 (ibid.).

Figure 11. Climatic trends in Brazil

Trends observed in minimum and maximum temperatures (degrees Celsius/decade); annual precipitation (mm/decade); number of days with maximum temperature above the 90th percentile - TX90p (% / decade); and maximum amount of accumulated precipitation in the period from 1980-2018.

Source: Brasil, 2020 apud CPC/NOAA - CHIRPS / CHC-SB

The analysis of hazards related to coastal zones shows interferences such as elevation of the relative sea-level, which causes changes in natural and man-made coastal environments, increases the vulnerability of people and goods, reduces habitable spaces, and causes vertical migration of the beach profile, among others (Brazil, 2020).

These hazards may be summarized as follows, drawing on the results presented in the 4th National Communication of Brazil to the UNFCCC:

- ? Increase in minimum and maximum temperatures of approximately 4.5 ?C throughout national territory;
- ? Reduction in precipitation volume in the North region of up to 35% and an increase of up to 30% in the South region and in the southern strip of the Southeast;
- ? Increase in the number of consecutive dry days in the North and East of the Northeast region during summer and in the North of the Amazon and practically the entire Northeast region during winter. This situation shows precipitation reduction and precipitation volumes concentrated in a few days, that is, associated with extreme precipitation events;

- ? Magnitude increases in maximum rainfall accumulated in a short time (approximately five days) in the Central-West, Southeast, and South regions during summer and in the northwest of the Amazon and the entire southern strip of Brazil during winter;
- ? Substantial increase in extreme maximum temperatures in both summer and winter in all regions of the country, although this increase is less pronounced in the South during winter.

Source: Brazil, 2020 (ipsis litteris).

The analysis on climate tendencies in Brazil has shown vulnerabilities are directly related to changes in temperature and precipitation. According to the World Bank, Brazil?s key vulnerabilities to climate change are:[7]

- ? Flooding: Floods in Brazil usually occur during La Ni?a years and years with warmer than average sea surface temperatures in the tropical South Atlantic. Urban areas are most susceptible to flooding.
- ? Droughts: The northeast region has a long history of destructive droughts. It is highly susceptible to droughts due to its strong seasonal hydrological deficit, low adaptive capacity and persistent poverty. Dry season droughts are also more dangerous because of the potential for fuelling wildfires, which are common in ecosystems and forests that are in close proximity to slash-and-burn type agriculture.
- ? Frost: Another climate hazard that is commonly experienced in the temperate region of southern Brazil is frost, which commonly occurs during winter and can be a potential threat to agriculture and industrial plantations. Thus, under a future warmer climate, these regions are at risk of degradation.[8]

According to 2017 data, Brazil is the 79th country most impacted by extreme weather events. The country rose ten positions in relation to the 2016 ranking within the scope of the Global Climate Risk Index[9]. Climatic risks in the country are also shown in the Germanwatch ranking, which places Brazil in 27th position in the climate risk index. Another example is the Notre Dame Global Adaptation Initiative index, which places Brazil as the 68th country regarding sensitivity and exposure to climate vulnerability and ability to adapt to the negative impact of climate change. The same index also ranks Brazil 124th regarding ?climate readiness?, considering its vulnerability in the following sectors: food, water, health, ecosystem services, housing, and infrastructure.[10]

The proposed project will mostly take place on the capital, Brasilia. Potential climate-related effects that have been taken into consideration include:

- ? **Disruptions in data collection and data storage systems and infrastructure.** As the central activities in this project will take place in Brasilia (low vulnerability) and involve mostly historical data that already exists in cloud servers, it is highly unlikely that the activities themselves are affected by the type of extreme events that could strike the central region. However, the transparency system that is to be established by this CBIT project will outlive the latter?s specific activities, requiring periodic collection and processing of data from all over the country. This CBIT project will thus ensure that the system has embedded procedures, guidelines and protocols for the collection of data that consider the various ranges of vulnerability to climate risks throughout the country ? an element that will be introduced mainly in the context of Output 2.2 and Output 3.1.

- ? **Difficulties to undertake capacity building activities.** Training activities, workshops and meetings could be adversely impacted by extreme climate events. However, most activities are to take place in Brasilia, a city that can be easily reached from all over the country, has a low exposition to climate hazards and has one of the highest adaptation capacities in Brazil. In addition, many activities will take place in a hybrid format, allowing remote participation.
- ? **Change in stakeholder priorities.** When a vulnerable country is impacted by extreme climate change effects, political priorities, investor interests and co-financing availability might shift. While this may adversely affect the outputs of a CBIT project - since the latter targets institutions and needs political attention and interest to be successfully implemented - it is expected that any negative impacts attributable to climate change will result in an *increased* interest in the project?s outputs. Moreover, the system that is to be established as part of this project will ensure that awareness of climate change impacts is embedded in national long-term planning, addressed through Component 3.

Thus, being four-year project based in a low vulnerability region of the country and focused almost entirely on the creation, compiling, storage and processing of climate information, **this project can be deemed low risk in terms of climate change**. Moreover, the objective of the project beyond its own duration is precisely to provide a transparency system that can both keep track of mitigation actions and enhance the adaptation efforts of Brazil.

(ii) Has the sensitivity to climate change, and its impacts, been assessed?

Yes. The text above has considered the project?s sensitivity to climate change at different IPCC representative concentration pathways (4.5 and 8.4). The likelihood for the project to be affected by changes in climate is low, with low sensitivity in the short- to medium-term until 2050 and slightly increasing afterwards in the long-term. The activities under this project are not likely to be compromised by climate-related events, whereas the transparency framework that will be established by it (and remain operational long after the GEF project has ended) are expected to have a positive contribution to the resilience and adaptive capacities of Brazil.

(iii) Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?

As noted in responses to (i) and (ii), climate impacts pose a low risk for this project. Resilience practices were included in the project?s activities as well as the outputs that will endure after its technical completion:

- ? **In terms of data collection and data storage systems and infrastructure,** the project will design resilient systems able to withstand the threats posed by the type of extreme events that, depending on the region, may affect the collection of the raw data as well as its processing and ulterior storage (cloud based). This will be reflected mostly through the outputs preparing guidelines, procedures and protocols, namely, outputs 2.1-2.4.
- ? **In terms of difficulties to undertake capacity building activities.** During its execution, the project will ensure the safety of the personnel and the stakeholders. In the unlikely event that activities need to be postponed due to warnings, the safety and integrity of the people will always be a priority, and the project will only return in its course when safety can be assured. Online options will be preferred when possible to save resources for travel as a default position in the project.

? **In terms of stakeholder priorities.** Component 3 will link DataClima+ with the national planning process. This way, awareness of climate change impacts is expected to be explicitly taken into account in the national long-term planning and funding.

(iv) What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?

Technical measures considered will include cloud-based solutions and systematic backups of relevant information. Creating technical and institutional capacity, as well as systems that generate the required information to address climate risks, are among the objectives of this CBIT project. The development of an integrated platform, DataClima+, and the enhancement of its adaptation module, AdaptaBrasil MCTI, will enable the production of enhanced information on climate-related risks and impacts in different sectors, provide quality input for the identification of nationally-appropriate adaptation solutions; and allow for the tracking of adaptation actions undertaken and needed. Since the Gender overview section assessed that women are or have been more vulnerable to and affected/impacted by climate risks, DataClima+, the project will be an important initiative for the climate change analysis considering the gender perspective, starting with the data collection and in the future, the formulation of public policies directed at gender-sensitive issues This CBIT Project will thus support Brazil in the monitoring, evaluation and update of its adaptation policies and plans.

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[1] https://www.oecd.org/economy/growth/Brazil-country-note-going-for-growth-2021.pdf

[2] https://portal.fiocruz.br/en/news/brazil-faces-worst-scenario-beginning-pandemic.

[3] https://www.oecd.org/economy/brazil-economic-snapshot/

[4] IPCC, 2012: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, UK, and New York, NY, USA, 582 pp.

[5] Given the relatively short timeframe involved in this CBIT project (four years), the term *hazard* will focus on the occurrence of extreme events rather than on long-term climate variability. Hazards deriving from long-term variations in average temperature and precipitations will be relevant (and considered) in the implementation of Output 2.2 on enhancing the adaptation module, as well as Output 3.1, which will focus on the relationship of the transparency system and planning processes.

[6] See e.g. https://www.opengovpartnership.org/documents/brazil-end-of-term-report-2016-2018-for-public-comment/ - accessed on 13 Jun 2021.

[7] https://climateknowledgeportal.worldbank.org/country/brazil/vulnerability

[8] Ibid.

[9] For comparisons https://germanwatch.org/en/cri - accessed on 13 Jun 2021.

[10] See e.g. https://gain.nd.edu/our-work/country-index/ - accessed on 13 Jun 2021.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Overview

Project activities will be undertaken by a base team that will be supported by a series of consultancies that can bring in international expertise, as needed. Whenever a specific partner has not been identified during the PPG phase, consultant(s) will be selected through a competitive procurement process. The project?s governance and the assignment of roles and responsibilities can be found on the section ?Institutional arrangements and coordination?, as well as on the project?s workplan (Annex K). Detailed terms of reference for staff and consultancies are available in Annex H.

Institutional arrangements:

The main governance arrangements for this project include:

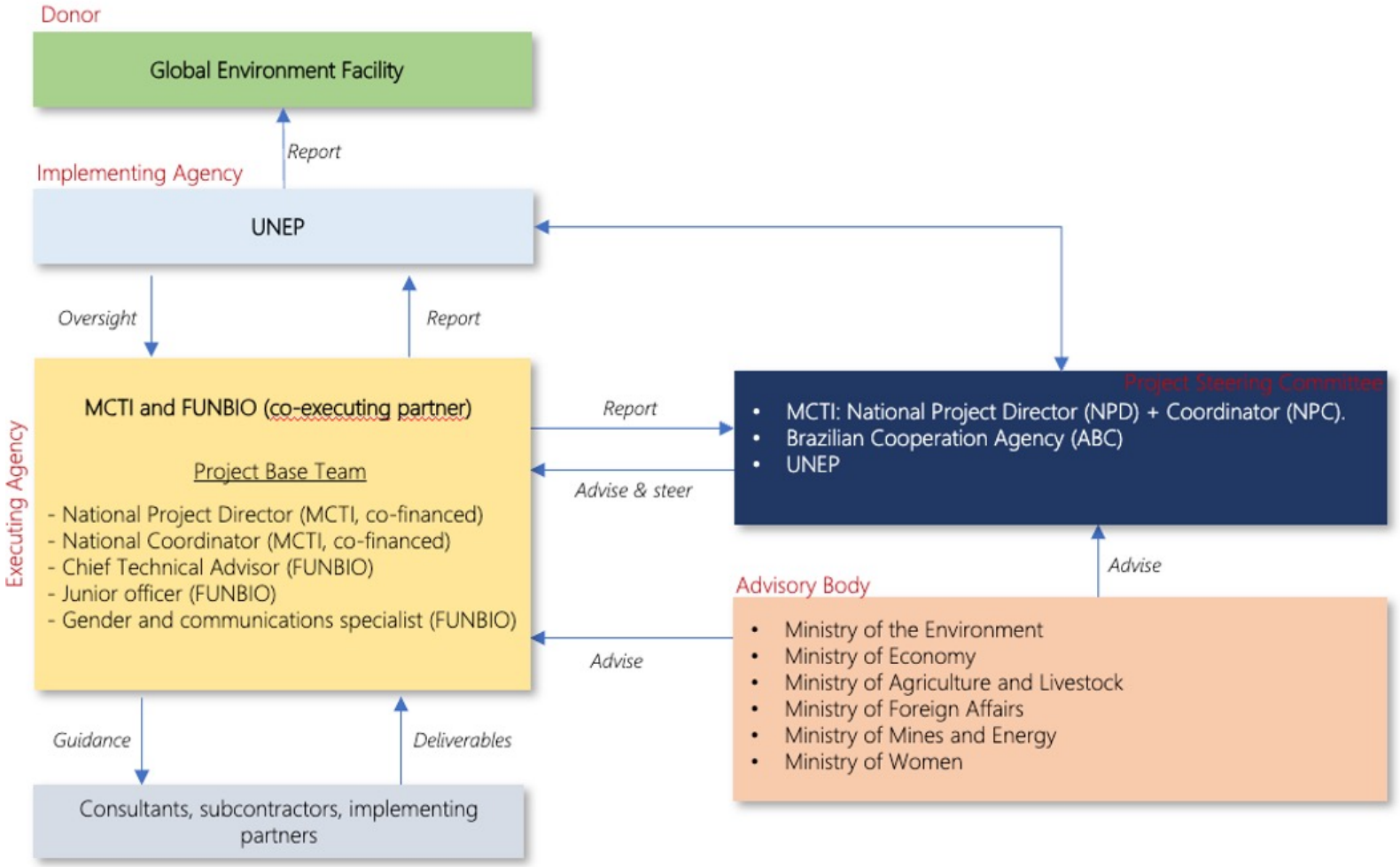
- As Executing Agency, the Brazilian Ministry of Science, Technology and Innovation (MCTI), on behalf of the recipient country (Brazil). The ministry will hold overall responsibility for the project?s execution and will support, supervise and provide technical guidance to the co-executing partner FUNBIO, which will manage project funds and support the project technical work under the ministry?s supervision.
- The Brazilian Cooperation Agency, monitoring the project activities on behalf of the federal government and participating in the Project Steering Committee.
- An Implementing Agency (IA), mainly with a supervisory role and consolidating all reporting to the GEF. This role will be undertaken by UNEP.
- A Project Steering Committee (PSC), chaired by a country representative from the MCTI and in charge of high-level governance and decision-making. An Advisory Body (AB) with political and technical representatives from different ministries related to the climate agenda, will support the PSC.
- Through this project, Brazil will also actively participate in the GEF financed CBIT Global Coordination Platform (implemented by UNEP).

The Department for Climate and Sustainability of Secretariat for Strategic Policies and Programs of the Brazilian Ministry of Science, Technology and Innovation (MCTI) will lead the project on behalf of Brazil. Local NGO Funbio will serve as the Executing Entity on behalf of the MCTI.

UNEP will be the Implementing Agency (IA) for this project and will provide overall supervision and guidance in line with GEF and internal guidance and the expertise gathered from previously implemented projects and other projects currently under implementation. UNEP developed this project proposal building upon its experiences, good practices and lessons learned in developing and implementing other CBIT projects in Latin America and the Caribbean and through-out the world. The design phase of this project was coordinated by UNEP?s Economy Division, Climate Change Mitigation Unit with the support of UNEP?s National Office in Brazil.

Roles and responsibilities of each of these governing bodies are further discussed in this section. Further details on the project?s governance and the assignment of roles and responsibilities can be found on Annex J ?Project Implementation Arrangements?, as well as on the project?s workplan (Annex K). Detailed terms of reference for staff and consultancies are available in Annex H.

Figure 12. Institutional arrangements



Implementing agency

UNEP is the Implementing Agency (IA) for this project and will provide overall supervision and guidance in line with GEF and internal requirements. UNEP developed this project proposal considering its experiences, good practices and lessons learned in developing and implementing other CBIT projects. Currently, UNEP is implementing more than 30 CBIT projects, including 12 CBIT projects in Latin America and the Caribbean (LAC), as well as the CBIT Global Coordination Platform. In addition, UNEP has implemented the largest share of CBIT projects in LAC, with 12 CBIT projects. In this context, in acting as the implementing agency for this project it will ensure that the project builds on previous experiences and lessons learned in the implementation of CBIT projects and will ensure coordination with regional activities and with efforts lead through the Global Coordination Platform.

Executing agency

The Executing Agency is responsible for the project execution. This role will be undertaken by the Ministry of Science, Technology and Innovation (MCTI). The Brazilian Biodiversity Fund (FUNBIO) will act as co-executing partner, managing project funds and support the technical work under the ministry?s supervision. Daily project activities will be undertaken by a Project Base Team (?base team?) consisting of a National Project Director (MCTI co-financed), a National Coordinator (MCTI co-financed), a chief technical advisor (CTA), a junior officer, and a gender and communications expert. The base team will work at the MCTI premises, also having space available in FUNBIO?s premises. Project activities will be supported by a series of consultancies that can bring in international expertise, as needed. Whenever a specific partner has not been identified during the PPG phase, consultant(s) will be selected through a competitive procurement process led by FUNBIO under the ministry?s supervision. Terms of reference for staff and consultancies are available in Annex H.

The project workplan was built in a way that each deliverable from consultancies is supervised by a specific member in the base team, according to their profile. Members of the base team will also be responsible for the provision of specific deliverables (i.e. without external consultants), as well as for the integration of the deliverables into outputs and for their materialization into outcomes. In particular, the base team will make their best efforts to achieve all the targets set as goals in Annex A, which go beyond the deliverables described in each of the components. This way, each action and deliverable in the workplan has a specific responsible and no activities or deliverables are duplicated.

Key partnerships for project implementation

During the project preparation phase, the Brazilian Network for Education and Research (RNP, *Rede Brasileira para Educa??o e Pesquisa*) was identified as the key partner for developing the DataClima+ system. RNP was created in September 1989 by the Ministry of Science and Technology (MCT) at that time, with the mandate to build a national internet network infrastructure for the academy. The National Research Network, as it was called at the beginning, had the function to disseminate the use of networks in the country as well, and was responsible for the implementation of the first internet connection in Brazil. Qualified as a Social Organization (OS), RNP is related to the Ministry of Science, Technology and Innovation (MCTI) and maintained by it together with the Ministries of Education (MEC), Culture (MinC), Health (MS) and Defense (MD), which participate in the RNP Inter-Ministry Program (PRO-RNP). Formerly a project created by the National Council for Scientific and Technological Development (CNPq) in 1989, RNP was institutionalized with the appearance of the National Network for Education and Research (AsRNP), a non-profit private civil society of public interest, responsible for executing the mission to promote innovative use of advanced networks. With over 30 years of

experience, RNP is currently responsible for the improvement of network infrastructure at national, metropolitan, and local levels, also providing training, courses, and capacity building services. RNP will lead on the design, IT and capacity building elements of the DataClima+ system, including outputs 1.1, 1.2,1.5, all the improvements in component 2 and output 3.1.

Project Steering Committee (PSC)

A Project Steering Committee comprised of representatives from the MCTI, the Brazilian Cooperation Agency (ABC) and UNEP will be responsible for the strategic leadership of this project, taking corrective action as needed to ensure the project achieves the desired results. The PSC will be chaired by a National Project Director supported by a National Coordinator; both of which are co-financed and appointed by the MCTI. The PSC will meet at least once a year.

Advisory Committee (AC)

This body will serve to provide support and advice to the EA and the PSC through in-kind support of its members. Chaired by the project?s base team, the AC will meet upon request from the PSC. The following entities have manifested interest in participating in this committee:

- Ministry of the Environment and Climate Change
- Ministry of Finance
- Ministry of Planning and Budgeting
- Ministry of Agriculture and Livestock
- Ministry of Foreign Affairs
- Ministry of Mines and Energy
- UNDP[1]
- Funbio
- RNP

Other entities may be invited to participate upon decision of the Steering Committee.

Coordination with other initiatives

MCTI will ensure coordination with the Interministerial Committee on Climate Change and Green Growth (CIMV), which is chaired by the MMA and includes representatives from other ministries (foreign affairs; finance; agriculture, livestock and food supply; regional development; mines and energy;

science, technology and innovation; environment; labour and social security, and infrastructure). This will be a key element for ensuring that all relevant offices are aware of the project?s goals, progress and challenges.

At the national, regional and state level, the impetus will be on building institutional capacities so the MCTI can effectively fulfil its role and establish coordination mechanism(s) to engage all relevant stakeholders including national and sub-national government bodies, private sector including financial institutions, civil society, and academia on transparency related roles. Consultation workshops, training programmes, seminars will be organised at national and sub-national levels to sensitise stakeholders and to seek their input for building effective engagement with the project. Through the National Project Director and the project team, MCTI will ensure 1) consideration of key results and lessons learned from previous efforts, including e.g. PoMuC and ProAdapta projects, among others; 2) communication among the most relevant stakeholders, 3) that stakeholders play their relevant roles according to the mandates that will be formalised during the project and 4) stakeholders? participation in the trainings in the use of the templates and tools for the provision of timely data in the required formats and the correct use of the DataClima+ system.

The CBIT project will also allow Brazil to actively participate in the GEF financed CBIT Global Coordination Platform jointly implemented by UNDP and UNEP. At UNEP, the project is managed by the Industry and Economy Division, which leads UNEP's work on climate transparency and climate change mitigation (decarbonization).

Coordination with the GEF 10801 combined (BUR5, NC5, BTR1 and BTR2) project[1]

Of key consideration is to ensure effective coordination between the GEF/UNDP 10801 combined (BUR5, NC5, BTR1 and BTR2) project and this GEF/UNEP CBIT project. On behalf of Brazil, both projects will be executed by MCTI?s General Coordination of Climate Science and Sustainability, thus ensuring effective coordination of activities of both projects for the harnessing of synergies and to avoid duplication of efforts. On the implementing agency side, UNEP and UNDP reside in the same building in Brasilia (UN compound) and will ensure effective coordination, including with the support of the Brazil Office UN Resident Coordinator. Furthermore, UNEP and UNDP have effective communication and coordination on UNFCCC transparency (CBIT and UNFCCC enabling activity initiatives) at the global level. As both projects are closely related, the following actions have been established for the execution phase:

- ? UNDP (the implementing agency of the 10801 project) will be invited to participate in the project?s Advisory Committee, for effective coordination and to ensure that project delays in one of the projects do not adversely affect the execution of the other;
- ? Joint revision and preparation of annual workplans of both projects, to ensure complementarities and synergies. For instance, this may include ensuring that elements of the 10801 project that feed into the CBIT project will be developed in a timely manner, and vice-versa.

At a technical level, the CBIT project has been designed in close consultation with MCTI to avoid a duplication of efforts and for ensuring the harnessing of synergies. Differences, complementarities and synergies between the two projects are discussed in Annex Q of this document.

[1] Differences, complementarities and synergies with the GEF project 10801: ?Fifth National Communication, Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)? are presented and discussed in Annex Q of this CEO Endorsement Document.

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[1] UNDP will be invited to participate to ensure coordination with the 5NC project.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Consistency with national priorities and commitments are presented in the table below.

Table 10. Consistency with National Priorities

National strategies / plans / reports / assessments	GEF project alignment and contribution
National Adaptation Plan (NAP, 2016)	The purpose of this plan is to guide initiatives for management and reduction of long-term climate risks. This CBIT Project will allow for the enhancement of the AdaptaBrasil MCTI module, thus contributing to provide more quality data and information to relevant authorities for designing and undertaking adaptation actions. Furthermore, connectivity to other modules of the MRV system (such as SIRENE and NDC tracking) will allow for coherent and well-informed policy-making and long-term planning considering the synergies and trade-offs between adaptation and mitigation strategies.

Nationally Determined Contribution (NDC)	In March 2022, Brazil submitted an updated NDC, which confirms the commitment to reduce its greenhouse gas emissions in 2025 by 37% and commits to increase the ambition for 2030 (increasing the contribution from 43% to 50%). The project is in line with the NDC proposal, since it will allow for its tracking and update. The project will include a NDC tracking as part of the DataClima+ system. The development of a robust and integrated transparency framework which measures and tracks mitigation as well as adaptation efforts will enable Brazil to properly plan and review activities through which it can meet its mitigation targets and adaptation plans. Thus, this project will create and strengthen an enabling policy environment and institutional setting that will contribute to the implementation of measures to adapt to and mitigate climate change.
Brazil?s Fourth and Fifth National Communication and BUR to the UNFCCC	Brazil?s Fourth National Communication was used as one of the main reference documents for the development of this proposal. **NC4** identified capacity-building needs concerning the monitoring and reporting of GHG emissions, NDC tracking, means of implementation and adaptation efforts. This project is aligned with the national priorities and needs explained in the NCs, and the CBIT outputs identified are designed to address the gaps and capacity-building needs identified in previous National Communications, as detailed in the baseline section. The Fifth National Communication will be prepared in parallel with this CBIT project; therefore, coordination between the two projects will be essential for their success. This is further discussed in the ?Coordination with other initiatives? sub-section of this document.
National Policy on Climate Change	This project is aligned with the objectives of the PNMC, among others, to promote sustainable development while protecting the climate system; to reduce GHG emissions from different sources, as well as to strengthen removals of these gases by sinks; to implement measures to adapt to climate change. A robust MRV system is needed to enable the proper design and implementation of climate change adaptation and mitigation strategies.
Technology Needs Assessment (TNA, 2021)	This project is consistent with the project ?Technology Needs Assessment for the Implementation of Climate Action Plans in Brazil?, which aims at reaching a national consensus for the elaboration of a Technology Action Plan (TAP), taking into consideration priority sectors and key technologies, with a view to achieving mitigation targets, considering the Brazilian NDC and the country?s strategy for the GCF. For instance, selected technologies for the AFOLU sector are directly related to the improvement of data collection and management processes to inform decision-making. The following could be mentioned: precision agriculture, precision forestry and silviculture, Satellite monitoring systems and agricultural genetic improvement with robotic phenotyping.[1]

United Nations Development Assistance Framework (UNDAF)	The project is aligned with UNDAF 2017-2021 for Brazil, under Outcome 3: Strengthened institutional capacity to promote public policies for the sustainable management of natural resources and ecosystem services, and combating climate change and its adverse effects, and ensure the coherence and implementation of these policies. Indicator 3.3: Number of subnational and local governments with plans, strategies, policies, programs, projects or budgets to reduce the adverse effects of climate change Under Outcome 7: Strategic partnerships established to strengthen and promote international cooperation and contribute to the reduction of inequalities within and among countries. Indicator 7.4: Number of initiatives to promote gender and race equality (by actor of the cooperation agreement, by level of inclusion of the thematic in the agreement - priority, strong, weak; and by the cooperation object - institutional strengthening, specific initiatives) UNEP will facilitate coordination with the UN Country Team and Resident Coordinator, ensuring they are informed of the project?s progress and that it aligns with the Brazilian UNDAF.
UNEP?s Programme Coordination Project for Decarbonization	This project is part of UNEP?s Science & Transparency Programme Coordination Project, which is a logical link between the higher-level structuring of the mitigation parts of UNEP?s 2022-2025 Medium-Term Strategy and Programme of Work and UNEP?s individual projects on science and transparency (such as this one). In particular, will directly support UNEP in implementing its Programme of Work, climate action subprogramme.

The project is directly connected to the respective Sustainable Development Goals (SDGs) and respective targets:

Table 11. Sustainable development goals targeted by the project

Goals	Targets
Goal 5. Gender equality	- Guaranteeing full and effective participation of women and equal opportunities for leadership at all levels of decision-making in the public sphere, in its political and economic dimensions. This process must consider intersections with race, ethnicity, age, disability, sexual orientation, gender identity, territoriality, culture, religion and nationality, especially for women from the fields and the forests, from the waters and from urban peripheries. - Guaranteeing gender equality in access, skills of use and production of information and communication technologies, considering intersections with race, ethnicity, age, disability, sexual orientation, gender identity, territoriality, culture, religion and nationality, especially for women from the fields and the forests, from the waters and from urban peripheries. - Adopting and strengthening public policies and legislation aimed at promoting gender equality and empowering all women and girls, as well as promoting mechanisms for their effectiveness - at all federal levels - in their intersections with race, ethnicity, age, disability, sexual orientation, gender identity, territoriality, culture, religion and nationality, especially for women from the fields and the forests, from the waters and from urban peripheries.
Goal 13. Action Against Global Climate Change	- Increasing resilience and adaptive capacity to risks and impacts resulting from climate change and natural disasters. - The project provides that urban planning considers the reduction in the use of fossil fuels, air quality improvement and mitigation of greenhouse gas emissions, also considering issues related to minimizing exposure to risks associated with the intensification of climatic events. - Integrate the National Policy on Climate Change (PNMC) with national policies, strategies and plans. - The project seeks to align strategies with low emission development, incorporating aligned technologies that support the mitigation goals brought by the PNMC.
Goal 17. Partnerships and means of implementation	- Promoting the development, transfer, dissemination and diffusion of environmentally friendly technologies to developing countries, under favorable conditions, including concessional and preferential conditions, as mutually agreed. - Encouraging and promoting effective partnerships in the public, public-private, private and civil society spheres, based on the experience of the resource mobilization strategies of these partnerships.

[1] Report on The Technology Needs Assessment for the Implementation of Climate Action Plans in Brazil: Mitigation. Brasilia, 2021. Available at: https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/tna_brazil/arquivos/pdf/report-on-the-technology-needs-assessment-for-the-implementation-of-climate-action-plans-in-brazil-mitigation.pdf

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

Overview of existing lessons and best practice that inform project concept

This project builds upon experiences, lessons learned and good practices that UNEP garnered during its experience as implementing agency for other CBIT projects in the region. It has also drawn upon experiences in developing and executing other GEF-funded climate change mitigation projects in the LAC region. These experiences, lessons learned and good practices include the importance of:

1. Having a local focal point during project development for gathering information and facilitating stakeholder participation in project design and implementation;
2. Having a project champion from a national ministry to lead the project;
3. Undertaking extensive stakeholder consultations to ensure the project incorporates views of diverse stakeholders;
4. Developing a deep understanding of the local challenges for ensuring project design takes into account these potential risks;
5. Having an understanding of country regulatory processes as a way of ensuring that project key deliverables are timely adopted;
6. Developing a nuanced understanding of the potential economic, environmental and social impacts of possible project interventions, as basis for understanding what exactly is ambitious and innovative in the context of each country.

Plans to learn from relevant projects, programs, initiatives and evaluations

The main projects that are relevant for this CBIT are those that supported the preparation of transparency reports in the past (NCs, BURs, Adaptation Plans, etc.), as well as other recent initiatives that included transparency components, including (among others) projects such as PoMuC and ProAdapta, which should have concluded by the beginning of implementation of this CBIT project.[1] In addition to these, a GEF/UNDP project will be executed in parallel to the CBIT project, namely, project id. 10801 - *Fifth National Communication (NC5), Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)*. Projects supporting the time-bound preparation of concrete reports typically focus on effectively collecting the required input information, as well as transparently documenting (ex-post) the processes undertaken to achieve this, together with identified gaps and needs. The CBIT project ? which does not focus on the preparation of specific reports- will be able to

design and plan (ex-ante) the entire data collection process and efficiently establish the numerous processes behind its governance, thus establishing a full-fledged information system. Thus, the experiences, lessons learned, and improvement needs identified in on-going/previous reporting efforts (i.e. NC5 and previous) will be a fundamental input for the design of an efficient data collection process (output 1.4) and DataClima+?s procedure manuals (specific deliverables in outputs 1.2, 2.1, 2.2, 2.3, 2.4 and 3.1). Two additional sources of good practices include the experiences in the region (of which UNEP has significant experience) and the world (through UNEP?s CBIT Global Platform). Thus, most deliverables from international consultancies that are to hired for this project will be explicitly requested to include lessons learned and international good practices (see e.g. deliverables 1.1.2; 1.2.2; 3.2.1).

To further ensure that the project incorporate lessons learned, experiences and good practices from other initiatives, the project has designed its governance structure in a way that the involved institutions invited to participate contain all essential stakeholders who are leading on other relevant initiatives. This will be the case e.g. with UNDP, which will be requested to join the Advisory Body for this project?s Steering Committee as the implementing entity of the NC5 project.

Proposed processes to capture, assess and document info, lessons, best practice and expertise generated during implementation

The approach developed is based on UNEP?s experience in developing GEF projects (particularly, CBIT projects), considering a two-fold approach. On one side, the project aims to establish a full-fledged knowledge management for the DataClima+ system, as data and knowledge are its defining element. On the other side, the project will have its own (i.e. internal) knowledge management approach to ensure that the project?s actions are informed by on-going/previous experiences[2] (mainly, the preparation of transparency reports such as National Communications and BURs), and their outputs well documented for both on-going and future efforts.

Knowledge management at the DataClima+ level

In essence, DataClima+ will be a transparency knowledge management system. One of the key contributions from the project will be the organization and systematization of transparency data, metadata, and the myriad of processes behind its collection, handling, storage, safe-keeping, processing and display; Through outputs 2.1-2.4 and 3.1, this CBIT project will create knowledge in the form of protocols, guidelines, and indicators for climate transparency. In particular, the project will dissect, systematize, and compile all the procedures relevant for the operation of each of the system?s modules, creating process manuals that will include all relevant tasks, roles and responsibilities for the maintenance and usage of each. These activities will be completed by the projects short- and long-run capacity building activities (output 1.5), all of which will result in manuals, video tutorials and teacher?s guides that will allow for the continuous dissemination of knowledge. The experiences, lessons learned, and improvement needs identified in on-going/previous reporting efforts (i.e. NC5 and previous) will be a fundamental input for the design of an efficient data collection process (output 1.4) and DataClima+?s procedure manuals (specific deliverables in outputs 1.2, 2.1, 2.2, 2.3, 2.4 and 3.1).

The knowledge of activities and tasks performed by each team behind an information system is the basis for describing procedures, i.e. how the main activities to support the system are run. This set of documents provides a repository of knowledge useful to ensure its sustainability, and as such it is a fundamental part of this project?s knowledge management strategy. Through its focus on the standardization of processes, these outputs will

systematize various improvements that will be introduced through this or other projects (e.g. NC5), thus enhancing MCTI?s reporting efficiency, facilitating the induction process of new human resources and the adoption of the system by different users.

Knowledge management at the project level (i.e. internal knowledge management)

In terms of its own actions, processes, and outputs, the CBIT project will share a common data room with key on-going initiatives, mainly, the NC5 project (GED id. 10801), with which this CBIT project will have multiple synergies (as discussed in Annex Q of this document). MCTI?s personnel involved in said project will ensure that any outstanding gaps are addressed by the CBIT project, which will also benefit from their lessons learned.

A cloud-based system will also be used by UNEP to access project documents (including deliverables) on demand. This ensures that knowledge and information generated by the project is always available both to the executing and the implementing agency.

Proposed tools and methods for knowledge exchange, learning & collaboration

Besides the DataClima+ system itself, knowledge exchange, learning and collaboration will be channelled mainly through output 1.5 ?A national capacity building programme for DataClima+ is designed and made accessible to national stakeholders?. This includes the development of a 5-year training strategy, training sessions, peer-to-peer exchanges and learning modules. Moreover, this national project will participate in the CBIT Global Coordination Platform, providing and receiving inputs at the regional and global level. Sharing lessons learned and experiences under the platform will ensure alignment of this CBIT project with other national, regional, and global transparency initiatives. Specific deliverables have been included in the workplan to maintain written records of all lessons learned (see e.g. deliverable 1.5.7).

Proposed knowledge outputs to be produced and shared with stakeholders

Key project deliverables that will result in an enhanced knowledge management include:

- 1.1.4 Data master plan
- 1.2.6 DataClima+ system and web platform
- 1.2.7 DataClima+ operation plan
- 1.2.8 DataClima+ user manual
- 1.5.1 5-year training strategy
- 1.5.2 Workshops & training sessions: MCTI climate change staff
- 1.5.3 Workshops & training sessions: IT staff
- 1.5.4 Workshops & training sessions: data providers and data verifiers
- 1.5.5 Workshops & training sessions: Data Clima+ core modules
- 1.5.6 Workshops & training sessions: DataClima + as a planning instrument
- 1.5.7 Peer-to-peer sessions

- 1.5.8 On-demand training courses
- 2.1.4 SIRENE module process manual
- 2.2.4 AdaptaBrasil module process manual
- 2.3.4 NDC tracking module process manual
- 2.4.4 Means of Implementation module process manual
- 3.1.4 SINAPSE module process manual

Details on each of these (including scope and relevant stakeholders) can be found under the project description section of this document.

Knowledge management budget

The main knowledge management elements in the project budget are summarized in the table below:

Table 12. Knowledge Management products and budget

Description	Output	Envisaged timeframe[3]	Budget USD
Data master plan and related deliverables	Output 1.1	Months 10 to 16	USD 212,278
DataClima+ system and web platform; DataClima+ operation plan; DataClima+ user manual	Output 1.2	Months 24 to 29	USD 911,313
5-year training strategy; technical workshops (28), on-demand multimedia courses (5) for the long-term capacity building mechanism	Output 1.5	Months 25 to 43	USD 509,556
SIRENE module process manual, databases, tools and templates	Output 2.1	Months 23 to 34	USD 288,988
AdaptaBrasil module process manual, databases, tools and templates	Output 2.2	Months 26 to 34	USD 233,610
NDC tracking module process manual, databases, tools and templates	Output 2.3	Months 28 to 34	USD 230,985
Means of Implementation module process manual, databases, tools and templates	Output 2.4	Months 26 to 34	USD 230,110
SINAPSE module process manual, databases, tools and templates	Output 3.1	Months 28 to 34	USD 269,404
Cloud-based record keeping	All outputs	Months 24 to 43	Included in PMC
Total			**USD 2,886,244**

[1] A description of these projects is available in Table 4 of this project document.

[2] Differences, complementarities and synergies between GEF/UNDP 10801 combined (BUR5, NC5, BTR1 and BTR2) project and this GEF/UNEP CBIT project ts are discussed in Annex Q of this document.

[3] Please refer to project workplan in Annex K.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Monitoring during project execution

Progress will be reviewed yearly through the Project Implementation Report (PIR), which is the tool foreseen in the GEF?s Project and Program Cycle Policy. The purpose of the PIR is to assess project performance, to analyze whether the project is on track, what problems and challenges it encountered, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented. In between PIRs, the project team shall prepare and present intermediate internal progress reports (the ?Half Yearly Progress Reports?) to update project data and facilitate management. Developments in project execution will be monitored through regular follow-up meetings between the Implementation Agency and the Chief Technical Advisor.

Major evaluations: mid- and terminal

In line with the GEF Evaluation requirements and UNEP?s Evaluation Policy, GEF Full-Sized Projects and any project with a duration of 4 years or more will be subject to an independent Mid-Term Evaluation or management-led Mid-Term Review at mid-point. All GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review. In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review?s performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report.

If an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget. The TE will typically be initiated after the project?s operational completion. If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalized. The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the Chief Technical Advisor is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalization of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report.

M&E budget

The total GEF contribution for M&E activities (including the Inception Workshop and the Terminal Evaluation) is summarized in the table below (and shown under component 4 in the consolidated project budget, Annex I-1).

Table 13. M&E budget

Type of M&E activity	Responsible Parties	Budget from GEF	Time Frame
Inception Meeting[72]	**Chief Technical Advisor (CTA), National Project Director**	**USD 3,000**	**Within 4 months of project start-up**

Inception Report[73]	**CTA**	**As part of M&E personnel budget**	**1 month after project inception meeting**
M&E personnel budget for measurement of project progress and performance indicators; financial and administrative reporting	**CTA, JO, Gender and communications expert**	**USD 124,866**	**Quarterly (expenditure reports); Half-yearly (technical progress reports, including PIRs, Half Yearly reports and GAP reports)**
End-point measurement of project outcome indicators, GEF Core indicators	**CTA**	**As part of M&E personnel budget**	**End Point**

Semi-annual Progress/ Operational Reports to UNEP (?Half-yearly progress report?)	**CTA**	**As part of M&E personnel budget**	**Within 1 month of the end of reporting period i.e. on or before 31 January and 31 July**
Progress reports of the gender action plan (GAP)[74]	**Gender and communications expert**	**As part of M&E personnel budget**	**Half-yearly**
Project Steering Committee (PSC) meetings	**Chief Technical Advisor (CTA), National Project Director**	**Co-financed by Ministry**	**Once a year minimum**
Reports of PSC meetings	**JO**	**As part of M&E personnel budget**	**Annually**

Project Implementation Report (PIR)	**CTA**	**As part of M&E personnel budget**	**Annually, part of reporting routine**
Monitoring visits to field sites	**CTA, JO**	**M&E personnel budget**	**As appropriate**
Mid-term review/evaluation	**UNEP**	**USD 30,000**	**Around mid- execution**
Terminal review/evaluation[75]	**UNEP**	**USD 30,000**	**Typically initiated after the project?s operational completion**
Final Workshop (validation of the DataClima+ system)	**CTA**	**As part of output 1.6 (Data Clima+ launch event)**	**Project final year**

Project Operational Completion Report	**CTA**	**As part of CTA budget**	**Within 2 months of the project completion date**
Co-financing report (including supporting evidence for in-kind co-finance)	**CTA, JO**	**As part of CTA budget**	**Within 1 month of the PIR reporting period, i.e. on or before 31 July**
Publication of Lessons Learnt and other project documents	**Chief Technical Advisor (CTA), National Project Director**	**As part of CTA budget**	**Annually, part of half-yearly reports & Project Final Report**
Total		**USD 187,866**	

[1] The Inception Workshop will take place after the appointment of the Chief Technical Advisor. Its primary objective is to create momentum for the upcoming activities and the engagement of stakeholders. This workshop will:

- present the project?s vision, objectives, outcomes and outputs;
- present and discuss the project workplan;
- provide an overview of the project?s implementation arrangements and base project team, together with their roles and responsibilities; and

- highlight the relevance of stakeholder engagement and establish main communication channels, to be further refined through the stakeholder engagement strategy.
- The Inception Workshop will consist of 1 event for 100 participants.

[2] Report prepared following the inception workshop; which includes:
- A detailed workplan and budget for the first year of project implementation,
- An overview of the workplan for subsequent years, divided per component, output and activities.
- A detailed description of the roles and responsibilities of all project partners
- A detailed description of the Project Management Unit and the Project Steering Committee, including an organization chart
- Updated Procurement Plan and a M&E Plan, Gender Action Plan

[3] Report indicating progress regarding the activities, indicators and risks in the Gender Action Plan (see section on ?Gender equality and women?s empowerment?). The gender specialist in charge of the GAP will consult with the Ministry of Women and all other relevant institutions.

[4] Whether a project requires a management-led review or an independent evaluation is determined annually by UNEP?s Evaluation Office

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

This CBIT project is addressing GEF Focal Area Climate Mitigation 3-8 ?Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through capacity building initiative for transparency?.

The project will contribute to the improvement of local and global environmental conditions through enhancing the transparency related to GHG emissions, mitigation, adaptation, and means of implementation in Brazil. It will strengthen the institutional and technical capacities in the country for national reporting requirements under the commitment of the UNFCCC and the Paris Agreement, such as the elaboration of Biennial Transparency Reports and National Communications, and the tracking and updating of its NDC. More specifically, it will improve the national capacities of Brazil to fulfil the MPGs of the Enhanced Transparency Framework of the Paris Agreement. Furthermore, the project will improve gender mainstreaming activities in fundamental elements of Brazil?s climate change related policies and reports, such as the country?s NCs, NDC updates, adaptation plans and mitigation actions. It will define, design, and propose the necessary institutional arrangements for all the reporting processes to ensure that the capturing and reporting of essential climate transparency information and data is efficient and science based. The design and establishment of a functional transparency system with tools, guides, and protocols to monitor and evaluate (M&E) adaptation measures and monitor, report, and verify (MRV) mitigation actions, and support needed and received will additionally be supported.

This CBIT project will therefore strengthen Brazil?s enabling environment and capacity to implement the MPGs of the Enhanced Transparency Framework of the Paris Agreement by establishing the necessary institutional arrangements and by improving the national planning processes and instruments.

The project will additionally ensure active engagement with national academia, research institutions, and public and private universities throughout the country to ensure the sustainability of the entire system and project outputs. Throughout the project, active engagement will be ensured through capacity building activities to ensure improved knowledge of relevant stakeholders and the sustainability of the project. The communication campaign in output 1.6 will create public awareness and will establish a channel for continuous stakeholder consultation, interaction, and engagement.

DataClima+ will provide a better access to climate change information and allow monitoring for decision making. It will also allow to develop well informed viable strategies to increase resilience in marginalized communities of Brazil, which are particularly prone to climate hazards. Frequently affected by floods and landslides, these events have widespread implications for the economic, social, and psychological welfare of vulnerable communities. Responding effectively and timely to these risks requires the strategic combination of updated information and decision-making, thereby creatively linking the expertise, efforts and actions of diverse stakeholders, including local government, scientists, industry experts, and the communities themselves. To achieve this, DataClima+ represents an integrated tool of interconnectivity between the sectors and disciplines to manage climate change commitments and impacts.

Finally, the CBIT project will assist Brazil in achieving the Sustainable Development Goals (SDG), and more specifically, SDG 13, by supporting the integration of climate change measures into national policies, strategies and planning; building knowledge and improving education, awareness-raising and human and institutional capacity on climate change issues, and promotion of mechanisms for raising capacity for effective climate change-related planning and management in the country.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Low	Low		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
10932 CBIT Brazil SRIF 20230310	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Project Objective	Objective level Indicators	Baseline	Mid-term target	End of project target	Means of Verification	Risks
To strengthen the national transparency system in Brazil (DataClima+) for informing national policymaking and meeting the requirements of the enhanced	Indicator A (= core indicator 11): Direct project beneficiaries disaggregated by gender (individual)[1]	0	150 beneficiaries (50% are women)	660 beneficiaries (50% are women)	Project reports and capacity building attendance lists.	4 (lack of stakeholder engagement risk), 5 (gender risk)

transparency framework (ETF) under the Paris Agreement.	Indicator B: Quality of MRV Systems[2]	Score = 3 (Measurement systems are in place for a few activities, improved data quality and methodologies, but not cost or time efficient; wider access to reporting is still limited and information is partial; verification is rudimentary/non-standardized)	Score = 3	Score = 7 (Measurement regarding GHG is broadly done (with widely acceptable methodologies), need for more sophisticated analyses to improve policy; Reporting is periodic with improvements in transparency; verification is done through more sophisticated methods, even if partially)	The score will be the average of the scores attributed by at least 3 representatives of the steering committee and/or advisory body based on the use of the system and on the project manager's progress implementation reports. The project manager shall include a one-page annex to each yearly PIR on the quality of the Brazilian MRV system, including the evaluators? reports. The Terminal Evaluation will include a revision on the validity of the assumptions and criteria used to establish the baseline and end-of-project scores.	2 (lack of political prioritization risk), 4 (lack of stakeholder engagement risk)

	Indicator C: Qualitative assessment of institutional capacity for transparency-related activities[3]	Score = 2 (Designated transparency institution exists, but with limited staff and capacity to support and coordinate implementation of transparency activities under Article 13 of Paris Agreement. Institution lacks authority or mandate to coordinate transparency activities under Article 13.)	Score = 2	Score 4 (Designated transparency institution(s) has an organizational unit with standing staff with some capacity to coordinate and implement transparency activities. Institution(s) has clear mandate or authority to coordinate activities under Article 13 of the Paris Agreement, and activities are integrated into national planning and budgeting activities.)	The score will be the average of the scores attributed by at least 3 representatives of the steering committee and/or advisory body based on the use of the system and on the project manager's progress implementation reports. Following the availability of the initial system diagnosis and design (outputs 1.1 and 1.2), the project manager should include in the yearly PIRs a technical annex on how the quality of the Brazilian MRV system is being improved through the project actions, including the evaluators? reports..	2 (lack of political prioritization risk), 4 (lack of stakeholder engagement risk)

Project Outcomes	**Outcome level Indicators**	**Baseline**	**Mid-term target**	**End of project target**	**Means of Verification**	**Risks**

Outcome 1: The Brazilian Government measures, tracks and reports climate data through a robust, integrated and efficient transparency system	Indicator 1: % of information in the data collection plan covered within data sharing agreements	n.a. (no systematic data collection plan exists)	20%	75% of the variables in the data collection plan fall within the scope of a data sharing agreement (or equivalent) with the respective data provider.	Data collection plan and signed agreements with data providers	2 (lack of political prioritization risk), 3 (procurement risks) 4 (lack of stakeholder engagement risk) 8 (lack of institutional coordination)
Outcome 2: The Brazilian Government produces timely climate data and makes it available through DataClima+	Indicator 2: Average time between each ETF report submission	National Communications: 62 months; BURs: 27 months.	1st BTR: submitted until Dec/2024	2nd BTR: 24 months	DataClima+ platform (SIRENE, means of implementation module).	2 (lack of political prioritization risk), 3 (procurement risks) 4 (lack of stakeholder engagement risk)
Outcome 3: National policy-makers incorporate climate data and analysis into national planning and policy-making efforts	Indicator 3: DataClima+ is officially recognized as a country?s centralized, integrated climate transparency system used to support the preparation of ETF reports and national planning processes	n.a. (no centralized climate transparency system exists)	n.a.	Yes (i.e. ministerial resolution or similar instrument recognizing DataClima+ as the national transparency system.	Governmental resolution[4] establishing DataClima+ as Brazil?s integrated information system for the preparation of ETF reports and medium and long-term planning processes.	2 (lack of political prioritization risk), 3 (procurement risks) 4 (lack of stakeholder engagement risk) 5 (gender risk) 8 (lack of institutional coordination)

[1] ME/GN/02, *Guidelines on core indicators and sub-indicators* (2019)

[2] GEF/C.50/06, *Programming directions for the Capacity-Building Initiative for Transparency* (2016), Annex III

[3] GEF/C.50/06, Programming directions for the Capacity-Building Initiative for Transparency (2016), Annex IV

[4] The attributions related to climate governance of the new Brazilian government, in office since January 2023, have not yet been fully consolidated at the time of writing this proposal. Thus, the generic term 'governmental resolution' was used, since it is not possible at this time to identify which would be the most appropriate instrument for achieving this objective (e.g. presidential decree, ministerial resolution, inter-ministerial resolution, etc.). Thus, the exact instrument will be determined as part of project execution.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

This project does not involve a PFD, and no STAP comments have been received. Responses to GEF Council comments[1] can be found below.

Germany comments:	**How have the comments been addressed?**

While the proposal states that the ?Ministry of Science, Technology and Innovations (MCTI) is responsible for the management of climate data, development of climate data systems and production of UNFCCC reports? the overall political mandate for the general climate agenda, NDC and the national transparency system of the Paris Agreement lies with the Ministry of Environment (MMA). The mandates of both ministries are not clearly defined, which recently became evident again through the publication of presidential decree No 11.075, which designs a National System for the Reduction of Greenhous Gas Emissions (SINARE) operated by MMA. The decree states that a joint act of the Ministers of MMA, Ministry of Economy (ME) and MCTI may establish compatibility mechanisms with the National Emissions Registry System (SIRENE) operated by MCTI, but there is no guarantee that this will happen. MCTI and MMA did not seem fully aligned about the decree, and there is a possible overlap between SINARE and SIRENE and MCTI?s mandate in registering and reporting emissions reductions and removals. Taking this lack of clarity into account, Germany requests specifying MMA?s role within the project.	Due to its prominent role as leader in the implementation of the National Climate Change Policy (PNMC), the preparation of the NDC strategy and its sectoral mitigation plans, MMA is one of the key stakeholders of this CBIT project.[2] MMA?s role in this project will be to participate in this CBIT project?s Steering Committee. Through the committee, MMA will provide technical inputs to the project activities and develop understanding of how to draw on the project?s products in its work. The CBIT project will continue to facilitate effective coordination between MCTI and MMA in accordance with their respective mandates (see baseline section), building upon the interministerial committee CIMV, chaired by the President?s Chief of Staff, with MMA acting as Executive Secretary and MCTI a CIMV member.
The ?Climate Policy Programme Brazil? (PoMuC) implemented by GIZ, funded by the German Ministry for the Environment (BMUV) within the International Climate Initiative IKI - a project mentioned under Table 3 - contains a component to support a transparency system (Paris Agreement), in cooperation with MMA. PoMuC furthermore supports the development of a new module under SIRENE to register corporate GHG inventories. The ?Supporting Brazil in the implementation of its National Agenda for Climate Change Adaptation? (ProAdapta) project, also funded by BMUV/IKI, supports the MCTI with ?AdaptaBrasil?. All three components potentially overlap with the project proposal. Germany requests adding this information to the proposal and to align with BMUV and GIZ to avoid double efforts, identify synergies and achieve maximum impact.	Information on the PoMuC and ProAdapta projects has been included in the project document. The project will build upon the results delivered by these projects, thus providing continuity to their work. Specific linkages to these projects have been included in output 1.1, 1.2 and 1.3 (i.e. gap analysis, system design, and institutional architecture), output 2.1 and 2.2 (improvements in SIRENE and AdaptaBrasil).
Germany welcomes the focus on gender-sensitivity. To support inclusive policymaking, it is recommended to compile disaggregated data for other groups which are vulnerable to climate change, especially indigenous and black people.	Acknowledged. This has been captured mainly through output 1.1 (e.g. see deliverable 1.1.2) and output 1.6 (e.g. deliverable 1.6.1).

Germany appreciates the aim to make all data publicly available through public dashboards, facilitating greater national transparency on climate action. In this regard Germany stresses the importance of accessibility. It is recommended that all data is costfree, barrier-free, accessible through a smartphone and easy to understand.	Acknowledged. This has been captured mainly in the system?s design output (output 1.2, see e.g. deliverable 1.2.1).
United Kingdom comments:	**How have the comments been addressed?**
In relation to the third component of this project; supporting national policy- and decision-makers to more effectively incorporate climate data and projections into their regulatory processes.	System adoption beyond MCTI is essential to achieve the project?s objectives. Thus, the project has identified critical stakeholders (in most cases, outside of the boundaries of the MCTI) for each single deliverable in each one of its 12 technical outputs. Moreover, the project includes two outputs to explicitly address work needed beyond the MCTI, i.e. the
Brazil through its Science Ministry (MCTI) is already technically adept at managing its GHG data. It already has good GHG emissions trajectories and calculations ? although comments on the proposal do pick-up this possible duplication with previous projects.	

We support development an integrated national data system to strengthen data utility and transparency. Most critical is how data is deployed to policy makers beyond MTCI. It will be helpful to understand how Brazil (MCTI) intend to utilize this data against their COP26 NDC commitments, which are to halve emissions by 2030 leading to net-zero by 2050.	national capacity building programme (output 1.5) and the gender-sensitive stakeholder communication and engagement campaign (output 1.6). DataClima+ will be the fundamental information system supporting the achievement of Brazil?s NDC. Some examples of how the project will support this include: - by adapting SIRENE to include organizational inventories and harmonize them with (aggregated) sectoral inventories (output 2.1), the project will serve as the foundation stone for a local carbon market. This in turn will be a key mechanism to translate the NDC into sector- and company-level mitigation efforts; - the NDC tracking module will be a key tool to support the interministerial committee on climate change (CIMV), in charge of steering national policies to comply with climate commitments. The NDC tracking module will serve to identify opportunities to further increase the country?s level of ambition, as well as those sectors where the country is lagging behind and more efforts (and support) are needed; - through the means of implementation module, the country is expected to transparently reflect how support received was used as intended -bringing confidence to donors and investors- as well as to further identify opportunities (i.e. concrete projects and technologies) where additional support is needed. - through SINAPSE, the project will provide a refined tool to support the development of sectoral emission reduction plans, understanding the consequences and crossed effects behind each potential path. This understanding will also serve to identify equity aspects of decarbonization, informing the development of mitigation actions to ensure a just transition. Vulnerabilities and adaptation risks and needs (tracked through the adaptation

	module) will also contribute towards a just transition to net-zero by 2050.

[1] Comments can be found in pages 9 to 10 of the following link: https://www.thegef.org/sites/default/files/documents/2022-08/GEF_C.62_Compilation_council_comments.pdf

[2] This is stated explicitly throughout the tables presenting each output?s deliverables (and key stakeholders for each). See the project description section.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: US$50,000			
Project Preparation Activities Implemented	**GETF Amount (US$)**		
	Budgeted Amount	**Amount Spent to date**	**Amount Committed**
GEF Consultant	22,500	22,725	-
Technical Consultant (System analyst/engineer)	8,000	8,000	-
Local Consultant	14,500	14,500	-
Staff & Personnel (Appendix D ? 1%)	450	225	-
Travel	4,550	1,784	-
Total	50,000	47,259	

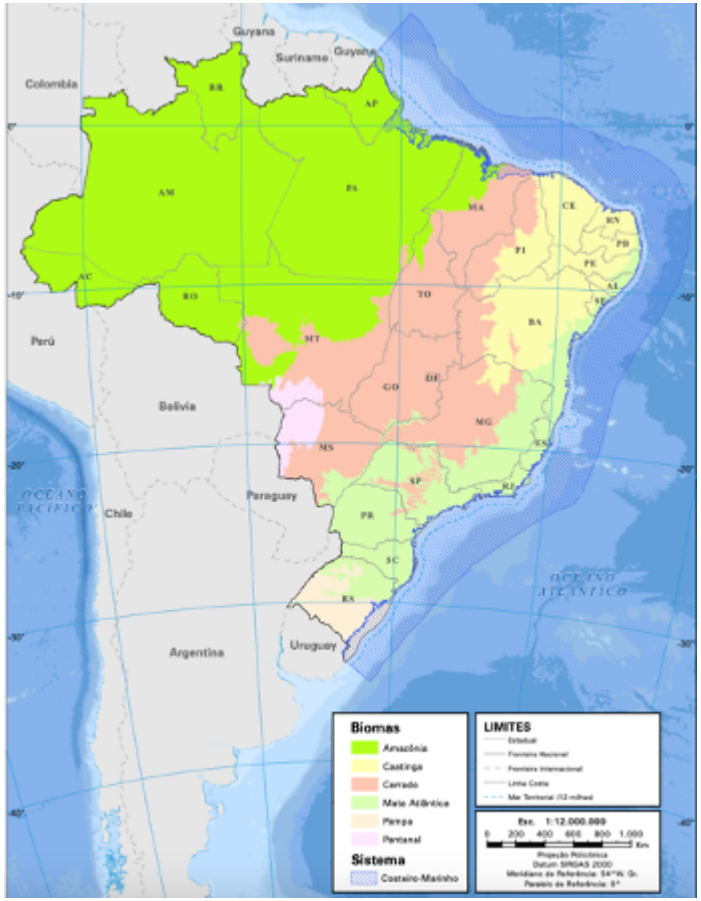
The outstanding balance (USD 2,741) will be used during the project?s first year (counting since CEO Approval) to undertake activities aligned with GEF/C.59/Inf.03, Annex 2, table 1. Any remaining funds will be duly returned to the GEF.

Primarily, the funds will be used for:
1. Organizing a local consultation workshop to:
? Further inform national and local stakeholders on GEF purposes and procedures.

? Develop in greater detail the execution arrangements (based on the agreed structure in section 6 and annex J).
2. Translation costs to have all project package in Portuguese.

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Geocoordinates of Brasilia: 15.7975? S, 47.8919? W.

ANNEX E: Project Budget Table

Please attach a project budget table.

	Component 1	Component 2	Component 3	Component 4		PMC		
GEF budget category & detailed description	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Subtotal	PMC	Total	Responsible entity
02. Goods	**472,343**				**472,343**	**16,748**	**489,091**	
Laptops						16,000	16,000	Funbio
Server architecture	472,343				472,343		472,343	Funbio
Office supplies						748	748	Funbio
07. Contractual services (company)	**1,062,980**	**892,118**	**248,479**		**2,203,577**	**119,406**	**2,322,983**	
System design consultancy	383,000				383,000		383,000	Funbio
Development, deployment & testing consultancy	128,370	840,240	198,390		1,167,000		1,167,000	Funbio
Capacity building consultancy	287,000				287,000		287,000	Funbio
Communication & engagement campaign	212,732				212,732		212,732	Funbio
Audit						26,000	26,000	Funbio
Technical supervision and coordination	51,878	51,878	50,089		153,846		153,846	Funbio
Software licenses						8,000	8,000	Funbio
Procurement, HR, legal, record keeping and other operational support cos						85,406	85,406	Funbio
08. Contractual services (individuals)	**341,000**	**74,375**	**76,625**	**78,000**	**570,000**		**570,000**	
Transparency expert	150,500				150,500		150,500	Funbio
Data expert	52,500	42,875	9,625		105,000		105,000	Funbio
IT System manager	31,500	31,500	7,000		70,000		70,000	Funbio
Gender and communications expert	16,500			18,000	34,500		34,500	Funbio
Legal expert	90,000		60,000		150,000		150,000	Funbio
Mid-term & Terminal Evaluation				60,000	60,000		60,000	UNEP
11. Salary and benefits/Staff Costs	**182,356**		**37,335**	**106,865**	**326,556**	**46,494**	**373,050**	
Chief Technical Advisor	176,676		37,335	46,002	260,013	40,002	300,015	Funbio
Junior officer	5,681			60,863	66,543	6,492	73,035	Funbio
12. Training, Workshops, Meetings	**27,000**			**3,000**	**30,000**		**30,000**	
Workshop venue and logistics	27,000			3,000	30,000		30,000	Funbio
13. Travel	**28,991**	**17,200**	**4,300**		**50,491**			
International travel	4,300	17,200	4,300		25,800		25,800	Funbio
Local travel	24,691				24,691		24,691	Funbio
Grand Total	**2,114,670**	**983,693**	**366,739**	**187,865**	**3,652,968**	**182,648**	**3,835,616**	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).