Second-Party Opinion

Brazil's Sovereign Sustainable Bond Framework



Evaluation Summary

Sustainalytics is of the opinion that the Federative Republic of Brazil's Sovereign Sustainable Bond Framework is credible and impactful and aligns with the four core components of the Sustainability Bond Guidelines 2021, Green Bond Principles 2021 and the Social Bond Principles 2023. This assessment is based on the following:

USE OF PROCEEDS The 17 eligible categories[1] for the use of proceeds are aligned with those recognized by the Green Bond Principles and the Social Bond Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental and social impacts and advance the UN Sustainable Development Goals, specifically SDGs 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15.

PROJECT EVALUATION AND SELECTION The Republic of Brazil has established a Sovereign Sustainable Finance Committee (CFSS) which is responsible for evaluating and selecting eligible projects in line with the Framework's eligibility criteria. The CFSS is also responsible for identifying and mitigating environmental and social risks associated with the financed projects. Sustainalytics considers this to be in line with market practice.

MANAGEMENT OF PROCEEDS The CFSS led by the Ministry of Finance will oversee the allocation and the tracking of the proceeds. The Republic of Brazil intends to fully allocate net proceeds within twenty-four months of issuance, on a best-efforts basis. Pending allocation, an amount equivalent to the unallocated proceeds will be managed as per the legislation applicable to government debt management and the National Treasury's cash availability. Sustainalytics considers this to be in line with market practice.

REPORTING The Republic of Brazil intends to report on the allocation and impact reports annually until full allocation which will be published on its website. Allocation reporting may include the breakdown of proceeds per type of expenditure, share of financing and refinancing, share of co-financing and the amount of unallocated proceeds. Sustainalytics views the Republic of Brazil's allocation and impact commitments as aligned with market practice.

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Issuer Location	Brasilia, Brazil

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[1] Pollution Prevention & Control – Control of GHG Emissions; Pollution Prevention and Control – Solid Waste Management; Renewable Energy; Energy Efficiency; Clean Transport; Sustainable Management of Living and Natural Resources and Land Use; Terrestrial and Aquatic Biodiversity; Sustainable Management of Water and Effluents; Adaptation to Climate Change; Circular Economy Adapted Products, Production Technologies and Processes; Socioeconomic Development and Empowerment - Combating Poverty; Socioeconomic Development and Empowerment - Combating Discrimination; Food Security and Sustainable Food Systems; Employment Generation; Access to Affordable Housing; Access to Basic Infrastructure - Urban Development and Mobility; and Access to Basic Infrastructure – Universalization of Basic Sanitation

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Introduction

The Federative Republic of Brazil (the "Republic of Brazil", or the "Issuer") is the largest country in South America, spanning more than 8.5 million km^2, with a population of 215 million (88% living in urban areas) as of 2022.[2] The Republic of Brazil's GDP was reported to be USD 1.92 trillion as of 2022.[3]

The Republic of Brazil has developed Brazil's Sovereign Sustainable Bond Framework, dated August 2023, (the "Framework") under which they intend to issue green, social and sustainability bonds and use the proceeds to finance and refinance, in whole or in part, existing and future projects and expenditures expected to contribute to the transition towards a low-carbon economy, support environmental protection and advance socioeconomic development in Brazil. The Framework defines eligibility criteria in 17 areas:

1. Pollution Prevention and Control – Control of GHG Emissions
2. Pollution Prevention and Control – Solid Waste Management
3. Renewable Energy
4. Energy Efficiency
5. Clean Transport
6. Sustainable Management of Living and Natural Resources and Land Use
7. Terrestrial and Aquatic Biodiversity
8. Sustainable Management of Water and Effluents
9. Adaptation to Climate Change
10. Circular Economy Adapted Products, Production Technologies and Processes
11. Socioeconomic Development and Empowerment – Combating Poverty
12. Socioeconomic Development and Empowerment – Combating Discrimination
13. Food Security and Sustainable Food Systems
14. Employment Generation
15. Access to Affordable Housing
16. Access to Basic Infrastructure – Urban Development and Mobility
17. Access to Basic Infrastructure – Universalization of Basic Sanitation

The Republic of Brazil engaged Sustainalytics to review Brazil's Sovereign Sustainable Bond Framework and provide a second-party opinion on the Framework's environmental and social credentials and its alignment with the Sustainability Bond Guidelines 2021 (SBG), Green Bond Principles 2021 (GBP), and the Social Bond Principles (SBP) 2023.[4] The Framework has been published in a separate document.[5]

Scope of work and limitations of Sustainalytics' Second-Party Opinion

Sustainalytics' Second-Party Opinion reflects Sustainalytics' independent[6] opinion on the alignment of the reviewed Framework with current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework's alignment with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021 and Social Bond Principles 2023, as administered by ICMA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the Issuer's sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.14, which is informed by market practice and Sustainalytics' expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of the Republic of Brazil to understand the sustainability impact of its processes and planned use of proceeds, as well as the management of proceeds and reporting aspects of the Framework. The Republic of Brazil representatives

[2] World Bank, "Population - Brazil", at: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=BR
[3] World Bank, "GDP - Brazil", at: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=BR
[4] The Green Bond Principles are administered by the International Capital Market Association and are available at https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/.
[5] Brazil's Sovereign Sustainable Bond Framework is available at: https://www.gov.br/tesouronacional/en/federal-public-debt/sustainable-bond
[6] When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics' hallmarks is integrity, another is transparency.

have confirmed that: (1) they understand it is the sole responsibility of the Republic of Brazil to ensure that the information provided is complete, accurate and up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and the Republic of Brazil.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. The Republic of Brazil is encouraged to update the Framework after 24 (twenty-four) months from the evaluation date, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that the Republic of Brazil's representatives have made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on Brazil's Sovereign Sustainable Bond Framework

Sustainalytics is of the opinion that the Brazil's Sovereign Sustainable Bond Framework is credible and impactful and aligns with the four core components of the GBP and SBP. Sustainalytics highlights the following elements of Brazil's Sustainable Finance Framework:

- Use of Proceeds:
  - The 17 eligible categories are aligned with those recognized by the GBP and SBP, namely: Pollution Prevention and Control - Control of GHG Emissions; Pollution Prevention and Control - Solid Waste Management; Renewable Energy; Energy Efficiency; Clean Transport; Sustainable Management of Living and Natural Resources and Land Use; Terrestrial & Aquatic Biodiversity; Sustainable Management of Water and Effluents; Adaptation to Climate Change; Circular Economy Adapted Products, Production Technologies and Processes; Socioeconomic Development and Empowerment - Combating Poverty; Socioeconomic Development and Empowerment - Combating Discrimination; Food Security and Sustainable Food Systems; Employment Generation; Access to Affordable Housing; Access to Basic Infrastructure - Urban Development and Mobility; Access to Basic Infrastructure - Universalization of Basic Sanitation.
  - The Issuer has defined a look-back period of 12 months for refinancing, which Sustainalytics considers to be in line with market practice.
  - Under Pollution Prevention and Control – Control of GHG Emissions, the Issuer may finance or refinance:
    - Expenses related to the development of the Republic of Brazil's National Registration System for GHG Emissions, a country-level platform for monitoring, reporting, verification, estimation and disclosure of GHG emissions.[7]

[7] The Republic of Brazil's National Registration System for GHG Emissions is referred to as SIRENE (Sistema de Registro Nacional de Emissões), which is a digital inventory developed by the Brazilian Ministry of Science, Technology and Innovations (MCTI) with the objective of disclosing the results of the Republic of Brazil's National Inventory of Anthropogenic Emissions.

- Expenditures related to projects listed under the Republic of Brazil's National Fund on Climate Change law[8] which include: i) knowledge dissemination and capacity building on climate change-related studies and themes; ii) impact and vulnerability assessments; iii) projects focused on the reduction of deforestation and forest degradation and associated carbon emissions; and iv) strategies for conservation of natural resources and biodiversity and development of mitigation technologies. Sustainalytics notes that expenditures under this category will not be allocated to activities in the exclusionary criteria of the Framework.
- Sustainalytics notes that illegal deforestation accounted for 94% of deforestation in Brazil in 2021[9] and in recent years has increased, leading to significant CO_2 emissions (for which deforestation accounts for 40% of the Issuer's carbon footprint), and destruction of highly diverse ecological areas. Considering Brazil's exceptional ecology and the need to ensure its protection, Sustainalytics views this expenditure as aligned with market practice and encourages the issuer to report on the measures and results achieved towards its goal of eliminating illegal deforestation by 2028.
- Sustainalytics is of the opinion that the Republic of Brazil's investment in building and implementing GHG control measures are credible and impactful in reducing emissions in the country.

– Under Pollution Prevention and Control – Solid Waste Management, the Issuer may finance or refinance:
  - Subsidies to states and municipalities for management of urban solid waste as per the Republic of Brazil's National Solid Waste Policy.[10] Waste management projects will include waste collection, processing and recycling activities. The Republic of Brazil has confirmed that segregation of waste at the source will be ensured for all waste collection activities. For waste recovery and processing, segregation of recyclables will be ensured prior to processing. Additionally, eligible projects related to e-waste recycling will have a robust waste management plan to ensure mitigation of any risks associated with such activities. The Republic of Brazil has further communicated that waste collection vehicles will have an emissions threshold below 25 gCO_2/tkm and expenditures will exclude chemical recycling of plastics.
  - Installation and maintenance of landfill gas capture and utilization (excluding for flaring) from landfills. Sustainalytics notes that recovering methane produced from a closed landfill will not prolong the lifespan of the landfill and is a key strategy to reduce methane emissions from waste. Sustainalytics notes that landfill gas capture for energy generation is a key waste management strategy for reducing methane emissions from landfills with no gas capture and from open dumps. Sustainalytics encourages the Republic of Brazil to monitor and report on gas capture efficiency in order to estimate the overall benefits to be achieved over the gas generation lifetime of each facility (which on average lasts for 150 years).
  - Sustainalytics consider these expenditures to be aligned with market practice.
– Under the Renewable Energy category, the Issuer intends to finance or refinance expenditures related to the development, construction, installation, expansion, operation, maintenance, refurbishment, land related to electricity production and energy storage for renewable energy, including:
  - Projects generating energy from photovoltaic solar energy, solar thermal energy and wind power. The Republic of Brazil has confirmed that concentrated solar power plants will derive at least 85% of the electricity from solar energy resources.
  - Hydropower projects contemplated under the Framework will be limited to those that meet at least one of the following conditions: i) run-of-river without artificial reservoir or low-storage capacity; ii) facilities with power density greater than 10 W/m^2 or life cycle emissions below 50 $gCO2_e$/kWh for projects in operation after the end of 2019;

[8] Government of Brazil, Portal da Legislação, "LAW No. 12,114, DATED DECEMBER 9, 2009", at: https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/Lei/L12114.htm
[9] WWF, "New study find 94% of deforestation and habitat destruction in Brazil's Amazon and Cerrado could be illegal", at: https://www.wwf.org.uk/press-release/illegal-deforestation-report-brazil
[10] Government of Brazil, Portal da Legislação, "LAW No. 12.305, OF AUGUST 2, 2010.", (2010), at: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/lei/l12305.htm

or iii) facilities with power density greater than 5 W/m^2 or life cycle emissions below 100 gCO2e/kWh for projects in operation before the end of 2019. All new hydropower projects will be subject to an environmental and social impact assessment to ensure that no significant risks, negative impact or significant controversies related to the projects are identified.

- For biomass electricity generation projects, the Republic of Brazil has confirmed to Sustainalytics that financing will be limited to projects that have a life cycle GHG emissions intensity below 100 gCO_2e/kWh. For waste-to-energy projects that utilize municipal solid waste for energy recovery, segregation of recyclable wastes, including plastics, will be ensured before energy conversion. The Issuer has confirmed that biomass feedstock production: i) will be limited to installations whose lifecycle GHG emissions are at least 80% lower than the fossil fuel baseline; ii) will not take place on land with high biodiversity (at least within last ten years); and iii) will not deplete areas with high amounts of carbon.
- Facilities that produce heating or cooling by reusing waste heat. The Issuer has confirmed to Sustainalytics that financed heating and cooling systems will be electricity powered. The Issuer has further confirmed that waste heat projects that rely directly on fossil fuels and produce energy from fossil fuels will be excluded from the Framework.
- Production of biofuel as per ANP Resolution 758/2018. The Republic of Brazil has communicated to Sustainalytics that such projects, in addition to the ANP Resolution, will have lifecycle emission that is at least 80% lower than the fossil fuel baseline. Biofuel production will use non-waste biomass as feedstock, including sugarcane, corn, soy, palm and agro-silvopastoral residues. The Issuer has confirmed that palm oil used in the production of biofuels will be RSPO certified and that biofuel feedstock production will not take place on land with high biodiversity (at least within last ten years) nor deplete areas with high amount of carbon. Sustainalytics encourages the Issuer to report on the sources of feedstock used in electricity generation facilities or biofuel production and to pursue third-party certifications to validate their sustainability credentials.
- For the production of biomethane from municipal solid waste, the Republic of Brazil will ensure the segregation of the majority of recyclables and exclusion of plastics before energy conversion. Sustainalytics recognizes that energy from waste could take out of circulation potentially recyclable materials and undermine two of the main objectives of a zero-waste circular economy, i.e. waste prevention and recycling. Additionally, for such projects to have low emissions intensities, the composition of residual waste, particularly fossil carbon content, is a crucial consideration. However, Sustainalytics also notes that due to constraints on recycling in many parts of the world, energy from waste can offer a better residual waste management option than landfills in many cases. Sustainalytics recommends the Issuer to promote the removal of increasing amounts of recyclables, especially plastics and metals, and the monitoring of thermal efficiency of the financed facilities.
- Projects related to renewable energy storage such as efficient battery storage.
- Hydrogen production through electrolysis powered by renewables or from sustainably sourced biomass, biogas, financing of research and development (R&D) for geological or natural hydrogen, and hydrogen production using carbon sequestration such as carbon capture and storage from natural gas. Sustainalytics considers it market expectation to limit green bond proceeds to green hydrogen, i.e. hydrogen production that relies on renewable energy. Sustainalytics also notes the production of low-carbon hydrogen through methods that rely on fossil fuels as a transitional and interim solution, which may still result in a lock-in fossil fuel usage, and further encourages the Republic of Brazil to favour the production of green hydrogen.
- Development and expansion of industrial capacity to manufacture types of equipment, components, technologies and materials for energy transition, such as wind power, solar energy, storage, vehicles powered by electricity and biofuel, and low-carbon hydrogen. Sustainalytics notes that other technologies in the market are currently commercially available for passenger and light duty vehicles (such as EV and hybrid cars) which have a better impact on reduced tailpipe emissions in transportation. In

addition, the biofuels may also contain blending with fossil fuels. However, Sustainalytics believes that the role of biofuel is important in this transition phase towards complete conversion to electric vehicles given the average 50% lower emissions intensity potential of most biofuels (without Land use change) in comparison to diesel and gasoline, and would help displace the use of fossil fuels in the transportation sector.
    - Sustainalytics considers expenditures under this category to be aligned with market practice.
- Under the Energy Efficiency category, the Issuer may finance or refinance projects and technologies aimed at increasing the energy efficiency of public buildings. Intended projects under this category may include:
    - Building improvement expenditures at public buildings with the intent to: i) achieve PBE Edifica certification at level A; or ii) improve energy efficiency by at least 20% over a pre-retrofit baseline. The project examples of intended activities as part of the retrofit of buildings include thermal insulation and the installation of energy-efficient air conditioning systems.
    - Upgrading existing energy-intensive conventional light bulbs to LEDs for street lighting.
    - Projects that achieve at least a 20% energy efficiency improvement in industrial facilities such as equipment and machinery that leads to energy efficiency improvements.
    - The Republic of Brazil has confirmed to Sustainalytics that heat pumps will not be financed under the Framework. Sustainalytics notes that the Issuer may install or upgrade energy-efficient mechanical cooling systems such as chillers. Sustainalytics recommends the Issuer to consider low-GWP refrigerants for such cooling systems and to promote robust refrigerant leak control, detection and monitoring, while ensuring recovery, reclamation, recycling or destruction of refrigerants at end of life.
    - The Issuer has confirmed to Sustainalytics that the Framework excludes financing of fossil fuel-powered equipment and energy efficiency improvements in carbon-intensive and heavy industries.
    - While noting that retrofits of buildings that result in performance improvements of 20% will result in some environmental benefit, Sustainalytics considers market practice to ensure that retrofits of buildings will achieve emissions or energy performance improvements of at least 30%.
- Under the Clean Transport category, the Issuer may finance or refinance expenditures that support the development, purchase, design, maintenance, repair, reconditioning, upgrade, and deployment of zero direct emissions vehicles and low-carbon vehicles including associated infrastructure in accordance with the following criteria:
    - Public passenger vehicles such as metro,[11] light rail transit, bus, tram, trolleybus and rail with zero direct tailpipe emissions or with tailpipe emissions intensity below 50 gCO_2e/pkm until December 2025 and 0 gCO_2/km from January 2026. The Republic of Brazil has confirmed that the emissions intensity will be calculated based on the standards of the National Institute of Metrology, Quality and Technology (Inmetro).[12] The Issuer intends to employ the Inmetro standards as a test procedure to determine if vehicles are below the 75 gCO_2e/km threshold. Sustainalytics considers it best practice to use the World Harmonized Light-duty Vehicle Test Procedure (WLTP), as it replicates realistic driving conditions and yields more accurate emissions results.
    - Road freight vehicles, such as commercial trucks and freight rail transit with zero direct emissions or with tailpipe emission intensity below 25 gCO2e/tkm. Sustainalytics notes that the Framework excludes the following: i) freight used to transport fossil fuels or fossil fuels blended with alternative fuels; and ii) freight trains where fossil fuels account for more than 25% of the rolling stock.
    - Projects related to electrification of public fleets by financing fully battery electric vehicles and hybrid vehicles with tailpipe emissions intensity below 50 gCO2e/pkm until December 2025 and 0 gCO2/km from January 2026 onwards.

[11] Financing will be towards new and expansion lines of metros.
[12] Inmetro, at: https://www.gov.br/inmetro/pt-br

- Transportation infrastructure for low-carbon transport for road and personal mobility include: i) electric charging stations; ii) signaling and control systems such as operations control centre, automatic train protection, automatic train operation; iii) intermodal stations to connect low-carbon public transportation, iv) hydrogen fueling stations; v) electric highways; vi) sidewalks; vii) footbridges; and viii) underground walkways and pedestrian pathways. In addition, the Republic of Brazil has communicated that expenditures in highways will only be towards the electric charging infrastructure for electric vehicles and financing will not include the expansion of highways themselves.
- Construction and upgrade of low-impact rail infrastructure for freight transport. The Issuer has confirmed that financing will be limited to freight rail where less than 25% of the rolling stock is dedicated to the transport of fossil fuels.
- The Issuer has confirmed to Sustainalytics that associated infrastructure for transportation systems will support eligible transportation assets meeting the requirements under this category. Furthermore, the Issuer has confirmed to Sustainalytics that financing of projects related to infrastructure enabling low-carbon transport will exclude the following: i) new construction and existing road infrastructure retrofits; ii) parking facilities; and iii) fossil fuel filling stations or other assets which prolong the life of the asset or facilitate the use of fossil fuel-powered transport.
- Sustainalytics considers expenditures under this category to be aligned with market practice.

– Under the Sustainable Management of Living and Natural Resources and Land Use category, the Issuer may finance or refinance dedicated programmes and projects that aim to support sustainable agriculture, forestry, land restoration and biodiversity conservation and will contribute to Brazil's Climate Adaptation and Low Carbon Emission Plan (ABC+ Plan).[13]
  - Investments related to sustainable agriculture practices and climate smart farming include agricultural techniques or technologies such as, no-till farming systems, crop rotation, drip irrigation and precision agriculture.
    - Investments related to recovery of degraded pastures, with activities including: i) expanding production and enabling access to fertilizers; ii) initiatives by the Brazilian Agricultural Research Corporation (Embrapa) such as trainings focused on family farms and related to sustainable agriculture in areas of pasture management, production efficiency and environmental sustainability; iii) adoption of forage varieties and diversification of native pastures; (iv) public and private technical assistance and rural extension; v) provision of economic incentives to individuals to recover degraded pastures; vi) identification and mapping of degraded pasture areas; vii) subsidies on operations that recover or renew degraded pastures; viii) preventing the degradation of new pasture areas; ix) development and use of technological innovations; and x) enablement of technology transfer and technological innovation mechanisms for small rural producers. Production of fertilizers will be from ammonia made from green hydrogen and CO_2 will be sourced from heavy industries but not fossil fuel operations under the Framework. Sustainalytics notes that the fertilizer produced will potentially be used as fertilizer applied to conventional agriculture. Without targeted or precise application, these fertilizers are associated with downstream negative impacts, including GHG emissions, soil leaching, and run-off into local ecosystems. Nevertheless, Sustainalytics recognizes that the production of fertilizer using green hydrogen is substantially less carbon-intensive than production using fossil fuels counterparts. Furthermore, the Framework excludes expenditures associated with technological innovations that are carbon intensive.

[13] Federative Republic of Brazil, Ministry of Agriculture, Livestock And Food Supply," ABC+ Brazilian Agricultural Policy For Climate Adaptation And Low Carbon 2020-2030 Executive Summary Emission", (2022), at: https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/plano-abc/arquivo-publicacoes-plano-abc/abc-sumario-executivo-2022-ingles_final.pdf

- Sustainalytics views investments in restoration of degraded pastures eligible if not done with an intent to promote future industrial livestock activities aimed at meat production or processing including industrial livestock grazing.
- Financed expenditures may also include sustainable forestry activities including forestation, reforestation and forest restoration of degraded areas; integrated crop-livestock-forestry systems (ICLFS);[14] agroforestry systems; and management and planting of commercial forests. The Issuer has confirmed that forest conservation, reforestation, forest restoration and commercial forestry projects will be accompanied by a sustainable forest management plan and that the plant and tree species used will be native or well adapted to local conditions. These projects will be certified to the Forest Stewardship Council (FSC),[15] the Programme for the Endorsement of Forest Certification (PEFC)[16] or other equivalent schemes. Sustainalytics views these certification schemes as robust and credible but notes that it is market expectation to specify all eligible certification schemes and standards and encourages the Republic of Brazil to report on any other certification schemes and standards they intend to use for projects financed under the Framework. In addition, Sustainalytics recognizes that the ICLFS and agroforestry projects encompass a diversified production strategy that aims to enhance agricultural productivity and have been demonstrated to reduce vulnerability of farmers (particularly smallholder farmers) to environmental shocks, including climate change. However, such integrated projects could face certain barriers,[17] especially related to their effective adoption at the farm level, in addition to their overall potential for achieving a net reduction in methane emissions resulting from livestock production.[18] The Issuer has confirmed that projects related to industrial-scale meat production and industrial-scale livestock management will be excluded under the Framework. The Republic of Brazil has also confirmed that ICLFS project will be financed for small properties in all Brazilian biomes.
- Financed projects under this category may include projects related to capacity building for sustainable forest management.
- Investments in projects focused on implementation of irrigation that promote water efficiency such as drip irrigation, and soil management systems such as no-tillage practices. Sustainalytics notes that the Framework excludes financing of irrigation systems that are dependent on fossil fuels.
- Projects related to animal waste management including bio digestion and composting of animal waste from animal production, such as cleaning water, faeces, urine and food waste, carcasses. Sustainalytics notes that these projects will take place in the context of the ABC+ Plan and will not include waste from industrial-scale livestock production. Sustainalytics recognizes the environmental benefits of such projects.
- Finance projects related to regularization of rural properties to comply with the threshold mentioned in the Republic of Brazil's Forestry Code, including rural environmental registry and land management system in protected areas.[19]
- Implementation or expansion of units for the production of: i) biofertilizers; ii) organomineral fertilizers using biological waste as an input; and iii) biological nitrogen fixation of microorganisms to support plant growth. The Issuer has confirmed that

[14] The Republic of Brazil has confirmed that activities under implementation and improvement of ICLFS include: i) agricultural practices such as intercropping and crop rotation and plating of crops to produce food, fibers or energy. ii) animal farming for beef or dairy bovines, buffaloes, goats, sheep, swine and poultry; iii) forestry systems such as trees, native or exotic species utilized for timber and non-timber purposes.
[15] Forest Stewardship Council, at: https://fsc.org/en/about-us
[16] Programme for the Endorsement of Forest Certification, at: https://www.pefc.org/
[17] The adoption of integrated crop-livestock systems is influenced by several factors, including the "costs of adoption versus non-adoption, supply chain infrastructure, biophysical suitability, availability of skilled labour, access to information and know-how, as well as the willingness to diversify production." Land Use Policy, Determinants of crop-livestock integration in Brazil: Evidence from the household and regional levels: https://www.bu.edu/gdp/files/2018/02/Gil_Garrett_et_al_2016_Determinants-of-ICLS.pdf
[18] IPCC, Land-Climate Interactions, at: https://www.ipcc.ch/site/assets/uploads/2019/08/2c.-Chapter-2_FINAL.pdf
[19] The Forestry Code was established by Law nº 12,651/2012 and foresees that rural properties must comply with certain conservation thresholds according to their biome. All properties must maintain a legal reserve corresponding from 20% to 80% (depending on their biome) of its total area, in which native vegetation must be fully conserved and economically exploited only under approved sustainable management practices. All properties must also maintain permanent protected areas (APP, in its Portuguese acronym), established according to its position regarding watercourses, springs, slopes, mangroves and other key areas for conserving water resources, landscapes, geological stability, biodiversity, soil protection, fauna and flora, genetic flow and communities' well-being.

poultry litter will not be associated with operations of factory scale animal production of pigs, cattle and poultry.

- Projects related to production of organic food certified by the OrganicConformity Certificate (SiSORG).[20]
- Implementation of agricultural climate risk zoning which includes activities that aim to reduce climate risk and establish climate resilient development. Project examples include climate observation and forecasting systems. The Republic of Brazil has confirmed to Sustainalytics that financing devices used for short-term meteorological purposes will be excluded from the Framework. Sustainalytics further encourages the Issuerto conduct vulnerability and risk assessment for climate risk zoning vulnerability projects.
- Conservation of natural resources including maintenance of soil cover and improvement of its chemical, physical and biological quality, and soil remediation projects. The Republic of Brazil has confirmed to Sustainalytics that soil remediation activities will not be related to the contamination or negative environmental externalities from the Issuer's or a borrower's own activities.
- Finance for natural resource production chains to promote economic and sustainable use of biodiversity and forest resources. The Republic of Brazil has confirmed that activities directed towards commercial forestry will either be certified with FSC, PEFC or other schemes with equivalent performance and in the case of smallholder farmers[21], the forestry projects will be accompanied by a sustainable forest management plan. Sustainalytics views these certification schemes as robust and credible but notes that it is market expectation to specify all eligible certification schemes and standards and encourages the Issuer to report on any other certification schemes and standards they intend to include under the Framework.
- Expenditures related to social-biodiversity, which may include: i) biodiversity conservation and production chains; sustainable use of biodiversity and forest resources in production systems;[22] iii) finance for products such as cocoa, rubber, açaí, that would be sustainably produced and with a third-party certification to promote rural community products; iv) dissemination of traditional knowledge and techniques including scientific programmes aimed at protecting and conserving biodiversity; v) and v) projects for areas belonging to indigenous peoples and traditional peoples and communities, including demarcation and restoration of areas. The Republic of Brazil has confirmed that activities directed towards commercial forestry will either be certified with FSC, PEFC or other equivalent schemes; and in the case of smallholder farmers, the forestry projects will be accompanied by a sustainable forest management plan. Sustainalytics views these certification schemes as robust and credible but notes that it is market expectation to specify all eligible certification schemes and standards and encourages the Issuer to report on any other certification schemes and standards they intend to include under the Framework.
- Projects that enable participation of family farming in renewable energy.
- Financing projects to revitalize hydrographic basins through public-private partnerships to conserve water in their natural environments, water production and retention in their natural environments. In addition, expenditures related to adaptation of rural roads include road layout correction and construction of containment basins to permit drainage, capture and storage of rainwater to improve the water table. The Issuer has confirmed to Sustainalytics that a sustainable management plan will be undertaken for all restorative projects financed and any expenditures that do not demonstrate a clear climate benefit will not be financed under the Framework.

[20] Sisorg: Certifications -http://www.ciaorganica.com.br/certificacoes/?lang=en
[21] A family farmer also known as small-holder farmer is defined under Brazilian law as those that: i) do not own, an area larger than four fiscal modules in any capacity; ii) largely use labour from his own family in the economic activities of his establishment or enterprise; iii) has a minimum percentage of family income originating from economic activities of his establishment or enterprise. Government of Brazil, "the National Policy on Family Agriculture and Rural Family Enterprises", at: https://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/l11326.htm
[22] Expenditures include: i) development of sustainable management technologies; ii) provide training and technical assistance to forest communities; iii) improvement of infrastructure (equipment, internet services); expenditure related to demarcation of traditional territories and conservation units; iv) legal and methodological advice for public consultation; v) acquisition of material and equipment (including trail signs and maintenance, monitoring, support services); investment in facilities such as administrative bases, inspection posts, social centres.

- Furthermore, the Issuer has confirmed to Sustainalytics that financing for projects related to expenditures under this Framework will exclude the following: i) manufacturing, purchase and distribution of inorganic or synthetic fertilizers, pesticides and herbicides; ii) agricultural units with industrial livestock production units. Furthermore, the Republic of Brazil has confirmed to Sustainalytics that palm oil plantations and related activities, or procurement of resources or material sourced from palm plantations will be certified by RSPO.[23]
- Sustainalytics considers investments under this activity to be aligned with market practice.

– Under the Terrestrial and Aquatic Biodiversity category, the Issuer may finance, or refinance expenditures related to the following:
  - The National System of Nature Conservation Units, which supports the protection of Brazil's biodiversity through the creation, management and maintenance of protected and conserved land and marine areas for species at risk. Financed projects may also include the implementation of the Rural Environmental Registry (CAR) which supports a satellite-based system for registering and monitoring land with the objective to monitor and combat deforestation and degradation of native vegetation in private rural properties. Sustainalytics recognizes the importance of such ecosystems and their biodiversity, and views such expenditures as aligned with market expectations.
  - Protection, conservation, recovery, restoration, and sustainable management of biodiversity and natural landscapes, such as: i) afforestation, rehabilitation and restoration of forests and conservation areas; and ii) marine ecosystems. For reforestation or afforestation, the Republic of Brazil has confirmed that the plant and tree species used for afforestation or reforestation will be native or well adapted to local conditions. Additionally, the reforestation projects will include sustainable management plans certified under the FSC, PEFC or other equivalent schemes. Sustainalytics views these certification schemes as robust and credible but notes that it is market expectation to specify all eligible certification schemes and standards and encourages the Republic of Brazil to report on any other certification schemes and standards, they intend to include.
  - Preventing or combating deforestation by financing initiatives under the Plan to Control Illegal Deforestation and Recovery of Native Vegetation.[24] The associated expenditures include: i) implementation of sustainable productive activities; ii) strengthening of environmental oversight and control such as through monitoring of biodiversity destruction; iii) land and territorial planning by protecting undesignated public lands and managing protected areas; and iv) implementation of normative and economic instruments such as economic incentives under the National Policy for Payment for Environmental Services regulations related to preventing deforestation.
  - Prevention of forest fires through financing of: i) educational campaigns and training of firefighters and local communities, including costs associated with designing educational course programmes, material selection and hiring of training personnel; ii) expenditures related to maintenance and improvement of monitoring and early-detection systems; iii) implementation of short-term fire prevention initiatives such as mapping through satellite imagery as well as long-term actions such as monitoring and research for understanding ecological implications and improving fire management practices; and iv) investment in firefighting equipment including personal protective equipment and vehicles. Sustainalytics notes that the Republic of Brazil may also finance expenses related to flights for assessing wildfires for defining firefighting strategies.
  - Investments in remote monitoring technologies to improve inspection processes for ensuring compliance with environmental laws, and development of marine spatial planning for protection of coastal and marine ecosystems.

[23] Roundtable on Sustainable Palm Oil, "RSPO Certification", at: https://rspo.org/as-an-organisation/certification/
[24] Grantham Research Institute on Climate Change and the Environment, "Plan to Control Illegal Deforestation and Recovery of Native Vegetation (PPCDAm and PPCerrado), at: https://climate-laws.org/document/plan-to-control-illegal-deforestation-and-recovery-of-native-vegetation-ppcdam-and-ppcerrado_212e

  - Expenditures associated with monitoring and recording of fauna in Brazilian biomes, and research and development of conservation technologies. The Republic of Brazil has confirmed that these technologies will not be carbon intensive.
  - Financing of the Bolsa Verde programme,[25] which includes cash transfers, technical or livelihood training and assistance and access to basic public services to indigenous peoples, communities that reside in conservation units, environmental rural settlements and traditional territories involved in sustainable land use.
  - Sustainalytics considers investments under this category to be aligned with market practice.
- Under the Sustainable Management of Water and Effluents category, the Issuer may finance expenditures related to the design, construction, operation, maintenance, improvement, enlargement and adaptation of projects related to water and wastewater infrastructure. The Issuer has confirmed to Sustainalytics that corresponding projects under this category will exclude systems and measures that provide water to fossil fuel operations, fracking, and nuclear and mining industries and operations. Investments under this category can include:
  - Expenditures related to the provision of sanitary sewage in rural areas, and efficient treatment systems for the disposal of effluents. The Issuer has confirmed that on-site treatment of animal residue from farming production units will not be financed under the Framework.
  - Defense systems against river floods, conservation and revitalization of water resources and river basins that have a climate change vulnerability assessment and adaptation plan in place.
  - Systems for monitoring flood control, water resources, weather and atmospheric conditions and control mechanisms such as smart networks, early warning systems for droughts and floods, and water quality monitoring systems. These expenditures may include grants to provincial governments for implementation of these systems and mechanisms under the Natural Water Resources Policy.
  - Sustainalytics considers investments under this category to be aligned with market practice.
- Under the Climate Adaptation category, the Issuer may finance or refinance measures for climate resiliency and monitoring under the National Adaptation Plan, including the following projects and activities.
  - Expenditures under the National Civil Defence and Protection Policy (PNPDEC) to address risks caused by natural disasters through prevention, mitigation, preparedness, response and recovery actions.
  - Surveys, studies, mechanisms and infrastructure to enhance resiliency and adaptive capacity of vulnerable communities and urban infrastructure against flooding and extreme rainfall events.
  - Initiatives to: i) prevent negative impacts and reduce vulnerability of agricultural productivity that result from soil erosion, water deficits, droughts, extreme weather events, and pest infestation from reduced water availability; ii) increase adaptive capacity to droughts; and iii) reduce vulnerability of crop loss owing to extreme weather events.
  - Climate risk monitoring technologies and information support systems that enable planning for climate adaptation, as well as expenditures related to the development and improvement of assessment methods for analyzing resilience, adaptive capacity and risk monitoring of practices and production processes.
  - Expenditures related to reducing the effects of water deficit such as through arboreal components in pasture production systems that promote thermal comfort for cattle farming and improving soil and water productivity. The Republic of Brazil has confirmed that expenditures related to thermal comfort for cattle farming will not include industrial-scale livestock production.
  - The Republic of Brazil has communicated to Sustainalytics that eligible projects under this category will be selected based on climate change vulnerability assessments and supported by adaptation plans included in the Republic of Brazil's National Adaptation Plan.

[25] Government of Brazil, Portal da Legislação, "Decree No. 7,572 de 28 Setembrp de 2011", at: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/decreto/d7572.htm

- Sustainalytics considers investments under this category to be aligned with market practice.

- Under the Circular Economy Adapted Products, Production Technologies and Processes category, the Issuer considers financing eco-efficient products and production activities that increase resource efficiency. The activities may include:
  - Projects that extend the life cycle of products. This may include processing waste to enable product reuse or refurbishment such as using paper scraps for packaging, plastic recycling to produce plastic resins, and recycling of steel and metals.
  - The production of alternative raw materials or materials of biological origin. The Republic of Brazil has confirmed that the production of bio-based materials or products will be limited to those certified under the Roundtable on Sustainable Biomaterials (RSB).[26] The Republic of Brazil also confirmed the exclusion of bio-based plastics as an input in the financed production technologies and processes.
  - Where recycling activities include e-waste or waste from electrical or electronic equipment, the Issuer will ensure there is a robust waste management process in place to mitigate associated risks.
  - Projects related to reverse logistics under the National Solid Waste Policy[27], which are intended to finance the conversion of recycled materials into inputs to produce goods and packaging. The Issuer has confirmed to Sustainalytics that procurement of bio-based raw materials (excluding bio-plastics) will be done by sustainable sourcing. Additionally, the Republic of Brazil confirmed that production of aluminium-based products will ensure: i) at least 90% of inputs include scrap or recycled aluminium; or ii) at least 75% of input include scrap or recycled aluminium and the remaining (primary) aluminium will have a carbon intensity below 2.5 $tCO2_e/t$.
  - Sustainalytics considers investments under this category to be aligned with market practice.
- Under the Socioeconomic Development and Empowerment - Combating Poverty category, the Issuer may finance or refinance projects:
  - Providing financial assistance through direct cash transfers to households living in poverty or near poverty in Brazil. The beneficiaries are the households as identified in the Republic of Brazil's Bolsa Familia programme, which provides households with per capita monthly incomes of up to BRL 218 (USD 44) to encourage beneficiaries to send their children to school and promote immunization and educational opportunities for children.
  - Providing pensions to low-income elderly people aged 65 or above and people with disabilities under the Republic of Brazil's Continued Provision of Social Work Benefit (BPC) programme. Beneficiaries are people with a household income of up to 25% of the minimum wage per person.
  - [Placeholder for Basic Social Protection Actions of the Unified Social Work System ("SUAS")]Finance programmes under Unified Social Work System (SUAS)[28] to help vulnerable populations such as children in preventive foster care, female victims of violence, people whose rights have been violated, the physically disabled and the elderly. Sustainalytics encourages the Issuer to ensure transparency and report the impact of financed programmes on the beneficiaries.
- Under the Socioeconomic Development and Empowerment - Combating Discrimination category, the Issuer may finance or refinance projects intended to reduce discrimination and promote equality among the identified target groups. Intended projects under this category may include:
  - Implementation or modernization of equipment and spaces, such as special hotlines, shelters, financing of financial education and training programmes for professional qualification. Projects in this sub-category will target: i) women, including victims of domestic violence and sexual abuse; ii) afro-descendant people; iii) traditional communities; iv) lesbian, gay, bisexual, queer and transgender persons; v) immigrants

[26] RSB, at: https://rsb.org/
[27] Government of Brazil, Portal da Legislação, "Lei No. 12.305, de 2 de Agosto de 2010.", at: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/lei/l12305.htm
[28] LAW No. 8,742, OF DECEMBER 7, 1993, at: https://www.planalto.gov.br/ccivil_03/leis/l8742compilado.htm

and refugees in vulnerable situations; and vi) people living on the streets. The Republic of Brazil also intends to finance the implementation of measures to counter institutional racism based on studies and analyses System for Monitoring Ethnic-Racial Policies (SIMOPE)[29] and the National System for Promoting Racial Equality (SINAPIR)[30] to counter institutional racism. Project examples include: the Programa Aquilombola Brasil,[31] Programa Nacional de Ações Afirmativas,[32] Plano da Juventude Negra Viva.[33]

- Implementation of projects that focus on prevention of violence and abuse against women, promote opportunities for women to participate in social, political and economic spheres, provide childcare services or childcare allowances to support women in the workforce. Project examples include establishing distributing menstrual health products such as tampons for low-income and vulnerable women. In addition, the Issuer will provide financial support for capacity building and technical assistance to women for professional qualification courses.[34]
- Sustainalytics notes that all activities and programmes financed under the category will be limited to those that aid the targeted vulnerable populations and will not include financing of facilities or programmes that are designed to be punitive or retributive in nature, to combat discrimination.

– Under the Food Security and Sustainable Food Systems category, the Issuer may finance or refinance activities related to:
  - Implementation of food service programmes such as, purchase and distribution of food, and provision of food subsidies to provide healthy and nutritious food to the following target populations: i) people who lack access to nutritious food; ii) students at public schools; iii) traditional communities, such as quilombolas, people living on extractive reserve regions and indigenous peoples. Recognizing the benefits of such programmes in addressing food security challenges, Sustainalytics encourages the Issuer to report on the food nutrition programmes to be financed and their expected impacts.
  - Finance activities under the National Food and Nutrition Security System to increase food security.[35] The Issuer confirmed that financing under this category will focus on

[29] The SIMOPE is a system of the Republic of Brazil's Ministry of Human Rights and Citizenship that tracks and evaluates the implementation of ethnic-racial policies. It can be used to monitor the progress of these policies, identify areas where they are not being implemented effectively, and make recommendations for improvement. The system provides information and the historical evolution of indicators such as: territorial presence, schooling, average income, infrastructure, access to social programmes and affirmative policies, federative decentralization and execution of projects.
Government of Brazil, Ministry of Human Rights and Citizenship, "Monitoring System of Ethnic-Racial Policies – SIMOPE", at: https://www.gov.br/mdh/pt-br/navegue-por-temas/igualdade-etnico-racial/acoes-e-programas/sistema-de-monitoramento-de-politicas-etnico-raciais-2013-simope

[30] The SINAPIR is an initiative created in 2003 to promote racial equality in areas such as education, health, employment, and participation of black and indigenous people in decision-making.

[31] The Aquilombola Brasil programme aims to promote the rights of the quilombola population in terms of access to land, infrastructure and quality of life, productive inclusion and local development, in addition to rights and citizenship.
Government of Brazil, Portal da Legislação, "Decreto No. 11.447, de 21 de março de 2023.", at: http://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/decreto/D11447.htm

[32] The Programa Nacional de Ações Afirmativas focuses on actions and policies promoting equal opportunities for the black population, people with disabilities, women and indigenous peoples in the areas of education, science and technology, health, work, employment and income, culture, communications, migration and refuge, and access to justice.
Government of Brazil, Secretary of Communication, "Elaboração do Programa Nacional de Ações Afirmativas para promoção da equidade", at: https://www.gov.br/secom/pt-br/assuntos/obrasilvoltou/respeito-e-dialogo/eleboracao-do-programa-nacional-de-acoes-afirmativas-para-pormocao-da-equidade#:~:text=O%20novo%20programa%20definir%C3%A1%20pol%C3%ADticas%20que%20promovam%20a,comunica%C3%A7%C3%B5es%2C%20migra%C3%A7%C3%A3o%20e%20ref%C3%BAgio%2C%20e%20acesso%20%C3%A0%20justi%C3%A7a.

[33] The Plano Juventude Negra Viva focuses on initiatives to reduce homicides and social vulnerabilities for Brazilian black youth.
Government of Brazil, Ministry of Racial Equality, "Plano Juventude Negra Viva", at: https://www.gov.br/igualdaderacial/pt-br/assuntos/plano-juventude-negra-viva/

[34] Government of Brazil, Ministry of Women, "Confira a lista de ações assinadas no Dia Internacional das Mulheres", at: https://www.gov.br/mulheres/pt-br/central-de-conteudos/noticias/2023/03/confira-a-lista-de-acoes-assinadas-no-dia-internacional-das-mulheres

[35] The National Food and Nutrition Security System (SISAN) is composed of the Inter-ministerial (or intersectoral) Chambers of Food and Nutrition Security (Caisan) and the Councils of Food and Nutrition Security (CONSEA). SISAN focus areas include: coordination, follow-up and evaluation of food and nutrition security policies and plans and the integration of such policies and plans at the local, state and federal levels to achieve food security.
Government of Brazil, Ministry of Development and Social Assistance, Family and Fight Against Hunger, "SISAN - Sistema Nacional de Segurança Alimentar e Nutricional", at: https://www.gov.br/mds/pt-br/acoes-e-programas/inclusao-produtiva-rural/direito-a-alimentacao-1/sisan-sistema-nacional-de-seguranca-alimentar-e-nutricional

the direct implementation of food security programs to the target populations, and will not be used to finance policy development.

- Finance activities related to agro-ecological food production in urban and semi-urban areas which include, design rainwater harvesting systems, low-cost drip irrigation and small-scale irrigation equipment to optimize water consumption in urban agriculture, community horticultural and vegetable gardens, sustainable agricultural practices, processes and technologies. The Republic of Brazil has confirmed to Sustainalytics that it may provide financial incentives to family farmers to access agricultural inputs, equipment and services linked to sustainable agriculture technologies as listed in the Republic of Brazil's Low Carbon Agriculture Plan. The Issuer has also confirmed that expenditures under this category will only go to regions in Brazil with deficiencies in food production, distribution and food security.
- Financing projects focused on strengthening the production chains, cooperatives of family farmers in semi-arid zones in Brazil by providing loans and grants. The Republic of Brazil has confirmed to Sustainalytics that Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)[36] will be responsible to implement deforestation measures, such as monitoring.
- Sustainalytics views these investments as socially impactful and considers that such expenditures will enhance food security in Brazil.

– Under the Employment Generation category, the Issuer may finance and refinance projects related to:
  - Provision of vocational qualification to integrate people enrolled in the Cadastro Único[37] in the labour market.
  - Financing solidarity economy enterprises, associations and cooperatives such as, producer associations and groups; family farming cooperatives; waste collection and recycling cooperatives; worker-owned enterprises; production, marketing and consumption networks; community banks; credit unions to create employment opportunities. The Republic of Brazil has confirmed that these enterprises, associations and cooperatives will be restricted to MSMEs or small and family farmers, and will be owned by members of historically and systemically marginalized and disadvantaged groups.
  - Provision of technical and financial assistance to rural families affected by poverty or extreme poverty.
  - Technical and financial support to micro and small businesses in Brazil.[38]
  - Projects related to sustainable agriculture practices and diversification of production through implementation of the ICLFS and agroforestry systems to increase employment and income of small-scale rural producers. Projects financed under this expenditure will meet the criteria as outlined under Sustainable Management of Living and Natural Resources and Land Use category.
  - Projects related to non-agricultural goods and services, such as finished products; raw materials generated from biodiversity resources to promote the rights of the traditional population.
  - Finance community-based sustainable leisure activities such as hiking, camping and outdoor activities in rural areas to promote rural tourism. The Issuer confirmed that tourist facilities that could have negative environmental impacts, such as resorts and hotels, will not be financed. Sustainalytics notes that the Issuer will undertake monitoring measures to ensure that no environmental degradation is caused due to this activity. However, given that monitoring is a broad term to quantify the potential impact caused by the activity, Sustainalytics encourages the Issuer to report on positive impacts to local communities.

[36] The Brazilian Institute of Environment and Renewable Natural Resources, known as IBAMA is a federal agency under the Ministry of Environment that is responsible for the development of various activities related to the preservation and conservation of natural resources. Additional Information available at: http://www.abc.gov.br/training/informacoes/InstituicaoIBAMA_en.aspx

[37] The Cadastro Único (Single Registry) is a shared registry for Brazil's vulnerable population, defined as households earning half of the minimum wage per capita per month (currently USD 170). International Labour Office, "Cadastro Único - Operating a Registry through a National Public Bank", https://www.social-protection.org/gimi/RessourcePDF.action?id=47097 .

[38] Micro and small business are defined as per the criteria provided in Supplementary Law No. 123/2006. The criteria include thresholds associated with annual gross revenues of up to BRL 360,000 (USD 72,200) and BRL 4.8 million (USD 962,00).

  - The Republic of Brazil has confirmed to Sustainalytics that proceeds will not be allocated to projects or assets related to the exclusionary criteria set out in the Framework.
  - Sustainalytics views that such investments can create positive social impact and encourages the Republic of Brazil to report on the social impacts.
- Under the Access to Affordable Housing category, the Issuer may finance programmes aimed at increasing access to affordable housing to vulnerable populations through the construction of social housing units and provision of financial assistance to facilitate housing ownership under the Minha Casa Minha Vida programme.
  - The Minha Casa Minha Vida programme determines eligibility based on income brackets and considers households with a gross monthly income of up to BRL 2,640 (USD 534) and BRL 8,000 (1,620) for rural and urban areas, respectively.[39] While Sustainalytics notes that the income threshold for urban areas is 116% of the country's median monthly income,[40] it also notes that the programme has historically provided a majority of assistance to households in the lower income brackets.[41]
  - The financial assistance offered to qualifying households under the programme is adjusted by location and income, with the programme offering mortgages with annual interest rates of up to 4.75% to households in the lowest income brackets, and mortgages with interest rates of up to 8.16%,[42] to those in the high-income bracket. Sustainalytics notes that the interest rates offered by the programme compare favourably with the market rate of 13%.[43] Additionally, the programme prioritizes families in situation of risk and vulnerability, women, elderly, children or adolescents as beneficiaries of property titles.
  - Other expenditures financed under the category may include i) renewal, expansion or improvement of social housing units that lack basic facilities; and ii) provision of subsidies for social leasing to households that are excessively indebted and have more than 30% of their household income tied towards rental payments.
  - Sustainalytics considers that the subsidies and interest rates of the financed programme are expected to improve housing access for low-income and target populations, therefore, is of the opinion that the financing of projects under the programme is expected to lead to positive social outcomes.
- Under the Access to Basic Infrastructure and Urban Development and Mobility category, the Issuer may finance or refinance investments that enable regional development in targeted underserved or remote areas. These investments may include:
  - Public transport and related infrastructure, such as buses, intermodal transport, subways and infrastructure promoting accessible mobility to peripheral areas or supporting connectivity of urban centres with peripheral and rural areas. The Republic of Brazil has confirmed that eligible projects related to public transport will comply with the emissions thresholds criteria in the Clean Transportation category.
  - Electricity-related infrastructure in remote or underserved areas with either no or substantially inadequate access to electricity. Project examples include transmission and distribution (T&D) projects. Investments in T&D networks will connect renewable energy projects to Brazil's existing T&D infrastructure, the Sistema Interligado Nacional, (the national interconnected grid), in which more than 80% of the electricity load is generated from renewable sources.
  - Financing of public-private partnerships such as through concessions, to support modeling studies to promote sustainable development.
  - Sustainalytics views investments under this category to be socially impactful.

[39] Caixa, "Minha Casa, Minha Vida", at: https://www.caixa.gov.br/voce/habitacao/minha-casa-minha-vida/Paginas/default.aspx
[40] Global Data, "Median Household Income in Brazil (2010-2021, Purchasing Power Parity in Current International Dollars), at: https://www.globaldata.com/data-insights/macroeconomic/median-household-income-in-brazil/
[41] Federative Republic of Brazil, "Brazil's Minha Casa, Minha Vida program is back, delivering over 2,700 homes across six Brazilian states", (2023), at: https://www.gov.br/secom/en/latest-news/brazil2019s-minha-casa-minha-vida-program-is-back-delivering-over-2-700-homes-across-six-brazilian-states#:~:text=Historically%2C%20the%20support%20offered%20to,homeless%20families%20in%20the%20program.
[42] Brasil de Fato, "Minha Casa, Minha Vida will have new rules, greater discounts on prices and lower interest rates", (2023), at: https://www.brasildefato.com.br/2023/06/20/minha-casa-minha-vida-tera-novas-regras-descontos-maiores-nos-precos-e-juros-mais-baixos
[43] Trading Economics, "Brazil: Interest Rates", (2023), at: https://tradingeconomics.com/brazil/interest-rate

  - Under the Access to Basic Infrastructure and Universalization of Basic Sanitation category, the Issuer may finance projects that support development in targeted underserved, underdeveloped and rural regions in the country. The Republic of Brazil has confirmed that financed projects will be in regions or settlements with no or inadequate access to basic infrastructure and may include the following activities:
    - Sanitation infrastructure including pumping stations, cleaning of canals or sewage network, infrastructure related to the management of water resources and solid waste.
    - Water infrastructure to enable access to clean drinking water that is potable for residential or public-access purposes. Investment in technologies and low-cost solutions that enable water collection from external sources, storage and treatment. Other projects to support access to water may include improvement or expansion of water supply systems in semi-arid areas.
    - Provision of financial or technical assistance to promote technologies with low environmental impact for domestic effluents management such as bio-digestive tanks and evapotranspiration tanks.
    - Installation of urban drainage and rainwater management systems in municipalities that are susceptible to extreme weather events such as extreme rainfall, landslides and flash floods.
    - Provision of temporary housing for individuals and families displaced due to climate change impacts such as extreme weather events.
    - Sustainalytics considers that expenditures under this category are expected to support enhanced access to basic infrastructure and views the investments to be socially impactful.
  - Sustainalytics notes that the Republic of Brazil has established an exclusionary criterion that apply to all categories in the Framework and exclude financing the following:
    - Activities related to planning or construction of highways, airport infrastructure, maritime port infrastructure and maritime transport.
    - Activities that involve alcohol; arms; tobacco; inorganic or synthetic fertilizers, pesticides, or herbicides.
    - Activities related to the gambling, weapons, and mining industries.
    - Projects that include child or forced labour and violate human rights and rights of indigenous and traditional people and communities.
    - Projects related to energy generation from nuclear power plants.
    - Projects related to the extraction, transport, trade, or generation of energy or production of fuels from oil, natural gas and derivatives, or mineral coal.
    - Activities that are considered illegal under national and international laws and regulations or ratified international conventions and agreements.
    - Sustainalytics considers these exclusionary criteria to strengthen the Framework.
- Project Evaluation and Selection:
  - The Republic of Brazil has established a Sovereign Sustainable Finance Committee (CFSS) which is responsible for evaluating and selecting eligible projects in line with the Framework's eligibility criteria. The CFSS is headed by the Ministry of Finance and includes representatives from the Republic of Brazil's Office of Economic Policy; Ministry of Planning and Budget represented by the Federal Budget Secretariat; Ministry of Environment and Climate Change; Ministry of Science, Technology and Innovation; Ministry of Agriculture and Livestock; Ministry of Mines and Energy; Ministry of Integration and Regional Development; Ministry of Social Development, Assistance, Family and Fight Against Hunger; Ministry of Development, Industry Trade and Services; and Ministry of Agrarian Development and Family Agriculture.
  - The CFSS is responsible for identifying and managing environmental and social risks associated with the financed projects.
  - Based on the defined process to identify and mitigate environmental and social risks associated with the financed projects, Sustainalytics considers the project evaluation and selection process to be in line with market practice.
- Management of Proceeds:
  - The Issuer will track proceeds used for refinancing through its Integrated System of Financial Administration and proceeds used for financing through its Integrated Planning and Budget System. The CFSS will oversee the allocation and the tracking of proceeds.

  - The Issuer intends to fully allocate net proceeds within 24 months of issuance, on a best-efforts basis. Pending allocation, an amount equivalent to the unallocated proceeds will be managed as per the legislation applicable to government debt management and the National Treasury's cash availability.
  - Sustainalytics notes that unallocated proceeds will not be allocated to GHG intensive or controversial activities as per the exclusion criteria defined in the Framework.
  - Based on the use of an internal tracking system and disclosure of temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.
- Reporting:
  - The Issuer commits to publish an allocation report and an impact report annually until full allocation on a designated website.
  - The allocation report will contain an overview of the allocation of proceeds from the issued bonds to the eligible green and social expenditure categories, breakdown of proceeds per type of expenditure, share of financing and refinancing, share of co-financing and the amount of unallocated proceeds.
  - In addition, the Issuer is committed to reporting on the environmental and social impact of expenditures, commencing within the first year of issuance. Where feasible, impact reporting may include the volume of CO_2 removed from the atmosphere (in mass units), total energy saved (KWh) compared to baseline and the number of eligible families benefiting from social programmes. For an indicative list of impact indicators, please refer to Appendix 1.
  - Based on the commitment to both allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2021 and Social Bond Principles 2023

Sustainalytics has determined that Brazil's Sovereign Sustainable Bond Framework aligns with the four core components of the GBP and SBP. For detailed information please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Strategy of the Republic of Brazil

Contribution to the Republic of Brazil's sustainability strategy

Sustainalytics is of the opinion that the Republic of Brazil demonstrates a commitment to sustainability through its Federal Development Strategy, which establishes policies, programmes and projects, and aligns existing regulations with a long-term sustainable development plan for the country.[44] The strategy aims to develop the Brazilian economy for the period 2020 to 2031, with a focus on five key areas: i) Economic, ii) Institutional; iii) Infrastructure; iv) Environmental and v) Social, under which the country aims to improve quality of life for the Brazilian population and reduce social and regional inequalities.[45] To advance its commitment to sustainability, the Republic of Brazil has established several sectoral plans and strategies, including the National Energy Plan 2030 and 2050,[46,47] the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm),[48] the Republic of Brazil's Biodiversity Law,[49] the National Food

[44] Government of Brazil, Ministry of the Economy, "Estratégia Federal de Desenvolvimento para o Brasil 2020-2031", at: https://www.gov.br/economia/pt-br/assuntos/gestao/estrategia-federal-de-desenvolvimento
[45] Ibid
[46] Government of Brazil, Ministry of Mines and Energy, "Plano Nacional de Energia 2030", (2007), at: https://www.epe.gov.br/sites-pt/publicacoes-dados-abertos/publicacoes/Documents/Relat%c3%b3rio%20final%20PNE%202030.pdf
[47] Government of Brazil, Ministry of Mines and Energy, "Plano Nacional de Energia 2050", (2020), at: https://www.gov.br/mme/pt-br/assuntos/secretarias/sntep/publicacoes/plano-nacional-de-energia/plano-nacional-de-energia-2050/relatorio-final/relatorio-final/relatorio-final-do-pne-2050.pdf/@@download/file
[48] Government of Brazil, Ministry of the Environment, "PPCDAm", (2023), at: http://redd.mma.gov.br/en/legal-and-public-policy-framework/ppcdam
[49] Government of Brazil, Ministry of Agriculture and Livestock", "Lei da Biodiversidade", at: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13123.htm

and Nutritional Security System,[50] Unified System of Social Assistance (SUAS),[51] The Bolsa Família programme,[52] among others.

The Republic of Brazil is a signatory to the Paris Agreement since 2015, aiming to achieve GHG emissions reduction of 37% and 43% by 2025 and 2030 respectively, and to achieve climate neutrality by 2050.[53] In 2022, the country updated its Nationally Determined Contribution (NDC), keeping its 2025 goal but targeting a 50% reduction in GHG emissions by 2030 compared to a 2005 baseline year.[54] The Republic of Brazil has established sectoral GHG emissions reduction targets, including 20% from energy use in industry and agriculture, 23.5% from fuel production and 50% from buildings by 2050.[55] In addition, the Republic of Brazil aims to increase the share of sustainable biofuels to approximately 18% and the share of renewable energy in the country's energy matrix to approximately 45% by 2030.[56] In 2023, renewables account for 25% of the energy used in the transport sector and the goal is to achieve 30% by 2030.[57] In addition to specific targets, the Republic of Brazil has established programmes and policies that set out transitional and transformational goals to achieve carbon neutrality, including: i) the National Energy Plan (NEP 2050) that outlines long-term strategies for the country's energy sector; ii) the National Hydrogen Program, which focuses on the development of hydrogen production technologies and strengthening the hydrogen market;[58] iii) the Fuel of the Future programme, which focuses on measures to increase the use of sustainable fuels with low-carbon intensity in the transport sector;[59] and iv) the National Policy for Biofuels (RenovaBio), which aims to improve biofuel plant performance, reduce GHG emissions and establish long-term incentive for liquid biofuels.[60] The Republic of Brazil has also joined the Global Methane Pledge to reduce global methane emissions by 30% by 2030 from a 2020 baseline.[61] To achieve this target, the Republic of Brazil takes measures to reduce methane emissions from cattle ranching and curb the increase in methane emissions from waste.[62]

At COP26 in 2021, the Republic of Brazil pledged to eliminate illegal deforestation by 2028 to conserve its natural resources.[63] To prevent and control deforestation in the Amazon, the country developed the Amazon Security and Sovereignty Plan and the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm).[64] The PPCDAm focuses on supporting sustainable production activities, including: i) strengthening the bioeconomy and implementing sustainable management practices to restore degraded land; ii) monitoring and controlling deforestation in the Amazon; iii) land and territorial planning; and iv) normative and economic instruments to contain deforestation.[65] Furthermore, the Republic of Brazil's Biodiversity Law creates a legal framework to protect and conserve the country's biodiversity, including provisions on: i) protecting the traditional knowledge associated with conservation of biological diversity; ii) access to technology for conservation; and iii) sustainable use of biodiversity.[66] The country reinforced its

[50] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight Against Hunger, "SISAN - Sistema Nacional de Segurança Alimentar e Nutricional", at: https://www.gov.br/mds/pt-br/acoes-e-programas/inclusao-produtiva-rural/direito-a-alimentacao-1/sisan-sistema-nacional-de-seguranca-alimentar-e-nutricional
[51] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight Against Hunger, "Gestão do Suas", at: https://www.gov.br/mds/pt-br/acoes-e-programas/assistencia-social/gestao-do-suas
[52] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight against Hunger," Programa Bolsa Família", at: https://www.gov.br/mds/pt-br/acoes-e-programas/bolsa-familia
[53] Government of Brazil, "Nationally Determined Contribution", (2022), at:https://unfccc.int/sites/default/files/NDC/2022-06/Updated%20-%20First%20NDC%20-%20%20FINAL%20-%20PDF.pdf
[54] Ibid
[55] World Bank, "Country Climate and Development Report", (2023), at: https://openknowledge.worldbank.org/server/api/core/bitstreams/fd36997e-3890-456b-b6f0-d0cee5fc191e/content
[56] World Bank, "Country Climate and Development Report", (2023), at: https://openknowledge.worldbank.org/server/api/core/bitstreams/fd36997e-3890-456b-b6f0-d0cee5fc191e/content
[57] Government of Brazil, "SDG 7 Energy Compact of Brazil (Bioenergy), (2021), at: https://www.un.org/sites/un2.un.org/files/2021/09/2021_09_17_energy_compact._renovabio._brazil.pdf
[58] Government of Brazil, Ministry of Mines and Energy, "Programa Nacional de Hidrogênio - PNH 2", (2022), at: https://www.gov.br/mme/pt-br/programa-nacional-do-hidrogenio-1
[59] Government of Brazil, Ministry of Mines and Energy, "Programa Combustível do Futuro", (2021), at: https://www.gov.br/mme/pt-br/programa-combustivel-do-futuro
[60] Government of Brazil, Ministry of Mines and Energy, "RenovaBio", (2021), at: https://www.gov.br/mme/pt-br/assuntos/secretarias/petroleo-gas-natural-e-biocombustiveis/renovabio-1
[61] World Bank Group, " Country Climate and Development Report- Brazil", (2023), at: https://openknowledge.worldbank.org/server/api/core/bitstreams/fd36997e-3890-456b-b6f0-d0cee5fc191e/content
[62] Ibid.
[63] Reuters, "Brazil Ramps up Climate Target, to End Illegal Deforestation by 2028", (2021), at: https://www.reuters.com/article/uk-climate-un-brazil-idUKKBN2HM2RY
[64] Government of Brazil, Ministry of the Environment, "PPCDAm", (2023), at: http://redd.mma.gov.br/en/legal-and-public-policy-framework/ppcdam
[65] Food and Agriculture Organization of the United Nations, "Plan of Action for the Prevention and Control of Deforestation in the Legal Amazon 2016-2020", (2023), at:https://www.fao.org/faolex/results/details/en/c/LEX-FAOC167018/
[66] Government of Brazil, Ministry of Agriculture and Livestock", "Lei da Biodiversidade", at: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13123.htm

commitment towards Biodiversity Conservation by becoming a signatory to the Kunming-Montreal Global Framework at COP15.[67]

To advance sustainable agricultural practices, in 2019, the Republic of Brazil established the Brazilian Agricultural Policy for Climate Adaptation and Low Carbon Emission (ABC+ Plan), which focuses on climate change adaptation and low-carbon emission in agriculture. The targets outlined under the ABC+ plan include: i) recover 30 million hectares of degraded pastures; ii) cultivate up to 12.5 million hectares in no-tillage systems; iii) implement 10.10 million hectares in integrated production systems; iv) plant 4 million hectares of forest; and v) use bio-inputs on 13 million hectares. [68] In addition, the plan sets a target to reduce GHG emissions by 1.1 billion tonnes between 2020 and 2030 from the agriculture and livestock farming sector by adopting sustainable systems, practices, products and production processes.[69]

Beyond its environmental commitments under the Federal Development Strategy 2020-2031, the Republic of Brazil is committed to promoting community welfare and socioeconomic development, including enhancing employment opportunities, access to affordable housing and basic infrastructure, and food security.[70] Launched in 2004, the Republic of Brazil's Unified System of Social Assistance (SUAS) aims to support families and individuals that are socially vulnerable by providing housing, education and food assistance,[71] supported by the Cadastro Único (Unified Registry), a federal government database that collects information on low-income families who are eligible for social programmes.[72] In addition, to reduce poverty and inequality, the Republic of Brazil's Bolsa Família programme provides financial assistance to low-income households, based on the family size, characteristics and income.[73,74] As of July 2023, the Bolsa Família programme has benefited 18.5 million families, totalling 43.5 million people lifted out of poverty as of July 2023.[75]

Since 2009, the Republic of Brazil's Minha Casa, Minha Vida programme, which aims to provide affordable housing to low-income families, has delivered 6 million housing units and targets to deliver another 2 million by 2026.[76,77] To improve access to basic infrastructure, the Republic of Brazil's Sanitation Framework, introduced in 2020, aims to support efforts to supply water to 99% of the population of the country by 2033.[78]

To support food security, the Republic of Brazil established the National Food and Nutritional Security System, which integrates policies at the local, state and federal levels to provide access to sufficient, safe and nutritious food.[79] In addition, the National Programme for Food in Schools of 2009 focuses on providing students in public schools with nutritious meals,[80] and the Zero Hunger Program aims to reduce hunger and malnutrition in the Republic of Brazil by providing cash transfers, improving access to food and promoting sustainable agriculture.[81]

Sustainalytics is of the opinion that the Framework is aligned with the country's Federal Development Strategy and its associated plans, policies and strategies. The Framework is expected to contribute to the Issuer's efforts in meeting its sustainability targets by leveraging financing towards social and environmental projects.

[67] Convention on Biological Diversity, "the Kunming-Montreal Global Framework", at: https://www.cbd.int/gbf/
[68] Government of Brazil, Ministry of Agriculture, Livestock And Food Supply, "ABC+ Brazilian Agricultural Policy For Climate Adaptation And Low Carbon Emission 2020-2030 Executive Summary", (2022), at: https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/plano-abc/arquivo-publicacoes-plano-abc/abc-sumario-executivo-2022-ingles_final.pdf
[69] Information from the Brazil's Sovereign Sustainability Bond Framework.
[70] Government of Brazil, "Estratégia Federal de Desenvolvimento", at: https://www.gov.br/governodigital/pt-br/estrategias-e-politicas-digitais/estrategia-federal-de-desenvolvimento
[71] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight Against Hunger, "Gestão do Suas", at: https://www.gov.br/mds/pt-br/acoes-e-programas/assistencia-social/gestao-do-suas
[72] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight against Hunger, "Cadastro Único", at: https://www.gov.br/mds/pt-br/acoes-e-programas/cadastro-unico
[73] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight against Hunger, "Programa Bolsa Família", at: https://www.gov.br/mds/pt-br/acoes-e-programas/bolsa-familia
[74] Eligibility for the Bolsa Família programme requires: the beneficiary being enrolled at the Cadastro Único and the income of each family member not exceeding BRL 218 (USD 44) per month.
[75] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight against Hunger, "Bolsa Família removes 18.5 million families from the poverty line", (2023), at: https://www.gov.br/mds/pt-br/noticias-e-conteudos/desenvolvimento-social/noticias-desenvolvimento-social/bolsa-familia-retira-18-5-milhoes-de-familias-da-linha-da-pobreza
[76] UN- Habitat, "Scaling-up Affordable Housing Supply in Brazil", at: https://unhabitat.org/scaling-up-affordable-housing-supply
[77] Government of Brazil, "Minha Casa, Minha Vida: 10 mil unidades entregues no primeiro semestre", (2023), at: https://www.gov.br/secom/pt-br/assuntos/noticias/2023/07/minha-casa-minha-vida-10-mil-unidades-entregues-no-primeiro-semestre
[78] Government of Brazil, "2020 Legal Sanitation Framework: modernization and investments", (2022), at: https://www.gov.br/en/government-of-brazil/latest-news/2022/2020-legal-sanitation-framework-modernization-and-investments
[79] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight Against Hunger, "SISAN - Sistema Nacional de Segurança Alimentar e Nutricional", at: https://www.gov.br/mds/pt-br/acoes-e-programas/inclusao-produtiva-rural/direito-a-alimentacao-1/sisan-sistema-nacional-de-seguranca-alimentar-e-nutricional
[80] Government of Brazil, "Programa Nacional de Alimentação Escolar", at: https://www.gov.br/fnde/pt-br/acesso-a-informacao/acoes-e-programas/programas/pnae
[81] Food and Agriculture Organisation of the United Nations, "The Fome Zero (Zero Hunger) Program", (2010), at: https://www.fao.org/family-farming/detail/en/c/273447/

In view of the above, Sustainalytics considers the Republic of Brazil to be well positioned to issue social, green or sustainability bonds.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that proceeds from the instruments issued under the Framework will be directed towards eligible projects that are expected to have positive environmental and social impacts. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks possibly associated with the eligible projects may include: i) issues involving land use and loss of biodiversity associated with large infrastructure projects; ii) community relations and stakeholder participation; iii) emissions, effluents and waste generated during the construction of large-scale infrastructure projects; iv) occupational health and safety; v) bribery and corruption; vi) administration of public money and grant programmes; vii) risk of increasing inequalities if social programmes are not appropriately targeted to beneficiaries; viii) indigenous rights and potential impact of land use on local communities; and ix) supply chain risks.

Sustainalytics is of the opinion that the Republic of Brazil is able to manage or mitigate potential risks through implementation of the following:

- The Republic of Brazil's National Environmental Policy requires development and construction projects and potentially polluting activities in the country to be accompanied by an environmental impact assessment and meet environmental licensing requirements to identify and mitigate potential risks associated with land use, biodiversity, and community relations before commencement of the projects.[82,83] Additionally, the Republic of Brazil's Biodiversity Law[84] and the country's National Policy on Payment for Environmental Services[85] establish a legal framework to promote the protection, conservation and sustainable use of biodiversity and natural resources, such as water. The Brazilian Forest Code, in addition, creates restrictions for the use of land by landowners in ecologically sensitive areas, including the Amazon, prohibiting deforestation beyond a certain percentage of their land.[86]
- Regarding waste management, the Republic of Brazil's National Policy on Solid Waste[87] creates a framework for pollution control and waste management, harmonizing regulations on post-consumer and controlled waste, including establishing specific requirements for companies and other legal entities to reduce waste generation, reuse waste and foster sustainable activities.
- To manage occupational health and safety risks, the Republic of Brazil has regulatory standards that set out requirements for public and private companies and public administration authorities. In addition to these standards, the Consolidation of Labour Laws also requires employers across all sectors to follow and enforce standards of occupational health and safety. The Republic of Brazil is also a member of the International Labour Organization. The right to a safe working environment is a constitutional right in Brazil, with the federal government responsible for the inspection and enforcement of standards on health, safety and hygiene rules.[88]
- Corruption and bribery are criminal activities under the Brazilian Criminal Code. In addition, the following laws complement the legal framework on anti-corruption and anti-bribery in Brazil: the Law of Crimes Against the Tax System, the Economic Order and Consumer Relations; the Anti-Money Laundering Law; the Law of Unfair Competition; the Anti-Corruption Law, the Improbity Law and the Conflicts of Interest Law. Federal criminal investigations in Brazil are led by the Federal Police Department and several other administrative bodies have several mandates in relation to monitoring and enforcing anti-corruption and anti-bribery safeguards, including the Comptroller-General of the

[82] International Energy Agency, "Law No 6938 of 1981 – National Environmental Policy", (2022), at: https://www.iea.org/policies/11749-law-no-6938-of-1981-national-environmental-policy
[83] Tagliani, Paulo Roberto A. (2020), "Brazilian Environmental-Impact Assessment System: A Critical Analysis", WIT Transactions on Ecology and Environment, at: https://www.witpress.com/Secure/elibrary/papers/EID20/EID20001FU1.pdf
[84] Government of Brazil, Ministry of Agriculture and Livestock", "Lei da Biodiversidade", at: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13123.htm
[85] Government of Brazil, Portal da Legislação, "Lei No. 14.119, de 13 de janeiro de 2021", at: https://www.planalto.gov.br/ccivil_03/_Ato2019-2022/2021/Lei/L14119.htm
[86] Forbes, "Brazil Already Has Its Best Tool Against Deforestation, (2023), at: https://www.forbes.com/sites/christinero/2023/01/06/brazil-already-has-its-best-tool-against-deforestation/?sh=251265f1c755
[87] Brazilian Institute of Environment and Renewable Natural Resources (Ibama), "Política Nacional de Resíduos Sólidos (PNRS", (2010), at: https://www.gov.br/ibama/pt-br/assuntos/emissoes-e-residuos/residuos/politica-nacional-de-residuos-solidos-pnrs
[88] Deloitte, "Labor Relations - "Relações Trabalhistas": Compensation, Labor Rights and Benefits", (2020), at: https://www2.deloitte.com/br/en/pages/living-and-working/articles/labor-relations.html

Union, the Federal Audit Court, the Council for Control of Financial Activities and the Department of Asset Recovery and International Legal Cooperation.[89]

- Article 71 of the Brazilian Constitution establishes the mandate of the Federal Court of Accounts (Tribunal de Contas da União – TCU) to examine and audit the federal government's accounts to ensure payments, assets and grants are administered responsibly by the Republic of Brazil.[90] Additionally, the Republic of Brazil's Law on Fiscal Responsibility also establishes a general framework for budgetary planning, execution and reporting. This law is applicable to all levels of government and comprises general targets and limits for selected fiscal indicators, corrective mechanisms and institutional sanctions in case of non-compliance.[91]
- Regarding the risk of increasing inequalities due to not appropriately targeting social programme beneficiaries, the Republic of Brazil's anti-discrimination laws include Law 9.029/1995, which prohibits discriminatory practices, including financing on the basis of ethnicity, gender, race or disability.[92] Other laws that aim to prevent discrimination against marginalized populations include the Brazilian Law on the Inclusion of Persons with Disabilities,[93] the Statute of the Elderly Person and the National Health Policy for the Elderly.[94]
- The Republic of Brazil formally recognizes the rights of Indigenous peoples to their demarcated land in the country's 1988 constitution, including the exclusive right to use its natural resources. However, Sustainalytics notes that the subject of Indigenous rights and the use of land has recently arisen in the parliament and may result in legislation that restricts the rights they were previously granted.[95]
- In relation to addressing environmental and social risks associated with supply chains, the Republic of Brazil's National Environmental Policy[96] provides standards for enabling socioeconomic development sustainably and in harmony with environmental preservation. In relation to labour laws, the Republic of Brazil's Consolidation of Labour Laws sets labour standards, such as working hours, minimum wage, etc.[97] Other laws on human and labour rights include the Brazilian Law on the Inclusion of Persons with Disabilities[98] and the Law on Racial Discrimination.[99] Additionally, the Statue of Racial Equality[100] and the Law of Quotas[101] encourage affirmative action policies to protect minority groups, for example by establishing a minimum mandatory percentage of employees with disabilities.

Based on these policies, standards and assessments, Sustainalytics is of the opinion that the Issuerhas implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

[89] Global Legal Insights, "Bribery & Corruption Laws and Regulations 2023| Brazil", (2023), at: https://www.globallegalinsights.com/practice-areas/bribery-and-corruption-laws-and-regulations/brazil
[90] Federal Court of Accounts – Brazil (TCU), "The Court", at: https://portal.tcu.gov.br/english/inside-tcu/the-court/
[91] Federal Court of Accounts – Brazil (TCU), "The Fiscal Responsibility Law", at: https://portal.tcu.gov.br/english/inside-tcu/the-fiscal-responsibility-law/
[92] Government of Brazil, Portal da Legislação, "Lei No. 9.029, de 13 de abril de 1995", at: http://www.planalto.gov.br/ccivil_03/Leis/L9029.htm
[93] Disability:in, "Brazil", at: https://disabilityin.org/country/brazil/
[94] United Nations High Commissioner for Refugees, "Elderly", at: https://help.unhcr.org/brazil/en/where-to-find-help/elderly/#:~:text=In%20Brazil%2C%20there%20are%20two,children%20in%20their%20old%20age.
[95] Human Rights Watch, "Brazil: Reject Harmful Bill on Indigenous Rights", (2023), at: https://www.hrw.org/news/2023/05/29/brazil-reject-harmful-bill-indigenous-rights
[96] Federal Republic of Brazil, "Act No. 6.938, of August 31, 1981", at: https://leap.unep.org/sites/default/files/legislation/bra12932ENG.pdf
[97] Deloitte, "Labor Relations - "Relações Trabalhistas": Compensation, Labor Rights and Benefits", (2020), at: https://www2.deloitte.com/br/en/pages/living-and-working/articles/labor-relations.html
[98] Government of Brazil, Portal da Legislação, "Lei No. 13,146, de 6 de julho de 2015", at: http://legislacao.planalto.gov.br/legisla/legislacao.nsf/Viw_Identificacao/lei%2013.146-2015?OpenDocument
[99] Government of Brazil, Portal da Legislação, "Lei No. 7,716, de 6 de janeiro de 1989", at: https://www.planalto.gov.br/ccivil_03/Leis/L7716.htm
[100] Government of Brazil, Portal da Legislação, "Lei No. 12,288, de 20 de julho de 2010", at: http://legislacao.planalto.gov.br/legisla/legislacao.nsf/Viw_Identificacao/lei%2012.288-2010?OpenDocument
[101] Government of Brazil, Portal da Legislação, "Lei No. 8,213 de 24 de julho de 1994", at: http://legislacao.planalto.gov.br/legisla/legislacao.nsf/Viw_Identificacao/lei%208.213-1991?OpenDocument

Section 3: Impact of Use of Proceeds

All use of proceeds categories are aligned with those recognized by the GBP and SBP. Sustainalytics has focused below where the impact is specifically relevant in the local context.

Importance of financing climate resilience in Brazil

Brazil has a vast and diverse topography that is susceptible to impacts from climate change and natural disasters, such as floods, earthquakes, droughts, extreme temperatures, landslides and tropical cyclones. Natural disasters alone are estimated to result in economic losses of USD 3.9 billion in the country annually.[102] In an extreme case scenario, the Inter-American Development Bank estimates that the combination of climate change, deforestation and expansion of pasture areas could have a cumulative impact of USD 184 billion on Brazil's GDP by 2050, which is equivalent to 9.7% of the country's total 2022 GDP.[103] In addition to disrupting national infrastructure related to transportation and power distribution, the potential impacts of climate change can also adversely affect agricultural income, food prices, health and labour productivity, which could increase the extreme poverty rate in the country by 0.6 to 1.3 percentage points by 2030.[104]

Brazil is the seventh largest emitter of greenhouse gases in the world and home to 60% of the Amazon basin, one of the world's largest carbon sinks, indicating the potential for the country to play a key role in decarbonization.[105,106] With 38% of the country's emissions coming from changes in land use associated with deforestation and wildfires in 2020, efforts to combat illegal deforestation can play a significant role in reducing GHG emissions.[107] The livestock and agriculture, and energy sectors also contribute significantly to Brazil's GHG emissions (29% and 23%, respectively), suggesting that initiatives to promote sustainable agriculture and renewable energy can contribute towards reducing GHG emissions and building economic and social resilience to climate risks.[108]

In 2016, the Republic of Brazil published a National Adaptation Plan to Climate Change (NAP) which guides its efforts and initiatives to manage and reduce long-term climate risks.[109] Brazil's Nationally Determined Contribution (NDC) includes a commitment to reduce GHG emissions by 37% by 2025 and by 50% by 2030, based on a 2005 baseline. The NDC was updated in 2022 to include a long-term objective of achieving carbon neutrality by 2050.[110] These commitments are based on 11 thematic and sector-specific adaptation and risk mitigation plans for: i) agriculture; ii) biodiversity and ecosystems; iii) cities; iv) disaster risk management; v) industry and mining; vi) infrastructure; vii) vulnerable populations; viii) water resources; ix) health; x) food and nutritional security; and xi) coastal zones.[111] The estimated investments required to promote sustainability across some of these sectors include investments of USD 20 billion by 2031 in renewable energy,[112] and USD 630 million by 2030 in the Amazon Fund for tackling deforestation.[113]

Based on the above, Sustainalytics is of the opinion that the Issuer's investments in projects intended to improve climate resiliency are expected to contribute to reducing the immediate and long-term multidimensional effects of climate change in Brazil.

[102] World Bank Group, "Climate Risk Country Profile: Brazil", (2021), at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-07/15915-WB_Brazil%20Country%20Profile-WEB.pdf
[103] Reuters, "Climate shocks could push 3 million Brazilians into extreme poverty, says World Bank", (2023), at: https://www.reuters.com/business/environment/climate-shocks-could-push-3-million-brazilians-into-extreme-poverty-says-world-2023-05-04/
[104] Work Bank, "Country Climate and Development Report", (2023), at: https://openknowledge.worldbank.org/server/api/core/bitstreams/fd36997e-3890-456b-b6f0-d0cee5fc191e/content
[105] McKinsey & Company, "The green hidden gem – Brazil's opportunity to become a sustainability powerhouse", (2022), at: https://www.mckinsey.com/br/en/our-insights/all-insights/the-green-hidden-gem-brazils-opportunity-to-become-a-sustainability-powerhouse
[106] USAID, "Brazil: Climate Change Country Profile", (2022), at: https://www.usaid.gov/climate/country-profiles/brazil
[107] Federal Government of Brazil, Ministry of Science, Technology and Innovation, "Annual Estimates of GHG Emissions in Brazil", (2022), at: https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/estimativas-anuais-de-emissoes-gee/arquivos/6a-ed-estimativas-anuais.pdf
[108] Ibid.
[109] Government of Brazil, Ministry of Environment, "National Adaptation Plan to Climate Change", (2016), at: https://unfccc.int/sites/default/files/resource/Brazil-NAP-English.pdf
[110] Government of Brazil, "Nationally Determined Contribution (NDC)", (2022), at: https://unfccc.int/sites/default/files/NDC/2022-06/Updated%20-%20First%20NDC%20-%20%20FINAL%20-%20PDF.pdf
[111] Ministry of Environment, "National Adaptation Plan to Climate Change", (2016), at: https://unfccc.int/sites/default/files/resource/Brazil-NAP-English.pdf
[112] US International Trade Administration, "Brazil – Country Commercial Guide", at: https://www.trade.gov/country-commercial-guides/brazil-energy
[113] The Wilson Center, "The Return of the Amazon Fund and Lula's Race to Cut Deforestation", (2023), at: https://www.wilsoncenter.org/article/return-amazon-fund-and-lulas-race-cut-deforestation

Importance of poverty reduction for socioeconomic development in Brazil

In 2021, 29.4% of the Brazilian population lived below the poverty line, with 8.4% in extreme poverty.[114] The country also has one of the largest income inequalities in the world, with the top 10% of its population capturing 59% of total national income, while the bottom half of the population receives only 10%.[115] Poorer populations suffer disproportionately from the impacts of climate change through natural disasters that adversely affect agricultural productivity and income, food prices, and food security.[116] Such populations are less likely to have access to infrastructure services, financial inclusion, social protection, asset accumulation and savings, which makes them less equipped to cope with the potential impacts of climate change.[117] A World Bank study estimates that 19% of Brazil's population lives in municipalities considered to be at high environmental risk, with 8% of the population in municipalities with high socio-economic risks, and 2% residing in municipalities with both types of risks.[118]

In 2003, the Brazilian government introduced its flagship anti-poverty initiative, Bolsa Família,[119] eventually reaching a budget equivalent to 0.4% of the country's 2019 GDP and benefitting 15-20% of the population through average cash transfers of USD 69 per family. Bolsa Família benefits have improved over time to an average payment of USD 145 per family in 2023, benefitting approximately 21 million families.[120,121] The Republic of Brazil's National Adaptation Plan, introduced in 2016, also outlines strategies for reducing poverty, regional and socioeconomic disparities as part of its thematic and sectoral focus.[122]

Sustainalytics is of the opinion that the Issuer's investments to reduce poverty and combat social inequality will positively contribute to socioeconomic development in Brazil.

Contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by 2030. The instruments issued under the Brazil's Sovereign Sustainable Bond Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Pollution Prevention and Control – Control of GHG Emissions	11. Sustainable cities and communities	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
Pollution Prevention and Control – Sold Waste Management	12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency.

[114] AgênciaBrasil, "Thirty percent of Brazilians lived in poverty in 2021", (2022), at: https://agenciabrasil.ebc.com.br/en/saude/noticia/2022-12/about-30-population-were-poverty-2021
[115] World Inequality Lab, "Country Sheets: World Inequality Report 2022", at: https://wir2022.wid.world/www-site/uploads/2023/03/D_FINAL_WIL_COUNTRY_SHEETS_2303.pdf
[116] Work Bank, "Country Climate and Development Report", (2023), at: https://openknowledge.worldbank.org/server/api/core/bitstreams/fd36997e-3890-456b-b6f0-d0cee5fc191e/content
[117] Ibid.
[118] Ibid.
[119] Government of Brazil, Ministry of Development and Social Assistance, Family and Fight Against Hunger, "Programa Bolsa Família", at: https://www.gov.br/mds/pt-br/acoes-e-programas/bolsa-familia
[120] Ferreira de Souza, Pedro H.G. (2022), "Poverty Eradication – The Experience of Brazil", Instituto de Pesquisa Econômica Aplicada, at: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2022/05/Paper_Ferreira_de_Souza.pdf
[121] Government of Brazil, "Bolsa Família de junho tem maior valor médio da história: R$ 705,40", (2023), at: https://www.gov.br/pt-br/noticias/assistencia-social/2023/06/bolsa-familia-de-junho-tem-maior-valor-medio-da-historia-r-705-40
[122] Government of Brazil, Ministry of Environment, "National Adaptation Plan to Climate Change", (2016), at: https://unfccc.int/sites/default/files/resource/Brazil-NAP-English.pdf

Clean Transport	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
Sustainable Management of Living and Natural Resources and Land Use	14. Life below Water	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.
Terrestrial & Aquatic Biodiversity	15. Life on land	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
Sustainable Management of Water and Effluents	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
Adaptation of Climate Change	13. Climate Action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
Circular Economy Adapted Products, Production Technologies and Processes	12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Socioeconomic Development and Empowerment – Combating Poverty	1. No Poverty 5. Gender equality	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance 5.1 End all forms of discrimination against all women and girls everywhere
Socioeconomic Development and Empowerment – Combating Discrimination	10. Reduced Inequalities	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.
Food Security and Sustainable Food Systems	2. Zero Hunger	2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and

		fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.
Employment Generation	8. Decent work and economic growth	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
Access to Affordable Housing	11. Sustainable cities and communities	11.1. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
Access to Basic Infrastructure – Urban Development and Mobility	9. Industry, innovation and infrastructure 11. Sustainable cities and communities	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
Access to Basic Infrastructure – Universalization of Basic Sanitation	6. Clean water and sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Conclusion

The Republic of Brazil has developed Brazil's Sovereign Sustainable Bond Framework, under which it may issue green, social and sustainability bonds and use the proceeds to finance projects to facilitate the transition to a low-carbon economy, support environmental protection and advance socio-economic development in the country. Sustainalytics considers that the projects funded with proceeds from the bonds are expected to lead to positive environmental and social impacts in the Republic of Brazil.

Brazil's Sovereign Sustainable Bond Framework outlines a process for tracking, allocating and managing proceeds, and makes commitments for the Republic of Brazil to report on their allocation and impacts. Furthermore, Sustainalytics believes that Brazil's Sovereign Sustainable Bond Framework is aligned with the overall sustainability strategy of the Republic of Brazil and that the green and social use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15. Additionally, Sustainalytics is of the opinion that the Republic of Brazil has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects.

Based on the above, Sustainalytics is confident that the Republic of Brazil is well positioned to issue green, social and sustainability bonds and that the Framework is robust, transparent, and in alignment with the core components of the Green Bond Principles 2021 and Social Bond Principles 2023.

Appendices

Appendix 1: List of Impact Metrics

a) List of Indicative Impact Metrics for Eligible Green Projects

Category	Examples of Indicators
1. Pollution prevention and control - Control of GHG Emissions	• Volume of CO2 removed from the atmosphere (in mass units) • Volume of reduced CO2e (in mass units) • Number of experimental sites in operation • Number of sector policies and plans applied • Mitigation technologies/actions/initiatives (expressed in area, volume or units)
1. Pollution prevention and control - Solid waste management	• Tons of urban solid waste collected and handled properly • Number of directly funded waste management research projects • Reduction of the % of waste disposed in landfills • Increase in the % of recycling; • National Waste Recovery Index • % Coverage of selective waste collection • Treated animal waste in tons
2. Renewable energy	• Energy (in KWh) produced and stored under a clean energy source (solar, wind and hydroelectric power within the specifications) • Number of directly funded clean energy research projects • Estimated annual GHG emissions reduced/avoided (in tons of CO2 equivalent) • Participation of biofuels in the vehicle fuel matrix • Increase in Installed capacity of electricity generation from renewable sources (in MW) vs non-renewable sources • Annual energy generation from renewable sources (in MWh) vs non-renewable sources
3. Energy efficiency	• Number of conventional lamps replaced by LED lamps annually • Number of modernization works carried out in public assets, which are related to energy efficiency • Estimated annual GHG emissions reduced/avoided (in tons of CO2 equivalent) • Total energy saved (KWh) compared to baseline
4. Clean transport	• Number of vessels (passenger or cargo) using rail and river facilities per year • Volume of transported cargo that is no longer carried by other more polluting transport modals • Estimated annual GHG emissions reduced/avoided (in tons of CO2 equivalent) • Total KMs of built sidewalks, and other pedestrian pathways • KMs of cycle lanes built
5. Sustainable management of living and natural resources, and land use	• Number of environmental inspection actions carried out annually • Number of validated CARs (or nationwide electronic public registry) • Area of recovered degraded pastures • Area under natural regeneration • Number of rural properties compliant with the forestry code • Reforested area (ha) • Area of adoption of the direct planting system (grains and vegetables) • Area of adoption of Crop-Livestock-Forest Integration (iLPF) • Area of adoption of agroforestry systems (SAFs) • Area of planted forests • Area of adoption of bio-inputs • Area of adoption of irrigated systems • Waste sustainably handled in tons

	• Number of projects/initiatives supported by the Program "ABC" that guarantee the preservation, management and sustainable use of natural resources • Number of projects/initiatives supported by the Program "ABC" that promote the conservation and recovery of endemic species • Number of projects supported by the Program that use production systems that contribute to the increase of natural capital • Number of producers or agro-industries with environmental certifications • Number of farmers who supply companies with products with the biofuel certification • Number of producers using sustainable production technologies • Number of rural properties compliant with the forestry code • Kilometers of trails adhered to the national network of long-distance trails and connectivity • Number of integrated and sustainable productive systems in productive chains based on biodiversity • Economic circularity indicators in productive chains based on biodiversity
6. Terrestrial and aquatic biodiversity	• Number of financed bio-inputs and biofertilizer production units • Area under sustainable management practices (ha) • Number of species monitored • Number of events for prevention and fight against forest fires • Number of hired fire brigade members, regardless of residing inside the conservation units and immediate surroundings
7. Sustainable management of water and effluents	• Volume of effluents treated annually and proportion relative to total • Number of sponsored projects related to waterbodies protection • Number of revitalized hectares close to waterbodies • Number of springs protected annually
8. Climate Change Adaptation	• Number of families in risk areas benefiting from prevention actions • Indicator of municipal capacity in disaster risk management • Proportion of water tanks for access to water for human consumption, delivered in municipalities in situation of poverty, extreme poverty, and food and nutrition insecurity • Increase in the adaptive capacity of agricultural production systems • Actions to raise roads or other infrastructure works to reduce the risk of flooding caused by climate change • Reduction in land-loss from inundation and/or coastal erosion in km2
9. Social-biodiversity conservation	• Demarcated indigenous areas (ha) • Tract of land regularized

b) List of Indicative Impact Metrics for Eligible Social Projects

Category	Examples of Indicators
1. Social-economic development and empowerment - Combating poverty	• Number of eligible families benefiting from social programs • Families registration update rate • Number of people directly benefited (direct beneficiaries of financial resources or other form of assistance) within the target population • Number of people indirectly benefited (relatives and dependents of direct beneficiaries) within the target population • Percentage of municipalities that receive federal funds to offer SUAS Basic and Special Social Protection Actions • Coverage rate of families benefiting from the Crop Guarantee System
1. Social-economic development and	• Number of implemented stations specialized in combating discrimination against minority groups

empowerment - Combating discrimination	• Number of implemented support and reception houses • Number of support actions by the agrarian ombudsman to related cases
2. Food security and sustainable food systems	• Municipalities in situation of poverty, extreme poverty and food and nutrition insecurity that adhered to the programs (% or total) • Number of beneficiary families • Rate of family farmers benefiting from programs and located in priority municipalities (in situation of poverty and extreme poverty, and food and nutrition insecurity) • Percentage of municipalities that adhered to the Crop-Guarantee • Number of family farmers who supply to the Food Acquisition Program (PAA) and National School Feeding Program (PNAE)
3. Job creation	• Number of projects supported • Number of young adults (up to 25 years old) formally involved in programs • Number of representative entities served • Number of families served by regional development routes • Segregation of indicators for female heads of household, native people and traditional communities
4. Access to housing	• Number of families benefiting from social housing • Total volume allocated to housing finance • Total area subject to land regularization • Number of social housing properties renewed or expanded. • Number of families benefiting from housing through the Terra Brasil (PNCF) and the National Program for the Strengthening of Family Agriculture (Pronaf) • Percentage of reduction of the population in households at risk zones
5. Access to basic infrastructure - Urban development and mobility	• Volume of CO2eq emissions reduced by urban mobility projects • Number of completed urban mobility projects • Number of jobs generated by development and urban mobility programs • Number of people served daily by low-carbon collective public transport • Total KMs of built sidewalks, walkways and other pedestrian pathways • KMs of cycle lanes built
5. Access to basic infrastructure - Universalization of basic sanitation	• Expansion of water treatment and distribution coverage • Expansion of wastewater collection and treatment coverage • Expansion of treatment and correct disposal of solid waste • Expansion of the urban drainage system • Families in need of post-disaster housing served • Number of families displaced due to extreme weather events • Number of families removed from areas at risk of slope containment actions for mitigation • Number of studies, guidelines, policies or programs completed focused on the identification, analysis and prevention of the risk of the impact caused by natural events associated with climate change • Number of households served • Number of projects executed • Number of water desalination systems implemented in priority locations in terms of access to water • Total volume of treated water

Appendix 2: Green Bond / Green Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Federative Republic of Brazil
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	Brazil's Sovereign Sustainable Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	August 31, 2023
Publication date of review publication: **Original publication date *[please fill this out for updates]*:**	

Section 2. Review overview

SCOPE OF REVIEW

The review:

☒ assessed the 4 core components of the Principles (**complete review**) and confirmed the alignment with the GBP/SBP/SBG (*delete where appropriate*).

☐ assessed only some of them (**partial review**) and confirmed the alignment with the GBP/SBP/SBG (*delete where appropriate*); please indicate which ones:

☒ Use of Proceeds ☒ Process for Project Evaluation and Selection

☒ Management of Proceeds ☒ Reporting

☐ assessed the alignment with other regulations or standards (CBI, EU GBS, ASEAN Green Bond Standard, ISO 14030, etc.); please indicate which ones:

ROLE(S) OF INDEPENDENT REVIEW PROVIDER

☒ Second Party Opinion ☐ Certification

☐ Verification ☐ Scoring/Rating

☐ Other (please specify):

Does the review include a sustainability quality score?

☐ Of the issuer ☐ Of the project

☐ Of the Framework ☐ Other (please specify):

☒ No scoring

ASSESSMENT OF THE PROJECT(S)

Does the review include:

☒ The environmental and/or social features of the type of project(s) intended for the Use of Proceeds?

☒ The environmental and/or social benefits and impact targeted by the eligible Green and/or Social Project(s) financed by the Green, Social or Sustainability Bond?

☒ The potentially material environmental and/or social risks associated with the project(s) (where relevant)?

ISSUER'S OVERARCHING OBJECTIVES

Does the review include:

☒ An assessment of the issuer's overarching sustainability objectives and strategy, and the policies and/or processes towards their delivery?

☒ An identification and assessment of environmental, social and governance related risks of adverse impact through the Issuer's [actions] and explanations on how they are managed and mitigated by the issuer?

☒ A reference to the issuer's relevant regulations, standards, or frameworks for sustainability-related disclosure and reporting?

CLIMATE TRANSITION STRATEGY

Does the review assess:

☐ The issuer's climate transition strategy & governance?

☐ The alignment of both the long-term and short/medium-term targets with the relevant regional, sector, or international climate scenario?

☐ The credibility of the issuer's climate transition strategy to reach its targets?

☐ The level/type of independent governance and oversight of the issuer's climate transition strategy (e.g. by independent members of the board, dedicated board sub-committees with relevant expertise, or via the submission of an issuer's climate transition strategy to shareholders' approval).

☐ If appropriate, the materiality of the planned transition trajectory in the context of the issuers overall business (including the relevant historical datapoints)?

☐ The alignment of the issuer's proposed strategy and targets with appropriate science-based targets and transition pathways that are deemed necessary to limit climate change to targeted levels?

☐ The comprehensiveness of the issuer's disclosure to help investors assess its performance holistically?

Overall comment on this section:

Section 3. Detailed review

1. USE OF PROCEEDS

Does the review assess:

☒ the environmental/social benefits of the project(s)?

☒ whether those benefits are quantifiable and meaningful?

☒ for social projects, whether the target population is properly identified?

Does the review assess if the issuer provides clear information on:

☐ the estimated proceeds allocation per project category (in case of multiple projects)?

☐ the estimated share of financing vs. re-financing (and the related lookback period)?

Overall comment on this section:
The eligible categories for the use of proceeds –Pollution Prevention & Control - Control of GHG Emissions; Pollution Prevention and Control - Water/Waste Water Management; Renewable Energy; Energy Efficiency; Clean Transport; Sustainable Management of Living and Natural Resources and Land Use; Terrestrial & Aquatic Biodiversity; Sustainable Management of Water and Effluents; Adaptation of Climate Change; Socioeconomic Development and Empowerment - Combating Poverty; Socioeconomic Development and Empowerment - Combating Discrimination; Food Security and Sustainable Food Systems; Employment Generation; Access to Affordable Housing; Access to Basic Infrastructure - Urban Development and Mobility; and Access to Basic Infrastructure - Urbanization of Basic Sanitation – are aligned with those recognized by the Green Bond Principles and the Social Bond Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental and social impacts and advance the UN Sustainable Development Goals, specifically SDG 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14.

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Does the review assess:

☒ whether the eligibility of the project(s) is aligned with official or market-based taxonomies or recognised international standards? Please specify which ones. *Sustainalytics has a proprietary taxonomy which is influenced by the EU taxonomy, Climate Bonds Initiative taxonomy as well as international standards*

☒ whether the eligible projects are aligned with the overall sustainability strategy of the issuer and/or if the eligible projects are aligned with material ESG-related objectives in the issuer's industry?

☒ the process and governance to set the eligibility criteria including, if applicable, exclusion criteria?

☒ the processes by which the issuer identifies and manages perceived social and environmental risks associated with the relevant project(s)?

☒ any process in place to identify mitigants to known material risks of negative social and/or environmental impacts from the relevant project(s)?

Overall comment on this section:
The Republic of Brazil has established a Sovereign Sustainable Finance Committee (CFSS) which is responsible for evaluating and selecting eligible projects in line with the Framework's eligibility criteria. The CFSS is also responsible for identifying and mitigating environmental and social risks associated with the financed projects. Sustainalytics considers this to be in line with market practice.

3. MANAGEMENT OF PROCEEDS

Does the review assess:

☒ the issuer's policy for segregating or tracking the proceeds in an appropriate manner?

☒ the intended types of temporary investment instruments for unallocated proceeds?

☐ Whether an external auditor will verify the internal tracking of the proceeds and the allocation of the funds?

Overall comment on this section:
The CFSS led by the Ministry of Finance will oversee the allocation and the tracking of the proceeds. The Republic of Brazil intends to fully allocate net proceeds within two years of issuance, on a best-efforts basis. Pending allocation, an amount equivalent to the unallocated proceeds will be managed as per the legislation applicable to government debt management and the National Treasury's cash availability. Sustainalytics considers this to be in line with market practice.

4. REPORTING

Does the review assess:

☒ the expected type of allocation and impact reporting (bond-by-bond or on a portfolio basis)?

☒ the frequency and the means of disclosure?

☐ the disclosure of the methodology of the expected or achieved impact of the financed project(s)?

Overall comment on this section:
The Republic of Brazil intends to report on the allocation and impact reports annually until full allocation which will be published on its website. Allocation reporting may include the breakdown of proceeds per type of expenditure, share of financing and refinancing, share of co-financing and the amount of unallocated proceeds. Sustainalytics views the allocation and impact commitments as aligned with market practice.

Section 4. Additional Information

Useful links *(e.g. to the external review provider's methodology or credentials, to the full review, to issuer's documentation, etc.)*

Analysis of the contribution of the project(s) to the UN Sustainable Development Goals:

Additional assessment in relation to the issuer/bond framework/eligible project(s):

ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP

i. Second-Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.

ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.

iii. Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.

iv. Green Bond Scoring/Rating: An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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These are based on information made available by the issuer and therefore are not warranted as to their merchantability, completeness, accuracy, up-to-dateness or fitness for a particular purpose. The information and data are provided "as is" and reflect Sustainalytics` opinion at the date of their elaboration and publication. Sustainalytics accepts no liability for damage arising from the use of the information, data or opinions contained herein, in any manner whatsoever, except where explicitly required by law. Any reference to third party names or Third Party Data is for appropriate acknowledgement of their ownership and does not constitute a sponsorship or endorsement by such owner. A list of our third-party data providers and their respective terms of use is available on our website. For more information, visit http://www.sustainalytics.com/legal-disclaimers.

The issuer is fully responsible for certifying and ensuring the compliance with its commitments, for their implementation and monitoring.

In case of discrepancies between the English language and translated versions, the English language version shall prevail.

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For more information, visit www.sustainalytics.com

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