

## Fifth National Communication, Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)

### Part I: Project Information

**GEF ID**

10801

**Project Type**

EA

**Type of Trust Fund**

GET

**CBIT**

CBIT No

**Project Title**

Fifth National Communication, Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)

**Countries**

Brazil

**Agency(ies)**

UNDP

**Other Executing Partner(s)**

Ministry of Science, Technology and Innovations (MCTI)

**Executing Partner Type**

Government

**GEF Focal Area**

Climate Change

**Taxonomy**

Focal Areas, Climate Change, Climate Change Mitigation, Climate Change Adaptation, United Nations Framework Convention on Climate Change, Paris Agreement, Enabling Activities, Stakeholders, Communications, Awareness Raising, Type of Engagement, Consultation, Participation, Civil Society, Non-Governmental Organization, Academia, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Training, Knowledge Exchange, Learning, Capacity Development

**Rio Markers****Climate Change Mitigation**

Climate Change Mitigation 2

**Climate Change Adaptation**

Climate Change Adaptation 1

**Duration**

64 In Months

**Agency Fee(\$)**

712,500.00

Type of Reports	Submission Date	Expected Implementation Start
UNFCCC National Communications (NC)	12/30/2024	2/12/2022
UNFCCC Biennial Update Report (BUR)	12/30/2022	2/12/2022
UNFCCC Biennial Transparency Report (BTR)	12/30/2024	12/30/2022
UNFCCC Biennial Transparency Report (BTR)	12/30/2026	12/30/2024

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-EA	GET	7,500,000.00	52,536,909.00
	<b>Total Project Cost (\$)</b>	<b>7,500,000.00</b>	<b>52,536,909.00</b>

## B. Indicative Project description summary

### Project Objective

To prepare the Fifth National Communication (5NC), Biennial Update and Transparency Reports required to meet obligations under the UNFCCC and to disseminate the project achievements

Project Component	Project Outcomes	Project Outputs	GEF Amount(\$)	Co-Fin Amount(\$)
1 – National GHG Inventory (GHGI)	1.1. National GHG Inventory (GHGI) is improved and updated	1.1.1 Procedures and arrangements described to collect data, including information on the role of the partner institutions, as well as the development of an improvement plan for the preparation of national GHG inventories	3,225,000.00	29,937,912.00
		1.1.2 Procedures and arrangements described for archiving data related to the elaboration of national GHG inventories, as well as efforts to make this process continuous, including information on the		

role of the  
institutions  
involved

1.1.3 Data and  
parameters  
collected,  
completeness and  
accuracy of the  
data series  
reviewed, and  
national capacities  
improved to  
provide information  
to the GHGI

1.1.4 Analysis of  
the methodology  
and procedures  
implemented for  
inventory  
development using  
the 2006 IPCC  
Guidelines.  
Evaluation of  
applicability of  
subsequent version  
or refinement,  
considering the  
need to improve  
transparency,  
accuracy,  
comparability, and  
completeness

1.1.5 BUR5's GHGI updated for 1990-2018 in the Energy, IPPU, Agriculture, LULUCF, and Waste sectors, to be submitted in 2022

1.1.6 BTR1 and 5NC's GHGI updated for 1990-2021 in the Energy, IPPU, Agriculture, LULUCF, and Waste sectors, to be submitted in 2024

1.1.7 BTR2's GHGI updated for 1990-2023 in the Energy, IPPU, Agriculture, LULUCF, and Waste sectors, to be submitted in 2026

1.1.8 Quality Assurance and Quality Control plan developed and implemented

1.1.9 Uncertainty assessment, assessment of completeness, and analysis of key

source categories'  
GHG emissions  
conducted

1.1.10 Flexibility  
analysis in  
implementing the  
provisions of  
Article 13 in the  
Paris Agreement,  
indicating the  
capacity  
constraints

1.1.11  
Improvement plan  
developed and  
updated for the  
subsequent  
inventories

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2 – National Circumstan ces, Envisaged Steps for the Convention Implement ation, and other relevant information	2.1. Report on National Circumsta nces and other relevant informatio n updated  2.2. Institution al arrangem ents structured	2.1.1 Updated information of Brazil's national circumstances, including characterization of the territory, population description including gender issues and priorities for national and regional development	225,000.00	700,000.00
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2.1.2 Report on updated policies, programs, and other initiatives to mitigate and adapt to climate change

2.1.3 Report on updated constraints, needs and gaps, as well as any other information considered relevant to the achievement of the objective of the Convention

2.1.4 Report on updated relevant information to achieve the objectives of the Convention in Brazil, as awareness initiatives on climate change issues, gender assessment and capacity building on climate change, and impact of COVID-19 pandemic for climate change and health indicators, and others

2.2.1 Report of relevant institutional arrangements for the implementation of the Climate Convention in Brazil

2.2.2 Report on institutional arrangements for National Communication' preparation on a continuous basis

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3 – Vulnerability assessment and adaptation measures	3.1. Assessment of climate scenarios and observed tendencies for Brazil improved with the use of advanced and updated climate models	3.1.1 Documented and analyzed climate scenarios for Brazil until 2100 based on the state-of-art available models  3.1.2 Documented and analyzed observed tendencies for Brazil in the last decades, according to available data	750,000.00	13,334,297.00
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and  
informatio  
n

3.2.  
Vulnerabil  
ity to  
climate  
change in  
Brazil  
assessed  
and  
adaptatio  
n  
measures  
identified  
for key-  
sectors

3.2.1  
Systematization of  
main climate-  
related existing  
studies about  
observed and  
projected impacts  
and vulnerabilities  
in key-sectors in  
Brazil

3.2.2 Improvement  
of methodologies  
and analysis to  
assess the regional  
climate-related  
vulnerabilities and  
impacts

3.2.3 Report on  
updated  
information about  
main governance  
instruments and  
initiatives that  
contribute to  
adaptation to  
climate change in  
Brazil

3.2.4 Adaptation  
measures for the  
main impacts and  
vulnerabilities  
identified for the  
key-sectors

3.2.5 Planning of  
gender  
vulnerabilities  
assessment

4 – Public Awareness, Development of National Capacity, and Gender Mainstreaming in mitigation policies and measures	4.1. An enhanced public awareness strategy on climate change is developed, including the compilation and update of relevant information  4.2. Development of national capacity and institutional arrangements improvement for implementation and monitoring of climate actions	4.1.1. Relevant documents (IPCC technical and special reports, and others, such as technical analyses and good practice guidance) and policy briefs published and disseminated  4.1.2. Web site of the MCTI updated with information on GHG Inventories, legislation, scientific knowledge, and other climate change issues  4.1.3. Workshops and seminars organized and participation in public events in order to disseminate information on climate change issues, presenting main findings of	750,000.00	2,340,000.00
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4.3. Gender mainstreaming in planning and implementing climate change mitigation policies and measures

the project and genders experiences with climate change

4.1.4 Updated assessment of public perception on climate change and its risks

4.1.5 Training on climate change from an educational perspective, including educators capacity building and development of educational material focused on children and young people

4.1.6 Development of educational, accessible, and easy-going material about climate change issues

4.2.1. Capacity building activities to strengthen human, scientific, technical, and

institutional  
capacity regarding  
GHG inventory  
development,  
mitigation actions,  
V&A, MRV, and  
subjects related.

4.2.2 Development  
of an  
interconnected  
database for  
mitigation options  
and other relevant  
information to  
ensure the  
systematization of  
data required for  
BUR and BTR, and  
the suitable  
dissemination of  
information to the  
general public

4.2.3 Improvement  
of the National  
Emissions Registry  
System (SIRENE)

4.2.4 Improvement  
of adaptation  
platform  
(AdaptaBrasil  
MCTI) with updated  
data

4.3.1 Analysis to  
integrating gender  
and climate change

4.3.2 Gender  
missing data and  
gender needs  
assessment to  
climate change

4.3.3  
Recommendations  
to ensure gender  
mainstreaming in  
planning and  
implementation of  
climate change  
mitigation policies  
& measures  
produced

4.3.4 Outreach  
activities about  
results obtained  
related to gender  
dimension and  
climate change

4.3.5 Training for  
climate change  
gender  
empowerment

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5 – Publication and submission of the 5NC	5.1. 5NC is published and submitted to the UNFCCC by Dec 2024	5.1.1 5NC compiled and submitted until Dec/2024 (as a standalone report)  5.1.2 5NC published in hard copy and alternative media in Portuguese and English	385,000.00	600,000.00
6 – Preparation and submission of the Biennial Update Report (BUR) and the Biennial Transparen cy Reports (BTRs)	6.1. Institution al arrangem ents for the preparatio n of BUR and BTRs  6.2. Mitigation actions and domestic MRV  6.3. Needs, constraint s, gaps, and other relevant	6.1.1 Strengthening the institutional framework for preparing GHG inventories on a biennial basis, as well as collecting and systemizing all data related to domestic MRV, mitigations actions and their effects, needs, constraints and gaps, support received, impacts assessments, and adaptation.  6.2.1 Analysis of the legal and strategical framework covering mitigation actions and	1,725,000.00	3,000,000.00

info identified to the achievement of the objective of the Convention

domestic MRV system implemented and adopted

6.2.2 Report on mitigation actions and their effects

6.4. Climate change impacts and adaptation

6.2.3 Enhancement on the analysis of the mitigation actions progress and the Nationally Determined Contribution (NDC) tracking progress

6.5. BUR and BTRs are compiled and submitted to the UNFCCC

6.2.4 Report on updated information on the description of domestic MRV (measurement, reporting and verification) arrangements

6.2.5 Report on updated tracking progress of NDC

6.3.1 Financial, technology development and

transfer, and  
capacity-building  
needs updated

6.3.2 Information  
on support  
received updated  
and development  
of a consistent  
database

6.4.1 Report on  
information related  
to averting,  
minimizing, and  
address loss and  
damage associated  
with climate  
change impacts

6.4.2 Identification  
of cooperation,  
good practices, and  
lessons learned on  
adaptation issues

6.4.3 Adaptation-  
related economic  
diversification and  
mitigation co-  
benefits of  
adaptation

6.5.1 BUR5  
compiled and  
submitted in  
Dec/2022

6.5.2 BTR1  
compiled and  
submitted in  
Dec/2024 (as a  
standalone report)

6.5.3 BTR2  
compiled and  
submitted in  
Dec/2026

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7 - Monitoring and Evaluation (M&E) of the project	7.1. Monitorin g and Evaluation (M&E) of the project outcomes and outputs done	7.1.1 Inception Workshop  7.1.2 - Monitoring reports including QPR and PIR  7.1.3 Independent external evaluations (Mid- Term Review and Terminal Evaluation)  7.1.4 - Project financial and progress reports	82,858.00	90,000.00
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	<b>Sub Total (\$)</b>	<b>7,142,858.00</b>	<b>50,002,209.00</b>
<b>Project Management Cost (PMC)</b>			
		357,142.00	2,534,700.00
	<b>Sub Total(\$)</b>	<b>357,142.00</b>	<b>2,534,700.00</b>
	<b>Total Project Cost(\$)</b>	<b>7,500,000.00</b>	<b>52,536,909.00</b>

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**C. Indicative sources of Co-financing for the Project by name and by type**

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Recipient Country Government	MCTI	Grant	Investment mobilized	50,002,209.00
Recipient Country Government	MCTI	In-kind	Recurrent expenditures	2,534,700.00
			<b>Total Project Cost(\$)</b>	<b>52,536,909.00</b>

**Describe how any "Investment Mobilized" was identified**

Investment mobilized was identified through formal consultations to the MCTI approved budget and its funding agencies of research, development & innovation regarding climate and sustainability programs and projects to be implemented during the 5NC term.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Brazil	Climate Change	CC STAR Allocation	7,500,000	712,500	8,212,500.00
<b>Total GEF Resources(\$)</b>					<b>7,500,000.00</b>	<b>712,500.00</b>	<b>8,212,500.00</b>

## Part II. Enabling Activity Justification

### A. ENABLING ACTIVITY BACKGROUND AND CONTEXT

Provide brief information about projects implemented since a country became party to the convention and results achieved

As a Party to the UNFCCC since 1994, Brazil is required to prepare a National Communication Document, based on the guidelines provided by the Conference of Parties (COP) for non-Annex I countries (Decision 17/CP.8). The Government of Brazil (Go B) has successfully submitted the Initial, Second, Third, and Fourth National Communications. The first UNDP/GEF Enabling Activity project allowed Brazil to prepare its Initial National Communication (INC), which focused mainly on preparing a detailed inventory of GHG emissions and a general description of steps taken envisaged to implement the Convention. The INC assessed the most important sources and sinks of GHG in Brazil from the following sectors: (i) Energy, (ii) Agriculture and livestock, (iii) Industry, (iv) Land Use Change and Forestry (LUCF); and (v) Waste, for the period 1990 to 1994. Brazil submitted its Initial National Communication to the UNFCCC on December 10th, 2004, at COP-10.

The Second National Communication (SNC), submitted to UNFCCC in November 2010, envisaged extending the coverage of the annual Brazilian Inventory of anthropogenic GHG emissions and removals to the period 1990-2000; however, it was possible by the project to make efforts to report a more extensive time series (1990-2005) than required by the UNFCCC. It focused on sectors/gases with a significant share of GHG emissions and/or present a large degree of uncertainty. It enlarged the scale and scope of activities undertaken, included vulnerability and adaptation (V&A) assessments, carried out studies on possible V&A measures, and downscaled global circulation models (using a regional model). It enhanced the institutional capacity for implementing the Convention in Brazil. By this project, the MCTI engaged a broad-based network of partners to prepare the SNC. Over 600 institutions and 1,200 experts with recognized competence in their respective areas of expertise from different sectors (energy, industry, forestry, agriculture/livestock, waste treatment, etc.) were involved, coming from the public and private sectors as well as from the academy.

The third UNDP/GEF EA Project started in November 2010 and envisaged extending the coverage of the annual Brazilian Inventory of anthropogenic GHG emissions and removals to the period 2000-2010. It focused on sectors/gases that have a significant share of GHG emissions and/or present a large degree of uncertainty, such as CO<sub>2</sub> in LULUCF and Energy sectors, CH<sub>4</sub> in Agriculture and Waste, and HCFs in the IPPU sector. The preparation of the GHGI in the TNC involved a significant share of the Brazilian business, the scientific community, and government sectors, with the direct participation of more than 230 experts representing approximately 100 institutions. The progress achieved for the Brazilian Terrestrial System Model (BESM) at TNC allowed improvement for projections of global climate changes, enabling the country to generate future scenarios and also integration between MCTI/INPE with the Earth System Grid Federation (ESGF), which connects the national initiative to other world centers for the generation and dissemination of global climate change scenarios.

Furthermore, the TNC deepened knowledge production in impacts, risks, and vulnerability to climate change through new studies, with robust methodology and data. These studies were significant inputs for the adaptation and climate change national plans. At the same time, they mean more national capacity building to collect information to support drafting of public development policies in Brazil. The TNC final document was submitted to the UNFCCC in April 2016.

In the process of elaborating the 4NC, a permanent data platform called National Emissions Registry System (SIRENE in the Portuguese acronym) was launched. The SIRENE is a relevant tool that grants security and transparency to national GHG emissions outcomes. It is acknowledged by the Brazilian Government as a landmark for the establishment of the measuring, report and verification process, being a valuable tool to assist decision-makers in the context of policies, plans, programs, and projects aiming to comply with national and international plans to tackle climate change. Another significant contribution to the Fourth National Communication is the multiple research programs conducted by the Brazilian Research Network on Global Climate Change (Rede CLIMA). The research programs are filling information gaps identified in the TNC. This Network was established by the Ministry of Science, Technology and Innovations (MCTI) in 2007 to generate and disseminate knowledge about the causes and effects of global climate change.

In the 4NC, technical and scientific inputs have been developed from official national data and established partnerships and contracts, which represented the direct involvement of more than 400 experts from 217 renowned institutions. As part of a quality assurance procedure, the main technical documents developed were submitted to public consultation with experts not directly involved in the studies. The 4NC's GHGI continued to improve the method by using the IPCC 2006 Guidelines in its entirety and improving the national databases, especially for the key sectors (Agriculture, Energy, and LULUCF), but also with significant advances for the IPPU and Waste sectors. The 4NC contributed to the development of integrated analyzes for studies of impacts, vulnerability, and adaptation through Water, Energy, Food, and Social environmental Security. Also, these analyses considered climatic scenarios with a level of warming approach, something unprecedented.

As the preparation of the 4NC moved forward, Brazil has identified several aspects that should be enhanced for the 5NC. The Inventory for the Land Use, Land Use Change and Forestry (LULUCF) sector will be further refined by utilizing satellite images taken at shorter time intervals for all biomes. The Inventory will be further improved by calculating country-specific emission factors for energy, agriculture, and LULUCF. This work will allow the extension and consolidation of existing partnerships with relevant government institutions and research centers, besides the foreseen improvement of current models and data platforms.

The 4NC was presented to the UNFCCC by December 2020. In line with the decision 2/CP.17, Brazil also submitted four Biennial Update Reports, including Technical Annexes on REDD+ in Dec 2014, Mar 2017, Mar 2019, and Dec 2020.

The TTE, in consultation with Brazil, identified the following need for capacity-building that could facilitate the preparation of subsequent BURs and participation in ICA: strengthening the institutional framework for preparing GHG inventories to enable their preparation on a biennial basis, data collection, and the application of higher-tier methodologies (in particular for the industrial processes and LULUCF sectors).

The TTE noted that, in addition to those identified during the technical analysis, Brazil reported the following capacity-building needs in its BUR: (a) Training of specialists in traceability and certification systems as part of the domestic MRV system; (b) Support for the dissemination of knowledge; (c) Support for digital interaction among public record agencies; (d) Technical training on and dissemination of energy management systems; (e) Technical training on methodology application, infrastructure and equipment and conducting studies.

Brazil signed the Paris Agreement in April 2016 and ratified it in September 2016. The First NDC (updated submission) was submitted on December 8th, 2020. Based on the reference year of 2005, Brazil's NDC reaffirms its commitment to reducing total net greenhouse gas emissions by 37% in 2025 and officially commits reducing Brazilian emissions by 43% in 2030. The NDC also expresses the indicative objective of achieving climate neutrality (net-zero emissions) in 2060. This long-term objective might be reconsidered in the future, according to the functioning of the market mechanisms under the Paris Agreement, and the possibility of considering a more ambitious long-term objective is not ruled out.

The NC/BUR process has strengthened institutional, technical, and analytical capacities by disseminating information and analysis about climate change impacts, stimulating investments in research and innovation, and promoting stakeholders engagement from all sectors to discuss and reflect on the climate change issue into the political agenda of the country.

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## B. ENABLING ACTIVITY GOALS, OBJECTIVES, AND ACTIVITIES

The proposal should briefly justify and describe the project framework. Identify also key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable. Describe also how the gender equality and women's empowerment are considered in project design and implementation

The project "Fifth National Communication, Biennial Update Report and Biennial Transparency Reports to the United Nations Framework Convention on Climate Change (UNFCCC)" has the goal of enabling the Government of Brazil to enhance available emission data, performing targeted research, and strengthening technical capacity and institutions to address both mitigation and adaptation. The main objective is to assist Brazil's Government in performing the activities necessary to prepare the Fifth National Communication and the Biennials Reports (BUR 5, BTR1, and BTR2) to the UNFCCC. This project is prepared in line with the GEF7 climate change mitigation objective CCM3: Foster Enabling Conditions to Mainstream Mitigation Concerns into Sustainable Development Strategies.

The project will be organized around six complementary components: (1) National GHG Inventory; (2) National Circumstances, Envisaged Steps for the Convention Implementation, and other relevant information; (3) Vulnerability Assessment and Adaptation Measures; (4) Public Awareness and Education Strategy in Place; (5) Publication and submission of the 5NC; (6) Preparation and submission of the Biennial Update Report and the Biennial Transparency Reports.

The project will benefit from previous NCs/BURs funded by the GEF. The 5NC, the BUR5, and the first and second BTRs will update all information in the fourth National Communication, including national inventories of greenhouse gas emissions and sinks up to 2023.

Although the Enhanced Transparency Framework (ETF) under the Paris Agreement represents a challenge to developing countries, since it builds on the current measurement, reporting, and verification (MRV) system (especially for the Inventory and capacity building for the report); the BTR represents an essential component of the ambition cycle in the global climate regime by building trust and confidence to meet national climate targets and actions. Information reported in BTRs will be considered at a collective level as an essential input into the global stock take, leading to more robust climate action that will continue as the climate regimes move towards zero net emissions by 2050 and climate neutrality thereafter.

### Stakeholders engagement:

The stakeholders directly involved in project design are part of the public sector, academia, and civil society (Table 1). The Brazilian Research Network on Global Climate Change (Rede Clima) is expected to be involved in preparing the 5NC, BUR5, and the BTRs, through its numerous research institutions and universities. The Network produces information for the formulation and follow-up of public policies on climate change and supports the Brazilian negotiations

under the UNFCCC. Rede Clima generates and disseminates knowledge about causes and effects of global climate change in 13 sub-networks: Agriculture, Biodiversity and Ecosystems, Cities, Natural Disasters, Regional Development, Economy, Renewable Energy, Modeling, Oceans, Water Resources, Health, Environmental Services, and Coastal Zones.

The Network is based at the National Institute of Spatial Research – INPE, in São José dos Campos (State of São Paulo) and at the National Center for Natural Disaster Monitoring and Alert – Cemaden, in Cachoeira Paulista (also State of São Paulo) and is comprised of a Board of Directors, a Scientific Committee, and an Executive Secretariat in support of a network of public institutions such as research institutions (National Institute for Space Research - INPE, National Institute of Amazon Researches - INPA, Oswaldo Cruz Foundation - FIOCRUZ, and Brazilian Agricultural Research Corporation - EMBRAPA) and Universities (e.g., Brasília University - UnB, Federal University of Ceará - UFC, Federal University - UFPE, Campinas University - UNICAMP, Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering/Federal University of Rio de Janeiro - COPPE/UFRJ, University of São Paulo - USP, Federal University of Rio Grande do Sul - UFRGS, Federal University of Santa Catarina - UFSC).

Besides the Rede Clima network institutions, other institutions may be involved in preparing the 5NC, BUR5, and the BTRs, as listed in Table 1. The 5NC/BUR5/BTR1/BTR2 will be attended by the Rede CLIMA and cover a national and sub-national assessment of GHG emissions, Brazil's national circumstances in climate change, and vulnerability assessment and adaptation.

The stakeholder engagement plan will include measures to manage risks that the Covid-19 pandemic and the possible reinstatement of containment measures may pose to both project staff and stakeholders' mobility and engagement. The project will employ videoconferencing equipment/tools for virtual meetings and workshops, revise workplan, apply social distancing and provide personal protective equipment (PPE) to prevent exposure among project staff, stakeholders, and participants as and when necessary. The budget will be included for IT support and PPE accordingly.

The impact of the Covid-19 on project progress will be closely monitored, and adaptive management will be used to minimize, and address impacts it may have on the availability of technical expertise, capacity, and changes in timelines. The project will strengthen capacity and experience for remote work, online interactions, limited remote data, and information access.

Civil society representatives (including women and youth associations) will participate through the Brazilian Forum on Climate Change, assuring their perspectives are incorporated in the decision-making process.

**Table 1.** Major Identified Stakeholders at the national level (additional to the Ministry of Science, Technology and Innovations (MCTI), acting as the coordinating entity for this project)

Stakeholder	Date	Outcomes related
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ORGANIZATION	ROLE	OUTCOMES RELATED
Ministry of Foreign Affairs	<p>Its mission is to assist the President in foreign policy formulation, ensure its implementation, conduct diplomatic relations with other national state governments, international organizations and bodies, and promote the Brazilian state and society's interests abroad.</p>	<p>1.1 2.1 2.2 3.2 4.1 4.2 4.3 5.1 6.1 6.2 6.3 6.4 6.5</p>
Ministry of the Environment	<p>Promoting the adoption of principles and strategies for the knowledge, protection, and recovery of the environment, the sustainable use of the natural assets, the valuation of environmental services, and the insertion of 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.</p>	<p>1.1 2.1 2.2 3.2 4.1 4.2 4.3 5.1 6.1 6.2 6.3 6.4 6.5</p>

<p>Ministry of Mines and Energy</p>	<p>Its competence includes geology, mineral and energy possessions, hydraulic energy, mining and metallurgy, oil, fuels, and electric energy, including nuclear.</p>	<p>1.1 2.1 2.2 3.2 4.1 4.2 5.1 6.1 6.2 6.3 6.4 6.5</p>
<p>Ministry of Economy</p>	<p>Its main objective is to formulate and implement the Brazilian economic policy to deal with various fiscal and monetary policy issues.</p>	<p>2.1 2.2 3.2 4.1 4.2 4.3 5.1 6.1 6.3 6.4 6.5</p>
		<p>2.1 2.2 2.3</p>

<p>Ministry of Infrastructure</p>	<p>Formulation, coordination and supervision of transport policies. Participation in the strategic planning, establishing guidelines for its implementation and definition of priorities in investment programs. Approval of concession plans. Formulation and supervision of the execution of transportation policies in articulation with other relevant Ministries.</p>	<p>3.2 3.2 4.1 4.2 4.3 5.1 6.1 6.3 6.4 6.5</p>
<p>Ministry of Agriculture, Livestock and Food Supply</p>	<p>It is responsible for public policies that promote Agriculture and Livestock activities, foster agribusiness, and regulate related services.</p>	<p>1.1 2.1 2.2 3.2 4.1 4.2 4.3 5.1 6.1 6.2 6.3 6.4 6.5</p>
	<p>Responsible for the Chief of Executive Power's direct advice in coordinating government actions,</p>	<p>2.1 2.2 3.2 4.1</p>

Office of the Chief of Staff	including other ministries. They are also responsible for evaluating the legislative proposals that the Chief Executive directs to the Legislative Branch and taking care of the government's official acts.	<p>7.1</p> <p>4.2</p> <p>5.1</p> <p>6.1</p> <p>6.5</p>
Ministry of Regional Development	It is responsible for a cross-sector approach on housing, sanitation, transport, and urban mobility, considering land use and occupation.	<p>1.1</p> <p>2.1</p> <p>2.2</p> <p>3.2</p> <p>4.1</p> <p>4.2</p> <p>4.3</p> <p>5.1</p> <p>6.1</p> <p>6.3</p> <p>6.4</p> <p>6.5</p>
Ministry of Health	Its mission is to provide conditions for the promotion, protection, and recovery of the population health, reduce illnesses, control endemic and parasitic diseases, and improve health surveillance.	<p>2.1</p> <p>2.2</p> <p>3.1</p> <p>3.2</p> <p>4.1</p> <p>4.2</p> <p>4.3</p> <p>5.1</p> <p>6.1</p> <p>6.3</p>

		6.4 6.5
Brazilian Research Network on Global Climate Change (Rede CLIMA)	A scientific network to generate and disseminate knowledge to address the challenges inherent to the causes and effects of global climate change.	1.1 2.2 3.1 3.2 4.1 4.2 4.3 6.1 6.2 6.3
National Institute for Space Research (INPE)	INPE is a National Institute of Science and Technology (INCT) that produces science and technology in space and terrestrial environments.	3.1 3.2 4.1 4.2 6.4
Brazilian Forum on Climate Change (FBMC)	It aims to raise society awareness and mobilize it for discussion and decision-making on problems resulting from climate change, thus promoting stakeholder dialogue. It promotes the institutional interface between Government and Civil Society.	4.1 4.2 4.3 6.2 6.4
Brazilian Agricultural Research Corporation (Embrapa)	Essential partner for the development of analysis, data collection, and generation of national emission factors related to the agriculture, LULUCF, and waste management sectors of the National Inventory;	1.1 2.2 3.1 3.2 4.1 4.2 6.1 6.2 6.3

		6.4
Brazilian Institute of Geography and Statistics (IBGE)	Responsible for surveying, systematizing, and making available the country's official statistical data, many of them regionalized, which subsidize the development of the Emissions Inventory, National Circumstances, and the analysis of Impacts, Vulnerability and Adaptation.	2.1 3.1 3.2 4.1 4.2 4.3
National Industry Confederation (CNI)	It has the mission of representing the industry sector, fostering an environment favoring business, competitiveness, and sustainable development. It is the leading business organization engaged in promoting the growth and competitiveness of the Brazilian Industry.	2.1 3.2 4.1 4.2 6.2 6.4
Energy Research Office (EPE)	EPE 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.	1.1 2.2 3.2 4.1 4.2 6.1 6.3
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.	3.1 3.2 4.1 4.2 4.3 6.2 6.2

		6.4
Institute of Applied Economic Research (IPEA)	It is a research institute on economics and planning policies.	2.1 2.2 3.1 3.2 4.1 4.2 4.3 6.2 6.4
Brazilian Chemical Industry Association (ABIQUM)	Provide data and information on GHG emissions of industrial processes: chemical industry and industrial processes emissions.	1.1 2.2 4.1 4.2 6.1 6.3
National Cement Industry Union (SNIC)	Provide data and information on GHG emissions of industrial processes: mineral products – production of cement.	1.1 2.2 4.1 4.2 6.1 6.3
Brazilian Aluminum Association (ABAL)	Provide data and information on GHG emissions of industrial processes: metal products – aluminum.	1.1 2.2 4.1 4.2 6.1 6.3
		1.1 2.2

Brazil Steel Institute (IABr)	Provide data and information on GHG emissions of industrial processes: metal products – iron and steel.	4.1 4.2 6.1 6.3
Brazilian Lime Producers Association (ABPC)	Provide data and information on GHG emissions of industrial processes: mineral products – production of lime, limestone, and dolomite.	1.1 2.2 4.1 4.2 6.1 6.3
Petrobras	Provide data and information on GHG emissions of fugitive GHG emissions in the oil and natural gas industry.	1.1 2.2 4.1 4.2 6.1 6.3
Association of the Santa Catarina Coal Industry (SATIC)	Provide data and information on GHG emissions of fugitive GHG emissions from coal mining and handling.	1.1 2.2 4.1 4.2 6.1 6.3
National Civil Aviation Agency (ANAC)	Provide data and information on GHG emissions from civil aviation.	1.1 2.2 4.1 4.2 6.1 6.3

Gender dimension:

Many governments worldwide have established legally binding commitments to respect, protect, and fulfill women's human rights; simultaneously, gender equality and diversity have been widely recognized to positively affect organizations, the economy, and sustainability[1]. In climate change, women are most negatively affected while displaying knowledge and skills to orient themselves toward climate adaptation activities within their communities[2].

A gender action plan will be developed during the project preparation phase for CEO Endorsement, including gender-responsive activities, gender-sensitive indicators, and expected project outputs. The project expects to include gender-responsive measures to address gender gaps or promote gender equality and women empowerment, closing gender gaps in access to and control over natural resources, and improving women's participation and decision-making.

Gender equality and women's empowerment will be considered in 5NC/BUR/BTR1/BTR2 in several different ways:

- In the participatory processes (through the selection of participants, mediator roles), including in all capacity development activities;
- On socioeconomic description by gender dimensions, and in the definition of public policies associated with gender equality and women's empowerment;
- In the workshops to evaluate climate change impacts per gender, which will lead to a publication that will address gender-responsive measures to address climate change;
- On project coordination and team selection criteria, including the National Secretary for Women and Project's Consulting Technical Committee involvement.

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[1] GEF Gender Implementation Strategy (2018) - <https://www.thegef.org/council-meeting-documents/gef-gender-implementation-strategy>

[2] Raman Preet, Maria Nilsson, Barbara Schumann & Birgitta Evengård (2010) The gender perspective in climate change and global health, *Global Health Action*, 3:1, DOI: 10.3402/gha.v3i0.5720

### C. DESCRIBE THE ENABLING ACTIVITY AND INSTITUTIONAL FRAMEWORK FOR PROJECT IMPLEMENTATION

Discuss the work intended to be undertaken and the output expected from each activity as outlined in Table A

As an implementing Agency of the GEF, UNDP will be responsible for overall project supervision to ensure consistency with GEF and UNDP policies and procedures and provide guidance on linkages with related UNDP and GEF-funded activities. MCTI is the Project Executing Agency and will be responsible for implementing the Project in accordance with the objectives and activities outlined above. MCTI will work closely with UNDP and provide free access to all relevant information to allow the organization to fulfill its responsibilities to the GEF.

The project implementation will be through the NIM modality with support from the UNDP Country Office in Brazil. UNDP Country Office will provide, when requested by the MCTI, direct project services, such as procurement and hiring of consultants following best value for money, transparency, and effective competition. These shall conform with both GEF and UNDP regulations, rules, policies, and procedures.

A Standard Letter of Agreement (LOA) between UNDP and the Government of Brazil (to be signed by the GEF Operational Focal Point) detailing these support services will be included as an Annex of the Project Document. To ensure the GEF's strict independence and according to the UNDP Internal Control Framework, these execution services will be delivered independent from the GEF-specific oversight and quality assurance services (i.e., not done by the same person to avoid conflict of interest).

As a National Implementation (NIM) Project, MCTI will structure a Project Management Unit (PMU), composed of a National Director and National Coordinator – from the MCTI permanent team, a Technical Coordinator and a Project Manager, to be hired by the project, which main responsibilities include the following:

- Planning for and monitoring the technical aspects of the Project, and monitoring progress benchmarks and outputs;
- Preparation and submission of periodic progress reports and regular consultations with beneficiaries and contractors;
- Ensuring advanced funds are used following agreed work plans and project budget;
- Preparing, authorizing, and adjusting commitments and expenditures; ensuring timely disbursements, financial recording and reporting against budgets and work plans;
- Managing and maintaining budgets, including tracking commitments, expenditures, and planned expenditures against budget and work plan;

A Project Board (PB), including the government, through the Brazilian Cooperation Agency (ABC), the MCTI, and the UNDP will be constituted at project inception. The Project National Director will be a senior staff member of the Government executing agency and will be responsible at the highest level for ensuring that the project implementation follows national policy and standards. He/she will chair the PB and represent the project at annual tripartite

meetings. He/she will also represent the project at high-level national and international meetings and keep the Science, Technology, and Innovation Minister updated on project advances and challenges as needed. It is a part-time position continuing for the duration of the project, reporting directly to the PB.

The Government will support the project with equipment and the staff (public servers especially designated) from the General Coordination of Climate Science and Sustainability of the MCTI to compose the Project Management Unit of the Project (PMU).

The PMU will be responsible for the overall project coordination, including operational planning, supervision, administrative and financial management, and the Project adaptive management based on inputs from the M&E plan. Furthermore, it will promote inter-institutional linkages, monitoring, evaluation, and disseminating project results. The MCTI will designate a National Project Coordinator whom the Project Director will assign to coordinate the PMU.

The National Project Coordinator will be responsible for managing, planning, coordinating the project activities, providing project implementation supervision, and is the key contact person for the project. A Project Manager will be hired with GEF resources and responsible for the overall management and coordination of the project technical activities. A Project Oversight Team will be hired with GEF resources to be responsible for its effective and efficient implementation to achieve stated objectives and all substantive and managerial reports.

During the implementation of the project, Brazil will explore opportunities to benefit from and take advantage of institutional and stakeholder engagement and existing consultation mechanisms, such as the Interministerial Committee on Climate Change (CIM), which is the ultimate national authority of decision-making on climate change issues under the country and currently is comprised of eight relevant Ministries such as the Ministry of the Environment (MMA), Ministry of Economy (ME), Ministry of Infrastructure (MINFRA), Ministry of Mines and Energy (MME), Ministry of Agriculture, Livestock and Food Supply (MAPA), Ministry of Science, Technology and Innovations (MCTI), Ministry of the Foreign Affairs (MRE), Ministry of Regional Development (MDR), and Ministry of the Civil House.

The MCTI Technical Consultative Committee will be the Project Steering Committee (PSC), and it will provide support and guidance to the implementation of the project and ensure that the project findings are disseminated to, and validated by, all relevant stakeholders. It will be composed of all the CIM members and other relevant Institutions, Office of the Chief of Staff.

With that, the MCTI role in the institutional arrangement is coordinate all the necessary steps to achieve the project outcomes, especially promoting reflection by holding bilateral and expanded meetings, establishing suitable institutional arrangements for the national communications preparation on an ongoing basis, also, investing efforts in the diversification of engagement mechanisms to stimulate interested parties' participation, allowing the preparation of all outcomes expected in this project.

The coordination promoted by the MCTI under the project includes the federal government's prominent representatives and public consults done with the specialists from the civil society, private sector, and academic area, ensuring the national institutions' ownership of the project outcomes, and enhance inter-institutional cooperation.

Even though Brazil does not have a national system for the national inventory and the NCs preparation, the activities developed under the NC's projects by the coordination of the MCTI will further strengthen the discussion and the institutional arrangements that currently exist to better be prepared to elaborate and improve future NCs and BTRs, or other commitments assumed by the country at the UNFCCC. Internally, the project activities foster exchanging information and experiences, formulate and promote capacity building, and raise awareness through a participatory approach based on scientific evidence.

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### **Narrative description of project activities:**

#### **1 – National GHG Inventory (GHGI)**

The National GHG Emissions Inventory represents one of the most complex and costly project components due to the comprehensive institutional arrangement necessary for the suitable collection of activity data, in addition to the development of specific studies to define parameters and emission factors to the main categories of the emitting sectors (Energy, IPPU, Agriculture, LULUCF, and Waste). Allied to this, we have challenges associated with information management due to the country's extensive territorial dimension and the extraordinary volume of data used to calculate emissions and removals of greenhouse gases (GHG) - which include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>, in addition to the CO, NO<sub>x</sub>, NMVOCs, and SO<sub>x</sub> precursors.

Previous editions of the National Inventory presented at INC, SNC, TNC, and 4NC have been recognized to increase methodological improvement. Above all, within the scope of the 4NC project, it was possible to comply with the initial forecast of engaging the national scientific community, mainly through partnerships established with Rede CLIMA. Their researchers were responsible for technical-scientific studies that supported the estimation of national emissions with statistics and parameters; the majority developed regionally, which allowed the possibility of disaggregating all sectoral emissions results subnationally.

This additional effort had a positive effect on recognizing Brazilian states' emissions profile, intending to allow subnational entities to assess and plan whenever relevant public policies for mitigating emissions consistent with their key sectors.

Given the perspective during the 4NC that countries should use the IPCC 2006 methodology to report emissions in the future, the MCTI and its partners anticipated efforts related to the methodological improvement necessary to meet this guidance requirements. Thus, in addition to the team's capacity and the partners network using IPCC 2006, it was also possible to identify information gaps and technical aspects to be filled through this project.

In this project proposal, it will be developed the emission inventories for 5CN, BUR5, and two BTRs (BTR1 and BTR2), a continuous improvement inherent to the elaboration of national inventories is foreseen. In this sense, the lessons learned based on efforts to overcome the challenges pertinent to the capacity for political and institutional articulation between the executing agency, MCTI, and hundreds of institutions involved in carrying out the Inventory will be considered for planning partnerships to comply with activities described in this project proposal for 5NC, BUR5, and BTRs. This articulation planning will include holding meetings and technical workshops to discuss the methodological improvements that should be addressed in the partnership contracts, with the definition of procedures, institutional arrangements, and responsibilities.

Based on the formalization of partnerships and the establishment of improved institutional arrangement, activities aimed at collecting data and parameters necessary to comply with the IPCC 2006 methodology may be carried out to update historical series of emissions published in the 4NC inventory (1990-2016), and advance the estimates for the expected subsequent years of the BUR5 (2017-2018), 5NC (2019-2021) and BTRs (2019-2021 and 2022-2023) Inventories.

Initially, a 3-year interval will be adopted for BTR inventories between the last inventoried years (2021 and 2023) and the deadlines for submitting documents to the UNFCCC (2024 and 2026). However, as national capacity is developed, mainly related to generation and official data availability, this interval may be reduced to 2 years. Regarding the methodology considered in this project, it is worth emphasizing that IPCC 2006 will be the initial methodological reference for this component, with the possibility of adopting updated IPCC methodological guidelines approved by UNFCCC, as appropriate, to comply with the principles of improving transparency, accuracy, consistency, comparability, and completeness.

Based on improvements carried out on emission categories, according to the analysis of key categories, the Agriculture, Energy, and LULUCF sectors will receive special attention to improve their estimates, given their greater relevance to national emissions. These improvements are related to (i) the access to activity data from information sources more statistically robust; (ii) studies to define emission factors and other regionalized accurate parameters, as far as possible; and (iii) the definition of a mapping methodology for land use and land use transition spatially explicit for LULUCF sector, on a biennial basis.

The Quality Assurance and Quality Control (QA/QC) plan implemented for the 4NC inventory included structuring a project team composed of Technical Coordination, Supervision, and Expert Analysts in the sectors responsible for reviewing data and results generated within the scope of partnerships, as part of the QC. In addition, for the LULUCF sector, due to the specificities of Brazilian biomes, a Land Use Mapping Validation Committee was structured to ensure the quality of identified transitions. Regarding the QA, as occurred in previous National Communications, a Public Consultation process was performed with Specialists not directly involved in developing the Inventory. This QA/QC plan was successful; however, it is foreseen to be reviewed and improved based on lessons learned and the need to adapt the processes to this project schedule.

Additionally, a more significant effort should be made to improve the analysis of uncertainties in the Inventory, whose quantification methodology is mandatory to BTR; these improvements have not yet been appropriately applied due to specific sectorial information unavailability. There are also plans to include analyzes of key categories to be reported in the BTR inventories.

The rules established for reporting the GHG Inventory in the BTRs will require actions to promote institutional framework strengthening for its preparation every two years. Due to the IPPU sector dependence on data from the private sector and industry, and the time consuming for mapping work at the LULUCF sector, an appropriate strategy must be developed to meet the deadlines. After each Inventory edition planned for this project, it is intended to execute an analysis of flexibility needs, including institutional or technical capacity limitations. In addition, an improvement plan will be drawn up for subsequent inventories.

## 2 – National Circumstances, Envisaged Steps for the Convention Implementation, and other relevant information

Due to this component similarity with NC and BUR documents scope, the data collected can be used in different publications and updated from official data whenever possible. Previous NCs and BURs presented information on the national circumstances on natural resources, geography, population, GDP, climate, and socioeconomic conditions, as well as mitigation and adaptation initiatives, needs and gaps, support received, and relevant institutional arrangements for implementing the Convention and elaborate the NCs and BURs. In this project, all information will be updated for the reports.

The relevant initiatives, policies, programs, and plans for mitigation and adaptation to climate change will be identified, updated, and reported, as done in the last NC submitted to the UNFCCC. The national priorities, strategy, and relevant legislation to climate change will be updated and analyzed considering their status and tendencies. Still related to national priorities analysis, there will be an in-depth discussion on economic, agricultural, and energy circumstances.

A gender perspective will be included in the analysis of socioeconomic indicators and official statistics from the country, and analysis of Covid-19 pandemic impacts for climate change and national health indicators will be presented.

A complementary analysis will also be carried out about investments to promote mitigation actions and the report on capacity building and awareness initiatives on climate change issues. This component will also include describing the institutional arrangements relevant to the 5NC, the BUR5, and the BTRs preparation, and the engagement of a diversity of stakeholders (national and subnational government, private sector, academy, NGOs) for 5NC execution. Partnerships with government agencies responsible for generating statistics and official analyses and hiring specialized consultants to execute appropriate analysis and data consolidation are foreseen.

## 3 – Vulnerability assessment and adaptation measures

This component encompasses activities that will evaluate the country's vulnerability to threats associated with global climate change. Impact assessments will be carried out on different sectors and relevant issues, raising adaptation needs and opportunities to support adaptation planning and public policies.

The 4NC presented considerable methodological improvements, compared to the TNC, for this component when carried out the analysis of impacts and vulnerabilities in an integrated manner (by Food, Water, Energy, and Socioenvironmental Securities). In addition, the analyzes were based on the warming level of climatic scenarios considering temperature rise of 1.5, 2, and 4 Celsius degrees. It was agreed that this perspective would be more in line with Paris Agreement objectives and commitments, and despite the tremendous complexity regarding this analysis and the countless challenges associated, there is a prospect of moving forward from these analyzes to work on 5NC.

The 5NC and future BTRs intend to benefit from a continued scientific program from the National Institute for Space Research (INPE), which constitutes advanced and updated climate models to produce national scenarios until 2100. The initiative will also analyze observed climate trends, which have an essential role in understanding climate change and its impacts.

Gathering information from studies and other sources will provide elements for reporting the major climate-related impacts and vulnerabilities in key-sectors in Brazil, as part of a continuous process of updating and improving the information made available from previous National Communications. Further studies on specific issues are expected to complement the descriptions and analysis carried out and advance scientific knowledge. The country's main governance instruments and initiatives contributing to the adaptation to climate change shall be surveyed to report efforts being made and identify opportunities.

Additionally, planning will be developed to promote a vulnerability assessment in the gender context. This analysis will represent another innovation for this component. It is essential to create an environment where gender-related vulnerabilities and threats are identified and, for that, it is necessary to value specific knowledge that is prepared to capture these particularities. For example, a critical socio-climatic risk related to women is developing diseases during pregnancy, usually enhanced at high temperatures, such as pre-eclampsia.

There are also female-headed houses in climatic threats, such as floods, which can indicate multiple working hours and, therefore, amplified impacts on the family. This knowledge is linked to the importance of mapping socio-climatic risks by collecting data *in loco* to understand risks, considering gender differences. In order to comply with component activities, the project team will be appropriately structured, with the possibility of formalizing partnerships and hiring specialists of climate projections and analysis of impacts and vulnerabilities.

#### 4 – Public Awareness, Development of National Capacity, and Gender Mainstreaming in mitigation policies and measures

In recent years, the Brazilian government has developed important initiatives to increase awareness of climate change through the creation of three systems presented at 4NC: (1) Integrated Information System of the Sector Plan for the Consolidation of a Low Carbon Emission Economy in Agriculture (SIN-ABC); (2) National Emissions Registry System (SIRENE); and (3) Climate Vulnerability System (SisVuClima). Other platforms such as AdaptaBrasil MCTI, EducaClima,

and AdaptaCLIMA, which also contributed to the climate awareness and education strategy, were reported at 4NC. These achievements reflect the counterpart of the Brazilian government.

In order to contribute to the widespread dissemination of knowledge and to initiatives aimed at strengthening awareness of the climate emergency, this project will include activities to updating information, analysis, and documents, and improve existing platforms and systems (as SIRENE, AdaptaBrasil MCTI, MCTI's official Climate portal) by specialized IT services hired. Activities will be carried out to develop databases for systematizing information, especially related to mitigation options.

Workshops and seminars are also planned to disseminate information and strengthen debates on climate change by disclosing the project's main results. One of the major concerns and opportunities associated with climate change is the lack of public awareness regarding the actual extent and dimensions of the related risks and challenges. Brazil believes in promoting scientific exchange among specialists and diffusing scientific findings to society. It will allow scientific knowledge to promote a change in current paradigms and adequately inform the policy-making community.

National and international specialists will be hired to assist in the development of national capacity, mainly to strengthening the institutional arrangements and scientific, technical, and institutional improvement for the implementation and monitoring of mitigation actions, the structuring of a national MRV system, the preparation of estimates of GHG emissions and their respective database. In addition, training courses will be carried out for the different technical teams of government partners and other partners to be involved in the project to guarantee the exchange of experiences and good practices to comply with the analyses, monitoring, and reporting of GHGI, mitigation actions, and others.

Specialized services will be hired to continue some activities implemented in the 4NC project, such as research on public perception of climate risk, training about Climate Change for Science teachers, and the development of didactic, educational, and accessible material on climate change issues. These training and exchange of experiences will allow the appropriate development and future improvement of the activities concerning outputs 4.2.2 (Development of an interconnected database for mitigation options and other relevant information systematized), 4.2.3 (Improvement of the National Emissions Registry System - SIRENE), and 4.2.4 (Improvement of adaptation platform (AdaptaBrasil MCTI) with updated data), ensuring the perpetuity, organization, and security of information for continuity of work in the long term.

Innovatively, training for climate change gender empowerment will be planned based on discussions with different partners such as UN Women, representatives of Universities, and national and international organizations involved with the Gender theme. This training may target different audiences - female leaders, the most vulnerable communities, the private sector, and others, depending on the training's final scope definition. In addition, gender specialists will be hired to promote an appropriate integration between this theme and climate change, identify gaps and related needs, and promote recommendations to ensure gender mainstreaming in planning and implementing climate change mitigation policies and measures.

As a result of a good practice previously adopted, within the scope of the 4NC project, communication and language specialists will be hired to improve the project communication strategy and translate relevant documents from English into Portuguese, and vice versa. This activity allowed the previous project to contribute to the Community of Portuguese Speaking Countries through the access to translated documents, originally written in English by the UNFCCC, facilitating and improving their understanding of the guidelines and rules agreed in the Convention.

Special attention will be given to the detailed gender analyses as well as collection and analysis of gender data in relation to climate change. Studies will be made in order to identified gender missing data and gender needs assessment to climate change. Recommendations to ensure gender mainstreaming are planned, even as outreach activities about integrating gender and climate change and Training for climate change gender empowerment will be undertake.

#### 5 – Publication and submission of the 5NC

This component will include the final consolidation of the 5NC document, which must be submitted until December 2024 to the UNFCCC.

Specialized services will be hired for layout design and printing of the final document in Portuguese and English. Other activities planned for this component are: organize regular workshops to discuss progress, exchange ideas, and present findings of the 5NC process; prepare the Executive Summary; 5NC submission to Project Steering Committee for technical and language review; 5NC publication; 5NC submission to Executive Secretary of the UNFCCC; 5NC report distribution to stakeholders; and, lessons learned assessment.

#### 6 – Preparation and submission of the Biennial Update Report (BUR) and the Biennial Transparency Reports (BTRs)

The previous experiences for the elaboration of BURs facilitate, to a certain extent, the development of institutional capacity of government agencies, at national level, involved in the management of information, collection, and data analysis of mitigation actions and their effects, as well as for support received for climate actions. Despite the advances achieved, there is still a need for improvement for the adequate systematization of information that can be better managed by developing a single and consistent database, which considers the historical record of resources received by different channels and funds. As far as possible, the project will envisage this database's structuring based on specialized IT service hiring.

In addition, this project intends to strengthen the institutional arrangement for preparation of BUR and BTRs, with a clear definition of roles and responsibilities of the bodies involved with the preparation of these documents and their specific components, such as the National GHGI, Mitigation Actions, domestic MRV, Support Received, among others.

Despite the similarities in scope between BUR and BTR, there are significant differences in reporting requirements and their respective review processes; then, the BTR still represents a field of broad improvement for the country. It is anticipated that the preparation of BTRs will take place under the flexibility rules agreed in the Convention and according to the national technical and institutional capacities developed.

BURs and BTRs' scope have common aspects to other project components, such as the emissions inventory (Component 1) and national circumstances analysis (Component 2) for both reports, and V&A (Component 3) for the BTRs. Thus, this Component 6 is planned to update and consolidate all of this information to publish BUR5, BTR1, and BTR2. However, it is worth clarifying that due to decisions regarding modalities, procedures, and guidelines (MPGs) of the Convention for the Paris Agreement, some adjustments to formatting and deepening of analyzes should also be considered in this component, such as the structure of the National Inventory report according to the common reporting format tables (CRFs) and additional information about V&A.

Brazil was one of the few developing countries to report the NDC to the Paris Agreement with a mitigation approach based on an absolute reduction in greenhouse gas emissions for the economy as a whole. Besides, before 2020, the country steadily and consistently implemented the NAMAs reported to the Convention. In 2020, Brazil submitted to the UNFCCC its updated NDC, which reaffirms its commitment to reducing total net greenhouse gas emissions. The NDC also expresses the indicative objective of achieving climate neutrality (net-zero emissions) in 2060.

There are many challenges in implementing, monitoring and reporting these mitigation actions given its national circumstances. Besides, it will be necessary to enhance the analysis of the mitigation actions progress and the NDC tracking progress. The tracking progress toward the mitigation is a critical target in the coming period. An appropriately maintained MRV system with precise metrics in line with the MPGs for the Transparency Framework will be necessary.

This arrangement is challenging due to the need to consolidate information distributed in several initiatives. To achieve this is necessary to improve legal, strategic, methodological, and institutional aspects to ensure compliance with reporting requirements and biennial periodicity. To this end, training and capacity building with specialists will be planned to meet the needs raised with government partners, involving: (a) Training of specialists in traceability and certification systems as part of the domestic MRV system; (b) Support for dissemination of knowledge; (c) Support for digital interaction among public record agencies; (d) Technical training on and dissemination of energy management systems; (e) Technical training on methodology application, infrastructure and equipment and conducting studies.

Specialized services will be hired for the layout design and printing of the final document for BUR5, BTR1, and BTR2, in Portuguese and English versions. Other activities planned for this component are: governments meetings to plan the elaboration of these documents and to approve the final versions; technical and language review; the publication of the BUR5, BTR1, and BTR2; the submission of these documents to the Executive Secretary of the UNFCCC; and, the lessons learned assessment. The timeframes for submission are: for the BUR5, Dec/2022; for the BTR1, Dec/2024; and for the BTR2 compiled and submitted in Dec/2026. The project team and government partners will be involved in the BUR5 ICA and the BTRs revision processes.

## 7- Monitoring and Evaluation (M&E) of the project

In this component, the project's financial and progress reports will be prepared according to the monitoring and evaluation (M&E) plan and requirements. In this sense, it is foreseen to hire a project team composed of a Technical Coordinator, Project Manager, and Project Assistant who will be responsible for: planning and monitoring the technical activities progress and outputs; preparation and submission of progress implementation reports; updated work plans and project budget revision; and others

## D. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT

### D. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:

Brazil has played an important role in international discussions and scientific assessment of climate change, as well as in setting up an international institutional framework. Brazil has a strong interest in continuing its leading and innovative role in the international dialogue on climate change. Brazil has already established several projects, programs, and policy measures to monitor the impacts of and adapt to climate change. Several governmental programs and initiatives in Brazil are resulting in significant reductions in greenhouse gas emissions. Some of these programs are responsible for Brazil having a comparatively "clean" energy mix, with low levels of greenhouse gas emissions per unit of energy produced and consumed.

The National Plan on Climate Change was approved in December 2008. It has four general themes: (i) mitigation; (ii) vulnerability, impact, and adaptation, (iii) research and development; and (iv) enhancement of skills and dissemination. The main objectives of the Plan are: (i) stimulate efficiency increase in a constant search for better practices in the economic sectors; (ii) keep the high share of renewable energy in the energy mix, preserving the important position Brazil has always held in the international scenario; (iii) encourage a sustainable increase in the share of biofuels consumption in the transport sector and also work towards the structuring of an international market of sustainable biofuels; (iv) seek a sustained reduction of deforestation rates, in all Brazilian biomass, in order to reach zero illegal deforestation; (v) eliminate the net loss of forest coverage; (vi) strengthen cross-sector actions aimed at reducing vulnerabilities of populations; (vii) identify environmental impacts resulting from climate change and stimulate scientific research to minimize socioeconomic costs of adaptation.

The Plan, which is now undergoing revision and updating, is based on the National Policy on Climate Change (Federal Law No. 12,187 of December 29th, 2009), proposed by the Executive branch to Congress in 2008. The National Policy organizes Brazil efforts in mitigation, adaptation, scientific and technological research, institutional coordination, public information, and capacity building. Through its article 6, IV, the National Policy defined as one of its instruments the National Communication.

Brazil's voluntary nationally appropriate mitigation actions, presented to the UNFCCC in January of 2010, are directed towards reductions of deforestation in the Amazon and Cerrado biomes; restoration of grazing land; integrated crop-livestock system; no-till farming; biological N<sub>2</sub> fixation; energy efficiency; increased use of biofuels; increased energy supply by hydroelectric power plants; alternative energy sources; and use of charcoal from planted forests in iron & steel industry.

Brazil's National Policy also provides elaboration of specific plans directed towards mitigation and adaptation. These plans focus on industry, mining, transport and urban mobility, and health. According to the National Policy, both elaborating specific plans

cus on industry, mining, transport and urban mobility, and health. According to the National Policy, both elaborating specific plans and updating the National Plan will be undertaken based on Brazil's National Communications to the UNFCCC.

The project is in line with the National Policy, National Plan on Climate Change, and Brazilian NDC. The Fifth National Communication of Brazil to the UNFCCC will be fundamental for implementing national mitigation and adaptation actions. Brazil started to implement a project financed by the GCF and executed by the MCTI named "Technology Needs Assessment for the Implementation of Climate Action Plans in Brazil – TNA Project" in partnership with the United Nations Environment Program (UNEP). It shall be concluded by 2021. The Project's objective is to establish a national consensus where Technology Action Plans can build from, aiming at developing local content of priority technologies and sectors for compliance with the NDC. Thus, the TNA Project results, including identifying mitigation alternatives with abatement potential and costs, shall provide essential inputs and be reported in the 5NC, BUR, and BTRs.

Other main initiatives currently in progress will be synergic with the 5NC, such as the Strategic Partnerships for the Implementation of the Paris Agreement ([https://www.international-climate-initiative.com/en/details/project/strategic-partnerships-for-the-implementation-of-the-paris-agreement-spipa-17\\_I\\_364-2993](https://www.international-climate-initiative.com/en/details/project/strategic-partnerships-for-the-implementation-of-the-paris-agreement-spipa-17_I_364-2993)); the Climate Policy Program Brazil ([https://www.international-climate-initiative.com/en/details/project/climate-policy-programme-brazil-pomuc-16\\_I\\_205-492](https://www.international-climate-initiative.com/en/details/project/climate-policy-programme-brazil-pomuc-16_I_205-492)); and the REDD+ Floresta Program (<http://redd.mma.gov.br/en/floresta-program>).

## E. DESCRIBE, DESCRIBE THE BUDGETED M & E PLAN

### E. DESCRIBE THE BUDGETED M&E PLAN:

The monitoring and evaluation plan of the project will include:

- Inception workshop;
- Monitoring reports including QPR and PIR;
- The project will be subjected to at least two independent external evaluations (midterm review evaluation and a Terminal evaluation (TE).
- Project financial and progress reports with gender analysis and action plan prepared and submitted according to the M&E plan.

The Project M&E will be conducted following the established UNDP and GEF procedures and will be provided by the project team and the UNDP-CO with support from the UNDP/GEF RSC in Panama City. The Project Strategic Results Framework provides performance and impact indicators for implementation and their corresponding means of verification. The M&E plan includes an inception report, project implementation reviews, quarterly and annual review reports, mid-term and final evaluations, and audits.

The following sections outline the main components of the M&E plan and indicative cost estimates related to M&E activities. The M&E budget is provided in the table below. The project's M&E plan will be presented and finalized in the Project Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

### M&E workplan and budget

Type of M&E Activity	Responsible Parties	Budget US\$ Excluding project team staff time	Time Frame
Inception Workshop and Report	§ Project Manager § UNDP CO, UNDP GEF	Indicative cost: \$15,000	Within the first two months of project start
Measurement of Means of Verification of project results.	§ UNDP GEF RTA/Project Manager will oversee specific studies and institutions' hiring and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid, and end of project (during evaluation cycle) and annually when required.
Measurement of Means of V	§ Oversight by Project Manager	To be determined as pa	Annually before ARR/PI

Verification for Project Progress on <i>output and implementation</i>	§ Project team	Part of the Annual Work Plan's preparation.	Refer to the definition of annual work plans
ARR/PIR	§ Project manager and team § UNDP CO § UNDP RTA § UNDP EEG	None	Annually
Periodic status/ progress reports	§ Project manager and team	None	Quarterly
Mid-term Review	§ Project manager and team § UNDP CO § UNDP RCU § Evaluation team	Indicative cost: \$20,000	At the mid-point of project implementation.
Final Evaluation	§ Project manager and team, § UNDP CO § UNDP RCU § Evaluation team	Indicative cost: \$30,000	At least three months before the end of project implementation
Lessons Learned	§ Project manager and team § UNDP CO § Local consultant	None	Yearly
Project Terminal Report	§ Project manager and team § UNDP CO § Local consultant	None	At least three months before the end of the project
Visits to field sites	§ UNDP CO § UNDP RCU (as appropriate) § Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL		US\$ 65,000*	

\*Estimated - based on the Fourth National Communication Project

Under UNDP's Social and Environmental Standards (SES) policy, this project is exempted from the safeguards screening (SESP) requirement.

**F. EXPLAIN THE DEVIATIONS FROM TYPICAL COST RANGES (WHERE APPLICABLE)**

The estimated cost for preparing the National Communication in Brazil is based on the previous projects for the four versions sent over the last 16 years, taking into account the improvements and the methodological challenges identified throughout the process.

**Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).**

<b>Name</b>	<b>Position</b>	<b>Ministry</b>	<b>Date</b>
Marcus César Ribeiro Barretto	General Coordinator on External Financing	Ministry of Economy	1/28/2021

## B. Convention Participation

Convention	Date of Ratification/Accession	National Focal Point
UNFCCC	5/29/1994	Ministry of External Relations