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# Second Party Opinion

# Bogota Distrito Capital's Green, Social, And Sustainable Bond Framework

Oct. 11, 2024

Location: Colombia Sector: International Public Finance

# Alignment With Principles

Aligned = 🗸 Conceptually aligned = 🐧 Not aligned = 🗶

- ✓ Social Bond Principles, ICMA, 2023
- ✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✓ Sustainability Bond Guidelines ICMA, 2021

See Alignment Assessment for more detail.

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# Strengths

All eligible projects are in line with local standards such as Bogotá's Development Plan and Colombia's Green Taxonomy. These standards clarify the social and environmental benefits, eligibility criteria and thresholds for project eligibility, while providing additional certainty around risk mitigation.

# For certified new buildings, requirements exceed regional best practices. The $\,$

Framework requires these projects to generate annual energy savings of 30% compared to the regulatory baseline, which is stricter than the 10% threshold set by the Colombia's Green Taxonomy. In addition, the issuer includes measures that help mitigate embodied emissions from construction materials, which we view as a stronger practice.

# Weaknesses

Social categories have broad definitions, allowing for a wide array of projects to be considered as eligible. The lack of information on specific projects that will be considered under the Framework limits our view on positive impacts and potential risks.

# Areas to watch

For some environmental projects, we lack visibility on considerations to manage all material risks. In such cases, the eligibility criteria may not be sufficient for us to assess the entity's capabilities to fully address and mitigate potential adverse impacts. For example, on projects related to wastewater treatment, it is unclear how environmental safeguards will help mitigate pollution and biodiversity risks.

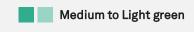
# Eligible Green Projects Assessment Summary

Eligible projects under Bogotá's green finance framework are assessed based on their environmental benefits and risks, using Shades of green methodology.

Clean transport
Urban public transportation without direct emissions
Urban public transportation with reduced CO2 emissions
Micro mobility
Infrastructure for transportation with emission reductions

Products adapted to the circular economy, production, technologies, and processes and/or certified ecoefficient products

Intercity transportation (freight and passengers)



Studies, design, construction, operation, maintenance, expansion of projects for sustainable waste management, and pollution control and prevention.

Design and implementation of training, education, research, and development programs for sustainable waste management, pollution control and prevention.

# Land use, conservation, and sustainable management of natural resources



Administration and management of protected areas, wetlands, mountainous ecological parks or other conservation and environmental management schemes of interest to Bogotá.

Design and implementation of economic incentive programs for rural environmental conservation.

Programs and projects for ecological restoration, rehabilitation, or recovery and tree planting in urban and/or rural areas.

Organic agriculture programs and projects at the urban level and productive units focused on farmers' markets and marketplaces.

Research, institutional capacity building and environmental education.

# Sustainable and integrated water and wastewater management



Medium to Light green

Aqueduct systems

Sanitary and combined sewer systems

Centralized wastewater treatment systems, including sewage and treatment network

Efficient use of water

# Green buildings



# Medium to Light green

New public buildings that have international certifications that demonstrate the percentage of savings against the baseline of the Sustainable Construction Resolution

Green Social Interest Housing (VIS) and Popular Interest Housing (VIP) projects

Renovation of public buildings

# **Energy efficiency**



Medium green

Efficiency measures in lighting systems

Professional services

Self-sufficient public lighting systems

See Analysis Of Eligible Projects for more detail.

# **Issuer Sustainability Context**

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

# **Issuer Description**

Bogotá is the capital of Colombia. It is in the central part of the country, on a high plateau known as the Bogotá Savanna in the Eastern Cordillera of the Andes mountains. According to the National Administrative Department of Statistics (DANE)'s 2018 census, the district has about 7.4 million inhabitants and is home to around 15% of Colombia's total population. Bogotá generated 26% of the country's GDP, with GDP per capita of US\$12,117 in 2022. Multidimensional poverty has slipped by 1.2% in 2020-2022, and informality economy accounts for 33.1%, compared with the country average of 55.7%. However, the city has a Gini coefficient of 0.528 (as of 2021), which is still considered to be a high level of inequality.

Unlike other districts in Colombia, Bogotá is under a special regime that allows it to determine its planning, urban development, mobility, and public services. Bogotá's metropolitan area is home to 26.5% of the companies operating in the country. The district's economy is largely based on commerce (25% of GDP), public administration and defense (15%), and real estate (13%). According to Colombia's Institute of Hydrology, Meteorology, and Environmental Studies (IDEAM), Bogotá has high sensitivity and low adaptative capacity for its geographic location and infrastructure needs. Moreover, Bogotá was the first large city in Latin America to declare a climate emergency, which triggered a series of actions to mitigate and adapt to climate change.

# Material Sustainability Factors

#### Climate transition risk

Policymakers have a key role in bringing about the drastic cuts in greenhouse gas (GHG) emissions needed to address climate change. While the breadth of signatories to the 2015 Paris Agreement provides a basis for global action, current climate pledges fall significantly short of the reductions needed to reach net zero by 2050. A lack of policies to support climate pledges exacerbates the challenge, making it likely that warming could exceed 1.5°C compared with pre-industrial levels in the near future. Indeed, current commitments are expected to result in a broadly constant level of global emissions of about 60 gigatons (Gt) of carbon dioxide-equivalent a year. As a result, warming is likely to exceed 3°C by the end of the century.

One of the primary challenges for Bogotá is to reduce GHG emissions by improving the quality of air, reducing soil pollution, and improving waste management. Bogotá is responsible for 4.4% of GHG emissions in Colombia, and the government has established a series of policies and actions to reduce its emissions by upgrading the public transportation fleet, conservation of green areas, and infrastructure retrofitting.

## Physical climate risk

Physical climate risks can affect many economic activities without adaptation measures. If GHG emissions increase unabated, this will drive more frequent and severe climate hazards. Although the physical impact of climate change and extreme weather events will continue to play out globally, climate hazards--including heat waves, flooding, and wildfires--typically have local impacts. The indirect impact of these events could ripple through different channels (such as the volume and pricing of traded goods and services), extend beyond borders, and cascade through sectors. Bogotá is the second-most exposed city in Colombia to climate change, according to the Vulnerability and Risk Analysis due to Climate Change in Colombia from the Third National Communication on Climate Change. Bogotá has experienced an increase in number of days with high maximum temperatures, as well as a significant precipitation reduction since 1971.

# Other environmental risks

Governments play a key role in protecting biodiversity and containing land, air, and water pollution. Economic development goals could exert considerable pressure on natural ecosystems, both locally and with trading partners. Environmental factors are often intertwined with other factors, such as climate transition and physical climate risks.

#### Social risks

Governments play a crucial role in ensuring the development of society and economy. Depending on national and local socioeconomic circumstances, governments can prioritize issues of economic advancement, poverty, hunger, or inequality reduction, access to essential services or infrastructure, access to clean water and sanitation, or other social goals.

As the capital of Colombia, Bogotá is a main economic and cultural center. However, it also has high inequality rates, which result in gaps in economic opportunities and in access to services and infrastructure. Likewise, Bogotá houses victims from the armed conflict that started in the 1960s, and the government is trying to address this issue by establishing reparation programs for the victims.

# **Issuer And Context Analysis**

The eligible green projects aim to address Bogotá's material sustainability factors and align with its District Development Plan and Colombia's strategy for the implementation of the Sustainable Development Goals (CONPES 3918). These projects include clean transportation, products adapted to the circular economy, green buildings, and energy efficiency, which the Colombian government also includes in its green Taxonomy and address climate transition risk. The Framework also incorporates projects on land use conservation and sustainable management of natural resources, sustainable and integrated water and wastewater management, which aim to provide a more resilient infrastructure to address physical climate risk and non-climate environmental risks.

Bogotá's District Development Plan sets the key axis of work for environmental and social projects to be carried out for the 2024-2027 period. This plan is in line with Colombia's National Development Plan and contributes to the United Nations' Sustainable Development Goals and Colombia's Nationally Determined Contributions (NDC), whose objectives are to reduce emissions in the country and take proper climate change adaptation and mitigation actions. The government has the challenge of continuing to be at the forefront of economic and environmental development in the country while addressing lingering social inequalities. In this context, the Framework's social categories include occupational training, education, access to healthcare, respect for human rights of vulnerable population, and others.

The projects under the Framework target some of the primary environmental risks in the district, such as GHG emissions and deficient infrastructure to mitigate and adapt to climate change. Bogotá has developed a Climate Action Policy that seeks to achieve carbon neutrality by 2050 by developing policies and actions to reduce emissions in key sectors. According to the IDEAM, GHG emissions in Bogotá are caused by fossil fuels for energy purposes (91%, including transport), agriculture and other types of land use (5%), waste (3%), and industrial processes (1%). Despite some hurdles, Bogotá has reduced emissions by 20% in just a few years. Eligible projects such as clean transportation, green buildings, energy efficiency will further promote the reduction of emissions in the federal district.

Due to its location, Bogotá faces high physical climate risk that is already materializing in more extreme weather events. Bogotá is exposed to extreme climate events such as the El Niño phenomenon, which has been aggravated by climate change. The district faces extreme drought risk, given that the Chingaza reservoir system, which provides 70% of water for Bogotá and its adjacent municipalities, reached its lowest levels in 2024 since it first started operating, resulting

in ongoing water rationing. Investments in infrastructure for water and wastewater management and ecosystem restoration can help provide more reliable water sources.

In addition to environmental projects, the district prioritizes social projects that will help reduce inequalities and allow vulnerable populations to exercise their rights. Eligible projects under the Framework aim to foster economic development in the district. More than 90% of Colombia's companies are considered as micro, small, or midsize enterprises (MSMEs), and these projects intend to strengthen the education and health system for infants and school-age children, who are particularly vulnerable across the country. We expect eligible projects to promote better conditions for Bogota's residents and help reduce inequalities in the district; there have already been modest improvements in the Gini coefficient resulting from the district's policies.

# **Alignment Assessment**

This section provides an analysis of the Framework's alignment to the Social and Green Bond principles and the Sustainability Bond Guidelines.

# Alignment With Principles

Aligned = 🗸

Conceptually aligned = O

Not aligned = X

- ✓ Social Bond Principles, ICMA, 2023
- ✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✓ Sustainability Bond Guidelines ICMA, 2021

# Use of proceeds

The city of Bogotá will allocate an amount equal to the proceeds raised under the Framework exclusively for eligible projects. We assess the Framework's all green project categories as having a green shade, and we consider all social project categories to be aligned. Please refer to the Analysis of Eligible Projects section for more information on our analysis of the environmental and social benefits of the expected use of the proceeds. The latter could be used to refinance investment or other eligible expenditures within a 36-month look-back period.

# ✓ Process for project evaluation and selection

The Framework outlines the process for selecting and approving eligible projects. Initially, green, and social technical committees, comprising of representatives from several district departments, will generate a portfolio of eligible expenses considering their environmental and social impact as well as their alignment with the Framework. The departments of finance and planning will generate a portfolio of eligible expenditures, considering Colombia's Green Taxonomy and the exclusion criteria set by the Framework. The exclusion ensures that no activities related to fossil fuels, ozone-depleting substances, banned pesticides, or other activities not in line with international treaties will be financed under the Framework.

# ✓ Management of proceeds

The district finance secretary is responsible for issuing the bonds under this Framework and will earmark the proceeds to exclusively finance eligible projects. The district finance secretary will be responsible for tracking eligible expenditures. If any projects to which funds were allocated become ineligible, the district finance secretary will shift expenditures to suitable eligible projects. In addition, eligible projects must be included in the Annual Investment Operation Plan, which we view positively since it aligns with the government's priorities and allows for transparency.

# ✓ Reporting

Bogotá commits to publish, on an annual basis, an allocation report on the secretary of finance website. This report will show the funds associated with each spending category, the amounts allocated to the refinancing of projects, and the balance of unallocated proceeds. The impact report will be published annually until the full allocation of the proceeds. This report will consider the targets of the District's Development Plan for the selected impact indicators. We also expect the issuer will refer to and adopt the guidance and reporting templates provided in the Harmonized Framework for Impact Reporting.

# **Analysis Of Eligible Projects**

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the "Analytical Approach: Shades Of Green Assessments," as well as our analysis of eligible projects considered to have clear social benefits and to address or mitigate a key social issue.

Bogotá is not in a position to share the expected allocation of the proceeds from its sustainable debt instruments, given the extensive list of green and social categories. The use of the proceeds will include expenses and investments for eligible projects during the three years following issuance of the financing.

# Green project categories

## Clean transportation

#### Assessment

Light green

# Description

Eligible expenses include financing and/or refinancing costs related to studies, design, construction, project operation, training, and implementation of programs:

- I. Urban public transportation without direct emissions, in the following types of investments:
  - a. New metro lines, and the expansion and renovation of the existing ones
  - b. Electric buses
  - c. Trams
  - d. Trains
- II. Urban public transportation with reduced CO2 emissions, for example:
  - a. Rapid transit buses, intermediate buses, or feeders
  - b. Light rail, metros, trams, trolleybuses, commuter, or suburban trains
  - c. Taxis, shared or rideshare systems.
- III. Micro mobility, including:
  - a. Zero-emission micro-mobility systems, such as a shared public system of bicycles, skateboards, and other types of vehicles weighing less than 350 kg, or cargo bicycles and tricycles for urban distribution of goods, fleet and passenger motorbikes for rural areas, etc.
  - b. Vehicles at a maximum speed (35 km/h urban, 45 km/h rural) or EV vehicles (250-1,000 watts / 500-750 watts).
- IV. Infrastructure for transportation with emission reductions in accordance with the provisions of paragraph II.
  - a) Infrastructure and equipment that is required for zero-emission direct transportation (e.g., electric charging points for vehicles, smart-grid upgrades) and that promote intermodality between low-carbon modes of transport (e.g., mobility hubs).
  - b) Services associated with the purchase, maintenance, recycling, and replacement of batteries for vehicles and the low-carbon transportation infrastructure.
  - c) Infrastructure and equipment for low-carbon micro-mobility (e.g. redistribution of the road profile to increase pedestrian areas and cycle lanes and micro-mobility systems in general; urban equipment for stations of shared public micro-mobility systems; consolidation points and urban distribution of last-mile goods in micro-mobility and cross-docking systems, etc.).
- V. Intercity transportation (cargo and passengers)
  - a. Any fleet of vehicles or rolling stock intended for intermunicipal transportation,

whether cargo or passengers, direct zero-emission road or hybrid vehicles are automatically eligible.

#### **Analytical considerations**

- Eligible projects are key to lowering the carbon emissions of the transportation sector. Transportation is the largest contributor (41%) to energy-related GHG emissions in Colombia. All eligible projects under the category are in line with Bogotá's Sustainable Mobility Master Plan 2023-2024, which aims to improve mobility while reducing GHG emissions and expand the transportation network.
- Electrification and the supporting infrastructure have a key role in decarbonizing the transportation sector and align with a low-carbon and climate-resilient future. We view electric vehicle (EV) and motorbikes and related infrastructure as aligned with a Dark green shade. Moreover, some expenditures under this category will be allocated to modernize and expand public transportation. Measures to improve accessibility to the transportation infrastructure and to increase the use of public transportation are part of the Intergovernmental Panel on Climate Change's (IPCC) decarbonization pathways. Nonetheless, the overall category receives a Light green shade, given that the Framework also includes other types of transportation such as hybrid vehicles, which we view supporting a near-term climate transition, but not fully aligned with a low-carbon and climate-resilient future.
- Colombia's central government and municipalities have implemented measures to improve infrastructure to promote the use of EVs, such as the electric vehicle law that aims to have at least five charging stations in all municipalities (except for Buenaventura and Tumaco). According to data from Electromaps, so far, the country has 218 charging stations, mostly located in larger cities like Bogotá (45 stations) and Medellín (30). Lack of infrastructure can undermine efforts to promote the EV use.
- Projects involving micro-mobility have clear environmental benefits and are in line with the country's efforts to create alternative
  mobility solutions including bike lanes, bike rental systems, and safe spaces for transit. Given the positive effects these projects
  have by incorporating electric and non-polluting solutions and the potential contribution they could have on reducing traffic
  within the cities, we consider them as having a Dark green shade.
- The criteria for urban public transportation includes taxis, shared vehicles, and rideshare systems, and is consistent with Colombia's Green Taxonomy, which considers hybrid vehicles as low-carbon transportation until 2025. Despite the emissions lock-in risk from the fossil-fuel use, we view this as consistent with a Light green shade, given the jurisdiction and the 2025 eligibility limit.

#### Products adapted to a circular economy, technologies, and processes and/or certified eco-efficient products

# Assessment

# Medium to Light green

# Description

Eligible expenses include financing and refinancing costs related to:

- Studies, design, construction, operation, maintenance, expansion of projects for sustainable waste management, and pollution control and prevention.
- Design and implementation of training, education, research, and development programs for sustainable waste management, pollution control and prevention.

# Waste

- I. Collection and separate transportation of non-hazardous waste in the fraction segregated at source.
- II. Anaerobic digestion of organic waste with methane capture or use, e.g. from municipal solid waste, ordinary industrial waste, and waste from agricultural activities.
- III. Composting of organic waste that is used as fertilizer, as a soil improver, or for other uses.
- IV. Use of non-hazardous waste material to produce suitable secondary raw materials to replace virgin materials in production processes.
- V. Production of energy from non-recyclable waste fractions (thermal treatments), provided that this activity is carried out from the non-recyclable fraction or waste disposal of material recovery or recovery centers, or in case there is no accessible infrastructure for recycling and there is a risk that the waste will generate social and

- environmental impacts, or when the activity supports the displacement of fossil fuels for energy production.
- VI. Capture and use of landfill gas once a landfill is permanently closed and receives no more waste.

#### **Analytical considerations**

- We believe governments play a key role in promoting sustainable and circular economy practices. Eligible projects under this category include research, training, and education which we view as a key step to better address environmental issues and better implement programs to mitigate them. In addition, these projects align with Bogotá's Plan for Integral Management of Solid Waste, established in 2005, which incorporates strategies to reduce, separate, and modernize waste management and citizenship participation.
- According to the Special Public Services Administrative Unit, 51% of waste generated among the capital's households is
  organic waste, resulting in more than 3,000 tons of waste. Projects related to the anaerobic digestion of waste, and
  composting projects can have positive impacts on the environment by repurposing waste, contributing to a circular economy,
  mitigating pollution, and displacing fossil fuels.
- Waste recovery projects are key pollution-prevention measures and mitigate harm to human health and local ecosystems. Recycling and reuse programs can reduce energy and natural resources use. They also help lower GHG emissions throughout the value chain, given that recycling avoids carbon emissions that usually result from the use of virgin materials to make new products, and emissions from waste in landfills.
- Waste management projects help avoid harm to human health and local ecosystems. Recycling and reuse programs can reduce GHG emissions and energy, as well as natural resource usage. They contribute to lower GHG emissions throughout the value chain--recycling avoids carbon emissions that usually result from the use of virgin materials to make new products, and emissions from landfilled waste.
- The development of landfill gas capture for energy generation from decommissioned landfills helps prevent harmful unabated methane emission during waste decomposition, while still generating carbon dioxide emission. However, limiting our view is the lack of environmental considerations for potential risks such as greenhouse gas emissions from the recycling process. Thus, we assign this project a shade of Light green.
- Projects related to thermal treatment of non-recyclable waste can have positive impacts related to the reduction of waste sent to landfills and recovering methane emissions that they could use as an energy source. In addition, the framework complies with eligibility criteria stated in the Colombian Green taxonomy that considers the activity to be eligible only under special conditions and when in complies with considerations such as its identification within solid waste management plans, and its use for displacement of fossil fuels for energy production, which we view positively. However, waste-to-energy projects are also energy intensive and will likely involve fossil fuel use throughout the value chain (i.e. transportation of waste over long distances). There is also a risk from local pollution from by-products like dioxins, which could be challenging to address, limiting our assessment to Light green.

# Land use, conservation, and sustainable management of natural resources

# Assessment

# Dark green

# Description

Eligible expenses include financing and/or refinancing costs related to:

- I. Administration and management of protected areas, wetlands, mountainous ecological parks or other conservation and environmental management schemes of interest to Bogotá; for example, through restoration, rehabilitation, and ecosystem connectivity actions, monitoring, evaluation, and follow-up.
- II. Design and implementation of economic incentive programs for rural environmental conservation, such as payment for ecosystem services and conservation agreements.
- III. Programs and projects for the restoration, rehabilitation or ecological recovery and tree planting in urban and/or rural areas; for example, through the planting and

- management of gardens in public spaces, maintenance of vegetation cover, information systems, monitoring, follow-up, and evaluation for the management of biodiversity, ecosystem services, urban trees, etc. Recovery, rehabilitation, or ecological restoration of protected areas and others of environmental interest.
- IV. Organic agriculture programs and projects at the urban level and productive units focused on farmers' markets and marketplaces.
- V. Research, institutional capacity building and environmental education e.g. for organic agriculture, ecological restoration, rehabilitation or recovery and tree planting in urban and/or rural areas.

#### **Analytical considerations**

- Colombia is the second most biodiverse country in the world, but 59% of its GHG emissions are generated by land use change. In this context, the sustainable management of land, including forested land, is a key piece for managing GHG emissions and adaptation to climate change. Equally, conservation of biodiversity, natural ecosystems, and habitats can have substantial cobenefits for climate-change mitigation and adaptation due to critical ecosystem services, including carbon sequestration, local climate regulation, soil stabilization, and storm surge protection. Therefore, eligible projects related to this scope receive a Dark green shade.
- In response to biodiversity challenges and its vulnerability to climate change, Colombia has worked to enhance its normative framework and public commitments, pioneering various initiatives in the region, including launching the first Green Taxonomy in Latin America. In line with national strategies, Bogotá's Territorial Planning, District Development Plan, Climate Action Policy, and Climate Emergency Declaration define preservation of protected areas, restoration, rehabilitation, recovery, and connectivity of ecosystems as a key mandate. In this sense, the financing of such projects, here assessed as having a Dark green shade, highlights Bogotá's role in strengthening execution capabilities that will be fundamental to achieving commitments locally but also nationally, such as the Net Zero Deforestation Rate by 2030.
- Bogotá aims to finance organic agriculture projects, in line with the Ministry of Agriculture and Rural Development's definition, presented in the Resolution 187/2006. In our view, although agriculture-related projects may generate positive outcomes for both mitigation and adaptation, these practices can also pose relevant risks in the form of water contamination, soil degradation, indirect land use change, and biodiversity loss. On the other hand, we note that as projects will be carried out in urban settings on a smaller scale, potentially adverse impacts to the environment will be reduced. Furthermore, local regulation establishes qualitative environmental safeguards, such as restrictions to the use of synthetic chemicals when natural alternatives are available, which along with the maintenance of long-term soil fertility, may mitigate, but not fully address, environmental risks. Therefore, we assess organic agriculture projects as having a Light green shade.
- Finally, we highlight that the presence of a project shaded as Light green did not represent a limitation to an overall Dark green assessment, given that the track record of allocation of the proceeds to organic agriculture projects in the District Development Plan shows limited representation.

#### Sustainable and integrated water and wastewater management

#### Assessment

# N

Medium to Light green

# Description

Projects related to studies, design, construction, operation, maintenance, expansion, and adaptation for the use, sanitation and efficient management of water and wastewater mainly focused on residential users, which includes the following investments:

- I. Aqueduct systems: New integral systems or improvements to existing systems of collection, adduction, treatment, storage, conduction, and distribution.
- II. Sanitary and combined sewer systems
- III. Centralized wastewater treatment systems (e.g. municipal and nucleated population centers), including the sewage and treatment network:
  - a. New wastewater treatment systems to replace GHG-intensive treatment systems, such as pit latrines, septic tanks, anaerobic lagoons, etc.
  - b. Existing systems that increase the capacity of the treated flow or the efficiency in the process of removing the pollutant load.

c. Urban drainage systems that retain 100% of runoff water in the urbanized area.

#### IV. Efficient use of water:

- a. Systems and technologies that reduce by at least 20% in annual water consumption among residential projects (e.g., aqueduct systems, building construction, and renovation.)
- Systems and technologies used for water reuse (such as closed-loop systems, e.g. the use of rainwater or gray water for gardens and plumbing systems).
- c. Water-free systems and technologies (e.g., sanitation, cooling, cooling systems, etc.) that reduce by at least 20% in annual water consumption.

## **Analytical considerations**

- Financing activities for the development, construction, operation, and maintenance of sustainable water and wastewater management projects, which can result in environmental benefits in terms of water consumption and water security and are necessary for the achievement of the 2050 Paris Agreement objectives. Urban drainage systems are shaded as Dark green due to their contribution to adaptation. In contrast, for sanitary and combined sewer systems, we still lack visibility on full mitigation of impacts related to biodiversity and pollution, which led to a Light green assessment. For the remaining projects, we see clear environmental benefits related to stricter emissions requirements and water savings, which add a Medium green component. Therefore, we have assigned an overall Medium to Light green shading interval due to the wide range of projects covered in the category.
- Essential services are covered by more than 95% in Bogota's urban areas, such as water and sewage services, but rural areas have a more significant gap. For sewage services, the coverage in these areas is of 16.4%, according to Bogotá's District Development Plan. Wastewater management and treatment in areas that currently release sewage into the environment are of great environmental significance from a pollution prevention and control perspective. Therefore, it is positive that projects financed are mostly focused on serving residential users and will enable the development of alternative infrastructure.
- The Framework excludes projects with fossil fuel-based activities. In addition, new wastewater treatment systems are subject to additional eligibility criteria, such as a monitoring plan to control methane leakage. Furthermore, they must apply resource recovery techniques, such as the use of biomethane as a fuel for vehicles or as feedstock in the chemical industry, and systems that use biogas burning are eligible only if they are part of a transition plan to other types of exploitation in less than three years, which we view as best practice. These stricter requirements reflect the Green Taxonomy's eligibility criteria.
- Water efficiency projects require a 20% reduction in annual water consumption, which is in line with regional practices. In addition, systems that use non-potable and recycled water are also eligible, which we view as positive, considering avoided impacts on freshwater systems.
- Furthermore, the Framework requires all expenditures to contribute to GHG emissions reductions, and that water treatment plants and pumping systems have their average carbon intensity capped at 100gC02/kWh over the infrastructure's lifecycle. However, no additional information was provided on how emissions will be tracked and managed on a project basis. We also lack visibility on the monitoring and mitigation of other environmental aspects, such as impacts to local hydrology and ecosystems, and those related to pollution, although we note projects must comply with local regulation.

# Green buildings

## **Assessment**

## Medium to Light green

## Description

Eligible expenses include financing and/or refinancing costs related to studies, design, construction, modernization, operation, and maintenance of buildings, including:

- I. New public buildings that have LEED, EDGE, Casa Colombia, HQE international certifications that demonstrate the percentage of savings against the baseline of the Sustainable Construction Resolution.
- II. The VIS and VIP projects.
- III. Renovation of public buildings.

#### **Analytical considerations**

- Green buildings support climate change mitigation by reducing GHG emissions through energy efficiency. Depending on the green building certification, they may also have other benefits such as reducing water consumption and waste management processes. According to the International Energy Agency's (IEA's) pathway to net zero, energy efficiency and electrification are the two main drivers of decarbonization in buildings. In new constructions and renovation projects, improving energy performance and reducing the embodied emissions associated with building materials are key to achieving low-carbon objectives. Physical climate risks are relevant considerations for new and existing buildings.
- The issuer includes certified new buildings and certifications listed are in line with the Colombian Green Taxonomy's eligibility criteria. We note that no minimum levels of certifications were set, although this is a common practice in the region. On the other hand, it is positive that the Framework requires annual energy savings of least 30% when compared to levels established by the Resolution 0549/2015, which we view as a relevant improvement to business-as-usual practices and more advanced than regional practices.
- In addition, the issuer has included considerations to mitigate embodied emissions of new public buildings by requiring that a minimum of 15% of all wood products used in new construction comes from recycling, reuse, or from sustainably managed forests accredited by the Forest Stewardship Council, Program for the Endorsement of Forest Certification, or equivalent standards. Although we acknowledge that this requirement only partially addresses embodied emissions concerns, knowledge and methodologies regarding embodied emissions are still evolving, especially in the region. Therefore, we assess these projects as Medium green.
- For new construction of social housing projects, the framework requires 20% annual energy savings compared to the baseline set by the Resolution 0549/2015. In our view, this represents local best practice, especially given its alignment to the Green Taxonomy, and is in line with thresholds used in the region. Given the lack of clear considerations on mitigants for embodied emissions and the impacts generated by new construction, we assess this project as Light green.
- We also view favorably that Bogotá has established an eligibility criterion for existing buildings of at least 30% energy reduction, which is stricter than regional practices. Furthermore, projects that are limited to retrofitting of existing buildings have embodied emissions as a less material environmental factor and constitute a Medium Green aspect within the project category.
- Buildings are generally highly exposed to physical climate risks. Colombia faces natural disaster risks such as earthquakes, floods, landslides, and volcanic eruptions. The Framework does not specify considerations in place to mitigate physical climate risks and the resilience of this project category. However, Bogotá has conducted its own climate risk assessment through the analysis of temperature increase and rainfall regimes both for rural and urban areas. This study was carried out as a strategic tool to Bogotá's Climate Action Policy.
- For all projects listed under this category, the Framework follows Colombia's Green Taxonomy by stating that buildings must not be used for the extraction, storage, transportation, or manufacture of fossil fuels and that the energy or the operation of buildings must not come directly from fossil fuels, which we view positively.

# **Energy efficiency**

#### **Assessment**

Medium green

# Description

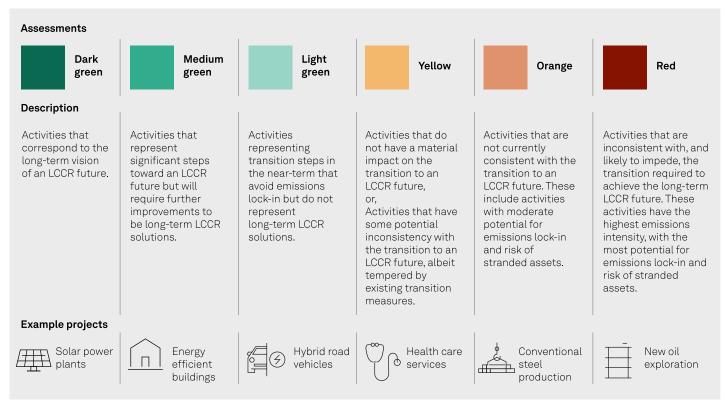
Eligible expenses include financing and refinancing costs related to projects and programs dedicated to energy efficiency improvements, including:

- I. Efficiency measures in lighting systems, such as installation of LED lighting devices and systems, air conditioning and pumping; thermal insulation, hydraulic devices, elevators, and energy management systems.
- II. Professional services:
  - a. Technical consultations (energy consultants, energy simulation, project management, issuance of Energy Performance Certificates, specialized training, etc.) linked to the individual measures mentioned above.
  - b. Accredited energy audits and building performance assessments.
  - c. Energy management services and contracts, including services provided by energy service companies.

III. Self-sufficient public lighting systems that avoid the construction of energy transmission networks.

- Energy efficiency is key to limiting warming to below 2°C. Increasing energy efficiency by adopting new technologies is one of the main measures described by the Colombian government in its NDC. We believe these projects will help the city of Bogotá to contribute to these goals.
- Energy efficiency offers cost-effective actions to reduce the sovereign's GHG emissions, according to the IEA's last annual report on global developments in energy efficiency. The IEA 2021 report underscores the significance of the Net Zero Emissions by 2050 Scenario, projecting a 35% improvement (reduction) in the global economy's energy intensity by 2030. This substantial enhancement, equivalent to an annual improvement of 4%, is driven not only by energy efficiency measures but also by complementary actions such as electrification and behavioral change.
- We believe the government's role in offering professional services to certify, make audits, and provide consulting services will be
  key to establish local standards and resources to improve energy efficiency in private and public sectors. This will help
  contribute to Bogotá and Colombia's GHG reduction targets.
- The Framework establishes a threshold for efficiency between 10% and 30% (10% being the national goal and 30% considered as the greatest cost-benefit) for eligible projects. While we consider efficiencies are an important driver of decarbonization, the range limits our ability to assess the impact beyond business-as-usual practices. We assess this project category as Medium green.
- Given the nature of the projects and their small scale, the potential for physical climate risk for this category should be less material.

# S&P Global Ratings' Shades of Green



Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

# Social project categories

## Job creation and programs aimed at preventing and/or alleviating unemployment

Eligible expenses include financing and/or refinancing costs related to:

- Articulation of the entrepreneurial ecosystem and the science, technology, and innovation ecosystem.
- Promotion of digital marketing, the creation of new business models. and the strengthening of creative districts; for
  example, projects and programs that implement creative industries such as design, technology, arts and culture,
  promoting innovation and local economic development.
- Acceleration, sophistication and innovation programs to trigger job creation and entrepreneurship.
- Activities that promote and preserve employment and the business fabric, particularly MSMEs, and that promote sustainable tourism.
- Financing and funding mechanisms for financial growth vehicles for entrepreneurship and MSMEs.
- Urban and peri-urban ecological agriculture programs and projects or, for example, programs and projects that strengthen the actors of the District Food Supply System.
- New competencies, bilingualism and/or skills for work with special emphasis on the vulnerable population in urban and rural areas.

#### **Analytical considerations**

- All eligible social projects under the Framework aim to benefit vulnerable populations in accordance with the Law 1753 of 2015. This law defines a vulnerable population as one whose members are in a situation of social and economic risk or exclusion, and who require priority attention from the state. This definition includes groups such as: children and adolescents in situations of poverty, abandonment, violence, labor or sexual exploitation, among others; people with disabilities, chronic diseases, mental illnesses and addictions; elderly people in situations of abandonment or social vulnerability; ethnic groups and the Afrodescendant population in situations of discrimination and exclusion; victims of the armed conflict and forced displacement; female victims of gender violence and their children.
- Projects aimed at creating jobs and alleviating unemployment are important to address a material social challenge faced by Colombia. According to data from the Organization for Economic Cooperation and Development (OECD) for April 2024, while OECD countries' average unemployment rate was 4.9%, Colombia's was 10.3%, one of the highest among OECD members. Therefore, projects that support vulnerable population in the access to skills that favor employment opportunities will enable closing this gap.
- Due to the scope of projects in this category, the issuer has included MSMEs as a category-specific target. These enterprises currently generate 79% of total jobs and 53% of formal employment in Colombia, according to the National Administrative Department of Statistics (DANE). Under the Framework, MSMEs are classified based on thresholds for number of employees, annual gross sales, and total asset value, following local regulation (Laws 905/2004 and 1450/2011, and the Decree 957/2019) and in line with the Ministry of Trade, Industry and Tourism, which we view favorably.
- The financing of MSMEs can play an important role in strengthening their capabilities to generate jobs and address informality. However, in 2023, the creation of micro, small-, and medium-sized enterprises in the country has decreased by 1.4%, 31%, and 25%, respectively, according to the Colombian Confederation of Chambers of Commerce. To help address this social gap, Bogotá's District Development Plan includes initiatives, such as the implementation of an Entrepreneurship Support District System to provide technical, technological, and financial assistance for people starting a business, as well as the promotion of creative districts to foster innovation. We view as positive the connection of eligible projects with Bogotá's strategic plans.

## Empowerment, equity and socio-economic advancement

Eligible expenses include financing and/or refinancing costs related to:

- Projects and programs to guarantee the human rights of all women and empower them in the exercise of such rights, strengthening capacities and skills for entrepreneurship, employability for women's economic autonomy, attention to all types of violence, and the protection of female victims of violence and their access to justice.
- Projects and programs to guarantee human rights and the exercise of freedoms by all persons living in or transiting Bogotá, preventing exclusion based on ethnic, religious, social, political origin or sexual orientation, and to assist the population from mixed migratory flows.

- Programs and projects to strengthen and consolidate the District Care System.
- Programs and projects to guarantee a minimum income per household, which reduces the weight of factors that affect
  the equity of household income.
- Projects and programs to reduce monetary and multidimensional poverty rates in order to guarantee equal opportunities for social, productive, and political inclusion.
- Programs and projects for the training, education, work, health, well-being, autonomy and income required by vulnerable
  groups to exercise their freedoms, maximize their talent, and exercise their individual autonomy, and enhance their
  collective action in the community, particularly for female-led households, young people in general, and Afro-descendant
  and indigenous peoples, citizens who survive in conditions of extreme poverty, disability, discrimination or exclusion.

# **Analytical considerations**

- We note that the general definition of vulnerable population is valid to all social categories, in line with the System of Potential Beneficiaries of Social Programs (SISBEN) and the Law 1753 of 2015. Category-specific definitions are presented below.
- Bogotá has a Public Policy for Women and Gender Equality, which has fostered the institutional and normative recognition of women's rights and, in its most recent update, has set an action plan with identified indicators, resources, and responsible entities. The policy also connects to gender-related objectives set under Bogotá's District Development Plan, folded into strategic programs, such as the District Care Plan, which develops a set of mechanisms to recognize, redistribute, and reduce unpaid work related to care, and those related to fighting female poverty. For example, the latest official data (2017) shows that there were 124 women in extreme poverty for each 100 men in the same condition. Projects financed under this Framework are intended to support the execution of similar programs; therefore, tackling relevant gender gaps.
- The issuer has also developed an institutional Approach to Human Rights, considered Bogotá's main framework to define historically excluded and marginalized groups, with an intersectional approach, to assist the administration in promoting strategic decisions related to human rights. The document's formal definitions are integrated to Bogotá's District Development Plan, which connects to human rights projects mentioned under this project category. Among these groups, interconnected social gaps persist. For example, only 8.8% of people with disabilities have the opportunity to achieve higher education in Bogotá, according to official data. Therefore, we view positively that the Framework helps address these challenges by supporting official initiatives that fight exclusion, promote education, autonomy, and labor opportunities.
- Projects aimed at ensuring a minimum income per household also align with Bogotá's strategy to offer economic support to
  vulnerable households in the municipality, directly reducing its monetary poverty indices, defined by the DANE. To access this
  program, the main requirement for applicants is to be classified as levels A and B in the SISBEN. This was a key measure to
  mitigate the pandemic's social implications, helping to reduce monetary poverty from 40.1% in 2020 to 28.1% in 2022. Still,
  population in extreme poverty, meaning those who are not able to cover basic food needs, represents 8.1% of inhabitants of
  the city, with women being the most affected.

# Affordable basic infrastructure

Eligible expenses include financing and/or refinancing costs related to:

- Programs and projects that improve the conditions and quality of urban, regional, and rural public transportation, including
  improvement of infrastructure, interoperability, reliability of service and transportation supply, for example, includes
  public transportation that provides social services to vulnerable groups that do not own private vehicles, to ensure access
  to basic social services (health, education, and employment).
- Programs and projects focused on providing safer and more efficient spaces for the daily movement of children in Bogotá, strengthening citizen awareness about the mobility system, and road safety conditions. For example, the creation and improvement of parks, recreational areas, and safe school routes, installation of traffic signs and security cameras. These initiatives seek to reduce the risks of accidents and promote a healthier and safer environment for children.
- Programs and projects to build and conserve public space in the urban and rural areas of Bogotá to improve accessibility and promote job creation.
- Programs and projects that carry out interventions so that urban and rural environments generate well-being and allow
  the adequate development of the potential of inhabitants; for example, to reduce territorial inequities and imbalances.

- Projects under this category aim to improve infrastructure for public transportation, which we view positively since it aims to improve service conditions for its users, improving their quality of life, and offer better access to education, employment, and recreation. According to the Social Integration Office's survey--as part of the Sustainable Mobility Plan for 2023-2024-61% of transportation in the city is done through public transportation with most of the trips ranging from 60 to 120 minutes.
- Data from the office of the ombudsman for September 2023 revealed a lack of access for vulnerable population such as pregnant women, elderly people, and people with disabilities. Thirty one percent of Transmilenio's bus service stations lack special access for this population and 45% of verified vehicles lack special seating. In addition, 41% of buses lack proper signaling, and 85% of stations have damaged doors. We believe eligible projects will help improve the public transportation infrastructure, providing safer conditions and greater access for its users.
- Eligible projects aim to address safety issues in public spaces such as parks, along with road safety, which we view as material given the importance of public transportation for the development of economic and social activities in Bogotá. We believe these projects will help create safer spaces for people in Bogotá and promote the use of public spaces and various means of transportation.

Projects related to interventions on urban and rural environment to address housing deficit, which has negative effects on people such as impacts to their mental and physical health, higher vulnerability to violence, lack of access to essential services and potential impacts to educational performance. The proceeds will aid in the development and implementation of the government's social programs, which we view as positive, since it provides more clarity on the issue to be address and eligibility criteria.

#### Access to education, health, housing, and other essential services

Eligible expenses include financing and/or refinancing costs relating to:

- Programs and projects to increase the quality and supply of public education, reduce gaps in inequity, access and
  permanence that exist in the education system, produce pedagogical transformations, as well as train and develop
  reading, writing, and oral skills.
- Development of actions and processes for assistance, care, comprehensive reparation, and participation for the victims of the armed conflict; the social appropriation of memory for peace and reconciliation.
- Programs and projects for sustainable urban revitalization, cultural appreciation and appropriation, recovery, and conservation of public space.
- Programs and projects to improve the health system, promote healthier lifestyles, such as increasing physical activity and sports among citizens in order to help prevent chronic non-communicable and mental diseases and the appropriation of public space, reduce maternal mortality, and promote the integral development of children.
- Programs and projects aimed at reducing housing precariousness and informality in urban and rural areas, as well as facilitating the acquisition of--and access to--housing in its different forms.
- Programs and projects aimed at reducing the gaps in public service provision such as drinking water, sanitation, electricity, education, health, and internet connectivity among the vulnerable population; for example, the government's program "Servicios públicos inclusivos y sostenibles".

- As with other social project categories, the proceeds will aid in the development and implementation of some government's social programs, which we view as positive, since it provides more clarity on the issue to be addressed and eligibility criteria. In addition, the Framework states that data from the SISBEN will be used to classify, define, and select target populations.
- Projects under the category aim to construct schools and health centers, as well as improving the conditions of existing ones. Moreover, eligible projects will be part of broader social programs. Bogota's District Development Plan aims to increase the access to integral services among children between the ages of 0 and 5.
- According to data from the Single Registry of Victims (Registro Único de Victimas de la Unidad para las Victimas), there were more than 9 million victims from the armed conflict in Colombia, with 3.9% of these victims living in Bogotá. Projects aim to make reparations to the victims and make them participants in efforts to preserve the memory of the conflict and build peace projects. The Colombian government considers five measures to make reparations for this group: restitution (land or house restitution), economic compensation, rehabilitation (medical, psychological, legal, and social integration support), satisfaction

(recognize the damage and history of facts), and no repetition guarantees (the state's commitment against human rights violations).

## Disaster risk reduction

Eligible expenses include financing and/or refinancing costs relating to:

- Programs and projects aimed at protecting the housing environment in high-risk areas or in context of natural hazards.
- Programs and projects to reduce the risk, damage, or loss of life, by promoting the environment, property, infrastructure and public or private heritage in general in the city of Bogotá.

- Colombia is vulnerable to climate change effects. S&P's scenario analysis shows that 98% of the country's GDP is exposed to pluvial flooding and the entire population is exposed to extreme heat. On the other hand, Colombia's readiness, which means the ability to avoid, respond to, and recover from physical climate risks is assessed as level 4 (on a 1 to 6 scale, where 6 denotes the lowest capacity to adapt).
- All these factors pose significant social risks to the country's residents, especially in high-risk areas, where the targeted vulnerable population normally resides. Therefore, projects that aim to mitigate such risks, reduce corresponding effects, and increase resilience to natural hazards are priorities for the country and generate clear social benefits.
- In our view, it is positive that the issuer has set clear processes to identify and prioritize high-risk areas. Vulnerability studies that consider factors such as geology, topography, and the past occurrences of natural events are carried out to map areas to be prioritized for the implementation of mitigation and fast response measures. These areas are also included in Bogotá's Financial Protection Strategy Against Disaster Risk.
- We highlight that Bogotá's Climate Risk Assessment identifies that, by 2040, temperatures will increase by 0.25°C and 0.65°C in rural and urban areas, respectively. In this sense, it is positive that projects show convergence to Bogotá's Territorial Planning, which has the long-term objective of increasing territorial resilience capacity to climate-related disasters, and to the overarching Climate Change and Risk Management District Plan 2015-2050.

# Mapping To The U.N.'s Sustainable Development Goals

Where the Financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the Financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not impact our alignment opinion.

This framework intends to contribute to the following SDGs:

## Use of proceeds

#### **SDGs**

Clean Transportation





able

11. Sustainable cities and communities\*

13. Climate action

Products adapted to a circular economy, technologies and processes and/or certified ecoefficient products







3. Good health and well-being

11. Sustainable cities and communities\*

12. Responsible consumption and production\*

Land use, conservation, and sustainable management of natural resources









11. Sustainable cities and communities\*

12. Responsible consumption and production\*

13. Climate action

15. Life on land\*

Sustainable and integrated water and wastewater management



6. Clean water and sanitation\*



12. Responsible consumption and production\*

Green Buildings



9. Industry, innovation and infrastructure



11. Sustainable cities and communities\*



13. Climate action

Energy efficiency



7. Affordable and clean energy\*

Job creation and programs aimed at preventing and/or alleviating unemployment



1. No poverty



2. Zero hunger



8. Decent work and economic growth\*



9. Industry, innovation and infrastructure\*



10. Reduced inequalities



11. Sustainable cities and communities

Empowerment, equity and socioeconomic advancement



1. No poverty\*



2. Zero hunger\*



3. Good health and well-being



5. Gender equality\*



8. Decent work and economic growth\*



9. Industry, innovation and infrastructure



10. Reduced inequalities\*



16. Peace, justice and strong institutions\*

Affordable basic infrastructure



3. Good health and well-being\*



9. Industry, innovation and infrastructure\*



11. Sustainable cities and communities\*

Access to education, health, housing, and other essential services



1. No poverty\*



2. Zero hunger\*



4. Quality education\*



8. Decent work and economic growth\*



9. Industry, innovation and infrastructure\*



11. Sustainable cities and communities

Disaster risk reduction



11. Sustainable cities and communities



13. Climate action

<sup>\*</sup>The eligible project categories link to these SDGs in the ICMA mapping.

## Related Research

- Analytical Approach: Second Party Opinions: Use of Proceeds, July 27, 2023
- FAQ: Applying Our Integrated Analytical Approach for Use-of-Proceeds Second Party Opinions, July 27, 2023
- Analytical Approach: Shades of Green Assessments, July 27, 2023
- Lost GDP: Potential Impacts Of Physical Climate Risk, Nov. 27, 2023

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