

## **Observatório do Clima's proposal for Brazil's Second Nationally Determined Contribution (NDC) under the Paris Agreement (2030-2035)**

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### **1) PRIORITIES**

#### **(i) Ambition, Equity, and Climate Justice**

This NDC represents Brazil's fair and equitable contribution to fulfilling Article 4, paragraphs 2 and 3, of the Paris Agreement, in line with Decision 1/CMA.5 (Global Stocktake). It reflects progress compared to Brazil's previous Nationally Determined Contribution (2015) and its updates (2020, 2022, and 2023), demonstrating greater ambition consistent with addressing the climate emergency, reducing the country's vulnerability, protecting the Brazilian population and ecosystems, and with the commitment expressed at COP28 to limit the increase in global average temperature to 1.5°C above pre-industrial levels, in light of IPCC scenarios, the country's historical responsibility, national circumstances, and climate justice, combating inequalities and environmental racism.

The implementation of this NDC will also contribute to Brazil's achievement of the Sustainable Development Goals and the Convention on Biological Diversity.

The Brazilian government is also committed to:

- Implementing this NDC with full respect for human rights, particularly the rights of

vulnerable communities, indigenous peoples, traditional communities, Black population, and workers in sectors affected by transition policies and plans to ensure that this transition is just and leaves no one behind. It also promotes policies, measures, and actions sensitive to racial equity, gender equity, and equity for groups such as LGBTQIAP+, people with disabilities, the elderly, children, and youth;

- A just transition to a carbon-negative country by 2045;
- Establishing an inclusive, participatory, and transparent system to monitor the implementation of this NDC and the policies, measures, and actions aimed at achieving its goals and objectives, with particular attention to representation by women, youth, and vulnerable groups;
- Establishing broad, inclusive, participatory, and transparent processes for developing the long-term decarbonization strategy and future NDCs of Brazil.

## **(ii) Making the Results of the Global Stocktake Achievable**

- This NDC is aligned with the First Global Stocktake of the Paris Agreement (GST-1) and serves as one of the key tools for implementing its results at the national level. For instance, it sets pathways and targets for phasing out fossil fuels (paragraph 28d of Decision 1/CMA-5) and for meeting the goal of tripling renewable energy generation and doubling energy efficiency (28a).
- Regarding the relationship between climate and nature, this NDC strengthens the political commitment to halt and reverse deforestation, forest degradation, and the conversion of all Brazilian ecosystems by 2030.
- It proposes reducing emissions from agriculture and livestock, adopting a broad and integrated approach to land use, agriculture, and forest emissions by 2030 and 2035, and establishing guidelines and a transition plan that shifts the paradigm of ecosystem use and conservation, while promoting a set of low-emission practices and technologies that enhance productivity, conserve soil, and are low-emission.
- Regarding adaptation actions, in line with the United Arab Emirates Framework for Global Climate Resilience, the goal is to increase adaptive capacity, strengthen resilience, and reduce the vulnerability of all ecosystems, populations/communities, and economic sectors vulnerable to climate change by 2030. This transformative and long-term adaptation must be implemented with financing, capacity building, and technology transfer, in line with projections of adaptation needs to reduce the impacts of the climate crisis, considering the best available science and the worldviews and values of indigenous peoples, to support the achievement of the global adaptation goal. Thus, the National Adaptation Plan (NAP) must: (1) prioritize the most vulnerable populations; (2) include a consultation process with communities under to climate risk and civil society; (3) incorporate ecosystem-based approaches and nature-based solutions, especially ocean-based actions, to adapt to increasingly frequent extreme weather events, as well as slow-onset events such as sea-level rise and desertification; (4) incorporate adaptation measures to increase the resilience of terrestrial, coastal, and marine biodiversity at climate risk; (5) achieve climate-resilient agricultural and food

production and ensure equitable access to adequate food and nutrition for all; and (6) increase the resilience of infrastructure and human settlements to the impacts of climate change.

- By 2030, Brazil will have established operational systems for early warning, climate information services, and response systems, prioritizing the most vulnerable regions and populations.
- The country will also develop an integrated system of policies and financing mechanisms for losses and damages associated with the climate crisis.
- Brazil will pursue a reduction in domestic fossil fuel consumption of 42% between 2022 and 2035—80% for coal, 38% for petroleum, and 42% for fossil gas. The proven oil reserves (over 15 billion barrels) in Brazil can, with this pace of energy transition, meet the country's declining needs beyond 2040. Furthermore, in line with the global commitment to achieving net-negative emissions by 2050 and limiting global warming to 1.5°C, as reported by the International Energy Agency, Brazil (like other countries) must halt the approval of any new oil and gas fields or coal exploration.

## 2) MITIGATION

### (i) Contribution

Brazil commits to **limiting its net greenhouse gas emissions to 200 million metric tons of CO<sub>2</sub> equivalent by 2035**. This target takes into account carbon removals in agricultural soils but not removals from protected areas. This represents a 92% reduction from 2005 net emission levels, estimated at 2,440 million tons by SEEG-Observatório do Clima. This effort aligns with estimates of Brazil's fair share of the global mitigation effort consistent with 1.5°C pathways with limited overshoot, taking into account the country's historical responsibility—including historical land-use emissions—and its capacity to act based on national per capita income.

This NDC also proposes increasing the ambition of the 2030 target to 400 MtCO<sub>2</sub>e net emissions, excluding removals from protected areas.

**Type:** Absolute greenhouse gas reduction target with an emission cap.

**Scope:** The entire national territory, covering the entire economy and all greenhouse gasses.

**Timeframe:** Target for the 2030-2035 period, with a review of the target for the 2025-2030 period, as per paragraph 37 of Decision 1/CMA-5.

**Metric:** Global Warming Potential over 100 years (GWP-100), using factors from the IPCC Fifth Assessment Report.

**Methodological approaches:** Emissions accounting based on the Brazilian national inventory, following IPCC guidelines. Removal accounting based on inventory and the latest available science.

**Ambition:** Brazil's mitigation actions to implement this contribution are consistent with mitigation scenarios that limit global warming this century to 1.5°C above pre-industrial levels, in light of science and recommendations from the Paris Agreement's Global Stocktake.

**Use of market mechanisms:** Brazil reserves its position on the potential use of market mechanisms established under the Paris Agreement, ensuring that it will avoid double counting of emission reductions through corresponding adjustments for any mitigation outcomes generated domestically and transferred internationally. Such outcomes will not be counted towards the achievement of this or future NDC targets for Brazil.

Brazil will not recognize the use by other Parties of any mitigation outcome units achieved within Brazilian territory that are acquired through any mechanism, instrument, or arrangement not established under the Convention, its Kyoto Protocol, or its Paris Agreement.

#### **(ii) Emission Trajectory and Carbon Budget**

By 2035, Brazil's emissions will consist of, at most:

- Land-use change and forestry: 65 MtCO<sub>2e</sub>
- Agriculture: 780 MtCO<sub>2e</sub>
- Energy: 250 MtCO<sub>2e</sub>
- Industrial processes and product use: 100 MtCO<sub>2e</sub>
- Waste: 70 MtCO<sub>2e</sub>

Greenhouse gas removals in 2035 will consist of, at a minimum:

- Native vegetation: -505 MtCO<sub>2e</sub>
- Carbon in agricultural soils: -560 MtCO<sub>2e</sub>

For the period from January 1, 2031, to December 31, 2035, a greenhouse gas budget for Brazil, expressed in tons of CO<sub>2</sub> equivalent, will be set based on a reduction trajectory, considering net emissions of up to 400 MtCO<sub>2e</sub> in 2030. This budget for the five-year period will be decreasing, with a limit of up to 1,700 MtCO<sub>2e</sub> between 2031 and 2035.

**Compatibility with "net-zero" by 2050:** This NDC is compatible with a carbon-negative country by 2045. If removals from protected areas were accounted for, the country could already be carbon-negative by 2035.

#### **(ii) Sectoral Targets**

##### ***Land-use change and forestry:***

To achieve net emissions of up to 65 MtCO<sub>2e</sub> by 2035, Brazil must virtually eliminate

deforestation in all biomes by 2030, in line with paragraphs 33 and 34 of the Global Stocktake, as promised by President Luiz Inácio Lula da Silva in 2023 and as committed to by Brazil in the Glasgow Leaders' Declaration (2021). By 2035, the country must massively restore forests and terrestrial ecosystems to eliminate vegetation cover deficit under the Forest Code. This necessarily implies increasing the 2030 NDC target, also in line with the Global Stocktake determination from COP28.

- Brazil commits to achieving the goal of zero deforestation in all biomes by 2030, conservatively defined as reaching a deforestation/conversion rate of no more than 100,000 hectares (1,000 km<sup>2</sup>) per year, with the restoration and recovery of degraded areas in 21 million hectares by 2035, which represents the total deficit under the Forest Code.
- By 2035, 100% of unallocated public lands must be designated for protected areas, indigenous lands, quilombola territories, or agrarian reform settlements, with their privatization prohibited.
- There must be an analysis and proper regularization of rural properties registered in the Rural Environmental Registry (CAR) and that have joined the Environmental Regularization Program (PRA), with the goal of 100% of Brazil's rural properties having their CAR analysis completed and, by 2035, with PRAs duly fulfilled, with the Sicar system in full operation and public data regularly updated.

### **Agriculture and Livestock:**

To achieve net emissions of up to 220 MtCO<sub>2</sub>e by 2035 in the Agriculture and Livestock sector, Brazil must expand the adoption of low-emission and high-carbon-removal productive systems, practices, and technologies, as well as measures to reduce methane emissions, considering that the expansion of agricultural areas will occur on currently unproductive and degraded lands. As part of the commitment made in the United Arab Emirates Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action—where countries aim to maximize the climate and environmental benefits associated with agriculture and food systems and reduce their negative impacts—Brazil must adopt the following commitments:

- Restoration of 22.5 million hectares of degraded soils from pastures;
- Additional<sup>1</sup> expansion of 18 million hectares of Integrated Crop-Livestock-Forestry Systems (ICLFS);
- Additional implementation of 1 million hectares of Agroforestry Systems (AFS);
- Additional expansion of 5 million hectares of Planted Forests (PF);
- Adoption of No-Till System (NTS) practices on 80% of agricultural land, with at least 80% of that total using No-Till (NT) and 20% with complete NTS, considering the expansion of planted agricultural areas (24.3 million hectares), totaling 35.2 million hectares with additional adoption;

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<sup>1</sup> "Additional", here, means an increase from 2020 levels.

- Slaughtering of 7.5 million cattle with Intensive Finishing (IF), including confinement, semi-confinement, and supplementation, provided that animal welfare and resilience are not compromised;
- For Animal Waste Management (AWM), reaching 40.5% use of biodigesters compared to other animal waste management systems, with the complete conversion of anaerobic lagoons to biodigesters in pig farming, totaling a national average of 46.4% biodigester adoption;
- Additional expansion of 19 million hectares using Biological Nitrogen Fixation (BNF).

In addition to these commitments, it is essential to adopt other actions, plans, and policies that promote the reduction of methane and other gas emissions through the following strategies:

*For beef and dairy cattle:*

- Reduction in the slaughter age of beef cattle (early steer)<sup>2</sup>;
- Animal genetic improvement (AGI);
- Improvement and manipulation of animal diets;
- Manipulation of ruminal fermentation through the use of additives;
- Improvements in animal health.

*For agriculture:*

- Complete elimination of the use of fire for clearing agricultural residues from sugarcane;
- Widespread adoption of precision agriculture to optimize the use of agricultural inputs such as fertilizers and lime;
- Expansion of BNF and other bioinputs to other crops, along with the full application of the principles defined by the No-Till Farming System.

It is also recommended that the Brazilian government establish a national research network to assess the hidden costs of the food system and that this science-based process, including criteria for climate justice and equity, can then create subsidies to evaluate transition pathways and reduce the demand for food whose production results in high greenhouse gas emissions, particularly animal-based products.

### **Energy and Industrial Processes**

Meeting the temperature objective of the Paris Agreement requires the transformation of energy systems worldwide, in line with paragraph 28d of Decision 1/CMA.5, which states that countries need to "transition away from fossil fuels in energy systems" in accordance

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<sup>2</sup> Additionally, it is strongly recommended to invest in technologies that reduce the slaughter age of beef cattle (early-maturing steers), incorporating this strategy through a national policy or plan. An example of practices that result in reducing the slaughter time of beef cattle is the "China Beef," in which the herd slaughtered for meat export to China must meet the age requirement of up to 30 months until slaughter, compared to the estimated national average of 36 months. This strategy is estimated to reduce emissions by about 5.8 MtCO<sub>2</sub>e for the year 2022, demonstrating the potential for adopting this action on a national scale and for mitigation.

with science, starting this decade. Although the energy and industrial processes sectors combined accounted for less than one-third of the country's net emissions in 2022, this percentage will increase after eliminating land-use change emissions by 2030, as will absolute values with the increase in GDP.

To meet the NDC target in 2035, energy sector emissions must decrease by at least 21% compared to 2005 (from 318 MtCO<sub>2</sub>e to 250 MtCO<sub>2</sub>e), while emissions from industrial processes may increase by up to 26% (from 76 MtCO<sub>2</sub>e to 100 MtCO<sub>2</sub>e)—the only sector still expected to see an increase in net emissions in this NDC, requiring Brazil to enhance its efforts in adopting cleaner production technologies.

Between 2022 and 2035, total fossil fuel consumption (coal, petroleum derivatives, and fossil gas) will be reduced by 42%. Coal will see the largest percentage reduction, with demand in 2035 being about 80% lower than in 2022.

Assuming an average annual GDP growth of 2.1% between 2022 and 2035, Brazil also commits to adopting the following measures in the energy and industrial processes sectors:

- Improving urban passenger mobility by reducing the use of individual motorized transport and increasing the use of public transportation and active transport modes. To achieve this, an additional 4,000 kilometers of bus rapid transit (BRT) lanes, 1,000 kilometers of subway tracks, and 95,000 kilometers of bike lanes will be built by 2035 compared to 2015. As a result, the increase in kilometers traveled by cars will be limited to 15% between 2015 and 2035, while kilometers traveled by urban buses will more than double in the same period.
- Electric trucks (battery-powered or hydrogen-fueled) will represent at least 22% of new truck sales in 2035, while electric light commercial vehicles (hybrids, battery-powered, or hydrogen-fueled) will account for at least 48% of the market.
- In road transport, green diesel production will reach 3.5 billion liters by 2035, and biodiesel production will reach 11 billion liters that same year, representing 20% of the commercial diesel volume (a blend of petroleum diesel and biodiesel).
- Electric cars (hybrids, battery-powered, or hydrogen-fueled) will represent at least half of all new car sales by 2035, and electric buses (battery-powered or hydrogen-fueled) will account for at least 57% of the market.
- Ethanol consumption will increase by 78% by 2035 compared to 2022, reaching 53 billion liters.
- Installed electricity generation capacity from solar PV and wind power plants will increase significantly to 95 GW and 70 GW, respectively, by 2035.
- In electricity generation, Brazil should start decommissioning all coal-fired power plants by 2027.
- For fossil gas-fired power plants, generation levels are initially expected to remain similar to recent years to ensure the total demand is met in unfavorable hydrological conditions. However, electricity generation from fossil gas should decrease as renewable energy increases its share in the country's power grid.
- Biomass electricity generation will reach 61 TWh by 2035, double the amount of electricity generated from this source in 2022.

- In industrial production, fossil fuels will gradually be replaced by biomass, electricity, and hydrogen. Consequently, the share of petroleum, coal, fossil gas, and derivatives in the industrial energy mix is expected to decrease from 36% in 2022 to 14% in 2035.

## **Waste**

Brazil must universalize access to basic sanitation services, particularly solid waste collection and domestic wastewater systems, and eliminate environmentally inappropriate waste disposal, as required by Brazilian legislation, specifically the Legal Framework for Sanitation and the National Solid Waste Policy. The country must increase the amount of waste directed to biological treatment, the recycling rate of dry waste, and the energy recovery from biogas generated in landfills. The projection for the 2020-2035 period is a decrease of around 23%, reaching a maximum of 70 MtCO<sub>2</sub>e by 2035, with waste disposal being the main driver of this reduction.

To achieve this, the sector must adopt the following commitments:

- Universalize the collection of domestic wastewater;
- Achieve a 24% recycling rate for solid waste;
- Eliminate improper disposal of solid waste;
- Reach a 58% energy recovery rate from biogas in landfills;
- Achieve an 18% biological treatment rate of solid waste mass.

## **3) RESPONDING TO IMPACTS**

### **(i) Adaptation and Resilience**

The Plano Clima Adaptação will serve as the foundation for adaptation actions and targets to be implemented by Brazil in its second Nationally Determined Contribution, ensuring respect for and the enforcement of environmental, climate, and human rights laws across all sectors, particularly the rights of communities under climate risk, combating environmental racism, and promoting policies, measures, and actions sensitive to racial and gender equity.

In alignment with Decision 2/CMA.5, the plan will develop adaptation and resilience-building targets and indicators, taking into account the fight against environmental racism and the identification of the most vulnerable areas in cities, rural zones, and terrestrial and coastal ecosystems. When proposing new adaptation measures and resilience-building initiatives for these territories and ecosystems, including the management, creation, consolidation, and expansion of protected terrestrial and marine areas, which respect the territories and rights of traditional peoples and communities and incorporate the latest available scientific knowledge, these indicators should consider disaggregation by race, gender, age, disability status, income, and territory, particularly from the perspective of necessary changes in urban territorial arrangements and the



guarantee of the Right to the City. Through a National Adaptation Strategy, the federal government will ensure technical, operational, and financial support to states and municipalities, with inclusion, capacity building, and full participation of local communities and subnational governments.

- Brazil commits to developing new scenarios for assessing climate risk to infrastructure (including electricity generation and transmission, public roads, basic sanitation facilities, ports, airports, hospitals, schools, and other strategic buildings), agriculture and livestock, human settlements, and terrestrial, coastal, and marine ecosystems by 2026. These scenarios will be based on regionalized climate models, participatory risk identification methods, and existing analyses, such as those from the Brazil 2040 initiative, AdaptaClima, and the Brazilian Panel on Climate Change.
- Brazil also commits to incorporating climate impact and risk analysis into the entire public budget through the Annual Budget Laws and directing public funding towards adaptation measures and financial incentives for initiatives that ensure greater resilience to climate events, in line with the magnitude of the crisis.
- Moreover, Brazil commits to incorporating new scientific evidence, traditional indigenous knowledge, and local knowledge into all policies and plans focused on:
  - a) Promoting urban and regional development;
  - b) Implementing infrastructure projects;
  - c) Expanding electricity generation;
  - d) Land use and occupation in urban and rural areas;
  - e) Promoting agriculture and livestock;
  - f) Improving public health;
  - g) Ensuring food and nutrition security;
  - h) Industrial development;
  - i) Water resource management;
  - j) Ocean and coastal zone management;
  - k) Conserving biodiversity and ecosystems.
- All the aforementioned public policies, related plans, and actions will be aligned with the objectives, guidelines, strategies, and indicators of the Plano Clima Adaptação and the National Adaptation Strategy, as required by law 14.904/2024.
- The resilience of the national industry to climate change impacts must be strengthened, prioritizing the modernization and adaptation of industrial infrastructure to withstand climate events, ensuring the continuity of operations.
- Brazil will invest in climate-smart infrastructure, including a public transport system with operational quality to attract users, with systematic investments in fleet renewal using more sustainable technologies, restructuring contracts, and regulatory instruments that promote higher service quality and greater public oversight.
- Active mobility will be encouraged through the development of walkable and bikeable cities, improving pavement and signage quality, enhancing green corridors, expanding bike lane networks, increasing short-distance travel options,

investing in public lighting, and providing infrastructure for bicycle parking, thereby enhancing accessibility, safety, and the quality of basic mobility for people.

- The country will adopt targets, strategies, and indicators to reduce disaster risk areas and increase resilience capacity, especially in coastal regions and hillside areas in urban zones.
- Policies, measures, and actions will be established to promote qualified urbanization and protect communities and populations in risk areas, ensuring their continued presence in their territories, provided this is technically viable given local conditions. When relocations are absolutely necessary, appropriate resettlement must be guaranteed, always in dialogue with local leaders and the population.
- Investments should be directed towards strengthening structures in critical areas at climate risk, as well as the infrastructure necessary to mitigate adverse effects in such situations. Additionally, studies and investments in urban arrangements adapted to the climate crisis should be prioritized, avoiding increasing urban density in valley bottoms.
- In addition to infrastructure projects, adaptation actions based on ecosystems and nature will be promoted, using biodiversity and ecosystem services as part of the adaptation strategy.
- The Union, States, Federal District, and Municipalities must expand and implement incentives for the preservation and expansion of urban green areas as potential utilizers of ecosystem services and encourage the use of nature-based solutions to enhance city resilience and ensure greater safety for urban and peri-urban populations in relation to climate change impacts.
- By 2027, Brazil will have established multi-hazard early warning systems, climate information services for risk reduction, and systematic observation to support improved climate-related data, information, and services. The country will have invested resources in the preparation phase, promoting localized disaster action plans to improve the response capacity of populations living in at-risk areas.
- Responses and investments in adapting territories to disasters must include strengthening state and municipal civil protection and defense agencies by directing resources, valuing civil defense professionals, providing adequate training according to the conditions and specificities of each territory, improving communication and governance, thereby fostering social and cross-sectoral participation, including ongoing dialogue with health and social assistance policies in a preventive manner.
- Climate-resilient, sustainable, and regenerative food systems should be promoted, including diversifying agricultural production, expanding actions to reduce food waste, supporting increased consumption of plant-based foods, and producing new products and ingredients from plants.

Recognizing that some adaptation actions have synergies with mitigation actions, Brazil will:

- Develop decentralized energy generation, especially small wind and solar farms, prioritizing community management and ensuring necessary social safeguards.
- Conduct structural integrity and safety assessments of existing energy infrastructure in relation to damage associated with climate risks, proposing

solutions, as well as evaluating the effects of higher temperatures on the energy efficiency rates of power plants and adjusting models according to these new parameters.

- Consider climate change scenarios and water resource modeling, evaluating the impacts on electricity production and ensuring clean energy generation.
- Use nature-based solutions to reduce urban heatwaves, combined with passive environmental comfort strategies to lower internal building temperatures.
- Direct budget and efforts to equip public health services to fully address the adverse effects of climate change on the Brazilian population, such as heat stress, arboviruses, and waterborne diseases.

#### **(ii) Loss and Damage**

- Brazil will conduct an institutional diagnosis within two years after submitting this NDC on governance, public policies, and costs associated with loss and damage, the scale of necessary financing, and the means to ensure the resilience of urban and rural communities, infrastructure, and terrestrial and aquatic ecosystems.

#### **4) MEANS OF IMPLEMENTATION**

Brazil will, within 12 months of the publication of this Nationally Determined Contribution, develop a Financial Implementation Plan for the NDC. This plan must include a detailed analysis of the expected costs and benefits, funding sources, implementation schedule, and monitoring and evaluation mechanisms. The analysis must necessarily include a cost estimate for the elimination of deforestation and degradation in all Brazilian biomes by 2030.

The full implementation of this NDC is not conditioned on international support but remains open to the support of developed countries to generate global benefits.

Other measures to finance the NDC are proposed as follows:

- Establish the National Adaptation Fund, modeled after the Amazon Fund, including national and international fundraising, to allocate grants to priority territories that are scientifically recognized as being at greater risk from extreme events. The fund must ensure streamlined administrative procedures for the disbursement of resources.
- Develop innovative financing mechanisms for the implementation of adaptation and mitigation solutions based on coastal and marine ecosystems.
- Allocate specific resources through the Federal Budget for the development and implementation of large-scale, climate-smart innovative solutions that support the adaptation of areas already impacted by the climate crisis, especially coral reefs and all terrestrial ecosystems, along with the populations that live in and depend on these ecosystems.
- Implement credit lines and financing mechanisms that help reduce costs and make financial services more readily available to women, particularly Black and

Indigenous women, and rural women. This includes the development of regional marketing networks to assist women in strengthening their activities, such as marketing strategies, production organization, mitigating agricultural impacts, and adapting to climate change—by involving national and multilateral development banks.

- Redesign existing public and subsidized credit lines under the Family Farming Safra Plan to remove barriers that prevent access by women family farmers (e.g., restrictions on issuing Pronaf eligibility declarations) and expand the reach of lower-cost alternative financing models such as microcredits and support for credit cooperatives with lines dedicated to women (farmers, extractivists, Black women) for investment and funding their production.
- Expand financing instruments to promote sustainable livestock farming, which is largely led by women in all Brazilian biomes, so that the production model contributes to reducing emissions in the sector, strengthening the role of women in the production chain, building capacities, and supporting innovation.
- Brazil unconditionally commits to advancing the definition of economic estimates to identify medium- and long-term investment needs for mitigation and adaptation in key sectors of the economy, focusing on actions that impact poverty reduction and social inequalities.
- Brazil commits to incorporating measures into development planning processes across different sectors of its economy, and in their respective plans and policies, to progressively reduce greenhouse gas emissions and to adapt and increase resilience to climate change, ensuring full and equal participation of men, women, and vulnerable populations.

#### **South-South Cooperation:**

Recognizing the complementary role of South-South cooperation, Brazil will make every effort, based on solidarity and shared priorities for sustainable development, to expand cooperation initiatives with other developing countries, particularly in the following areas: forest and coastal/marine mapping and monitoring systems; capacity building and technology transfer in biofuels; resilient and low-carbon agriculture; reforestation and restoration of forests and coastal ecosystems; management of protected areas; increasing resilience through social protection and inclusion programs and promoting racial and gender equity; and support for capacity building for national communications and other obligations under the Convention. Brazil invites developed countries and relevant international organizations to enhance their support for these initiatives.

### **5) CLIMATE JUSTICE AND JUST TRANSITION**

The ultimate goal of this NDC is to drive a just and equitable transition towards a carbon-negative country by 2045, addressing environmental racism and gender inequalities. To achieve this, Brazil commits to:

- Implementing safeguards to prevent mitigation or adaptation measures, including renewable energy installations, from harming or further marginalizing already

vulnerable populations in urban or rural areas.

- Establishing a Monitoring, Reporting, and Verification (MRV) system to measure, report, and verify not only greenhouse gas emissions but also the impacts of measures adopted by key sectors, strategies, and actions that contribute to the implementation of the NDC. This system will consider indicators and data disaggregated by gender and race to track progress in the mitigation and adaptation agenda.
- Completing all open and unfinished processes for demarcating Indigenous lands and titling quilombola territories. Besides being a mitigation measure, through the protection of these areas against deforestation, the integrity, protection, and proper management of traditional territories help strengthen the country's adaptive capacity. This is also an urgent measure to ensure climate justice for these populations.
- Ensuring free, prior, and informed consultation with local populations, conducted in an appropriate and inclusive manner, for interventions related to adaptation and mitigation.
- Establishing gender- and race-responsive measures for the effective implementation and review of these plans, considering co-benefits related to greenhouse gas emissions mitigation and the reduction of social inequalities.
- Ensuring that financing mechanisms at all levels address structural social inequalities.
- Promoting livelihood support and capacity-building programs for women (such as training in the installation and maintenance of solar energy systems and electrification of rural areas) that can contribute to emissions mitigation in the energy sector while delivering co-benefits for reducing gender and racial inequalities.
- Implementing the treatment of production chain waste through composting and methanization, as well as recycling and reusing waste, to foster ecological and economic sustainability and benefit low-value-added sectors with high participation of women in an equitable manner.
- Supporting the economic initiatives of rural women and youth working in agroforestry and sociobiodiversity chains, contributing to forest conservation, emissions reduction, and combating socioeconomic inequalities.
- Creating concrete and effective conditions to support the development of economic activities led by Indigenous women, extractivists, family farmers, and small-scale farmers, contributing to emissions reductions and increasing greenhouse gas removals in forestry, agriculture, and extractivism activities.

## **6) OCEAN AND COASTAL ZONE**

Paragraph 180 of Decision 1/CMA.5 on the outcomes of the Global Stocktake encourages the "further strengthening of ocean-based actions." Countries are invited to harness the mitigation (Paragraph 35) and adaptation (Paragraph 56) potential of the ocean. Ocean-based adaptation actions and measures to increase resilience through an ecosystem-based approach reduce the risks caused by climate change and promote

multiple co-benefits. This NDC introduces, for the first time, a coastal and ocean zone approach to adaptation and mitigation, with the following commitments:

- Establish targets and measures leading to net positive biodiversity outcomes, as well as social safeguards for offshore wind energy, including the development of a robust, participatory, and ecosystem-based marine spatial plan, the deployment of responsible technologies such as floating turbines, and mitigation plans.
- Restore 27,000 hectares of mangroves and *apicuns* and 30,000 hectares of arboreal *restinga* by 2035, in addition to effectively implementing the protected areas that safeguard these ecosystems, respecting the rights of traditional peoples and communities.
- Gradually decarbonize the maritime navigation sector.
- By 2030, Brazil will develop and implement the first cycle of a participatory strategy for the sustainable management, conservation, and restoration of coral reefs, with an emergency response plan for coral bleaching events as soon as possible, using an ecosystem-based approach and reducing terrestrial and marine pressures on these ecosystems. By 2035, this public policy must, at a minimum, enable coral adaptation to impact 30% of degraded reefs and double the area of coral reefs under effective protection.
- Give due attention to controlling real estate expansion in coastal cities, and by 2030, 100% of coastal states and municipalities must have developed their coastal economic-ecological zoning (ZEEC) and integrated coastal management plans (PGI), with a specific chapter on climate change adaptation, based on a socio-environmental vulnerability analysis and requiring environmental impact assessments for the implementation of coastal infrastructure. These plans must be duly reflected in municipal legislation concerning the use, subdivision, and occupation of urban land.
- By 2030, ensure the effective implementation of 100% of the Marine Spatial Planning (PEM) in an inclusive and equitable manner, based on an ecosystem approach informed by science, local, and traditional knowledge, and locally appropriate practices, anticipating climate change impacts and ensuring that planning, implementation, and monitoring are carried out participatively, and that the necessary regulatory frameworks are institutionalized.
- By 2030, Brazil must protect at least 30% of its coastal and marine zone, creating and implementing, in a participatory manner and with equitable governance, an effective and ecologically representative system of coastal and marine protected areas and other effective conservation measures, with established management councils and management plans that include climate change adaptation strategies. By 2035, the implementation of this system must ensure that 100% of these areas are monitored and supervised, and that the rights of Indigenous peoples, traditional and local communities are recognized and respected, including their rights to traditional territories and access to resources. The consolidation of traditional territories must be recognized as an effective conservation measure based on protected areas.
- By 2035, Brazil must monitor and define adaptation strategies for 100% of marine species (key and endangered species) and implement measures to control the introduction and spread of invasive species.

- Climate effect modeling must be guaranteed for 100% of infrastructures, public services, and housing projects built within the 150 km coastal zone, aiming to reduce pressure on the coastal area, including the construction of more resilient tourist infrastructure.
- Public policies should be formulated and implemented to fairly define and position artisanal fishing as an adaptation strategy and to control intensive and predatory fishing, as well as to reduce/cease overfishing, halt harmful fishing subsidies, and decarbonize the fishing industry.
- Coastal region public policies must focus on populations directly affected by extreme climate events and sea-level rise, including local fishers and traditional communities and peoples who live and carry out their activities in these regions, with special attention to the needs of women and girls.
- By 2035, all coastal municipalities will have developed and implemented Municipal Ecosystem-Based Adaptation Plans that are dynamic, based on timely and scalable information, considering different IPCC climate change scenarios, and centered on social justice (gender-sensitive and focused on traditional communities). These plans must be duly reflected in municipal legislation concerning the use, subdivision, and occupation of urban land.
- The economies of coastal and marine sociobiodiversity (e.g., artisanal fishing products, coastal-marine extractivism, and other traditional ways of life in recognized managed areas, community tourism) must be strengthened, as well as the allocation of social-interest marine lands, encompassing living spaces and access to work environments and natural resources, as important tools to promote the protection and conservation of coastal and marine ecosystems.

## **7) TRANSPARENCY AND MONITORING**

Brazil will submit annual Biennial Transparency Reports (BTRs), in accordance with Decision 18/CMA.1 and Decision 5/CMA.3, which will include mechanisms for monitoring adaptation actions and means of implementation, as well as uncertainty estimates for emissions and removals, starting from the second edition. Domestically, the country will produce annual estimates of greenhouse gas emissions and removals, based on the best available science.

## **ANNEXES AND ADDITIONAL REFERENCES**

This NDC is accompanied by two annexes, which include the rationale, calculation records, sectoral details, and considerations on equity and justice:

- Technical note: "Bases for the proposal of the 2nd NDC for Brazil (2030-2035)";
- Memorandum: "Brazil's Fair Share of global 1.5°C-consistent mitigation through 2035."