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## Second Party Opinion

# Concessionária de Saneamento do Amapá S.A.'s R\$955 Million Green Debentures

Oct. 27, 2023

**Location:** Brazil

**Sector:** Water and wastewater utility

## Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

See [Alignment Assessment](#) for more detail.

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**Medium green**

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our [Shades of Green Analytical Approach](#) >

## Strengths

**CSA will gradually increase sewage treatment in a biodiverse region.** The treatment of sewage currently discharged into the environment in the state of Amapá, where part of the Amazon rainforest is located, could benefit the rainforest by reducing excess nutrients in the water.

**Almost all of CSA's existing water and wastewater systems currently run on renewables.** CSA commits to maintain a 95% renewable electricity mix as it expands its network over the coming years.

**CSA's new water systems will use less environmentally impactful surface intakes** by installing floating structures in rivers. It has no plans to construct high environmental impact reservoirs and/or dams.

**The concession also entails social benefits,** such as community health and well-being from the safe treatment of water and sewage.

## Weaknesses

**CSA's physical climate risk identification is in its infancy.** There is no evidence of the use of medium- or long-term climate scenarios to inform the company's adaptation plans. We consider this a vulnerability, especially given the current situation in Amapá, where the state is experiencing its longest drought period since 1980. Out of the sixteen municipalities where CSA operates, only one had its water supply affected by the extended drought. In our opinion, such acute climate events should not materially affect the company given that 84% of CSA's treated water system is served by the Amazon River (the world's largest hydrographic network) and considering the presence of the Alter do Chão and Barreiras aquifers. As a coastal state, Amapá is also exposed to rising salinity from potential seawater intrusion due to rising sea levels.

## Areas to watch

**Emissions and pollution are associated with equipment sourcing and installation.**

According to the issuer, it will aim to incorporate best market practices in supplier sustainability screening. Nevertheless, the company has no public commitment on the matter.

**The company has yet to define methane emission controls for its existing and future wastewater treatment plants.** CSA is

contractually obliged to gradually expand sewage treatment services until it reaches 90% of the state's population. There is no methane or nitrous oxide control for the existing system. In the future, the company expects to develop solutions to transform the sludge treated by the facility into biofertilizers. Methane control measures are currently undergoing feasibility studies, but the company has yet to confirm the most probable solution.

## Eligible Green Projects Assessment Summary

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

**Sustainable water and wastewater management**



**Medium to Light green**

Expansion and improvements in the water supply and sanitation system of Macapá, Brazil (capital of the state of Amapá) and payment of the concession fee related to the contract for the regionalized provision of public water supply and sanitation services in the 16 municipalities of the state.

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.

### Company Description

Concessionária de Saneamento do Amapá SPE S.A. (CSA) is a wholly-owned water and wastewater utility subsidiary of the integrated utility group Equatorial Energia S.A. (Equatorial; brAAA/Stable/--). The group mostly operates in the energy sector in distribution, generation, transmission, and energy commercialization.

In September 2021, Equatorial and SAM Ambiental e Engenharia, presented the winning bid of R\$930 million to acquire the 35-year concession to operate the water and sewage treatment services in the state of Amapá, in northern Brazil. The consortium, in which Equatorial holds an 80% stake, began operating in December 2021 on an assisted basis, while the official transfer of operations to Equatorial happened in July 2022. This is the first wastewater and water treatment operation owned by Equatorial. The Regulatory Agency for Delegated Public Services of the State of Amapá is responsible for overseeing the implementation of the investment plan (developed by BNDES at the time of the auction) that will be executed by CSA in accordance with the concession contract.

### Material Sustainability Factors

#### Water

Water, stormwater, and wastewater utilities face various water supply and quality challenges depending on their location and role in the water lifecycle. Water supply and quality issues may result from multiple factors, including infrastructure quality and resulting water lost during extraction and transportation. Other factors could stem from acute physical climate events such as droughts and floods, chronic physical climate risks (e.g., sea level rise and changing precipitation patterns), or degradation of the watershed near extraction points due to human intervention or climate change. While wastewater treatment can serve as a valuable source of treated water for specific end markets, the process may introduce potential downstream impacts on ecosystems and communities depending on the process efficiency, infrastructure capacity, and ultimately the quality of the treated water. Also, the potential overflow of untreated sewage and stormwater into water bodies used as water extraction points can also be an issue for both operator and ultimately, customers. Furthermore, operators may encounter escalating stakeholder conflicts driven by competing demands for limited water resources, such as agriculture, efforts to preserve ecosystems, power generation, and other industrial water users.

#### Pollution

Globally, high quantities of untreated wastewater are released into the environment where they can contaminate bodies of water, making pollution a material stakeholder concern for water utilities. They also manage pollution from agricultural runoff and industrial discharge in water basins. Contaminated water and poor sanitation systems in turn contribute to long-term health conditions, and these customer health and safety events can, when severe, undermine public trust.

#### Access And Affordability

Access to safe water and sanitation is broadly considered a human right, and universal access is one of the UN Sustainable Development Goals. Water is an essential service supporting human health and well-being and global economic development. Service disruptions or steep price increases may be exacerbated by the new regulatory requirements, the energy transition, and the physical aspects of climate change. Additionally, for water utilities, pollution in source water can affect the availability and useability of supply. That said, the industry's reliability remains high, and we expect this to continue given that water utilities use long-term integrated resource planning, which accounts for many of these risks. Customer affordability is key stakeholder

concern, as utility bills can affect households' purchasing power and the competitive strengths of local industries. In some jurisdictions, we see mechanisms to mitigate affordability concerns, with assistance programs such as tariff subsidies.

## Physical Climate Risks

Water, stormwater, and wastewater utilities operate fixed assets that span large service territories, making them highly exposed to physical climate risks. Acute events such as extended drought periods can put a strain on water supply. Meanwhile, floods can damage water and wastewater pipelines and other infrastructure, causing network service disruptions for large populations. Flooding can also result in water contamination which increases water treatment costs. Utilities also face chronic physical climate risks, such as sea-level rise and changing precipitation patterns, which may require significant investment to maintain sufficient water quantity and quality for the customer base. For example, in the Brazilian state of Amapá, a primary concern for water supply is the rising salinity wedge (the incursion of seawater into freshwater), which could render some water extraction areas unsuitable for current treatment methods.

## Impact On Communities

Community impacts are acute for stakeholders given how close networks are to where people live and work and that energy and water services are essential for community health and well-being globally. Moreover, service disruptions, fires, inadequate or contaminated drinking water, and untreated wastewater pose severe, and sometimes irreversible, community health and safety hazards. Water utilities also manage shared water resources where drought conditions can introduce tough trade-offs among community stakeholders and wastewater treatment plants, which release unpleasant odors and are often located in disadvantaged communities.

## Issuer And Context Analysis

**The concession is for a pure play water and wastewater services provider with performance requirements to expand service coverage.** CSA was created in late 2021 to take over the water and wastewater system of the state of Amapá, which was previously operated by the State. With the proceeds from the issuance, CSA will refinance the original local bond issuance to pay the grant fee for the auction for the concession rights and finance capital expenditures (capex) to expand and improve the water supply and sanitation system of Macapá (the most populous city of the state). This could strengthen the company's capital structure by smoothing its debt maturity profile and allow CSA to carry out the mandated investments in water and wastewater utility services.

**The financing directly relates to water and pollution management--two of the company's most material sustainability factors.** Under the concession contract, the company must invest an estimated amount of R\$3 billion over the course of the 35-year concession, aiming to achieve universal water services for the entire urban population of the state by 2033, and sewage services by 2039. For example, in Macapá, the company aims to achieve 100% water treatment and 70% sewage treatment by 2030, and then 90% coverage for the latter by 2039. The scope of the concession is investments in urban areas. In 2022, coverage was 40.6% for water treatment and 7% for sewage for the state of Amapá's population of about 800,000. CSA is obligated by the concession contract to decrease the water loss in the existing treated water system to 30% by 2030 from 70%. In addition, out of the 16 assets incorporated by CSA from the state-owned water utility, only two have obtained their environmental license. As part of the concession contract, the company must complete all necessary steps for having the environmental license of the asset approved by the regulator by 2024, which may involve environmental compensation (i.e., reforestation) related to existing asset construction. New assets will obtain their licenses before commencing operations.

**The tariff established in CSA's concession contract has a 20% discount on the reference rate for all customers and will be adjusted annually by inflation.** The concession contract includes a mandatory social tariff that CSA applies for low-income customers. CSA's customer engagement practices frequently involve the regularization of first-time customers, as several municipalities

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served contain irregular housing conditions. Since CSA took over the operations from the State, it has started installing water meters for connections, and already installed more than 30,000 water meters for customers who hadn't yet been metered.

Through advertising campaigns aimed at the broader community and active engagement with community leaders, schools, and universities, the company has sought to increase public awareness regarding the transformations in service quality for the sanitation sector of the state of Amapá that justify alterations in the billing system framework. We note that under the concession contract, the company is also obliged to report on quality-of-service (i.e. client satisfaction and efficiency in repair) metrics.

**CSA has maintained an active and open dialogue with the communities that will be connected to water and sewage treatment networks.** While the change in ownership could potentially cause community concerns, in our view, CSA shows adequate community relations. Regarding the pollution impact near the communities resulting from the implementation of UASB reactors (biological sewage treatment based on the anaerobic decomposition of organic matter), the company notes that it plans to repurpose the biogas, a by-product of the treatment, as fuel in power generators. However, we note that this is still subject to feasibility studies.

**The company is yet to conduct comprehensive climate scenario analysis on its portfolio and new projects.** This is despite physical climate risk being a key consideration considering the current context in Amapá, which is experiencing its longest drought since 1980.

# Alignment Assessment

This section provides an analysis of the framework's alignment to Green Bond principles.

## Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

### ✓ Use of proceeds

The transaction's green project category is shaded in green and therefore considered aligned. The issuer commits to allocate the net proceeds issued under the transaction exclusively to an eligible green project. 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 proceeds.

CSA will use the net proceeds to refinance the original local bond issuance that was issued in December 2021 and finance capex related to expanding and improving the water supply and sanitation system of Macapá. This approach aligns with the market practice of a 24-month look-back period for the use of proceeds.

### ✓ Process for project evaluation and selection

The transaction's scope is limited to the refinancing of the original local bond issuance that funded the grant fee paid to acquire concession rights to operate the water and wastewater utility services of the state of Amapá, and financing capex to expand and improve Macapá's water supply and sanitation system. The transaction clearly defines how the concession fits within the eligible project category. Moreover, the concession contract specifies the processes CSA must have in place to ensure that environmental and social risks associated with its projects are identified and managed.

### ✓ Management of proceeds

CSA has a process in place in which the trustee will track the full payment of CSA's existing local bond issuance. The trustee is also responsible for anticipated debt repayment clauses if the company does not comply with the defined allocation. The transaction document also states that the temporary allocation of the net proceeds will be managed in accordance with CSA's investment policy, which is restricted to treasury bonds and time deposits from banks.

### ✓ Reporting

CSA commits to provide an annual report on the allocation of funds and environmental impact on its operation of the water supply and sanitation services until full allocation. The publication of the first report will be done within the 24 months following the issuance date. Furthermore, the concession agreement specifies some environmental performance metrics that CSA will report on.

## Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the Shades of Green methodology.

The company commits to allocate the net proceeds of its local bond issuance to refinance the original local bond issuance that was used to pay the auction's grant fee for the rights to operate the water and wastewater utility services in the state of Amapá and finance capex related to expanding and improving Macapá's water supply and sanitation system. Therefore, the full proceeds will be allocated to sustainable water and wastewater management.

The concession (eligible project) includes assets that commenced operations or were placed-in-service prior to the green debentures issuance. The network extension of the water and sewage system in the state of Amapá totaled 1,074 kilometers (km) for water and 119 km for sewage in 2022. Almost all (95%) of the water and wastewater system runs on renewables.

The transaction does not include an exclusion criterion. Capex may include the acquisition of chemicals--production of which carries high environmental risks--for water treatment. However, these chemicals are an essential part of the water treatment process.

**Medium green**

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our [Shades of Green Analytical Approach](#) >

### Overall Shades of Green assessment

Based on the project categories detailed below, the expected allocation of proceeds, and considering the environmental benefit that will be provided by the treatment of a relevant amount of sewage that is currently discharged into the environment (which we expect to relate to about 70% of the capital expenditures of the concession), we assess the transaction as Medium green.

### Green project categories

#### Sustainable water and wastewater management

##### Assessment

 **Medium to Light green**

##### Description

The project aims to expand the urban coverage of water supply and sanitation, reduce losses in distribution, and improve the regularity of water supply in Macapá, Amapá, benefiting 522,357 residents of the municipality. It also seeks to make the concession fee payment for the regionalized provision of public water supply and sanitation services in the 16 municipalities of the state of Amapá, covering 753,000 inhabitants.

### Analytical considerations

- 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. Untreated sewage contributes to excess nutrients in water streams, which, in turn, can result in the loss of biodiversity and have detrimental effects on an ecosystem. By the end of 2039, CSA is obligated to achieve a sewage treatment rate of 90% for the state of Amapá, which is projected to have a population over one million people by then. This translates in a substantial increase compared to the current reach of the concession. The rate of sewage treatment coverage increase will vary by municipality.
- CSA's physical climate risk identification is in its infancy. We see no evidence of the use of medium- or long-term climate scenarios to inform the company's adaptation plans. We consider this a significant vulnerability, especially given the current context in Amapá, which is experiencing its longest drought since 1980 and which is exposed to rising salinity in its freshwater due to rising sea levels. In our opinion, water availability has not and is not expected to be materially affected by extended drought periods given that 84% of the system is served by the Amazon River (the world's largest hydrographic network) and considering the presence of the Alter do Chão and Barreiras aquifers. However, in one of the municipalities, Calçoene, increasing







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salinity has led to the establishment of a new extraction point due to the infeasibility of using the previous one during certain periods.

- Ninety-five percent of CSA's existing water and wastewater systems currently run on renewables and the company commits to maintaining this level. Moreover, CSA's new water systems will use less environmentally impactful surface intakes by installing floating structures in rivers, which we view as positive.
- Wastewater management and treatment is also important from a climate perspective, both to reduce emissions and improve resiliency. Currently, CSA's sole existing wastewater treatment plant does not have controls on methane emissions. The company plans to integrate methane and nitrous oxide emission reduction solutions for its existing and new wastewater system, along with implementing circular solutions for sludge management. However, we note that these are still in feasibility studies.
- Improving water efficiency and demand management can reduce emissions, enhance resilience, and limit negative local environmental impacts from water overuse. According to its concession agreement, CSA is obligated to decrease the water loss in the existing treated water system to 30% by 2030 from 70%. As of mid-2023, the company has managed to improve losses to 60%. The company also promoted a conscious consumption campaign given the recent drought period in Amapá.
- The company currently does not have commitments to reduce the embodied emissions (meaning all the carbon dioxide emitted when producing materials or when using fossil fuel equipment) of building materials and fossil fuel equipment for the construction of its new networks. It also doesn't have commitments to reduce the embodied emissions from the acquisition of chemicals for its water treatment plants, which we view as a limitation. According to the issuer, it will aim to incorporate best market practices in construction and materials supplier sustainability screening.



S&P Global Ratings' Shades of Green

Assessments					
Dark green	Medium green	Light green	Yellow	Orange	Red
<b>Description</b>					
Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
<b>Example projects</b>					
 Solar power plants	 Energy efficient buildings	 Hybrid road vehicles	 Health care services	 Conventional steel production	 New oil exploration

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).

## Related Research

- [Lost Water: Challenges And Opportunities](#), Sept. 6, 2023
- [Analytical Approach: Second Party Opinions: Use of Proceeds](#), July 27, 2023
- [Analytical Approach: Shades of Green Assessments](#), July 27, 2023
- [FAQ: Applying Our Integrated Analytical Approach for Use-of-Proceeds Second Party Opinions](#), July 27, 2023
- [Brazil's Sanitation Regulatory Framework Remains Fragmented, Despite Recent Changes](#), May 8, 2023
- [S&P Global Ratings ESG Materiality Maps](#), July 20, 2022

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