Ministerio de Economía y Finanzas

Gobierno del Ecuador | GUILLERMO LASSO PRESIDENTE

Sovereign Green Bond Framework of Ecuador

With the support of

CAF BANCO DE DESARROLLO DE AMÉRICA LATINA

GGGI

ABBREVIATIONS

UNFCCC	United Nations Framework Convention on Climate Change
COPLAFIP	Organic Code for Planning and Public Finance
DNSEFP	National Directorate for Monitoring and Evaluation of Public Funding
ENCC	National Strategy on Climate Change
GAD	Decentralized Autonomous Government
GHG	Greenhouse Gases
ICMA	International Capital Market Association
INEC	National Institute of Statistics and Census
INGEI	National Greenhouse Gas Inventory
IPCC	Intergovernmental Panel on Climate Change
MAATE	Ministry of Environment, Water and Ecological Transition
MEF	Ministry of Economy and Finance
NDC	Nationally Determined Contribution
SDGs	Sustainable Development Goals
PAI	Annual Investment Plan
PGE	General State Budget
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SFP	Undersecretariat of Public Funding
SIPeIP	Integrated Planning and Public Investment System
SNP	National Planning Secretariat
LULUCF	Land Use, Land-Use Change, and Forestry

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The Republic of Ecuador in numbers

Total population (2019): 17,267,986 inhabitants[1]
Men: 49.5%
Women: 50.5%

Total Working Age Population (2022[2]): 8,433,650[3] [4]

Total surface area: 256,370 km2, divided into four regions (Coast, Sierra, Amazon, and Insular regions)

Ecosystem diversity:
Types of terrestrial ecosystems: 91[5]
Types of marine and coastal ecosystems: 21[6]

Percentage of territory designated as protected area:
Mainland: 20.29%[7]
Marine: 12.07%

Rate of change in forest coverage (2008-2014): -0.37%[7]

Rate of deforestation (2014): 47,497 ha/year

Availability of water resources: 376,018 hm^3 per year

Population with access to drinking water:

Urban population: 96.6%
Rural population: 69.8%

[1] INEC projections.

[2] First quarter of 2022.

[3] INEC, 2022. National Survey on Employment, Unemployment and Underemployment. Retrieved from: https://www.ecuadorencifras.gob.ec/documentos/web-inec/EMPLEO/2022/Trimestre-enero-marzo-
[4] /2022_I_Trimestre_Mercado_Laboral.pdf

[5] MAATE, 2015. Fifth National Report for the Convention on Biological Diversity. Retrieved from: https://www.ambiente.gob.ec/wp-content/uploads/downloads/2015/06/QUINTO-INFORME-BAJA-FINAL-19.06.2015.pdf

[6] MAATE, 2015. Fifth National Report for the Convention on Biological Diversity. Retrieved from: https://www.ambiente.gob.ec/wp-content/uploads/downloads/2015/06/QUINTO-INFORME-BAJA-FINAL-19.06.2015.pdf

[7] MAATE, 2020. National System of Protected Areas. Retrieved from: https://www.ambiente.gob.ec/wpcontent/uploads/downloads/2020/04/2020_03_30-BOLETIN-FINAL.pdf [7] INEC

The commitment to Ecological Transition of the Republic

The Republic of Ecuador reasserts its responsibility towards sustainable development and combating climate change through Executive Decree No. 59 dated June 5, 2021, whereby it declares "*development in Ecuador as a national priority" and "orders the development of incentives aimed at protecting nature and ecosystems, reducing environmental impacts such as greenhouse gases using the best technology available, producing clean energy and developing sustainable products*"[8] and through Executive Decree No. 371 dated April 19, 2018, whereby it declares "*the adoption of the 2030 Agenda for Sustainable Development as a public policy of the National Government, aimed at fulfilling its goals within the framework of its alignment with national planning and development*"[9].

Ecuador's commitment is reflected in its National Development Plan (NDP) titled "Opportunity Creation Plan 2021-2025", which serves as a guiding instrument governing public policies, programs and projects, State Programming and Budgeting, and public resource investment and allocation. The Long-Term Vision "Ecuador of Opportunities: Desired scenario for 2030"[10], envisages that by 2030:

> *"Investment in the environmental protection of the public and private sectors will have increased substantially, thus encouraging environmental sustainability within the framework of circular economy.*
>
> *The hydric resource is managed comprehensively, thereby ensuring constant availability of and access to clean water in adequate supply for their various uses and exploitation (...) After use, wastewater is treated by ensuring its quality upon final disposal.*
>
> *Resilience of the territory was increased, and Greenhouse Gas (GHG) emissions were reduced (…).*
>
> *Energy sources were diversified according to efficiency and environmental sustainability criteria, thus striking a balance between renewable and non-renewable energy sources (…)."*[10]

In line with the foregoing, the NDP is aligned with the 2030 Agenda and includes Ecological Transition as one of its five Program Areas and as one of the three Guidelines of the National Territorial Strategy (Figure 1).

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[8] Executive Degree No. 59 whereby the Ministry of Environment, Water and Ecological Transition is established. Retrieved from:

[9] Executive Decree No. 371 whereby the adoption of the 2030 Agenda for Sustainable Development is declared a public policy.

[10] Opportunity Creation Plan 2021-2025. Retrieved from: http://oportunidades.planificacion.gob.ec/Plan2125/

[10] Opportunity Creation Plan 2021-2025. Retrieved from: http://oportunidades.planificacion.gob.ec/Plan2125/

Figure 1 Program Area 4. Ecological Transition

Goal No. 11.- Conserve, restore, protect, and make sustainable use of natural resources.

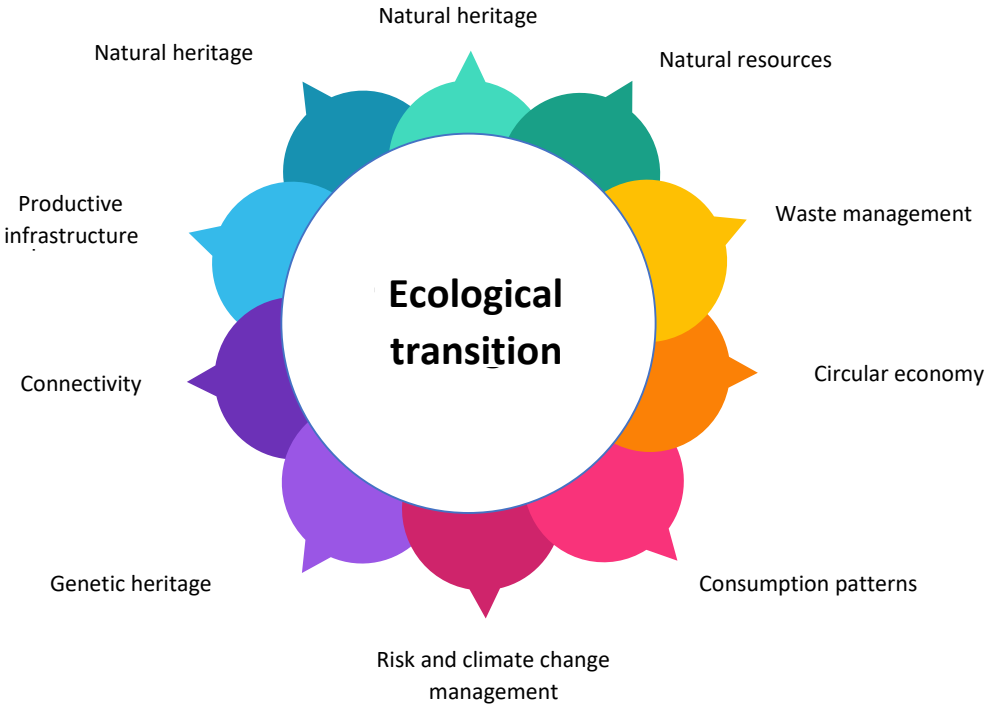
Goal No. 12.- Encourage sustainable development models through the adoption of climate change adaptation and mitigation measures.

Goal No. 13.- Promote the comprehensive management of hydric resources.

Ecological Transition includes climate change adaptation and mitigation, environmental preservation, and sustainable management of natural heritage (Figure 2). In order to achieve its compliance, Directive number two titled "Territorial Management for Ecological Transition" has territorial guidelines structured around four principles:

1. Education for Lifestyle Transformation
2. Sustainable economic activity
3. Actions to mitigate negative environmental impacts.
4. Governance for sustainability

Figure 2 Elements of Management for Ecological Transition



SOURCE: NATIONAL PLANNING SECRETARIAT, 2021

Goals towards 2025

Ecuador's goals for ecological transition are as follows[11]:

Conserve, restore, protect, and make a sustainable use of natural resources

- Maintain the proportion of national territory under conservation or environmental protection at 16.45%.
- Increase approved and remedied hydrocarbon pollution sources from 1,496 to 2,067.
- Reduce Greenhouse Gas emissions from deforestation in the fields of Land Use, Land-Use Change, and Forestry (LULUCF) from 53,782.59 to 52,706.94 Gg CO_2eq.

Encourage sustainable development models through the adoption of climate change adaptation and mitigation measures.

- Increase the number of integrated instruments from 71 to 96 for the purpose of increasing climate change adaptive capacity, promoting climate resilience and mitigating climate change without compromising food production.
- Reduce climate change vulnerability from 91.02 to 82.81 based on adaptive capacity.
- Increase residue and/or waste recovery from 0% to 20% within the implementation framework of extended producer responsibility policies.
- Prevent the gap between ecological footprint and biocapacity per person from falling below 0.30 global hectares.
- Reduce the energy used in consumption sectors from 79.833 to 62.917 kBEP.
- Reduce electric power loss to 10.50% at the national level.
- Increase fuel efficiency to save the equivalent of 50.5 million barrels of oil by enhancing the electric power generation process and improving energy efficiency in the hydrocarbon sector, up from the current 21.6 million barrels.
- Increase the installed power capacity at distribution substations from 6.424 to 6.954 megavolt-amperes (MVA) to address the growth in demand in the residential, commercial, and industrial sectors.
- Increase installed capacity in renewable electric power generation from 821.44 to 1,518.44 megawatts (MW).

Promote the comprehensive management of hydric resources

- Increase the area of national territory under water protection from 18,152.13 to 284,000 hectares.
- Increase the number of authorizations for the correct use of the water resource from 500 to 12,000.
- Increase the potential irrigation and drainage surface area from 1,458.46 to 11,461 hectares.
- Increase the surface area of national territory with plans for comprehensive water resources management from 208,959.12 to 452,000 hectares.

[11] Retrieved from NDP 2021-2025.

- 3.5 million residents have benefited or will benefit from projects co-funded by the State, which aim to provide access to clean drinking water and sanitation.

Nationally Determined Contributions of Ecuador

The Republic of Ecuador signed the Paris Agreement in New York in July 2016 and ratified it through Executive Decree No. 98 dated March 2019. Ecuador submitted its First Nationally Determined Contribution (NDC) to the Paris Agreement under the United Nations Framework Convention on Climate Change, whereby it undertakes to implement policies, actions and efforts to encourage the reduction of Greenhouse Gases (GHGs), the increase in resilience and the decrease in climate change vulnerability to the adverse effects of climate change within the sectors prioritized in the National Strategy on Climate Change (ENCC by its Spanish acronym).

The NDC's mitigation component addresses the following five sectors prioritized in the ENCC 2012-2025:

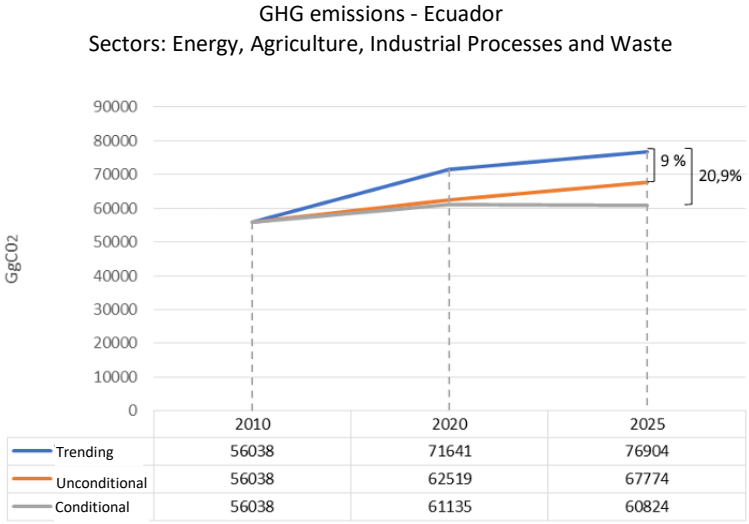
1. Energy
2. Industrial Processes
3. Agriculture
4. Land Use, Land-Use Change, and Forestry (LULUCF)
5. Waste

Through its unconditional NDC, Ecuador undertakes to:

- A 9% reduction in GHG emissions from the energy, industrial processes, agriculture, and waste sectors by the year 2025, compared to the trend scenario (Figure 3).
- A 4% reduction in GHG emissions from the LULUCF sector by the year 2025, compared to the trend scenario (Figure 4).

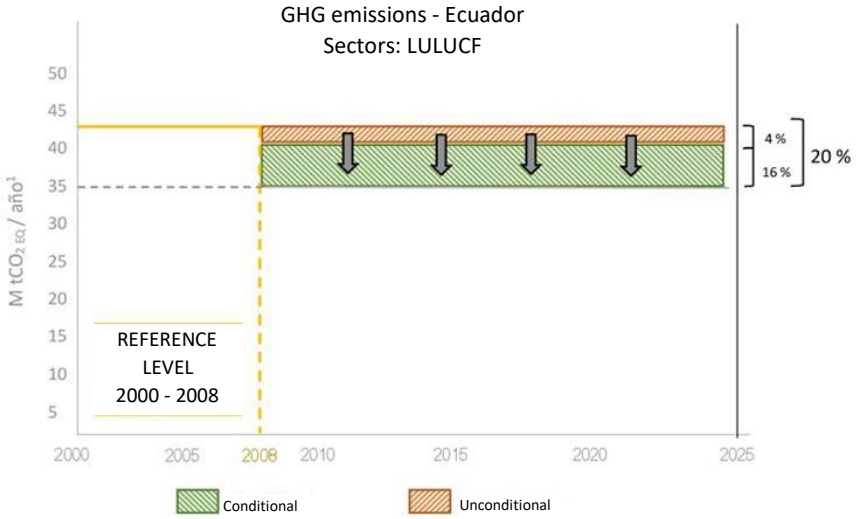
Ecuador's conditional NDC further reduces emissions to 20% in both cases. Table 1 presents courses of action for priority sectors in the unconditional scenario.

Figure 3 GHG Emissions Scenarios: Trending, Unconditional and Conditional Aggregate Analysis of the Energy, Agriculture, Industrial Processes and Waste Sectors



SOURCE AND AUTHOR: MAATE, 2019.

Figure 4 Reference level and unconditional and conditional mitigation scenarios for the LULUCF sector



SOURCE AND AUTHOR: MAATE, 2019.

Table 1 Courses of Action for the Prioritized Mitigation Sectors in the Unconditional Scenario

Sector	Courses of Action
Energy	• Promote the use of renewable energy. • Strengthen energy efficiency and changes in consumption patterns. • Encourage and implement sustainable mobility.
Agriculture	• Conduct research and develop information systems to enhance climate change management in the agriculture sector. • Promote sustainable livestock development at a national level.
Industrial processes	• Reduce GHG emissions by using additives in cement production.
Waste	• Promote active methane capture at landfills.
LULUCF	• Preserve natural heritage. • Enhance sustainable forest management. • Strengthen natural heritage restoration. • Enhance and increase the establishment and management of sustainable commercial forestry crops. • Enhance forest control. • Strengthen the National System of Protected Areas.

SOURCE: MAATE, 2019.

The NDC's adaptation component is structured based on the priority sectors for climate change adaptation stipulated in the ENCC 2012-2025:

1. Human Settlements
2. Water Heritage

3. Natural Heritage
4. Productive and Strategic Sectors
5. Health
6. Food Sovereignty, Agriculture, Livestock Farming, Aquaculture and Fishing

The National Adaptation Plan will serve as a tool, to facilitate the implementation of adaptation measures(contributions), and support to the generation of useful instruments for climate change adaptation management in Ecuador. Table 2 outlines the identified adaptation measures for each sector in the unconditional scenario.

Table 2 Adaptation Measures for Prioritized Sectors in the Unconditional Scenario

Sector	Adaptation Measures
Human Settlements	Macro level • Development and implementation of public policies for habitat, territorial planning, land management, and spatial planning, with adaptation criteria to address climate-related hazards. Operational level • Reduction of climate risk on the population through safe soil validation and promotion, and provision of adequate, accessible, and affordable housing in low climate hazard exposure zones. • Development of local public-policy instruments for climate action which prioritize adaptation measures against the effects of climate change. • Enhancement of multi-actor and multi-level governance capabilities for climate risk management in human settlements at the national and local level by fostering civil society's participation. • Creation of lines of research for assessing the vulnerability of human settlements to the adverse effects of climate change
Water Heritage	Operational level • Implementation of a national information system for the hydric sector as a tool to support the management, monitoring, and assessment of climate change effects. • Implementation of programs to communicate and disseminate information and enhance capabilities which allow for raising the awareness of hydric sector actors and water users about the effects of climate change. • Creation and devising of preservation mechanisms for water sources and implementation of their management plans to ensure the adequate supply of clean water in the future.
Natural Heritage	Macro level • Enhancement of public policy management tools for natural heritage that enable the preservation and sustainable use of natural heritage while incorporating climate change adaptation criteria. Operational level • Development of production chains that improve the sustainable use and exploitation of natural heritage with a landscape view. • Expansion of forested areas, remaining natural vegetation cover and conserved or sustainably managed marine and coastal

Sector	Adaptation Measures
	ecosystems, to maintain their ecosystem function in climate change scenarios. • Implementation of sustainable natural resource use practices in zones of influence within areas under different conservation status, vulnerable to the effects of climate change. • Establishment of conservation and restoration corridors for secondary forests and buffer zones to maintain landscape connectivity, reduce the effects (current and expected) of climate change and increase ecosystem resilience.
Productive and Strategic Sectors	Macro level • Integration of climate projections into the development of new studies of road infrastructure.
Health	Macro level • Issuance of public policies, based on the best information available, to address the impacts of climate change on health. Operational level • Strengthening of institutional capacities, local governments, and citizens in adopting responses against the impacts of climate change on health. • Issuance of public policies, based on the best information available, to address the impacts of climate change on health. • Development of a Unique Registry of Victims from the impacts of climate change and implementation of a simulation and drill program associated with climate hazards on health, which facilitates the effective attention and response of the population. • Creation of climate vulnerability and risk analysis at the national level which allows for implementing an early warning system to deal with the impacts of climate change. • Strategies for the implementation of an integrated environmental and epidemiological health risk surveillance and monitoring system in a context of climate change.
Food Sovereignty, Agriculture, Livestock Farming, Aquaculture and Fishing	Macro level • Public policy design and implementation to enhance the climate resilience of agricultural food production systems. • Promotion of responsible governance on land use and management which ensures sustainable agricultural production, resilient to the effects of climate change. Operational level • Issuance of regulations and technical standards for integrating climate change adaptation into development planning at the sectoral (agricultural and livestock sectors), and local scale (at the decentralized autonomous government level). • Promotion of incentives centered on the responsible consumption of agricultural production resilient to the effects of climate change. • Development, promotion and implementation of agricultural production models and technologies that are sustainable and resilient to the effects of climate change. • Enhancement of local capabilities of the agricultural sector (including sustainable land use) through participatory learning methodologies with an approach towards environmental sustainability and climate hazard resilience.

Sector	Adaptation Measures
	• Strengthening of scientific research capabilities for producing information related to agricultural production resilient to the effects of climate change. • Development of technology transfer mechanisms for agricultural production resilient to the effects of climate change.
Cross-cutting	• Promotion of financial mechanisms, instruments and tools which allow for managing resources for the adoption of adaptation measures against the impacts of climate change. • Updating and enhancement of programs for generating, processing, disseminating, freely accessing, and controlling the quality of meteorological and hydrological data, to support adaptation processes in addressing the adverse effects of climate change. • Increase in the capabilities of the national financial system for managing resources from international cooperation allocated to climate change management.

SOURCE: MAATE, 2019.

Sovereign Green Bond Framework

This section is intended to describe the Framework for Green Bonds of the Government of Ecuador based on the NDP titled “Opportunity Creation Plan” 2021-2025, the NDC under the Paris Agreement of UNFCCC, and the country’s institutional plans.

This Framework for Green Bonds was prepared by the Ministry of Economy and Finance in April 2023, in collaboration with the Climate Change Undersecretariat of the Ministry of Environment, Water and Ecological Transition and the National Planning Secretariat. The following ministries and secretariats were consulted during the Framework’s drafting process: the Ministry of Mines and Energy, the Ministry of Public Health, the Ministry of Transport and Public Works, the National Planning Secretariat, and the Ministry of Agriculture and Livestock.

The Green Bonds Framework sets forth the obligations that the Government of Ecuador must fulfill for any Green Bond issued under this framework. The Ministry of Economy and Finance (MEF), as the issuer of these bonds, will coordinate actions with the National Planning Secretariat (SNP by its Spanish acronym), the Ministry of Environment, Water and Ecological Transition (MAATE by its Spanish acronym), which is responsible for the national environmental and climate policy, and the relevant public entities, to ensure the Framework’s adequate implementation.

Through this Framework, the MEF may issue Green Bonds solely for the purpose of funding eligible green projects or refinancing public debt under better conditions, to allocate resources for funding eligible green projects. The bonds must comply the provisions in the applicable legislation in Ecuador in relation to public indebtedness and the issuance and placement of securities. The Framework may be updated by the MEF, in coordination with the relevant public entities, as needed.

The Green Bond Framework has been developed using the highest market standards. The eligible categories established in this Framework are aligned with the 2021 edition of the Green Bond Principles by the International Capital Market Association (ICMA), the Sustainable Development Goals (SDGs) and the NDC.

The four main components of these principles are listed below:

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting

1. Use of Proceeds

The Government of Ecuador will allocate an amount equal to the amount issued and placed for Government bonds under this Framework exclusively to finance infrastructure investment projects and/or other projects with sufficient financial payment capacity[12], and refinance public debt under better conditions for the purpose of allocating resources to fund eligible green projects. Projects which directly receive resources from the issuing and placement of Green Bonds issued by the MEF must meet the eligible green description and criteria, as defined below.

Eligible green projects are those which:

1. Fulfill the requirements of any of the green categories defined in this section.
2. Can be funded with resources from the General State Budget (PGE by its Spanish acronym).
3. Are prioritized and included in the Annual Investment Plan (PAI) and have been developed in accordance with public investment guidelines and the methodology guide for submitting investment projects[13].

The eligible categories are centered on promoting a low-carbon and climate-resilient economy and sustainable and inclusive development in line with the current NDP and the GBP.

[12] Pursuant to Section 126 of the COPLAFIP.

[13] Annex 1 shows the typology of interventions defined for public investment projects in accordance with the guide for submitting investment projects.

Category	Description	Environmental benefits	SDG alignment	Measure / course of action alignment with the NDC
Renewable energy	Eligible expenses include the following costs and investments: 1. Infrastructure, equipment, research, design, climate risk analysis, emissions estimation (including carbon footprint calculation), climate change mitigation measures, in addition to institutional strengthening for power generation from non-fossil energy sources, such as: a) Photovoltaic solar energy[14] b) Solar thermal energy c) Eolic energy[15] d) Hydroelectric power plants[16] including pumping stations e) Bioenergy[17] f) Geothermal energy[18] 2. Transmission infrastructure and equipment dedicated to supporting, either fully or partially, power generation systems producing electricity from non-fossil sources eligible under this Framework. 3. Investments in solar and/or wind energy projects (ashore) integrating energy generation and storage (batteries).	• GHG reduction (ton of CO_2 equivalent reduced). • Long-term provision of low-carbon infrastructure. • Promotion of power generation by means of renewable sources.		**Energy sector** Prompt the use of renewable energy.

[14] Solar facilities must not generate more than 15% of their energy from non-renewable sources. The costs related to the production of electricity from photovoltaic solar energy are only deemed eligible when the durability and ease of disassembly and repair are guaranteed by the accessibility and interchangeability of components, and the refurbishing and recycling, for example, from supply sources, or approved certifications.
[15] Wind power facilities must not generate more than 15% of their energy from non-renewable sources. The costs related to the production of electricity from wind energy are only deemed eligible when recycling at the end of their useful life is guaranteed based on waste management plans, dismantling processes, or removal at the time of dismantling, for example, through contractual arrangements.
[16] Facilities have been subject to an environmental impact assessment and their life-cycle emissions are below 100gCO_2e/kWh.
[17] The biogas plants considered for financing the bond provided they comply with the emission threshold of 100g of CO_2 per kWh of energy.
[18] Facilities operate with life-cycle emissions below 100gCO_2e/kWh.

Energy efficiency	Eligible expenses include the following costs and investments: 1. Infrastructure, research, design, equipment, installation, and quantification of emissions reduced by using these technologies: a. Electrical appliances and lighting, including the replacement of existing light fixtures with new efficient lighting equipment and systems; for example, with LED technology, which yields savings of over 20%. b. Programs for the replacement and labelling of home appliances and high energy consumption equipment. c. Energy efficiency equipment or systems in public buildings which yield savings of over 20%; including (but not limited to) the modernization, thermal insulation and/or upgrading of air conditioning systems. d. Energy efficiency equipment or systems in homes, including, but not limited to the following: a) improvements in home insulation, b) air conditioning, c) Solar thermal systems, d) photovoltaic systems. e. Cogeneration systems and adoption of the ISO 50001 standard in energy-intensive industries. f. Energy Service Companies (ESCOs) in the country. g. Energy Loss Reduction in the Electric Power Distribution System. h. Energy efficiency in micro and small businesses, including, but not limited to: a) building insulation improvements, b) air conditioning, c) Refrigeration systems, d) Solar thermal systems, e) photovoltaic systems. 2. Training programs to expand technical knowledge provided at occupational training centers and facilities, and energy audits. 3. Institutional infrastructure and strengthening for implementing energy efficiency programs/projects based on the National Plan for Energy Efficiency.	• Energy savings. • GHG reduction (ton of CO_2 equivalent reduced).		**Energy Sector** Strengthen energy efficiency and changes in consumption patterns.

Sustainable and low-carbon transportation	Eligible expenses include costs and investments in relation to infrastructure, research, design, construction, pile driving, operation, and management to: A. Encourage the development, planning and implementation of alternative transportation methods (walking, cycling, electric bicycles). B. Support Studies, design, construction, operation, and management of public transport projects without direct emissions, or of low GHG emissions[19], including the following: • Light rails • Electric buses • Trams • Clean-energy buses • Suburban rails • Intermodal systems C. Design, planning, construction and operation of dedicated lanes and adequate infrastructure for each means of transport, including: • Bicycles • Electric buses • Bus rapid transit (BRT) D. Development, planning and implementation of Zero-Emission Zones which promote short trips on foot or by bicycle, under the 15-minute city concept. It must contain the GHG reduction quantification. E. Development, planning and implementation of Vision Zero zones (20/30 km) for school and residential areas which encourage exercise and health, with walkable and low GHG emission zones. F. Conserve and restore the urban ecosystem while promoting alternative transportation methods, such as walking and cycling, having regard to the following: • Road space reallocation for improved coordination with the activities of daily living • Inclusion of nature in gained space • Zero GHG emission zones • Control/removal of parking as a service	• Reduce GHGs by promoting low-carbon transportation methods. • Improve air quality.		**Energy Sector** Develop and implement safe and sustainable transport.

[19] With direct emissions below 75gCO_2/p-km (passenger-kilometer)

	G. Support Research, design, construction, pile driving, operation, and maintenance of integrated and electric resilient infrastructure at the national level for: • Buses • 24/7 Public Bicycle Scheme • Electric railway transport H. Support Research, design, implementation, and maintenance of Intelligent Transportation Systems (ITSs) in intermodal public transport which contribute to a safer mobility, an optimal traffic flow and reduced traveling times and costs and environmental and climate impacts, including the following: • Informational panels to notify when the public transport is arriving • Combined applications for the various individual mobility services available in the market • Climate risk analysis • Quantity of GHG tons reduced			
Sustainable management of natural resources, land use and protected areas	Eligible expenses include costs and investments in relation to sustainable management, recovery, conservation, and protection of the environment, including natural resources, biodiversity and protected land and marine areas. Eligible costs, include (but are not limited to): 1. Sustainable forestry use exploitation programs, projects, and/or activities: a. Sustainable commercial management of natural forests for timber production[20]. 2. Programs and projects for preventing and controlling forest fires and risks affecting natural forests and vegetation. 3. Programs, projects, and production chains that encourage changes in consumption patterns by implementing the National Bioeconomy Strategy.	• Conservation and sustainable useexploitation of natural resources, use of land and protected marine areas through ecosystem services. • Reduction of GHG emissions from deforestation or forest degradation. • Increase in carbon sequestration. • Promotion of knowledge generation on the conservation of natural resources.		**LULUCF sector** • Preserve natural heritage. • Enhance sustainable forest management. • Strengthen natural heritage restoration. • Enhance and increase the establishment and management of sustainable commercial forestry plantations.

[20] Fulfillment of this criteria must be verified by being in possession of a certification by the Forest Stewardship Council (FSC) or the Program for the Endorsement of Forest Certification (PEFC).

	4. Creation, management, control, surveillance, and maintenance of protected land, coastal or marine areas or other environmental management or conservation schemes. 5. Programs, projects, research and/or activities for the protection and restoration of land, freshwater, coastal and marine ecosystems, in addition to biodiversity, natural habitats, land and related ecosystem services. 6. Sustainable production and consumption projects, works and/or activities associated with Green Point (Punto Verde).[21] 7. Programs, projects and/or activities to promote and encourage sustainable biodiversity exploitation endeavors. 8. Environmental education, training and awareness programs, projects and/or activities. 9. Research, infrastructure and institutional strengthening for sustainable management, recovery, conservation, and protection of the environment, including natural resources, biodiversity and protected land and marine areas. 10. Public/private academic research applied to Land Use, Land-Use Change, and Forestry (LULUCF). 11. Programs and projects which contribute to the implementation of the REDD+ Action Plan and the reduction in emissions from deforestation or forest degradation.			• Strengthen forest control. • Strengthen the National System of Protected Areas.
Sustainable water management and efficient wastewater management	Eligible expenses include the following costs and investments: 1. Infrastructure, equipment, research, climate risk analysis and institutional strengthening for: a. Protection and recovery of water basins, including water catchment areas. b. Improving, conserving, protecting, and ensuring constant availability of clean water in adequate supply. c. Prevention and control of pollution affecting water basins and water supplies.	• Protection of water resources. • Conservation of water resources. • Climate change adaptation. • Reduction in water consumption. • Reduction of climate risk in the water sector.		**Water Heritage (adaptation)** Strengthening of the Strategic National Water System as a sectorial coordination and interaction mechanism to increase the adaptive capacity of the water sector in the territory.

[21] https://www.ambiente.gob.ec/punto-verde-sector-productivo-y-de-servicios/

	d. Fresh water and wastewater sanitation programs and projects at the national level, except for wastewater related to activities associated with fossil fuels, for example, fracking. e. Irrigation and drainage programs and/or projects. f. Protection systems against river flooding. g. Water sector projects or programs that consider climate risk analysis as part of their studies within their infrastructure. 2. Monitoring system, including smart grids, early warning systems in case of drought or flooding, water quality control processes; for example: remote quality monitoring systems, storm warning systems, flood warning system, dam failure warning system. 3. Training courses and workshops promoting water governance in water basins.			
Sustainable agriculture	Eligible expenses include the following costs and investments: 1. Infrastructure, equipment, research, design, climate risk analysis, emissions estimation (including carbon footprint calculation), climate change mitigation measures, in addition to institutional strengthening for programs and/or projects related to: a. Modernizing traditional agriculture to ensure optimal resource utilization. b. Promoting sustainable agriculture through land designated for agroforestry and silvopastoral systems, aimed at sustainable management [22]. c. Sustainable livestock production, confirmed by sustainable management plans.[22] d. Drip irrigation systems. e. Water-efficient irrigation system compared to existing systems and practices. f. Use of precision technologies for turning production cycles into efficient systems.	• Reduction in the vulnerability of farming activity by improving the resilience and adaptive capacity against climate change. • Strengthening the resilience of natural ecosystems. • Improved knowledge and technologies for the sustainable use of biodiversity by means of sustainable agriculture. • Reduction in GHG emissions. • Reduction in water consumption. • Increase in carbon sequestration.		**Agricultural Sector** • Develop research and generation of information systems for strengthened management of climate change in the agricultural sector. • Promote sustainable livestock development at the national level. • Develop and implement sustainable agricultural production systems (agricultural, livestock and forestry) at the national level.

[22] Prove that the activity generates significant carbon sequestration or reduces GHG emissions.

	g. Applying public/private scientific research that enhances sustainable agriculture and livestock farming. 2. Agricultural inputs, including seeds and fertilizers for farming practices classified as eligible under this Framework, except for inorganic and synthetic fertilizers. 3. Agricultural data monitoring and information equipment, systems, and software; for example, climate monitoring stations and smart irrigation for farming practices identified as eligible under this Framework.			
Solid waste, prevention and control of pollution, and efficient use of resources	Eligible expenses include costs and investments related to infrastructure, equipment, research, and institutional strengthening for the following programs and/or projects: 1. Assistance in the collection, classification, and disposal of non-hazardous waste with the aim of preparing for their reuse and/or recycling. 2. Comprehensive waste and residue management. 3. Environmentally reasonable and comprehensive management of chemical substances. 4. Prevention, control and monitoring of pollution, as well as the comprehensive restoration of environmental damage. 5. Circular Economy support. 6. Reduction in single-use plastic pollution. 7. Application of the principles of Extended Producer Responsibility.	• Promotion of comprehensive solid waste management. • Recycling and recovery of material and energy waste. • Final disposal of waste at proper infrastructure.		**Waste** • Generate public-private partnerships for reducing GHG during the waste management process (solid and liquid), by adopting mitigation measures. • Promote inclusive campaigns to raise awareness among the population and industry on solid and liquid waste management, towards a circular economy.
Climate change adaptation	Eligible expenses include the following costs and investments: 1. Design and implementation of tools for planning and managing climate change adaptation at the sectorial and local level. 2. Implementation of measures and efforts to reduce climate risk and contribute to compliance with the NDC and/or the National Climate Change Adaptation Plan in prioritized sectors.	• Reduction of climate risk in the natural and social systems most vulnerable to climate change in Ecuador.		Actions related to the Six climate change adaptation sectors: 1. Health 2. Human Settlements 3. Food Sovereignty, Agriculture, Aquaculture and Fishing

	3. Technology infrastructure for managing and analyzing hydrometeorological data and early warning systems of climate change-related events. 4. Infrastructure, equipment, and technical assistance on preparing for, responding to, and recovering from disasters caused by extreme climate events. 5. Infrastructure projects which contribute to the achievement of the objectives of the National Drought Plan. 6. Research, studies and/or analysis on climate risk in prioritized sectors.			4. Productive and Strategic Sectors 5. Natural Heritage 6. Water Heritage

2. Process for Project Evaluation and Selection

Green expenditures and/or projects eligible to be funded and/or refinanced with resources from the General State Budget, obtained through any sovereign issuance under this Framework, will only be such programs and projects included in the Annual Investment Plan that comply with the applicable legislation in relation to public indebtedness.

Annual and four-year investment plans serve as the technical and financial representation of a set of investment programs and projects which have been duly prioritized, programmed and geographically delimited in accordance with the provisions in the Organic Code for Planning and Public Finance (COPLAFIP by its Spanish acronym). Said plans are aimed at achieving the development scheme goals. The Investment Plans of the General State Budget include the plans of the Central Government and public entities, except for Public Companies, Public Banks, Social Security and Decentralized Autonomous Governments (GAD by its Spanish acronym). Investment Plans of the General State Budget are developed by the SNP.

The evaluation and selection process for eligible projects under this Framework aligns with the Ecuadorian public investment project cycle and the Integrated Planning and Public Investment System (SIPeIP by its Spanish acronym). The SNP will be responsible for assessing and selecting eligible green projects under this Framework (Figure 5), in coordination with the MEF regarding allocating budget and obtaining the source of funding, and pursuant to the guidelines on eligible green projects developed in coordination with MAATE.

Figure 5 Evaluation and Selection Process for Eligible Green Projects

Responsible party	Activity	Description
National Planning Secretariat - National Planning Undersecretariat - Investment Planning Directorate	**1. Development and publication of the Call for Public Investment Projects**	The SNP publishes the annual call for presenting its public investment projects to be funded by the General State Budget. Additionally, the SNP publishes the Public Investment Guidelines and the Guide for submitting investment projects. The SNP will refer to the Framework for Green Bonds in the Public Investment Guidelines and include the necessary requirements to be considered green under this Framework.
Central Government and public entities (With the exception of Entities which do not belong to the General State Budget)	**2. Project application**	Central Government bodies and public entities prepare their investment project proposals and submit them before the Projects Bank, through the **Integrated Planning and Public Investment System (SIPeIP) to be assessed by the SNP**. Projects submitted for potential funding under this Framework will incorporate the Green Project Application Annex into their Application.
National Planning Secretariat - National Planning Undersecretariat - National Investment Planning Directorate - Ministry of Environment, Water and Ecological Transition	**3. Project evaluation, selection, and prioritization**	The SNP verifies the project's financial and technical feasibility, its alignment with the goals of the National Development Plan, and its contribution to the prioritization criteria established therein. In addition, the SNP will oversee assessing project alignment with the technical criteria established in section I. Use of Proceeds under this Framework, and the guidelines developed in coordination with MAATE. A column of eligible projects under the Framework for Green Bonds will be included within the project prioritization matrix to show their eligibility to the MEF.
National Planning Secretariat - National Investment Planning Directorate	**4. Inclusion in the PAI**	If the project meets the requirements set forth in the regulations in force and the technical criteria established in section I. Use of Proceeds under this Framework, it will receive a Favorable Prioritization Opinion, and may be included in the Annual Investment Plan (PAI). The SNP will ensure that eligible green projects are duly labeled as green and eligible for funding in the Integrated Planning and Public Investment System (SIPeIP).
Ministry of Economy and Finance - Undersecretariat of Public Funding - Budget Undersecretariat	**Green Bond Issuance**	Prior to their issuance, the MEF ensures that green projects prioritized within the PAI are within the budget ceiling of the corresponding entities and includes the project within the General State Budget of the following fiscal year. Subsequently, the MEF will conduct the internal process for issuing a green bond that allows for funding the green portfolio in accordance with the PAI.
Ministry of Economy and Finance -Undersecretariat of Public Funding	**5. Allocation of the source of funding and disbursement of resources**	After said issuance, the MEF allocates the net proceeds generated from the bonds issued under this Framework and indicates the project's source, governing body, and identification number. The MEF authorizes the funding and signs the corresponding subsidy agreement with the implementing entity for the disbursement of resources. Implementing entities will undertake to compile and report the use of proceeds and impact indicators on an annual basis.
Central Government and public entities promoting the selected projects	**6. Project implementation**	Entities implement projects according to their schedule.

2.1. Exclusion list

The Government of Ecuador will refrain from financing the following activities with resources from the issuance and placement of green bonds under this Framework:

- Any activity that infringes the fundamental human rights and labor rights of workers.[23]
- The production or trade in any product or activity deemed illegal under the laws or regulations of the Republic of Ecuador, or the international conventions and agreements, or subject to international bans.
- The production or trade of pesticides or herbicides subject to international phase outs or bans and of persistent organic pollutants.[24]
- The production or trade in ozone depleting substances subject to international phase outs.[25]
- The production or trade of wild flora and fauna or products regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- The production or trade of weapons and ammunition.
- The production or trade of alcoholic beverages, except for beer and wine bearing a designation of origin.
- The production or trade of tobacco.
- Gambling, casinos, and equivalent enterprises.
- The production or trade in non-bonded asbestos fibers. This does not apply to the purchase and use of aggregate asbestos cement sheets when their asbestos content is below 20%.
- Marine drift net fishing with nets over 2.5 km long.
- The production or trade of timber products or other forestry products from forests lacking the corresponding sustainable management plan.
- The production of nuclear energy.
- Exploration and exploitation of fossil fuels or power plants generating electricity from coal or oil, combined cycle power plants to produce energy from coal or oil.
- Forestry projects or operations in fragile or environmentally sensitive areas without an approved forest management plan and the environmental permit from the relevant authority.
- Coal mining or oil extraction, refining, processing or production and the related supply chain infrastructure.
- Production or activities which damage land owned by Indigenous peoples.

[23] Those recognized by the International Labor Organization (ILO): a) Freedom of association and the effective recognition of the right to collective bargaining; b) the elimination of all forms of forced or compulsory labor; c) the abolition of child labor, including, without limitation, the right preventing people under the age of 18 from working under hazardous conditions (including construction activities), performing night work and being declared fit for work on the basis of a medical examination; and d) the elimination of discrimination in respect of employment and occupation, where discrimination is defined as any distinction, exclusion or preference on the grounds of race, color, sex, religion, political opinion or national or social origin.

[24] Those defined in the International Convention on the Reduction and Elimination of Persistent Organic Pollutants. (POPs; September 1999): aldrin, chlordane, dieldrin, endrin, heptachlor, mirex and toxaphene, in addition to the chlorobenzene industrial chemical product.

[25] According to the Montreal Protocol and the Kigali Amendment.

- New roads, bridges, road improvements, parking lots, fossil fuel filling stations, railway infrastructure devoted to fossil fuel transport, vehicles using fossil fuel or biofuel or oil tankers or vessels transporting only coal or oil.
- Agricultural or timber production at bogs.
- Actions promoting market mechanisms for greenhouse gas transactions that are not endorsed by the National Environmental Authority and infringing the applicable legislation to this end.

2.2. Environmental and social risk management

Every investment project submitted for consideration in the Annual Investment Plan must include an environmental impact, risk, and social sustainability analysis in their proposal.

The performing entity must assess the activities to be conducted by the project, for the purpose of establishing their degree of environmental impact and categorizing it based on the type of impact generated, pursuant to the provisions set forth by the National Environmental Authority. The goal is to predict the way negative impacts will be prevented, mitigated, or eliminated, to ensure the project's environmental sustainability.

To achieve social sustainability, the project, where possible, will encourage:

- **Gender equity and equality:** Address practical gender needs (health, education, housing, etc.) and then proceed to "long term" issues, such as strategic interests associated with women empowerment and autonomy, which is a fundamental condition for attaining a different gender order, where equality and guarantee of rights are secured[15].
- **Ethnic and cultural equity:** Seek changes in relationships favoring inequalities, encourage interculturality and overcome asymmetries through unity in diversity, while respecting the diversity of peoples and nations in the economic, social, and cultural spheres.
- **Intergenerational equity:** Promote intergenerational equity by assisting the various age groups according to the needs, potentials, access to opportunities and participation of each generation, while avoiding all forms of discrimination.

3. Management of Proceeds

The Green Bond Framework establishes the general approach applicable to present and future issuances.

Proceeds from issuances under this Framework will serve as a funding source for the General State Budget.

The MEF will guarantee that an amount at least equal to the resources from issuances under this Framework be allocated to the funding of investment projects in up to two fiscal years prior to said issuance; investment projects of the current fiscal year; and investment projects of up to two fiscal years subsequent to such issuance, which belong to any of the eligible categories described in section I: use of proceeds under this Framework; and to the refinancing of public debt under better conditions for the purpose of funding eligible green projects. In cases where the projects and the circumstances so warrant and provided the relevant guidelines on the subject do not suggest otherwise, the MEF may extend this period to three years prior or after the corresponding issuance made under this framework.

When the funds are intended for direct financing of investment programs and projects by the General State Budget authorities, the Republic, through the MEF, will aim to allocate these funds within twelve months of each bond's issuance. If not immediately possible, they will do so as soon as is reasonably feasible, depending on the progress of the investment programs and projects. Until fully allocated, the MEF will manage these resources in accordance with applicable laws.

The Undersecretariat of Public Funding of the MEF, through the National Directorate for Monitoring and Evaluation of Public Funding (DNSEFP by its Spanish acronym), in collaboration with other areas of the MEF and based on their responsibilities, will allocate the specific source of funding for investment projects prioritized and included in the Annual Investment Plan (PAI) of the corresponding year that meet the category and criteria set forth in section: use of proceeds under this Framework. The SNP will allocate, pursuant to the regulations in force, a Unique Project Code for each project to be funded with green bond resources, thereby allowing the tracking of resources and projects allocated to the General State Budget. Once the SNP has prepared the PAI for the upcoming fiscal year, the Budget Undersecretariat will incorporate the projects in the General State Budget pertaining to the fiscal year at issue.

In case one or more projects originally included to be funded through the issuance of any Green Bond no longer meets the above eligibility criteria due to changes in their nature or implementation, then the SNP will notify the MEF such that said projects and/or expenses are not funded and/or refinanced with the specific bond. The MEF will put out its best efforts to reallocate resources to other investment projects and/or expenses, enabling the SNP to verify their alignment with the eligibility criteria described in the section devoted to the use of proceeds under this Framework.

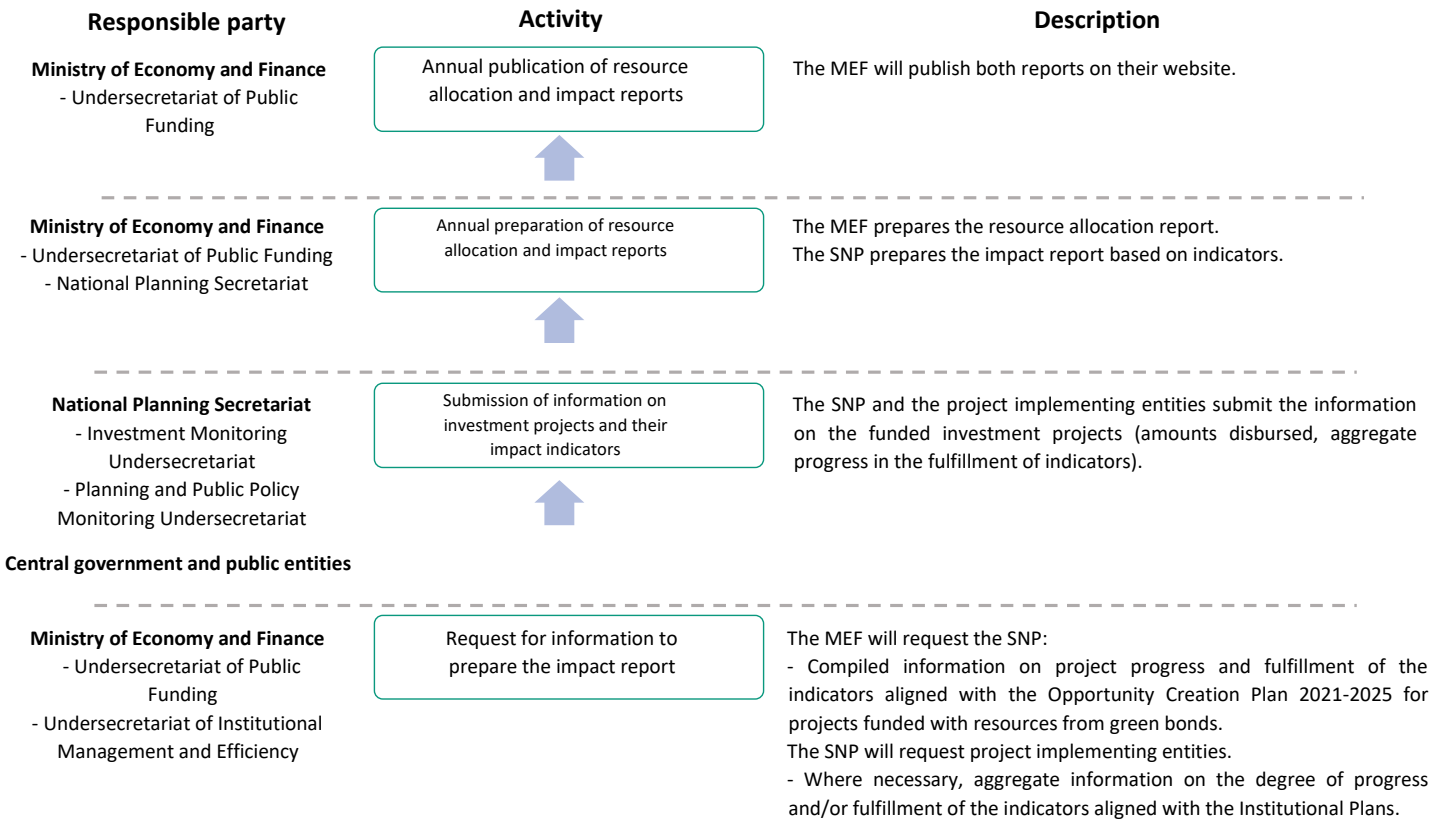
4. Reporting

The MEF, through the Undersecretariat of Public Funding and the Undersecretariat of Institutional Management and Efficiency, will prepare and publish a resource allocation report for the investment community based on the frequency defined below for every bond issued under this Framework. In turn, the SNP will prepare an impact report which will be published by the MEF for the investment community based on the frequency defined below for every bond issued under this Framework. Both reports will be published on the MEF website.

The published information will be subject to fiscal account availability. The first allocation and impact reports will be published in the year following their issuance.

Figure 6 illustrates the institutional coordination process for preparing both reports.

Figure 6 Process for Preparing the Resource Allocation and Impact Reports



4.1. Resource Allocation reporting

The MEF will provide, through their allocation report, information on the allocation of the net resources of their bonds until the funds have been fully allocated, in addition to:

- A brief description of the allocated projects and amounts.
- The percentage of revenue allocated per project or program.
- The percentage of revenue allocated for funding and refinancing.
- The remaining unallocated revenue balance.

If non-disclosure agreements, considerations of competence, or a large number of underlying projects restrict the number of details that can be made available, then the MEF will present information in general terms or based on an aggregate portfolio (for example, the percentage allocated to specific project categories).

4.2. Impact reporting

The MEF compromises to put out their best effort to publish an annual impact report until the funds have been fully allocated. The SNP will consolidate the data on the environmental indicators that the project implementing entities must report in relation to the projects and expenses financed through the bond. As long as information is available, the impact report may include:

- The expected environmental impact of the projects and expenses.
- The methodologies and underlying assumptions used in preparing the disclosed impact indicators.

Table 3 shall be used as reference for impact indicators, which were established in accordance with national climate change and sustainable development policies and strategies referenced therein. The Government of Ecuador may report one or more indicators per eligible category, whether it be one mentioned in Table 3, or any other indicator defined by the implementing entity and duly approved by the MEF, based on the available information.

Table 3 Examples of Impact Indicators

Category	SDG alignment	Indicator
Renewable energy		**Opportunity Creation Plan 2021-2025** • 12.3.5 Installed capacity of new power generation through private sector initiative. • 12.3.4 installed capacity to address the growth in demand in the residential and productive sectors. **Electricity Master Plan 2018-2028** • Electric Power Generation from renewable sources (GWh). **Nationally Determined Contribution of Ecuador** • Reduced tons of CO_2 equivalent per year or during a specified period.
Energy efficiency		**Opportunity Creation Plan 2021-2025** • Estimated power consumption in kBEP due to the implementation of the National Plan for Energy Efficiency. **National Plan for Energy Efficiency** • Percentage of reduced energy consumption with reference to baseline values. • Number of high energy consumption home appliances and electrical equipment sold in the country bearing a national energy efficiency label or under an energy labeling program (Maximum Energy Efficiency Designation, DMEE by its Spanish acronym). • Percentage of energy-intensive companies which implement energy efficiency projects through ESCOs. **Nationally Determined Contribution of Ecuador** • Reduced tons of CO_2 equivalent per year or during a specified period.
Low-emission transport		**Strategic Institutional Plan 2021-2025 Ministry of Transport and Public Works** • Percentage of maintenance of the state road network with sustainable management models. **Nationally Determined Contribution of Ecuador** • Reduced tons of CO_2 equivalent per year or during a specified period.

Sustainable management of natural resources, land use and protected areas		**Opportunity Creation Plan 2021-2025** • Percentage of national territory under conservation or environmental protection. • Greenhouse Gas emissions in the fields of Land Use, Land-Use Change, and Forestry (LULUCF) from deforestation (Gg CO_2eq). **Strategic Institutional Plan 2021-2024 MAATE** • Hectares of forest exploitation. • Hectares under restoration actions. • Percentage change in forest cover in areas under approved forest management programs. • Number of national education, training, and awareness projects. • Number of sustainable production and consumption projects, works and/or activities associated with Punto Verde.
Sustainable water management and efficient wastewater management		**Opportunity Creation Plan 2021-2025** • National territory under water resource preventive guarantees and protection mechanisms. • Potential technically feasible irrigation and drainage surface area. • National territory under integrated water resource management actions. **Strategic Institutional Plan 2021-2024 MAATE** • Number of declared water protection areas. • Number of Water Units under water quality improvement, conservation and/or protection actions. • Number of events promoting water governance in water basins. • Number of basins with water balance by applying hydrological modeling and future climate projections.
Sustainable agriculture		**Opportunity Creation Plan 2021-2025** • Coverage rate of technical parcel irrigation for small and medium-sized producers. • Agricultural productivity index.

Solid waste, prevention and control of pollution and efficient use of resources		**Opportunity Creation Plan 2021-2025** • Recovered residue or waste within the implementation framework of the extended producer responsibility policy.
Climate change adaptation		**Opportunity Creation Plan 2021-2025** • Risk Identification Index - Efficiency level of risk identification actions executed by the Decentralized National Risk Management System (SNDGR by its Spanish acronym) ranging from 76.36% to 84.00%. • Risk Identification Index - Efficiency level of disaster risk management actions executed by the Decentralized National Risk Management System (SNDGR by its Spanish acronym) ranging from 73.25% to 80.58%. **Strategic Institutional Plan 2021-2025 National Risk Management and Emergency Service** • Number of Central Government bodies that have received technical advice on defining and implementing risk reduction or climate change adaptation strategies. • Percentage of provincial or municipal Decentralized Autonomous Governments that have received technical advice on defining and implementing risk reduction or climate change adaptation strategies. • Number of Risk Management Community Committees established. • Number of people benefiting from Warning Systems in case of hazardous climate change-related events. **National Drought Plan** • The percentage of surface area lost to drought. • Percentage of financial losses due to drought. **Nationally Determined Contribution of Ecuador** • Number of infrastructure and/or activities which took Climate Risk studies into consideration for their implementation. • Generating and managing information and knowledge on climate change adaptation.

Climate change mitigation		**Nationally Determined Contribution of Ecuador** • Reduced tons of CO_2 equivalent per year or during a specified period.
Climate finance		**National Climate Finance Strategy** • Amount of funding mobilized for climate change issues. • Amount of funding needed for climate change issues.

4.3. Independent external audit

The Government of Ecuador, through the MEF, commits to make its best effort to hire an independent external auditor to ensure that the Allocation and Impact Reports are aligned with the Framework. This process must be conducted at least in the first annual report of each bond.

4.4. Second-Party Opinion

In alignment with international best practices for issuing Green Bonds, the Government of Ecuador, through the MEF, will seek to obtain a second-party opinion of this Framework from an external provider. In case any of the sections of the Green Bond Framework are modified in the future, the Government is committed to obtain a new second-party opinion to ensure the transparency of their issuances.

Annex I. Typology of interventions defined for public investment projects

CODE	TYPOLOGY	EXPLANATION	RELATED ACTIVITIES
T01	INFRASTRUCTURE	All processes aimed at acquiring, constructing, extending, maintaining, repairing, replacing, and restoring material assets which will allow for providing services related to; railways, bridges, dams, sewerage, housing, hospitals, educational centers, power and drinking water supply, etc.	ACQUISITION EXTENSION CONSERVATION CONSTRUCTION EXPLOITATION AUTHORIZATION IMPLEMENTATION IMPROVEMENT REPAIR REPLACEMENT RESTORATION
T02	EQUIPMENT	All processes aimed at providing equipment.	ACQUISITION EXTENSION EQUIPMENT INSTALLATION AUTHORIZATION IMPLEMENTATION IMPROVEMENT REPAIR REPLACEMENT RESTORATION
T03	SERVICES	All activities undertaken to meet the needs of the population. These include: literacy, training, feeding, forestation, recovery, etc.	LITERACY FEEDING APPLICATION TRAINING CONTROL DISSEMINATION ERADICATION FORESTATION MANAGEMENT NUTRITION PREVENTION PROTECTION RECOVERY SANITATION SUBSIDY TRANSFER VACCINATION

T04	RESEARCH	All processes which involve updating, analysis, gathering of information, basic research, pre-feasibility, feasibility, definitive (land registry, census, surveys, inventories), diagnosis, planning, follow-up, etc.	UPDATING ANALYSIS LAND REGISTRY CENSUS DIAGNOSIS EXPLORATION EXPLOITATION INVENTORY RESEARCH GATHERING PLANNING FOLLOW-UP
T05	INSTITUTIONAL INFRASTRUCTURE	All processes aimed at acquiring, constructing, extending, maintaining, repairing, replacing, and restoring material and physical assets which allow for conducting the institutional activities of the performing agency.	ACQUISITION EXTENSION CONSERVATION CONSTRUCTION EQUIPMENT EXPLOITATION AUTHORIZATION IMPLEMENTATION INSTALLATION IMPROVEMENT REPAIR REPLACEMENT RESTORATION
T06	INSTITUTIONAL STRENGTHENING	All processes for improving human and management capabilities aimed at maintaining and enhancing the development of institutional activities. It does not include infrastructure.	APPLICATION TRAINING CONTROL DISSEMINATION MANAGEMENT