

## **Environmental and Social Review Summary Sabesp Green Capex Facility Project**

Document Original language: Portuguese

### **1. General information about the project and scope of the Environmental and Social Review by IDB Invest**

The proposed transaction consists of a loan to Companhia de Saneamento Básico do Estado de São Paulo S.A. (“Sabesp,” the “Company” or the “Client”) in support of the installation of: (i) five water quality restoration units for use in informal areas (“URQs”) in the Pinheiros River basin, specifically: URQ Jaguaré, URQ Antonico, URQ Pirajussara, URQ Água Espriada and URQ Cachoeira; and (ii) 31 small solar power plants (“UFVs”) with power ratings below 5 MWp and a total of 59 MW of installed capacity to be installed in areas of the state of São Paulo where Sabesp has operations, thereby contributing to the expansion of production of renewable energy and diversification of the company’s energy matrix (the “Project”).

The Environmental and Social Due Diligence (ESDD) process was conducted in two phases. The first, in February 2020, included an in-person visit. The second was performed remotely due to travel and social distancing restrictions imposed by the new coronavirus pandemic (COVID-19). The ESDD process also included on-site technical visits by an independent environmental and social consulting firm that was retained to evaluate possible social and environmental risks and impacts associated with both the URQs and UFVs. In addition, between February and July 2020, the ESDD included videoconference interviews with key representatives of the company, as well as a review of pertinent environmental and social information and occupational health and safety data furnished by Sabesp, including: (i) the corporate environmental and social management system; (ii) the human resources policy and health and safety practices adopted; (iii) the requests for bids on the construction of the URQs and UFVs; (iv) the procedures usually followed with regard to waste management, stakeholder engagement, chemical products management and other practices according to the requirements of Brazilian laws and good international practices; etc.

### **2. Environmental and social classification and justification**

According to the Environmental and Social Sustainability Policy (ESSP) adopted by IDB Invest, the Project was classified as Category B since the risks and impacts it presents are of low-to-medium intensity and can be mitigated via measures that are available and feasible to implement in the context of the proposed operation. Key E&S risks and impacts include: (i) the arrangements for managing and sharing responsibilities between the Client and the companies to be subcontracted in managing environmental, social and occupational health and safety aspects in accordance with Brazilian legal requirements, as well as the requirements of the ESSP; (ii) management of hazardous materials, including chemical products used in URQ treatment operations; (iii) management of solid wastes, particularly those generated during the construction phase, as well as all the sludge and other residues generated during URQ operations; (iv) control over noise and odors produced during URQ treatment operations; and (v) structured management by the Client and subcontractor companies for community engagement and relations with populations residing in the vicinity of the URQs.

The Performance Standards (PS) that apply to this Project are: PS1: Assessment and Management of Environmental and Social Risks and Impacts; PS2: Labor and Working Conditions; PS3: Resource Efficiency and Pollution Prevention, and PS4: Community Health, Safety, and Security.

### **3. Environmental and social context**

There are significant differences among the environmental and social contexts of the places where the URQs and UFVs will be installed. The URQs will be installed in the hydrographic basin of the Pinheiros River, a densely populated and heterogeneous urban environment. The selected sites are near low-income neighborhoods and areas with informal settlements, where it is been largely impracticable to install sanitary sewer systems due to the extreme complexity of the actions that would have to be taken as well as the impossibility of constructing central sewers and mains at those places. Therefore, the sewage end up running in the open air to the nearest water bodies, impacting the quality of life of local communities and the municipality of São Paulo as a whole. In that regard, the purpose of the URQs is to reduce the pollutant loads that travel by water from sewers that are situated in informal settlements, thereby contributing to an improvement in the environmental quality of the Pinheiros River basin.

The UFVs, however, will be installed in areas owned by the company in the interior of São Paulo State. Most of these areas already have effluent treatment plants (ETEs) of the stabilization pond type and feature idle tracts of land available that are suitable for installation of UFVs. Because of the nature of their operations, those ETEs do not need electricity. This means that the electricity generated by the UFVs will be exported over the electric transmission lines owned by local distributors and will be used at other Sabesp facilities under the shared generation program.

These areas are normally surrounded by ranches and farms that grow crops and are less than 10 km from the nearest urban centers. In selecting the sites for installation of UFVs, Sabesp adopted certain criteria that are intended to minimize E&S impacts, such as: (i) an absence of native vegetation that is in a moderate or advanced stage of regeneration; (ii) prioritization of sites outside the boundaries of Permanent Preservation Areas or Conservation Units and the respective buffer zones; and (iii) average annual solar incidence factor per municipality in the state, so as to ensure the best energy efficiency per occupied area.

### **4. Environmental risks and impacts and proposed measures of mitigation and compensation**

#### **4.1 Analysis and Management of Social and Environmental Risks and Impacts**

##### **4.1.a System for appraisal of environmental and social management**

Sabesp Environmental Management is based on two pillars: environmental compliance and a change in environmental culture at the company. Various corporate programs are being established in this context, involving topics such as: Greenhouse Gas (GHG) Emissions Management, Environmental Education, Environmental Licensing and Grants of Hydric

Resources Usage Rights, and the Environmental Management System (SGA) at Water Treatment Stations (ETAs) and Sewage Treatment Stations (ETEs).

Prominent among those programs is the gradual implantation of the SGA at ETEs and ETAs, in progress since 2009. Based on the directives of the ISO 14001 standard, this program seeks to refine the operations and processes carried out at treatment stations in order to improve efficiency and minimize the risks of accidents and the development of the associated environment liabilities.

Sabesp is applying the ISO 14001 standard at a limited number of certified stations and using its own environmental management model, known as SGA-Sabesp, at the other stations. That model features similar requirements and processes but is not directed toward certification. According to company reports, the model was developed to accelerate the adaptation of the SGA. Its guiding principle is to facilitate the incorporation of environmental management tools into the operational routine.

The SGA seeks to improve operational procedures and practices, especially those related to management of effluents, solid wastes, chemical products, odors, and noise, as well as the routines for keeping up to date the applicable legal documentation -for example, management of deadlines for renewal and compliance with the conditions on which environmental licenses and grants of hydric resource usage right are based. The SGA also includes actions to be taken to improve the infrastructure of the facilities as part of continued improvement and prevention of pollution that also contributes to greater operational safety. The SGA has now been implemented at 390 Sabesp stations, 35 of which have been certified according to ISO 14001 requirements. As reported, Sabesp has set a goal to accomplish adoption of the SGA at all operating stations by the year 2024.

In addition to the procedures and activities that comprise corporate environmental management, the company has in place control mechanisms and actions directed toward workplace health and safety (SST), as described throughout this document.

Specifically with respect to the announcements for bidding for construction of URQs, a series of requirements were defined that pertain to Health, Safety, and the Environment (EHS). These include the mandate to implement plans for managing environment, health and safety aspects, which must be developed on the basis of ISO 14.001 (environmental management) and ISO 45.001 (occupational health and safety) standards. In addition, there are other requirements related to the social and safety aspects regarding the communities—such as stakeholder engagement plans and traffic management activities. The announcements for contracting the UFVs, although they incorporate certain basic elements of an Environmental and Social Management System (ESMS)—such as wastes management and programs aimed at worker health and safety—do not require the implementation of a formal environmental and social management system.

Therefore, to be aligned with PS1 requirements, Sabesp will establish environmental programs and procedures that are integrated into the ESMS for the URQs and UFVs in a way that ensures supervision of the risks and impacts associated with those structures.

#### 4.1.b Policy

Sabesp has adopted policies on Quality in Occupational Health and Safety (OHS) and Quality in Laboratories and the Environment. These encompass the EHS requirements that apply to the company's operations and its management of contracted workers. Policies are consistent with PS1 requirements and include such items as company commitments to: (i) prevention of water pollution and solid waste management; (ii) human resource development in order to promote continued improvement of products, processes and services with a view to maintaining environmental quality; (iii) ensuring compliance with environmental laws and OHS, as well as any signed commitments; (iv) adopting environmental and OHS criteria for management of contracted workers; and (v) promoting the development of technologies aimed at the protection, conservation and recovery of the environment.

Such policies are applicable to all Sabesp units, regardless of its management system. Furthermore, depending on the company's contracting format, Sabesp will notify companies that are responsible for construction of the URQs and UFVs of the aforementioned policies and inform stakeholders of their objectives.

#### 4.1.c Identification of risks and impacts

As part of its ESMS, Sabesp uses matrices to identify and evaluate environmental aspects and impacts, as well as to perform analyses of risks and opportunities. It employs other tools, such as the Preliminary Risks Analysis (APR), to manage worker safety. Such instruments are also called for in the bidding announcements, which state that each contractor should evaluate the risks and impacts related to the construction works that will be executed.

The management plans, programs and procedures are based on such documents. They contain guidance, directives and instructions pertaining to work that would minimize and control the identified risks and impacts.

It is important to highlight that, with regard to the construction of the URQs, contractor companies must apply to the Environmental Company of the State of São Paulo (Cetesb) for the appropriate preliminary and installation licenses (LP/LI). That is when, via a memorandum of specifications (MCE), contractors will submit the details of the project to be licensed as well as a risks analysis and description of the safety measures that will be adopted. There are no environmental licensing requirements for the UFVs, due to their small size and low potential impact, pursuant to SMA/SP Resolution No. 74, dated August 4, 2017.

In any case, IDB Invest has commissioned an environmental and social risk and impact assessment for both projects (URQs and UFVs). The results of that evaluation support the drafting of this ESRS and the respective Environmental and Social Action Plan (ESAP). Those studies are also available on the disclosure page for projects evaluated by IDB Invest.<sup>1</sup>

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<sup>1</sup> Available at <https://idbinvest.org/es/projects/sabesp-green-capex-facility>

#### 4.1.d Management programs

Sabesp seeks to manage its operations in conformity with pertinent national requirements and international good practices. The company is currently implementing various EHS policies and procedures, addressing questions related to effluents and chemical products management, service providers, use of personal protection equipment (PPE), collective protection equipment (CPE), and other topics. Some aspects of occupational health and safety (OHS) are managed via specific procedures, including the Environmental Risks Prevention Program (PPRA) and the Medical and Occupational Health Control Program (PCMSO).

As mentioned earlier, it is through the Environmental Management Units (NGAs) that the company publicizes various corporate environmental management and sustainability programs, with the intention of ensuring uniformity of procedures and reports. One example is the Corporate Program on Sustainable ETEs, directed at application of solutions and practices that convert the byproducts generated at the ETEs (biogas, sludge, and effluent) into sustainable resources that have a use value on the market in terms of exploitation of energy content. The program features a management structure coordinated by the corporate environmental management area, with representatives from the operations development, financial, research and development, and operations areas of the company.

Also as mentioned earlier, the contracting announcements call for various environment and social management programs to be implemented during the construction phase. The UFVs will be installed and operated by contractors. The URQs will also be installed and operated by contractors, but on a temporary basis (assisted operations for 36 months).

#### 4.1.e Organizational capacity and competency

As part of its ESMS, Sabesp has a corporate environmental area, as well as the NGAs in the company business units. These are connected hierarchically to the corporate area of the company. The NGAs are operating agents of environmental management and seek to ensure uniformity of procedures and reports as well as to publicize the corporate programs among other units of the company.

Professionals at the corporate level focus on strategic environment and social issues and on the design of procedures, targets and the monitoring of the performance of the various operational units. To that end, Sabesp has expert personnel who hold functions related to (i) facilities and maintenance; (ii) human resources; (iii) occupational health and safety; (iv) legal affairs; (v) environmental management; and (vi) quality control, including audits, risk management, and compliance.

The responsibility for direct management of environmental matters is assigned to the NGAs at the operational level. Questions pertaining to OHS are handled by the coordinators who report to the human resources department of the business unit. In some cases environmental management and OHS management are further delegated to OHS technical personnel or, more customarily, by attribution of those responsibilities to operations personnel. Implementation of social responsibility activities is also assisted at the local level, by communications coordinators, assisted by operations managers.

#### 4.1.f Emergency preparedness and response

Sabesp has taken a clear approach to emergency preparedness and response that follows federal, state and municipal rules pertaining to fire safety, chemical products and first aid. The company has more than 290 fire brigades throughout all its units. They hold meetings, training sessions (initial fire response, first aid, chemical products) and perform inspections and drills so as to keep personnel informed and prepared in the case of an emergency. Furthermore, given the territorial expanse of its operations, the company has a total of 380 emergency plans in force, all controlled and available on a computerized system. These plans cover the entire company and, when applicable, extend to possible impacts on neighboring communities.

As provided in the announcements of bidding for URQs and UFVs, contractor companies are required to develop and implement Emergency Preparedness and Response Plans (PAE) according to provisions of state law. In order to be consistent with PS1, Sabesp will consolidate an emergency preparedness and response plan, the basic requirements of which will be considered as each URQ becomes operational. In addition, the company will develop a PAE for each UFV. That plan will need to contemplate the possible risks associated with those facilities as well as eventual synergies, in emergency scenarios that may exist in emergency situations, with the existing ETEs.

#### 4.1.g Monitoring and analysis

As mentioned previously, analysis of EHS indicators and quality are the subject of periodic meetings held by both the corporate team and operations team. In the context of the installation of URQs and UFVs, Sabesp will expand its monitoring and analysis work to include the new facilities. Starting at the time when assisted operation ends, Sabesp will be directly responsible for URQ operations. Therefore, as described earlier and in order to be consistent with PS1, Sabesp will formalize an ESMS for the URQs and UFVs in order to ensure supervision of the risks and impacts associated with those structures.

#### 4.1.h Stakeholder engagement

Sabesp, as a supplier of public utility services, has a wide variety of stakeholders, including customers (users), shareholders, lenders, suppliers, civil society, workers, regulatory bodies, unions, the press, and many others.

The company conducts comprehensive communications and engagement activities with stakeholders and also with audiences that are consulted specifically for purposes of determining the content of its internal and external communications and engagement activities. Sabesp undertakes sectoral studies to assess the positioning and topics that are important to Brazilian and international companies in the industry, as well as the demands and interests of the stakeholders. In this regard, the principal actions of engagement in progress at this time are focused on the following subjects: (i) promotion of universal access to water and sewer services; (ii) development of local communities; (iii) water security; (iv) corporate governance and ethics; (v) management of effluents and wastes; (vi) economic/financial performance; (vii) eco-efficiency of operations; (viii) loss of water during distribution; and (ix) management of people.

In the context of the URQs, Sabesp determined in the announcements for bidding that contractors should develop communication plans that involve key stakeholders (civil society, the city government, and agencies of the state government) so as to ensure the flow and management of information and should promote relationships between the coordinators of the work sites and the Sabesp overseers, including channels of communication (emails, letters, calls to meetings, minutes of meetings, and other necessary media).

In order to ensure that such plans adhere to the requirements of PS1 Sabesp, in partnership with the companies who are successful in the bidding proceedings, will conduct a complete stakeholder mapping exercise that will serve as foundation for the construction of a stakeholder engagement plan focusing specifically on each URQ. This engagement plan will be consistent with the requirements of PS1 and will address the following, among other aspects: (i) information campaigns and presentation of the project to residents in the vicinity of the URQs; (ii) publicity of the channels available for suggestions, questions, and complaints; (iii) a calendar of meetings and visits to the neighboring and affected communities; with actions to be taken with each group; and (iv) monitoring and evaluation reports.

#### 4.1.i External communications and grievance mechanisms

Since 2007, Sabesp has published annual reports on sustainability<sup>2</sup> based on *Global Reporting Initiative* (GRI) methodology. These reports describe, quantitatively and qualitatively, the socio-environmental risks and impacts related to company operations. Furthermore, the company maintains a channel for receipt of grievances<sup>3</sup> that assures the confidentiality of the reports and anonymity of complaints. That channel is also available for all workers, direct hire or contracted, and to any stakeholders.

In addition to that channel and under the stakeholder engagement plan, the company will implement information campaigns and arrange for occasions at which the project will be introduced to area residents. It will also publicize the channels available for suggestions, questions, and complaints, with a focus on the URQs that are the target of this financing.

## 4.2 Labor and working conditions

### 4.2.a Working conditions and management of relations with workers

Sabesp has taken a clear approach to recruiting, training and retention of a well-qualified workforce. Because it is a semipublic enterprise, publicly held, the company handles contracting via public competitive events when hiring employees, interns and apprentices. Sabesp maintains a work force of almost 14,000, as well as about 1,700 interns and apprentices. Women make up approximately 23% of the work force. It should be emphasized that Sabesp does not employ workers engaged by third parties. It only signs services contracts in accordance with the needs of the business.

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<sup>2</sup> <http://site.sabesp.com.br/site/interna/Default.aspx?secaold=93>

<sup>3</sup> <http://site.sabesp.com.br/site/fale-conosco/Default.aspx?secaold=591>

The company has a human resources policy and procedures related to recruitment, training, and performance management, among others. Sabesp has also a Code of Conduct and Integrity<sup>4</sup> in place that clearly prohibits all forms of forced labor, child or compulsory labor, discrimination, threats, coercion, abuse or harassment in the work environment.

Working conditions are defined in the contracts that Sabesp signs with its employees and service providers, and these are consistent with the provisions of Brazilian labor law. The company pays competitive wages and provides all the basic benefits guaranteed by Brazilian law, as well as offering additional benefits (such as access to private health insurance, life insurance, transportation and meal vouchers, and study grants) in order to attract and retain personnel and improve their performance. Sabesp also has taken a well structured and well documented approach to managing, training, and promoting its work force. Also in place are employment contract termination procedures, in case they are needed.

Sabesp employs a formal induction procedure under which all new personnel are welcomed by an HR professional on their first day of work and introduced to the mission, vision, and values of the company, its Code of Conduct and Integrity, and the benefits and compensation policy.

The terms and conditions of employment are set forth clearly in the contracts and collective labor agreements to which Sabesp is subject. Worker rights in Brazil, including rights to form and join unions, are safeguarded by the 1988 Constitution and by the Consolidated Labor Laws (CLT), which are consistent with the directives of the International Labor Organization (ILO). According to Brazilian labor law, all workers may join a union, and Sabesp personnel benefit from collective bargaining agreements signed for their industry. Approximately 70% of Sabesp employees are union members, most of them members of the Union of Workers in Water, Sewers, and the Environment of the state of São Paulo (Sintaema). The company does not restrict membership in the union, but adheres to the terms of the collective agreements and respects labor laws.

In contracting for installation of the URQs and UFVs, an analysis will be performed of the compliance by contractor companies in terms of the internal rules of Sabesp and their fulfillment of labor laws and social security obligations as pertains to the workers contracted to install and operate both projects. When necessary, requests will be made for correction or amendment of content to make it appropriate.

#### 4.2.b Protecting the work force

The contracts signed between Sabesp and its personnel comply with local labor legislation and encompass, among other aspects, length of the work day, hours to be worked, overtime, paid days off, and minimum compensation, as well as the benefits and bonuses available under the law and the minimum requirements as regards occupational health and safety. Those aspects are also evaluated when the company contracts for construction work and provision of services.

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[http://www.sabesp.com.br/sabesp/filesmng.nsf/7FC2BB8E3A25EBB5832582BC0005BDA6/\\$File/codigo\\_conduta\\_integridade\\_jun2018.pdf](http://www.sabesp.com.br/sabesp/filesmng.nsf/7FC2BB8E3A25EBB5832582BC0005BDA6/$File/codigo_conduta_integridade_jun2018.pdf)



#### 4.2.c Occupational health and safety

Brazil has enacted a set of detailed and prescriptive rules about occupational health and safety (OHS). These are known as Regulatory Norms (NRs). The principal NRs that apply to company operations and must be observed continually are: Specialized Service in Safety Engineering and Occupational Health – SESMT (NR-4); Internal Committee on Accident Prevention – CIPA (NR-5); Personal Protective Equipment – PPE (NR-6); the Medical and Occupational Health Control Program – PCMSO (NR-7); the Environmental Risks Prevention Program – PPRA (NR-9); as well as other rules that apply to the performance of specific tasks, such as electrical installations or tasks performed at heights.

It is through the development of the Environmental Risks Prevention Program (PPRA) that determinations are made as to the physical exams to be administered to employees upon hiring, periodically during employment, and upon separation. These are defined according to the nature and risk profile of the occupation in question (via the Medical and Occupational Health Control Program - PCMSO).

As observed during the ESDD, Sabesp invests continuously in making its teams aware of and engaged in OHS. The principal tools/programs developed by Sabesp are the Preliminary Risks Analysis (APR); verification of legislation applied to workplace health and safety (SST); environmental evaluation and biological monitoring; training and awareness raising; participation by and consultation with employees; supply of uniforms and both personal and collective protective equipment; issue of specific forms to permit performance of risky activities and entry to those areas; emergency preparedness and response; maintenance of records of incidents of noncompliance, and investigation of accidents on the job and near-misses.

As observed in documents assessed during the ESDD, the indices of worker health and safety have trended upward in recent years. The frequency rate<sup>5</sup> in 2019, for example, fell 35% from its level in 2016. Meanwhile, other indicators, such as accident seriousness, occupational illnesses and deaths also fell significantly.

The announcements for bidding on contracts for the URQs and UFVs refer to the same worker protection principles and require that contractor companies employ the same tools as implemented by Sabesp, such as: (i) APR; (ii) training and awareness raising; (iii) communication, participation and consultation of employees; (iv) supply of uniforms, PPE and CPE; etc.

#### 4.2.d Workers engaged by third parties

Sabesp does not employ workers engaged by third parties. It only signs services contracts in accordance with the needs of the business.

For example, the companies that will install and operate, at least temporarily, the URQs and UFVs will be evaluated and monitored by Sabesp in order to determine whether they are in compliance with labor laws and SST requirements, whether they are contributing to the social security system,

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<sup>5</sup> The frequency rate represents the number of workplace accidents with injury and resulting in missed working hours divided by millions of man/hours worked per year.

whether they have a history of labor-related court cases, and so on. The standard EHS requirements are included in the contracts and evidence of adherence to those are the basis for Sabesp release of payments. The internal grievance mechanism may also be used by service providers, either by secure email or telephone contact. In the case of the URQs, a management company will handle the monitoring of the health and safety actions by the contractors and will send reports to Sabesp on a monthly basis.

### **4.3 Resource efficiency and pollution prevention**

#### **4.3.a Resource efficiency**

In recent years, Sabesp has sought to improve its operations in terms of resource efficiency and has encouraged the adoption and dissemination of new technological solutions. The company has allocated specific budgeted funds to Technological Research, Development, and Innovation (RD&I). The main subject lines for development are: (i) improvement of construction and operation procedures for water and sewer systems; (ii) water and sewer treatment solutions; (iii) assets management and control; (iv) generation of renewable energy; (v) energy efficiency; (vi) technologies for maintaining customer relations; (vii) projects in the circular economy; and (viii) reduction of losses and ways of using wastes.

Sabesp calculates its emissions of greenhouse gases (GHG) every year using inventories that are part of a corporate program on GHG that also promotes the raising of awareness about climate issues and encourages people to take actions to reduce GHG emissions in operations. These initiatives are consistent with the responsibilities established in the guidelines and requirements of state policy on climate change.

Direct and indirect emissions by the company as a result of its effluents treatment, transportation, and electricity and fuel consumption total approximately 2,223.2 thousands of tons of CO<sub>2</sub>e per year. That being said, according to IFC standards, the company is considered to have significant GHG emissions. The collection and treatment of sewage is the biggest source of emissions by the company, being responsible for approximately 90.4% of the total, followed by electrical energy, at 8.1%. Because of the nature of the activity and the constant expansion of services in the direction of future universal access to sanitation, the trend in the results of the GHG inventories is toward growth. With a view to mitigating those emissions, Sabesp has attempted to apply new technologies, especially those devoted to Cleaner Production (P+L). The company is encouraging improved operating practices that may result in management of greenhouse gas emissions. For example, there are initiatives toward beneficial use of sludge, development of energy efficiency projects, and so on.

It is in this context that Sabesp organized its Distributed Generation Program – Photovoltaic Energy, which involves the UFVs that are being analyzed under this project. It is expected that UFVs will be able to supply approximately 60% of the company's demand for low voltage electricity, or 4.5% of all the electrical energy used at the company, thereby reducing the amount of GHG emitted by electricity consumption.

This technology has been validated by the pilot project carried out at ETE Mogi Mirim. That is where the company recently began operating the first solar energy generation system in the

Brazilian sanitation industry. That operating unit produces 606 MW/year, furnishing 30% of the energy needed to treat sewage at that site.

Furthermore, in order to promote efficient consumption in its operations, in 2019 the company developed a new model for procurement of equipment that also considers the projected value of each item's energy consumption for the first three years of its operation. This means that newly purchased equipment will be more energy efficient.

With regard to the URQs, these may include aerobic treatment of wastewater that may generate diffuse emissions of CO<sub>2</sub>e and sludge. Sludge will be dehydrated and scattered on sanitary landfills, thus preventing continued anaerobic digestion of organic material and, consequently, generation of methane gas. In this way it is expected that the URQs—as regards wastewater treatment--will not have significant GHG emissions.

In order to adapt to the IDB Invest sustainability policy, Sabesp will develop specific inventories of GHG emissions for the URQs projects and incorporate those emissions into its annual report.

#### 4.3.b Pollution prevention

In general, Sabesp uses recognized technologies for treatment of water and sanitary effluents. These technologies ensure appropriate treatment standards when operated appropriately. As mentioned previously, the URQs and UFVs will be installed in a densely populated and heterogeneous urban environment, where it is been largely impracticable to install a sanitary sewer system because of the extreme complexity of the actions that would have to be taken as well as the impossibility of constructing central sewers and mains at those places. The purpose of the URQs is to reduce the pollutant loads resulting from the sewage that is transported by flows of water from informal settlements, thereby contributing to achievement of levels of concentration of biochemical oxygen demand (BOD) and dissolved oxygen (DO) that are compatible with the environmental class and required quality of the hydrographic basin.

Therefore, the URQs will have the ability to treat wastewater to dry weather flow rates with maximum possible efficiency in removal of BOD, which will require a detour of the creek in order to ensure control of the operation and protection of the facilities in the event of floods.

At the time when this environmental and social review summary was completed, the technologies and processes to be employed at the URQs had not yet been clearly defined, since those technologies are to be determined by the successful bidders in each bidding session. However, quality targets had been specified for the final effluent, namely: (i) maximum concentration of BOD in final effluent - 30 mg/liter; (ii) maximum concentration of total suspended solids (TSS) in final effluent – 30 mg/liter; (iii) minimum concentration of DO in final effluent – 2.0 mg/liter; and (iv) minimum 80% efficiency in removal of BOD, except for URQ Jaguaré, where required removal is 50%. Furthermore, decisions on the treatment process to be adopted for the liquid and solid phases must justify the choice by presenting cases from existing stations that have been operating for at least two years, that use the same process, and that have a flow rate of at least 50% of the rate defined for each of the URQs. The process must be able to show efficiency in removal of the specified BOD load and guarantee that the BOD of the effluent will be equal to or less than 30 mg/liter.

In addition to the aforementioned quality targets, other general directives must also be observed, including: (i) the solids content of the resulting sludge must be at least 22% and it must meet minimum conditions for being transported to a sanitary landfill licensed for the purpose where it will be disposed of; (ii) installation of odor and gases treatment; (iii) installation of acoustic treatment for facilities where the noise level at the URQs is high, so as to satisfy noise emission standards; (iv) the effluent shall be disposed of at a site downstream of the water intake point so that there is no mixture between inflows and the effluents from the URQs on the water body, among other requirements.

In terms of potential inconveniences for the population during the operational phase, attention has primarily been paid to the generation of odors typical of wastewater treatment operations. The successful bidder companies, in partnership with Sabesp should: (a) continually monitor the degree to which odors are accepted; and (b) ensure provision of appropriate odor control technology. The communication program will monitor complaints and comments from the community and incorporate the results into project management.

As part of the implementation of the management system specified in PS1, Sabesp will confirm the environmental impact evaluation and mitigatory measures by verifying these on site at each URQ prior to startup of operations.

Operation of the URQs will generate significant quantities of solid wastes, especially sludge and rackings. According to the terms of the bidding contracts, the company will be obliged to furnish sludge with a minimum solids content for disposition at sanitary landfills licensed for that purpose.

#### **4.4 Community health and safety**

##### **4.4.a Community health and safety**

The URQs, to be operated by Sabesp through qualified suppliers, will have positive effects on the health and safety of the community during the operations phase. During the construction phase, with regard to both the URQs and UFVs, the potential risks and impacts on the communities<sup>6</sup> will be mitigated by the environmental and social programs that comprise the management plan and are to be developed and implemented by the contractors. During nighttime hours, when construction is suspended, the perimeter of the job site will be isolated and properly marked with signs. Any excavation will be covered temporarily to prevent members of the community or transients from falling.

Because the proposed facilities are situated in urban areas with significant interface with the communities, companies that have successfully bid on installation of the URQs must also submit a road safety plan that maps the areas where intervention will occur, the proposed use of public equipment, and the impacts on traffic, including any interruption that construction may involve. Measures to mitigate the impacts, monitoring of actions in the field, and observance of the results are all elements of the plan.

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<sup>6</sup> The key risks and impacts identified and associated with both projects are: (i) changes in the urban landscape; (ii) vegetation removal; (iii) change in superficial dynamics; (iv) improvement in water quality; (v) increase in traffic on roads during construction, inconveniences associated with air pollution and odors, etc. Further details may be found in the studies made available on the IDB Invest webpage - - <https://www.idbinvest.org/es/projects>.

Most of the work force to be contracted for construction of the URQs will be composed of local workers from the Metropolitan Region of São Paulo. In the case of the UVFs, however, because installation takes so little time and requires highly specialized workers, the project will employ a smaller number of personnel, those who have expertise in assembling solar panels and the associated structures. Therefore, neither case will require additional lodging or will disturb local communities. Furthermore, the expansion and improvement of basic sanitation obtained through the project will reduce the risk of exposure and disease among the members of the beneficiary population.

In order to prevent incidents of gender based violence in the community during construction and operation of the URQs and UVFs, Sabesp will produce specific educational materials and ask that contracted companies to conduct informative campaigns addressed to the workforce that is assigned to the projects.

#### 4.4.b Security

Armed guards will not be placed at the sites of URQ and UFV installation. Security personnel will focus on controlling access and responding to potential emergencies.

#### 4.5 Land acquisition and involuntary resettlement

This project will not lead to physical or economic displacement of residents. The great majority of the land needed for construction of the URQs and UVFs are vacant public lots or Sabesp operations areas where the company is already present. The only piece of land that was expropriated, with indemnification, refers to the site of URQ Pirajussara. In that case, the land was appraised according to Sabesp expropriation methodology, which is based on NBR Rule 14.653 (Parts 1 and 2) of the Property Appraisal Rules published by the Brazilian Association of Technical Standards – ABNT. The company that owned the land did not contest the value offered and agreed to the sale.

#### 4.6 Biodiversity conservation and sustainable management of living natural resources

Since the Project will be implemented on urban and rural lands that have been heavily affected by human activities, it will have no significant impact on biodiversity or on living natural resources.

#### 4.7 Indigenous peoples

This project will not intercept indigenous areas or territories or directly impact any indigenous peoples.

#### **4.8 Cultural heritage**

Since the sites of project implementation are urban or semiurban lands that are heavily impacted by human presence, the possibility that the project would have impacts on the cultural heritage is extremely remote. At any rate, Sabesp should urge the Historic and Artistic National Heritage Institute (IPHAN), if any archaeological findings are discovered in the areas where UFVs are to be installed, that appropriate procedures be followed as set forth in Brazilian law and Performance Standard No. 8.

#### **5. Local access to project documentation**

Documentation related to this project may be accessed on the IDB Invest website (<https://idbinvest.org/es/projects/sabesp-green-capex-facility>) and further information about the company may be obtained on its website [www.sabesp.com.br](http://www.sabesp.com.br).

#### **6. Environmental and Social Action Plan (ESAP)**

6.1 The Environmental and Social Action Plan for this project (ESAP) is presented below:

**PROJECT: SABESP GREEN CAPEX FACILITY  
Environmental and Social Action Plan (ESAP)**

No.	Aspect	Action	Product/result	Fulfilment Date
<b>PS 1: Assessment and Management of Environmental and Social Risks and Impacts</b>				
1.1	Environmental and Social Management System	1. Develop and implement a specific Environmental and Social Management System (ESMS) to (i) identify, evaluate and manage the environmental, social and occupational health and safety risks and impacts of the URQs and UFVs, in accordance with the pertinent Performance Standards (PS), including consideration of contracted workers; and (ii) constantly review the risks and impacts matrices, the management and emergency response programs, and other components of PS1.	1. Specific ESMS procedures for the URQs and UFVs. 2. Evidence of implementation.	1. URQs: 30 days prior to start of construction UFVs: 90 days after signature of the loan agreement. 2. Annually, through the Environmental and Social Compliance Report (ESCR).
1.2	Emergency preparedness and response	1. Develop and adopt Emergency Preparedness and Response Plans, the basic requirements of which should be considered at the time each URQ becomes operational. 2. Develop and implement an Emergency Action Plan for each UFV, so as to encompass the possible risks associated with such installations.	1. Emergency Preparedness and Response Plans for each URQ. 2. Emergency Preparedness and Response Plans for each UFV. 3. Evidence of implementation.	1. 90 days prior to the start of assisted operation. 2. 90 days after signature of the loan agreement 3. Annually, through the Environmental and Social Compliance Report (ESCR).
1.3	Stakeholder engagement	1. Complete mapping of stakeholders. 2. Develop and adopt a Stakeholder Engagement Plan that focuses specifically on each URQ, consistent with the requirements of PS1 and that covers: (i) informative campaigns and arrangements to introduce the project to populations in the vicinities of the URQs; (ii) publicity regarding the channels available for suggestions, questions, and complaints; (iii) a calendar of meetings and visits to neighboring and affected communities, listing actions to be taken with each group; and (iv) reports of monitoring and evaluation.	1. Mapping of stakeholders (URQs). 2. Stakeholder Engagement Plan (URQs). 3. Evidence of implementation (URQs).	1. 60 days prior to start of construction. 2. 30 days prior to start of construction. 3. Annually, through the Environmental and Social Compliance Report (ESCR).
<b>PS 2: Labor and Working Conditions</b>				
2.1	Working conditions and management of relations with workers	1. Verification of human resources procedures followed by the companies contracted for the URQ and UFV construction and installation work to evaluate their compliance with Sabesp's rules and adherence to labor law obligations.	1. Analysis of human resources procedures followed by the companies contracted for the URQs and UFVs with respect to Sabesp's rules and obligations under labor law. 2. Action plan to adapt human resources rules and procedures, if necessary.	1. URQs: 60 days prior to start of construction. UFVs: 90 days after signature of the loan agreement 2. 30 days prior to start of construction.
<b>PS 3: Resource Efficiency and Pollution Prevention</b>				
3.1	Pollution prevention	1. Continually monitor the extent of generation of odors by the URQs and acceptance of those odors. and ensure availability of appropriate odor control technology, if necessary.	1. Environmental Control and Social Communication Plan, to cover the monitoring of acceptance of odors emanating from the URQs. 2. Monitoring Reports (URQs).	1. 60 days prior to the start of assisted operation. 2. Annually, through the Environmental and

No.	Aspect	Action	Product/result	Fulfilment Date
			3. Action plan for provision and improvement of odor control technologies, if necessary. (URQs).	Social Compliance Report (ESCR). 3. 90 days after the start of assisted operation, if necessary.
3.2	Greenhouse gases	1. Take inventories of GHG emissions, specifically for the URQ projects, and incorporate them in Sabesp's annual report.	1. Inventory of GHG emissions for the URQs. 2. Incorporation of results in Sabesp's annual sustainability report (URQs).	1. 365 days after signature of the loan agreement. 2. Annually, through the Environmental and Social Compliance Report (ESCR).
<b>PS 4: Community Health, Safety, and Security</b>				
4.1	Community health and safety	1. Develop educational content on gender-based violence and monitor the informative campaigns that contractors will conduct for the teams that will build and operate both the URQs and the UFVs.	1. Educational content for the prevention of gender-based violence. 2. Monitoring reports on the informative campaigns for the prevention of gender-based violence conducted by subcontractors.	1. 90 days after signature of the loan agreement. 2. Annually, through the Environmental and Social Compliance Report (ESCR).