

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BRAZIL

TIETÊ RIVER CLEANUP PROGRAM, STAGE IV

(BR-L1492)

LOAN PROPOSAL

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LINKS
REQUIRED
1. Multiyear execution plan and annual work plan
2. Monitoring and evaluation plan
3. Environmental and social management report
4. Procurement plan
OPTIONAL
1. Technical analysis
2. Socioeconomic analysis
3. Institutional analysis
4. Financial analysis
5. Draft program Operating Regulations
6. Compliance with the Bank's Public Utilities Policy
7. Project monitoring report
8. Environmental and social analysis
9. Environmental and social management framework
10. Bibliography
11. Itemized budget
12. Midterm evaluation of Tietê, Stage III
13. Other stages of the Tietê project

ABBREVIATIONS

ARSESP	Agência Reguladora de Saneamento e Energia do Estado de São Paulo [State of São Paulo Sanitation and Energy Services Regulator]
BOD ₅	Five-day biological oxygen demand
CETESB	Companhia Ambiental do Estado de São Paulo [State of São Paulo Environmental Sanitation Company]
EBITDA	Earnings before interest, taxes, depreciation, and amortization
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
IBGE	Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics]
LIBOR	London interbank offered rate
MRSP	Metropolitan Region of São Paulo
RRR	Regular rate review
SABESP	Companhia de Saneamento Básico do Estado de São Paulo [State of São Paulo Basic Sanitation Company]
WTP	Wastewater treatment plant

PROJECT SUMMARY

BRAZIL TIETÊ RIVER CLEANUP PROGRAM, STAGE IV (BR-L1492)

Financial terms and conditions				
Borrower: Companhia de Saneamento Básico do Estado de São Paulo [State of São Paulo Basic Sanitation Company] (SABESP)			Flexible Financing Facility ^(a)	
			Amortization period:	24.5 years
Executing agency: SABESP			Disbursement period:	5.5 years
Guarantors: Federative Republic of Brazil and State of São Paulo ^(d)			Grace period:	6 years ^(b)
			Interest rate:	LIBOR-based
Source	Amount (US\$)	%	Credit fee:	^(c)
IDB (Ordinary Capital):	300,000,000	60	Inspection and supervision fee:	^(c)
Local:	200,000,000	40	Weighted average life:	15.25 years
Total:	500,000,000	100	Approval currency:	U.S. dollars from the Bank's Ordinary Capital
Project at a glance				
Project objective/description: To help improve environmental and sanitary conditions in the Upper Tietê River watershed in the Metropolitan Region of São Paulo, thereby reducing the organic load from households discharged into the Tietê River, through the sustainable expansion and optimization of the system for collecting, transporting, and treating sewage.				
Special contractual condition precedent to the first disbursement: SABESP will submit to the Bank the final version of the program Operating Regulations , including the program Environmental and Social Management Framework as an annex (paragraph 3.10).				
Special contractual condition for execution: (i) Before the start of the first work financed with program resources, SABESP will submit to the Bank evidence that consulting services have been engaged to support management and technical and social/environmental supervision of the works; and (ii) The term for the material start of program works will be up to four years, as from the date the loan contract takes effect (paragraph 3.11). See also the special contractual conditions in Section V of the Environmental and Social Management Report (required link 3).				
Exceptions to Bank policy: None.				
Strategic alignment				
Challenges: ^(e)	SI	<input checked="" type="checkbox"/>	PI	<input type="checkbox"/>
Crosscutting themes: ^(f)	GD	<input type="checkbox"/>	CC	<input checked="" type="checkbox"/>
			IC	<input checked="" type="checkbox"/>

- (a) Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, and currency and interest rate conversions. When considering such requests, the Bank will take operational and risk-management considerations into account.
- (b) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.
- (c) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.
- (d) The guarantee by the State of São Paulo is subject to the proper approvals by the State Legislative Assembly.
- (e) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).
- (f) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING¹

A. Background, problem addressed, and rationale

- 1.1 **Background and problem addressed.** The state of São Paulo covers an area of 248,208.92 km² in southeastern Brazil. According to the Brazilian Institute of Geography and Statistics (IBGE), a total of 45.09 million people were living in the state's 645 municípios in 2017.² The State of São Paulo Basic Sanitation Company (SABESP), serving 367 of these 645 municípios, covers much of the market and provides a significant share of the state's sanitation services. The creation of the State of São Paulo Sanitation and Energy Services Regulator (ARSESP) on 7 December 2007³ laid the foundation for SABESP to pursue excellence in the provision of sanitation services. The State of São Paulo Environmental Sanitation Company (CETESB) controls, oversees, monitors, and issues licenses for pollution-causing activity in São Paulo state, and as such is responsible for implementing programs to control industrial pollution in the state, including in the Tietê River watershed.
- 1.2 The Metropolitan Region of São Paulo (MRSP) encompasses the state capital and 38 neighboring municípios. It has a population of some 21 million⁴ living in a heavily urbanized and industrialized area of roughly 8,000 km² and it produces 15%-20% of national GDP and 50% of state GDP.⁵ In all, 34 of the MRSP's 39 municípios are in the Upper Tietê River watershed, which includes the headwaters. Water resources in the watershed are scarce. The drainage area is 5,720 km² with an average discharge of some 50 m³/s (measured at the mouth of the Upper Tietê River watershed, some 160 km from the headwaters⁶), which increases to more than 100 m³/s about 30 km downstream from this point (outside the urban area). As a result, the river in this area has limited capacity to self-purify the liquid waste from households and industry that is dumped into the river untreated, thus resulting in low levels of dissolved oxygen in this section of the river.⁷
- 1.3 **The Bank's knowledge.** The Bank has been supporting the State government since the early 1990s in its efforts to reduce organic load discharged from households into the Tietê River, and thereby help clean up the river, through three loan operations: Tietê I (713/OC-BR; 896/SF-BR) and Tietê II (1212/OC-BR), both completed, whose primary intervention strategy was to strengthen the macro-level approach of SABESP's Sewerage Master Plan; and Tietê III (2202/OC-BR), currently in execution, which is primarily aimed at expanding sewerage systems. In addition, technical cooperation operation BR-T1351, "Strengthening the Capacity of the State of São Paulo to Prevent and Manage Water Crises," was approved. Its objective is

¹ See references in [optional link 10](#).

² IBGE. Research Division, Office on Population and Social Indicators (COPIS). Population estimates as of 1 July 2017.

³ Law 1,025/07 of 2007. ARSESP independently regulates and oversees the provision of sanitation services, including issues related to rates and service delivery contracts.

⁴ Foundation of the State System of Data Analysis, 2013 ([link](#)). IBGE data from 2010.

⁵ Source: IBGE. Population estimates from 2016 and GDP data from 2014.

⁶ The total length of the Tietê River is 1,095 km.

⁷ This points to the need for coordinated government efforts to control industrial effluents and the various sources of pollution in order to complement SABESP's efforts to clean up the Tietê River.

to support the State of São Paulo in designing and implementing measures to strengthen the capacity for water crisis prevention and management in order to sustainably address problems related to water scarcity. Meanwhile, IDB Invest approached SABESP regarding the potential provision of advisory services for formation of a holding company (paragraph 1.12).

- 1.4 **Results of previous stages.** Stages I and II, together costing US\$1.6 billion (US\$650 million from the Bank), were satisfactorily executed by SABESP from 1995 to 2008⁸ and achieved (i) new sewerage services for some 540,000 families, with an expansion of coverage from 70% to 84%; and (ii) increased capacity for wastewater treatment from 4.5 m³/s to 18 m³/s, with the percentage of collected wastewater that is treated increasing from 24% to 70%. As a result, more than 8.5 million additional people were provided access to sanitary sewerage service. Stage III, for US\$800 million (US\$600 million from a Bank loan), has been satisfactorily executed⁹ since September 2010, and its last Bank disbursement is slated for 2018.¹⁰ The targets for Stage III are to increase coverage from 84% to 87% and expand treatment capacity by 8 m³/s, with an increase from 70% to 84% in the percentage of collected wastewater treated and an additional 5 million people with access to wastewater treatment. [Optional link 13](#) features a map showing the interventions of the various stages. The impacts of these three stages should be evaluated in view of the total domestic load from the MRSP's 21 million residents, which is now at 1,050 tons of five-day biological oxygen demand (BOD₅) per day. Stages I and II (completed in 2008) decreased the organic load discharged from households into the river by 500 tons per day, and Stage III (to be completed in 2020) is expected to remove an additional 103 tons per day. Stage IV of the program is expected to further reduce this load by 70 tons per day. As for organic load from industry,¹¹ Stages I and II strengthened CETESB in its ability to effectively control industrial pollution by ensuring that industrial effluents are discharged into SABESP's sewerage systems as required by law—rather than into the river, which had been the case previously—thus bringing 1,540 industrial operations into compliance. In view of these results, and since CETESB is effectively controlling industrial effluents, Stage III does not include actions along these lines.
- 1.5 In terms of river water quality, measurements taken at the mouth of the Upper Tietê River watershed in 2013-2016 found a decrease in the average annual organic load from 494 to 256 tons per day, indicating improved water quality at the mouth, because the wastewater collection and treatment works built have been reducing the organic load of wastewater discharged in over 48% of the watershed.¹² Another indicator used to measure the impact of river cleanup efforts in the MRSP is the length of the anaerobic patch. According to the organization SOS Mata Atlântica,¹³ this patch decreased in length from 576 km to 393 km between 1993 and 2016—i.e., water quality substantially improved in 183 km (approximately 32%) of the river,

⁸ Stage I was built between 1995 and 2000.

⁹ According to the midterm evaluation ([optional link 12](#)) and the latest revision of the progress monitoring report, with a score of 3.

¹⁰ Seventy-five percent of the loan proceeds have been disbursed, and nearly 100% have been committed.

¹¹ At the start of Stage I, the number of industrial operations in the MRSP was estimated at 40,000, of which 1,250 accounted for 90% of the approximately 350 tons of discharge per day.

¹² CETESB 2017. *Qualidade das Águas Interiores o ESP 2016* ([link](#)).

¹³ SOS Mata Atlântica 2016. *Relatório Técnico, 25 Anos de Mobilização. O retrato da qualidade da água e a evolução dos indicadores de impacto do Projeto Tietê* ([link](#)).

primarily in the upper and lower sections. Indeed, perception-based monitoring efforts—particularly near population centers abutting the river—noted a decrease in organic pollution along a considerable stretch of this part of the river, as evidenced in the reduced length of the anaerobic patch. Despite this progress, however, water quality still needs to be improved in the section of the river that runs through the MRSP, which continues to be rated “very poor to poor” largely as a result of low oxygen levels and high nutrient levels.¹⁴ This makes aquatic life impossible.¹⁵ To that end, implementation of sewerage infrastructure must continue, which is the most significant factor in cleaning up the river. Another consideration for improving water quality in the river is pollution from diffuse organic loads, which the municípios, not SABESP, are responsible for removing. This type of pollution is associated with rainwater that runs over garbage and anything lying in streets or yards, and then flows into storm drains and is discharged into the river and its tributaries.

- 1.6 In this regard environmental and sanitary conditions in the Upper Tietê River watershed will continue to improve if work is done to: (i) develop more and better wastewater collection and treatment systems, and (ii) improve sewerage service management. These two factors, which are addressed by this program, will contribute to sustainably reducing the sizable organic load discharged from households into the river, if work is done to reduce nonpoint source pollution from industrial discharges and solid waste. Industrial discharges are adequately supervised by the policy-making and environmental oversight body (CETESB), together with SABESP, both of which were strengthened in previous stages of the program. With respect to solid waste management, the Município of São Paulo is examining structuring a public-private partnership that in the medium and long term would substantially help clean up the river. Lastly, it is important to note that environmental problems in urban rivers take longer to resolve than generally expected. In 1988, a plan was launched to decontaminate the Seine River in Paris with the aim of being able to swim in its waters in five years; 30 years later, swimming in the Seine is still prohibited, as it has been since 1923. Paris expects to invest over one billion euros to clean up the river by 2024. That is not to say that polluted urban rivers cannot be cleaned up. The Thames in London, the Hudson in New York, and the Potomac in Washington, D.C. are often cited as proof that rivers can be effectively cleaned up. Some Latin American cities have also had success on this front. The Mapocho River in Chile and the Medellín River in Colombia are examples of how decades of planning, hundreds of millions of investment dollars, and sustained political support can bring a river back to life.
- 1.7 **Rationale and proposed interventions.** With wastewater collection systems expected to cover 87% of the population by the end of Stage III, further infrastructure development is needed for some 4 million people who will still lack wastewater collection service. As for treatment, only 84% of the wastewater generated is expected to be effectively treated by the end of Stage III, leaving a gap of 16% (about 6 million people) still needing coverage, not to mention the need to cover future growth in order to ensure that all collected wastewater is treated. This will entail significant challenges in achieving universal coverage of sewerage service

¹⁴ Load was calculated using measurements taken at the mouth of the upper watershed. Rating is in accordance with the Water Quality Index (WQI), which combines multiple parameters. Water quality at the Barra Bonita Reservoir, at the mouth of the Upper Tietê River, is rated “good.” CETESB, 2017.

¹⁵ According to Resolution 325/2005 of the National Environmental Council, fewer than 2 milligrams per liter (Class 4) makes aquatic life impossible.

(collection and treatment) in legally settled areas of the MRSP, including the challenge of helping to reduce pollution in the section of the Tietê River that runs through the MRSP.¹⁶ The deficit in access to sewerage services is an indicator of sanitary risk exposure, which is exacerbated by the fact that this risk is highest in the poorest municípios of the MRSP, such as those targeted in this operation,¹⁷ as well as rates of waterborne illness¹⁸ and mortality due to illness related to poor environmental sanitation.¹⁹ This is especially significant in view of the positive correlation²⁰ between environmental quality,²¹ health,²² and access to sanitation. The likelihood of contracting a waterborne illness decreases with access to water and sanitation service, and this in turn has a direct impact on reduced infant mortality.²³

- 1.8 Recent research indicates a direct correlation between warming caused by climate change and more frequent outbreaks of cyanobacteria in bodies of water.²⁴ The oversupply of nutrients such as phosphorus and nitrogen in water, partly due to low coverage rates of wastewater treatment, and changes in drought and precipitation patterns give this species an advantage over others during episodes of eutrophication. These toxic outbreaks have been observed to be more frequent and intense in the past decade, with significant economic impacts on people and aquatic ecosystems.²⁵ In the program area, Guarapiranga Lake has experienced such outbreaks in connection with higher summer temperatures.²⁶ Thus, a failure to remove nutrients from the water helps make the hydrological cycle in the program's microwatersheds more vulnerable to the impacts of climate change, with longer

¹⁶ Rodríguez-Jeangros et al. model the effect of wastewater treatment on water quality in the Bogotá River ([link](#)).

¹⁷ Areas not served by the sewerage system are peripheral neighborhoods in the município of São Paulo and other municípios in the MRSP with monthly average household income below the MRSP average. The IBGE released a comparison of household income to the MRSP average, as reported in the National Sample-based Household Survey ([link](#)), which found that 23% of households in the MRSP reported monthly income of up to twice the minimum wage, compared to 73% of households in areas sampled in the Bank's 2017 socioeconomic survey ([optional link 2](#)).

¹⁸ Measured as the number of hospitalizations due to illness of fecal-oral transmission diagnosed as diarrhea per 100,000 people. According to data from the Hospital Information System of Brazil's single health care system and population data released by the Foundation for the State Data Analysis System for 2009-2017, the program's beneficiary municípios have higher hospitalization rates (1.08 to 10.80) than the MRSP as a whole (1.96) ([optional link 2](#)).

¹⁹ Measured as the number of hospitalizations due to illness related to poor environmental sanitation per 100,000 people for 2009-2017. The program's beneficiary municípios have higher hospitalization rates (8.8 to 53.27) than the MRSP as a whole (13.69) ([optional link 2](#)).

²⁰ Documented in numerous studies, such as those summarized by Brenneman, A. and Kerf, M. (2002); Annette Prüss-Ustün et al. (2014) and Kremer, Miguel and Zwane, Alix Peterson (2007).

²¹ Evidence of effectiveness in environmental quality: *Avaliação do Projeto Belém-Pará. Estudo Longitudinal da Bacia do UNA, 2004* ([link](#)); Ampla. 2006. Ex post evaluation of loan 649/OC-BR ([link A](#) and [link B](#)).

²² Mascarini, M. L. et al. (2009) found that sanitation interventions in the Brazilian city of Salvador reduced the rate of intestinal parasite infection in children ([link](#)). Barreto, M. et al., (2007) ([link](#)) and Gross, R. L. et al.; (1989) ([link](#)) made similar findings about diarrhea in northeastern Brazil and in São Paulo, respectively.

²³ Newman et al. (2002) found that investments in water and sanitation systems in Bolivia reduced mortality among children under 5 to an extent similar to mortality reductions associated with health interventions ([link](#)).

²⁴ Peperzak, 2003; Paerl and Huisman, 2008; Paul, 2008.

²⁵ Chorus and Bartram, 1999, Carmichael, 2001, 2008; Hudnell, 2008; Heisler et al., 2008; Hoagland et al., 2002; Paerl, 2008; Paul, 2008; Paerl and Huisman, 2008.

²⁶ Oliver and Riveiro, 2016.

drought periods, increased evapotranspiration, more hot summer days, and more intense rainfall ([optional link 1](#)).

- 1.9 While Stages I, II, and III of the program helped strengthen SABESP in terms of (*inter alia*) operational management of sewerage systems with very good performance outcomes, SABESP needs to increase its installed equipment capacity, to keep pace with the rapid expansion of its sewerage infrastructure and continue ensuring effective system maintenance.²⁷ In addition, SABESP still has challenges to address in terms of legal and regulatory compliance, specifically in streamlining its rate review process;²⁸ to this end, it needs to reorganize its relevant unit and update its tools. Lastly, in view of the increasing complexity of solutions for wastewater collection and treatment infrastructure, and as it approaches universal coverage (including informal settlements, areas with low population density, increasing costs of infrastructure and land, etc.), SABESP needs to conduct research—both on its own and in partnership with Brazilian and foreign universities—to identify and implement innovative technologies for such solutions and thereby shorten the time it takes to achieve universal coverage. These challenges need to be addressed as part of the program, because they could compromise the sustainability of investments, thus increasing the risk of failing to prevent wastewater discharges into the river. Poor maintenance of the sewerage system leads to blockages that cause overflows of wastewater that ends up flowing into the river. Meanwhile, inadequate and ill-timed rate collection leads to a lack of resources for system maintenance, with resulting problems causing pollution. Lastly, implementation of innovative operational technologies will shorten the time it takes to achieve universal coverage, more quickly reaching the point where wastewater discharged is avoided.
- 1.10 **Lessons learned.** The lessons learned in Stages I, II, and III point to the need for continuity in efforts to clean up the Tietê River and for resources to implement SABESP's investment plan, which will be achieved with approval of Stage IV and subsequent stages. The specific lessons incorporated into the design of Stage IV include (i) an execution period of at least five years (paragraph 2.1); (ii) an executing unit to coordinate the entire program and to serve as sole liaison with the Bank (paragraph 3.2); (iii) given the disperse nature of the work areas, continuous support in execution through the use of consulting services for support in managing, planning, controlling, and overseeing program works as the most efficient way to satisfy management and human resource output needs²⁹ (paragraph 3.3), while still seeking more effective mechanisms for contract management (paragraph 2.14); (iv) a focus on optimizing existing infrastructure while increasing wastewater treatment capacity; and (v) the need to identify innovative technologies for sanitation solutions and to validate their applicability³⁰ in the MRSP, in view of the technical complexities of universal service coverage (paragraph 1.22).

²⁷ SABESP inspects roughly 31 km or 6% of the system per year. Its target is to inspect 104 km per year, or 20% of the system (International Water Association benchmark).

²⁸ According to the Superintendency on Rates, the regular rate review (RRR) process increased from 138 days in the initial publication of the second RRR to 472 in the most recent publication of the third RRR.

²⁹ A dedicated team is particularly needed to prevent delays in obtaining environmental licenses and works execution permits, in accordance with lessons learned in the midterm evaluation ([optional link 12](#)).

³⁰ Particularly for isolated systems in the MRSP and in view of climate conditions in Brazil, in accordance with the study by Marcos von Sperling – IDB 2016 ([link](#)).

- 1.11 **SABESP** was created through State Law 119/1973, which was subsequently amended by State Law 8,523 of 29 December 1993. SABESP is a company of mixed public-private ownership, with the State of São Paulo holding a majority stake. It is a state enterprise³¹ indirectly managed by the State of São Paulo. In April 2002, it was listed on the BOVESPA New Market (*Novo Mercado*); and, in the same year, its shares were listed as American Depositary Shares on the New York Stock Exchange, which requires SABESP to meet stringent requirements in terms of transparency and governance. SABESP's operational and financial indicators are sound; some of these indicators are shown in Table I-1.

Table I-1: SABESP management indicators (2017)

Management indicators	Value
Number of water connections	8.9 million
Number of sanitation connections	7.3 million
% coverage of water service	98%
% coverage of sanitation service	90%
Employees per 1,000 connections	1.5
% micrometering	99.9%
% unmetered water	30.7%
% EBITDA over operational revenue	36.1%
% net income over operational revenue	17.2%
Ratio of liquid debt to EBITDA	1.9

- 1.12 The State of São Paulo passed State Law 16,525 in 2017, which authorizes the State's executive branch to form a holding company whose corporate purpose is to own a majority share in SABESP. Under this arrangement, the State of São Paulo will continue to own a majority share of SABESP through the holding company. Formation of this holding company will have no negative impact on the program or on SABESP's ability to serve as borrower and executing agency for the program, and it is expected to aid SABESP by helping the State of São Paulo to secure additional resources to finance an increase in SABESP's share capital and in its resources for expansion ([optional link 3](#)).
- 1.13 In accordance with SABESP's business plan, the main guiding principles for the program include (i) excellence in service provision, ensuring quality in management and in providing products; (ii) sustainability, promoting growth with economic and financial equilibrium in an environmentally correct and socially just manner; (iii) technological innovation, promoting the creation, adoption, and dissemination of solutions with a focus on generating value; and (iv) an expansion of wastewater treatment, with progress in implementing structures for collection, treatment, and final disposal in a technically and economically viable manner, in pursuit of universal service coverage.
- 1.14 **SABESP's strategy for expanding sanitation service.** SABESP reviewed and updated its Sewerage Master Plan in 2010. This updated plan sets forth guidelines, strategies, projects, and actions for achieving universal coverage of sewerage service by 2030, when the population of the MRSP will total 23 million. Achieving universal sanitary sewerage service, collecting at least 90% of household effluents from all 39 municípios in the MRSP, and treating 100% of collected wastewater will require R\$8.3 billion (US\$2.55 billion) in financing for the expansion of systems,

³¹ The State of São Paulo currently owns a 50.3% share.

collector mains, and interceptors; household connections; and the expansion and implementation of treatment stations, both in the main sewerage system³² and in the isolated systems³³ in peripheral areas.

- 1.15 **Program strategy and design.** In accordance with SABESP's strategy, this operation—the fourth stage of the Tietê River Cleanup Program—is structured as a multiple works program³⁴ for an estimated US\$500 million, of which US\$300 million will be financed by a loan from the Bank's Ordinary Capital and US\$200 million by a local contribution. The operation will have a disbursement period of 5.5 years and will be governed by its Operating Regulations. The program's interventions reflect the priorities identified in SABESP's 2010 master plan and business plan. In view of the highly complex nature of technological solutions for sewerage infrastructure development, the high investment, operating and maintenance costs, the lengthy implementation periods, and the generally low income level of the beneficiary population, financing conditions should be compatible with long-term periods for recovering investment costs without a significant impact on rates. The financial conditions for sovereign loans from the Bank are consistent with these needs.
- 1.16 **Strategic alignment.** The project is consistent with the objectives in the results matrix of the Bank's country strategy with Brazil for 2016-2018 (document GN-2850), namely "expand and improve water supply and basic sanitation," and it contributes to the implementation approach of promoting sustainable growth in metropolitan areas. The operation is aligned with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and is directly aligned with the development challenge of social inclusion and equality, as its interventions aim to expand and improve sanitation services in the MRSP in order to improve environmental conditions in areas with poverty levels above the MRSP average (paragraph 1.7); and with the crosscutting areas of institutional capacity and rule of law, through actions to improve the performance of SABESP; and environmental sustainability and climate change, in three ways: (i) investments in technology to reduce current levels of phosphorus and nitrogen discharged into the river, thereby helping to decrease the likelihood of cyanobacteria outbreaks in summertime; (ii) infrastructure to produce water for reuse in industrial processes, which is considered an effective way of addressing the MRSP's highly variable precipitation patterns; and (iii) generation of energy through the burning and use of biogas that would otherwise be discharged into the atmosphere, thereby contributing to the target for approval of operations with climate finance, in accordance with the IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (document GN-2609-1).
- 1.17 Roughly 96% of the operation's resources will be invested in mitigation activities, in accordance with the [multilateral development banks' joint methodology for tracking climate finance](#). These resources contribute to the IDB Group's target of increasing financing for climate change projects to 30% of all approvals by the end of 2020.

³² The main system serves the most heavily urbanized central area of the MRSP with the ABC, Barueri, Parque Novo Mondo, São Miguel, and Suzano systems, which are organized into 174 catchment areas identified on the basis of 10 drainage macrozones.

³³ These systems are organized into 222 catchment areas and include 74 separate systems that require the same level of attention from SABESP as the main system, as they encompass a large number of municípios and pose unique challenges due to the lack of economies of scale.

³⁴ In accordance with the operational guidelines for this type of program (operations processing regulations, section PR-202).

Investments in infrastructure to treat a larger flow of wastewater and to remove nutrients, as well as for reuse of such water, will be effective ways to help reduce the vulnerability of communities in the MRSP to climate change³⁵ (adaptation). The operation will also help reduce greenhouse gas emissions. Expanding the capacity for collecting, transporting, and treating wastewater and sludge will help capture greater volumes of biogas (and methane) for subsequent burning and/or use to generate energy, which will reduce greenhouse gas emissions (mitigation) ([optional link 1](#)).

- 1.18 The operation will also contribute to the Corporate Results Framework 2016-2019 (document GN-2727-6) through the outputs “households with new or improved access to sanitation” and “households with wastewater treatment.” The program is aligned with the “Sustainable Infrastructure for Competitiveness and Inclusive Growth” strategy (document GN-2710-5) in the priority area of promoting access to infrastructure services, particularly in the priority area of “support the construction and maintenance of an environmentally and socially sustainable infrastructure” to help increase quality of life; and with the Water and Sanitation Sector Framework Document (document GN-2781-8), particularly with the dimensions of success “Countries achieve universal access to water and sanitation while improving service quality” and “The preparation and execution of sector projects involves disaster risk management, climate change and promotes water security.” This operation was included in the 2018 Operational Program Report (document GN-2915) and the update to that report (document GN-2915-2).
- 1.19 **Consistency with the Bank’s Public Utilities Policy (document GN-2716-6).** The proposed program and Brazil’s sector-specific objectives are consistent with the principles set forth in the Bank’s Public Utilities Policy and satisfy the conditions related to financial sustainability and economic evaluation. SABESP is financially solvent and is able to adequately cover its costs and fulfill its financial commitments to its creditors. SABESP’s financial projections indicate that this trend will continue (paragraph 2.11). The works to be financed under this project are socioeconomically viable (paragraph 2.9). SABESP offers a reduced rate to low-income households, and the sector has an appropriate institutional framework with proper separation of powers and responsibilities (paragraph 1.1) ([optional link 6](#)).

B. Objective, components, and cost

- 1.20 **Objective.** To help improve environmental and sanitary conditions in the Upper Tietê River watershed in the MRSP, thereby reducing the organic load from households discharged into the river, through the sustainable expansion and optimization of the system for collecting, transporting, and treating sewage. This objective will be accomplished through actions and investments under the following components:
- 1.21 **Component I: Sanitary sewerage works (US\$478 million).** This component will expand the coverage of sewerage systems and wastewater treatment. Financing will be provided for sanitary sewerage works to include primarily: (i) the construction of approximately 360 km of collection networks, collector mains, and interceptor

³⁵ Specifically, the increased number of hot summer days and nights and the highly variable hydrological cycle, as seen in the much more intense rainfall and higher concentrations of unremoved nutrients (phosphorus and nitrogen) in the water, significantly increase the risk of more frequent cyanobacteria outbreaks, as has already occurred in Guarapiranga Lake. Moreover, the lengthening of the dry season in summertime and a decrease in average precipitation also make local communities more vulnerable.

sewers; (ii) technological upgrades and expansion of capacity at three treatment plants; and (iii) installation of household sewerage connections benefitting approximately 400,000 families.³⁶ This component will also include project preparation and works supervision (paragraph 2.14).

- 1.22 **Component II: Institutional and operational strengthening (US\$14 million).** The objective of this component is the institutional, operational, and technological upgrading of SABESP in order to ensure the sustainability of program investments. The following actions will be financed:³⁷ (i) implementation of an equipment maintenance facility and provision of equipment for inspection and cleaning of sewerage networks; (ii) installation of a pilot plant for testing new technologies for wastewater treatment and to conduct training and prepare studies on technological innovation; and (iii) development of a regulatory master plan and studies to improve SABESP's regulatory structure.
- 1.23 **Administration, supervision, and evaluation (US\$8 million).** This includes financing for social/environmental supervision and management of program works (paragraph 2.14) and for program evaluation.³⁸
- 1.24 **Cost and financing.** The program's total cost is US\$500 million, of which US\$300 million will be financed by the Bank from its Ordinary Capital and US\$200 million by a local contribution. The consolidated budget per component is shown in Table I-1. The itemized budget ([optional link 11](#)) shows all program-associated costs to be covered by proceeds from the loan.

Table I-1. Program cost (US\$)

	IDB	Local contribution	Total
Component I: Sanitary sewerage works	290,600,000	187,400,000	478,000,000
Component II: Institutional and operational strengthening	7,000,000	7,000,000	14,000,000
Administration, supervision, and evaluation	2,400,000	5,600,000	8,000,000
Total	300,000,000	200,000,000	500,000,000
Percentage	60%	40%	100%

C. Key results indicators

- 1.25 The results framework (Annex II) includes program outputs and outcomes. The main indicators are shown in Table I-2.

³⁶ These works will benefit some 1.2 million people (roughly 400,000 households) with access to sewerage service and wastewater treatment and an additional 1.4 million people (470,000 households) who already have access to the sanitation network and to whom the program will provide wastewater treatment for the first time. The system's capacity for wastewater treatment is expected to increase by 3 m³/s, equivalent to a reduction of roughly 70 tons of BOD₅ per day in discharges into the Upper Tietê River watershed.

³⁷ With these actions, SABESP will substantially improve its capacity to efficiently manage maintenance of sewerage systems and will be strengthened to efficiently fulfill regulatory standards and introduce innovative operational technologies that will benefit all inhabitants of the MRSP.

³⁸ Administration costs correspond to 1.6% of the total program cost—a reasonable figure with respect to international standards and the characteristics of the program, which is mainly marked by multiple works sites spread throughout the MRSP.

Table I-2. Key indicators

Outcome indicators	Unit of measure	Baseline	Target (*)
New households whose wastewater is treated at the treatment plants expanded under the program	Household	0	876,814
Households newly connected to sewerage system	Household	0	406,723
Capacity for wastewater treatment in the MRSP	m ³ /s	26.5	29.5
Percentage of sewerage networks inspected annually	%	6	20
Number of innovative technologies developed by SABESP in actual conditions at a demonstration wastewater treatment plant	Technology	0	1

(*) As this is a multiple works program, targets will be updated as projects are added to the program.

- 1.26 **Description of beneficiaries.** The direct beneficiaries will primarily be households in the municípios of Jandira, Barueri, Santana de Paraíba, Itapevi, São Paulo, Osasco, Itapeverica da Serra, Carapicuíba, Embu das Artes, Ferraz de Vasconcelos, and Itaquaquecetuba in the MRSP; municípios with poverty levels and rates of waterborne illness higher than those of the MRSP as a whole (paragraph 1.7). In addition, all residents of the Upper Tietê River watershed (an estimated 21 million people) will be indirect beneficiaries, through improved environmental and sanitary conditions.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 **Financial structure and modality.** The program has been designed as an investment loan using the multiple works modality, as it includes independent projects for wastewater collection, transportation, and treatment in different municípios, in accordance with eligibility criteria (paragraph 3.5). A representative sample has been analyzed as part of program preparation, which will allow for an early start. With a disbursement period of five-and-a-half years,³⁹ in line with the [multiyear execution plan](#), the program will address the demands prioritized by SABESP (paragraph 1.13) and will be governed by the program [Operating Regulations](#) (paragraph 3.4). The disbursement timetable is shown in Table II-1.

Table II-1. Disbursement timetable (US\$ million)

Source/year	1	2	3	4	5	6*	Total
IDB	3,068	55,544	129,069	86,163	22,326	3,830	300.00
% cumulative	1.02	19.54	62.56	91.28	98.72	100	
Local contribution	2,983	35,562	79,691	59,203	18,663	3,898	200.00
% cumulative	1.49	19.27	59.12	88.72	98.05	100	
Total	6,051	91,106	208,760	145,366	40,989	7,728	500.00
% cumulative	1.21	19.43	61.18	90.26	98.45	100	

(*) First six months.

³⁹ To ensure compliance with the disbursement period, the following measures have been taken: (i) the same executing unit from previous stages will be used, in view of its successful experience in execution; (ii) advance procurement will be used to hire the company that will support management, planning, control, and supervision of the works; and (iii) payment to this company will be based on results, so as to incentivize observance of deadlines.

- 2.2 **Representative sample.** To determine the program's viability and streamline execution once it is approved, a sample of representative projects featuring the same type of works was analyzed. These projects, accounting for 30% of the program's total cost, are (i) expansion of the Parque Novo Mondo wastewater treatment plant (in the northern part of the município of São Paulo); and (ii) expansion of the sewerage networks and collectors in the MRSP municípios of Cotia, Jandira, and Itapevi (Initiative A); Santana de Parnaíba and Barueri (Initiative B); and São Paulo (Initiative C) ([optional link 1](#)). The sampled projects fulfill the eligibility criteria for the operation (paragraph 3.5): i.e., they are sewerage works, they are in the area of the MRSP served by SABESP, and they are technically, institutionally, financially, economically, and socially and environmentally feasible (paragraphs 2.8 to 2.12).
- 2.3 **Pipeline of future projects.** On a preliminary basis, and following the same process used to identify projects for the sample, projects for expanding sewerage networks and collectors have been identified mainly in the municípios of Osasco, Itapeceirica da Serra, Carapicuíba, Embu das Artes, Ferraz de Vasconcelos, and Itaquaquecetuba, as well as projects for expanding the treatment capacity of the Barueri (solid phase) and São Miguel plants in the MRSP, which are under preparation and may be financed by this operation after they have been prepared and their eligibility confirmed, which is expected to occur in the first half of the program's second year (paragraph 3.5).
- B. Environmental and social risks**
- 2.4 In line with the three previous stages of the Tietê River Cleanup Program, and because this operation will be largely implemented using nondestructive methods and there are known ways to prevent environmental and social impacts during construction (such as planning of entrance and egress routes for the tunneling machine and maintenance of adequate pedestrian paths and roadways), this new operation was classified as category "B" in terms of environmental and social impacts and risks, in accordance with the Bank's Environment and Safeguards Compliance Policy (operational policy OP-703). The most significant moderate-level impacts are related to the construction phase in an environment featuring densely populated, difficult-to-reach neighborhoods, such as the risk of traffic accidents in transporting supplies, debris, and excavated material; temporary disruptions in access to businesses, workshops, utilities, housing, and other buildings; occupational health and safety hazards; and risks to community health and safety due to digging and other works; etc. In one of the sample projects for the current program—the Barueri project—a potential for nonsignificant socioeconomic impact on a Guaraní community was identified, because work will take place on a street bordering the community. While this impact will be small, a consultation process specifically designed for this community was carried out. The Environmental and Social Management Framework (ESMF) and the respective environmental and social management plans provide for specific measures to prevent and minimize temporary socioeconomic impacts, which do not include resettlement, and to compensate those adversely affected, both in urban areas and in the indigenous

community.⁴⁰ Program resources will be used to establish multiple pumping stations with a direct affectation area of 25 m² each in a Permanent Conservation Area in the microwatersheds of the Tietê River; for the four projects in the sample alone, this adds up to a total area of three hectares. A compensation plan will be implemented in this conservation area to mitigate these impacts. SABESP has emphasized that this program will not finance works that entail physical resettlement, and this was included as an eligibility and prioritization criterion (paragraph 3.5). On the institutional front, SABESP has established corporate programs with a progressive strategy of ISO-14001:2015 certification for wastewater treatment plants and potable water treatment plants. In view of its track record in executing Stages I, II, and III, the executing agency is deemed to have sufficient capacity for social and environmental management, including for systematic identification and evaluation of environmental, social, health, and safety impacts and risks in the program's projects, as well as for mitigation of these impacts and risks.

- 2.5 Due to the nature of this program, which entails various types of sanitation interventions in the Upper Tietê River watershed, five environmental and social studies were prepared and released, and the corresponding consultation process conducted, in accordance with the Bank's safeguards compliance policy: (i) an environmental and social evaluation of all works planned and the ESMF; (ii) an environmental and social evaluation and the respective Environmental and Social Management Plans (ESMPs) for four projects in the sample; and (iii) a social and cultural analysis of the Guaraní indigenous community, which was used to support the consultation process with that community completed on 15 May 2018. The most significant environmental and social risks identified in this program include (i) disrupted access to residences and places of business; (ii) inadequate communication by SABESP with communities in the projects' area of influence; and (iii) vulnerability to flooding and mudslides in areas where the program will operate. To mitigate these risks, the following measures have been planned: (i) procedures for identifying and, if necessary, compensating those adversely affected have been included in the ESMF and ESMPs; these costs will be included in the work contracts; (ii) a public communication plan, consultation plan, and mechanisms for addressing complaints and claims have been included in the ESMF and ESMPs; and (iii) a vulnerability analysis of at-risk areas in the program's area of influence was prepared for the program, including primarily two types of events: flooding and mudslides; this study was based on existing hydrological, geological, geotechnical, and geomorphological data, and a detailed map and profile of areas at risk of flooding and mudslides was prepared and is being taken into account in designing the works for the program.
- 2.6 Measures to control, prevent, mitigate, and provide compensation for the program's potential negative impacts were also included in the ESMPs and are summarized in the Environmental and Social Management Report ([required link 3](#)). As part of program preparation, five public consultation events were held with the participation of public and private organizations, as well as community leaders, in order to present

⁴⁰ The ESMF describes the compensation plan, including (i) identification and mitigation of social and economic impacts; (ii) description of those adversely affected (families, stores, workshops, etc.); (iii) evaluation of socioeconomic impacts on those adversely affected; (iv) duration of the impact (temporary or permanent if a business or service is rendered unviable during the time in question); (v) economic vulnerability score of those adversely affected; (vi) matrix for evaluating socioeconomic impacts; (vii) compensation plan; (viii) matrix for evaluating mitigation measures for each type of impact; and (ix) proposed alternatives for compensation.

the program and its components and to present and discuss the environmental and social evaluation, ESMF, and ESMPs. The proposals submitted by the communities will be incorporated into the design of the works. The program is in compliance with all of the Bank's safeguards policies: OP-702, OP-703, OP-704, OP-761, and OP-765.

C. Other project risks

- 2.7 Other, medium-level risks related to public management, governance, and development were also identified, such as (i) the possibility of a change in government officials as a result of upcoming state and federal elections in 2018; and (ii) the possibility of a change in the company currently supporting SABESP in managing and supervising execution of Stage III (loan 2202/OC-BR); this company has been engaged to continue providing support in the opening years of Stage IV. To mitigate these risks: (i) assistance and support will be provided to SABESP in the loan authorization process by federal and state officials; and (ii) SABESP will arrange to extend the contract with the current company or, if necessary, will begin the process of engaging a new company to support management at least one year prior to expiration of the current contract, to ensure an effective transition period.

D. Special considerations

- 2.8 **Technical viability.** A sample of projects as described in paragraph 2.2 was evaluated ([optional link 1](#)). The collection and transportation projects (Initiatives A, B, and C) have been developed primarily at the basic and final design level, with a small portion developed on a preliminary basis. The studies for expanding by 1 m³/s the capacity of the Parque Novo Mondo wastewater treatment plant are being prepared at the basic level as part of a larger study of water quality in the Upper Tietê River, which includes expanding the treatment stations in the MRSP and updating the guidelines in the 2010 Sewerage Master Plan, with diagnostic assessments, demand projections, and assessment of alternatives and interventions by stages, including solutions involving cutting-edge technology in Latin America.⁴¹ The designs are being prepared by specialized consulting firms within the framework of applicable state, national, and international laws and regulations. The proposals are technically viable, are suitable for the identified objectives of capacity and quality, and are the lowest-cost solution for achieving these objectives.
- 2.9 **Economic viability.** An ex ante socioeconomic evaluation was conducted, including a cost-benefit analysis of projects in the representative sample (paragraph 2.2). The evaluation was based on a comparison of benefits and costs in scenarios with and without intervention. The economic benefits of the projects for collecting and treating wastewater from households were calculated using values for willingness to pay (R\$32.22 per household per month at prices as of March 2018 as the willingness to pay for collection and transportation, and R\$14.85 per household per month for treatment), which were determined using the contingent valuation

⁴¹ Because the quality objectives for effluent from the plant are stringent for removal of both organic loads and nutrients (in accordance with the findings of the river quality modeling exercises and the planned expansion to include industrial reuse of water), technological alternatives that include membrane bioreactor systems are being considered. According to SABESP's website, the largest initiative for production of water for industrial reuse in South America—in partnership with private parties and using the effluent from the ABC plant—has been underway for several years now. This system uses a membrane bioreactor.

methodology in socioeconomic surveys administered in July and August 2017. The incremental costs of investment and operation and maintenance were used with no taxes or special rates (for low-income households) applied. The analysis found that the operation is viable with internal rates of return above 12%. Complementing this analysis was the corresponding sensitivity analysis ([optional link 2](#)). Projects not evaluated will be analyzed using the evaluation methodologies accepted by the Bank, and only those projects that are socioeconomically viable can be financed (paragraph 3.5).

- 2.10 **Ability to pay.** The monthly bill for service was verified to be less than 5% of household income for the beneficiary population, in view of current rates charged by SABESP and an average rate of residential water consumption of 10 m³ per month. Also, SABESP offers a reduced rate for poor and vulnerable populations and a special rate for informal settlements (favelas).
- 2.11 **Sustainability of investments.** The financial analysis of SABESP found that it is solvent and capable of financing the local contribution during the program, servicing its debts, and effectively operating and maintaining program works. The financial analysis included a historical analysis based on audited financial statements and SABESP's operational data, as well as a financial model projecting its financial situation in coming years. Historical financial data show that SABESP, with resources from payments received for provision of water and sanitation services, has been able to effectively cover its operational costs and financial obligations, as reflected in a 34.1% ratio of EBITDA⁴² to operational revenue and a 14.2% ratio of net income to operational revenue on an average annual basis over the past three fiscal years.⁴³ SABESP has been meeting its financial obligations and levels of debt⁴⁴ to creditors,⁴⁵ including both sovereign-guaranteed and non-sovereign guaranteed financing. Moreover, its internal generation of cash flow has enabled it to finance much of its investment plan. SABESP complies with high standards of transparency, accountability, and consolidated good practices for corporate governance. Rates have been subjected to annual review above inflation, subject to regulation from ARSESP, the regulatory body. The base scenario for financial projections indicates that SABESP may maintain a satisfactory financial situation for the projected period with the financial capacity to assume the financial commitments associated with the program ([optional link 4](#)).
- 2.12 **Institutional viability.** The institutional evaluation of SABESP was conducted using the Bank's Institutional Capacity Assessment Platform, which found a satisfactory low level of risk ([optional link 3](#)), indicating that this executing agency has extensive experience in program execution, including programs with external financing (e.g., Japan International Cooperation Agency, IDB, World Bank). The assessment found that SABESP has institutional capacity in all analyzed modules, that it has suitable human and financial resources, and that it has applied best practices with a governance arrangement and institutional environment conducive to effective program execution.

⁴² EBITDA: earnings before interest, taxes, depreciation, and amortization.

⁴³ 2015, 2016, and 2017.

⁴⁴ With, *inter alia*, a ratio of net debt to EBITDA of 1.9 (2017), below the limit required by creditors.

⁴⁵ These also include the IDB, IDB Invest (operation 1983AB/OC-BR), the National Economic and Social Development Bank, Caixa Econômica Federal, Deutsche Bank, the Japan International Cooperation Agency, the World Bank, and others.

- 2.13 The program will be managed by SABESP through its Superintendency for Management of Special Projects, which has very successfully served as the executing unit for the previous three operations with the Bank. With its multidisciplinary team of over 80 people, this superintendency will be responsible for planning, programming, coordinating management of bidding and contracting processes, developing engineering projects, requesting disbursements, coordinating management, overseeing and monitoring works for the collector mains, interceptors, and interventions at the wastewater treatment plants through SABESP's regional business units. The regional business units will be responsible for operating and maintaining all program works.
- 2.14 At SABESP's request—and following the execution model successfully used in previous stages and international good practices for external support for execution of projects on this scale—the Superintendency for Management of Special Projects will be supported by consulting services to manage, plan, control, and supervise program works throughout the execution period. These consulting services will include (i) physical and financial planning of projects, including monitoring and control activities; (ii) procurement of environmental licenses; (iii) supervision and control of quality in works; and (iv) environmental supervision of occupational health and safety. This external support in works supervision is essential due to the number of works to be carried out and the disperse nature of these works in the MRSP. Personnel will be mobilized in accordance with work needs. For Stage IV of the Tietê program, in order to deliver outputs more efficiently, SABESP will use a new payment method whereby consulting services will be paid for on the basis of results (i.e., in accordance with the degree of progress in program works) and outputs.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Borrower, executing agency, and guarantors.** The borrower and executing agency will be SABESP. The State of São Paulo will be the guarantor for the work obligations and for the local counterpart,⁴⁶ and the Federative Republic of Brazil will be the guarantor of the financial obligations related to the loan.
- 3.2 **Execution arrangements.** The borrower will implement the program through its Superintendency for Management of Special Projects, which will serve as the program's executing unit. SABESP, acting through this superintendency, will be responsible for management, planning, bidding, contracting, disbursement requests, accountability, and supervision of works, among other powers to be listed in the program Operating Regulations. The superintendency will have support from the functional units of SABESP involved in program execution.
- 3.3 The Superintendency for Management of Special Projects will be assisted by consulting services for program management, including evaluation, technical and social/environmental supervision of the works, and preparation of projects (paragraph 2.14).

⁴⁶ The guarantee by the State of São Paulo is subject to the proper approvals by the State Legislative Assembly.

- 3.4 **Program Operating Regulations.** The program Operating Regulations will contain, at a minimum, the criteria, instruments, and procedures for program execution, including (i) institutional, administrative, and financial management; (ii) planning, support, and monitoring; and (iii) identification, evaluation (technical, economic, environmental, and social, in the latter case as provided for in the ESMF), approval, supervision, and execution of the projects ([optional link 5](#)).
- 3.5 **Eligibility and prioritization criteria.** The following eligibility criteria will be included in the program Operating Regulations: (i) projects must be for sewerage infrastructure in the MRSP; (ii) they must be in the SABESP service area; (iii) they must provide the most cost-effective alternative; (iv) they must be technically, economically, socially, and environmentally viable, as established in the Operating Regulations; and (v) they may not be classified as category “A” operations in accordance with policy OP-703 of the Bank, nor may they entail involuntary resettlement.
- 3.6 **Procurement.** Works, goods, and consulting services will be procured in accordance with the Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9). All procurement processes must be included in the procurement plan approved by the Bank through the Procurement Plan Execution System, and the procurement methods and ranges must be set forth as described in the fiduciary agreements and requirements (Annex III). The executing agency agreed on a procurement plan with the Bank for procurement processes in the first 18 months of the program ([required link 4](#)).
- 3.7 **Advance procurement.** The executing agency is using its own resources, in accordance with local law, to conduct an advance procurement process on a competitive basis to hire a consulting firm to support the management, planning, control, and supervision of remaining works in Stage III (loan 2202/OC-BR), which will include supervision of works for this program. The Bank’s team is assisting in this process to ensure compliance with Bank policies, in view of the potential need to make payments related to execution of this contract using resources from this operation. These payments will be made after the Bank has approved the project. In this scenario, the consulting firm’s contract will include the provisions on prohibited practices from the Bank’s procurement policies (clause 1.14 of the general conditions of the model contract for consulting services).
- 3.8 **Reimbursement of expenditures.** As has been the case in previous stages, disbursements will be made as reimbursements of eligible expenses incurred by SABESP. However, the executing agency may opt to use the advance disbursement method in accordance with the financial plan and liquidity needs for up to 180 days. Disbursements will be accounted for when at least 80% of the amount has been spent. The financial plan will be developed in accordance with the Financial Management Guide for IDB-financed Projects (document OP-273-6), as described in Annex III.
- 3.9 **Auditing.** During the loan disbursement period, and within 120 days after the end of the fiscal year, the executing agency will submit the program’s audited annual financial statements to the Bank. The program audit will be conducted as part of the institutional audit of SABESP, as has been the case in previous stages of the program, provided it is conducted by an auditing firm acceptable to the Bank. The

audit will be financed with SABESP's resources. The scope and other related matters will be governed by the Financial Management Guide for IDB-financed Projects (document OP-273-6) and the Instructions for Financial Reports and External Audit Management.

- 3.10 **Contractual condition precedent to the first disbursement. SABESP will submit to the Bank the final version of the program [Operating Regulations](#), including the program ESMF as an annex.** This is deemed an essential condition to ensure the borrower is ready to start program execution, with program Operating Regulations that include detailed guidelines on operational and coordination-related matters.
- 3.11 **Special contractual conditions for execution:** (i) Before the start of the first work financed with program resources, SABESP will submit to the Bank evidence that consulting services have been engaged to support management and technical and social/environmental supervision of the works. This is deemed an essential condition for SABESP to have the support it needs for program execution; and (ii) The term for the material start of program works will be up to four years, as from the date the loan contract takes effect. This condition is necessary to provide greater flexibility in programming preparation of the final project designs, public consultations, and contingencies that can arise during execution.
- 3.12 **Operation and maintenance.** The borrower, through the executing agency, will present to the Bank, starting in the year following completion of the first program work and up to two years after completion of the final one, in the first quarter of each year, an annual maintenance plan and a report on the operating and maintenance status of program works and equipment. If, on the basis of the Bank's inspections or any reports the Bank receives, maintenance is found to be below acceptable levels, the borrower, acting through the executing agency, will take measures to ensure that the deficiencies are fully corrected.

B. Summary of arrangements for monitoring results

- 3.13 A monitoring and evaluation arrangement that includes a data collection plan, responsible parties, and budgetary allocation has been agreed upon ([required link 2](#)). The Superintendency for Management of Special Projects will be responsible for monitoring and evaluating projects to be financed by the program, for which it can engage independent consultants. The monitoring will be carried out using the Bank's oversight tools, including the procurement plan, the multiyear execution plan, the annual work plan, the results matrix, and the progress monitoring report. Within 60 days after the end of each six-month period, the superintendency will submit semiannual reports on progress and outcomes achieved and an action plan for the next six months.
- 3.14 The program evaluation arrangement will include a midterm evaluation, if requested by the Bank, and a final evaluation. The evaluation will use a before-and-after methodology, whereby outcome indicators for the project baseline will be measured, then measurements will be compared after the interventions are implemented to determine whether targets have been met. An ex post economic evaluation will also be conducted, with the possibility of using ex ante evaluations, with the possibility of adjustments, in accordance with the monitoring and evaluation plan ([required link 2](#)). The final evaluation report will be part of the project completion report.

Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Social Inclusion and Equality -Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law	
Country Development Results Indicators	-Households with new or upgraded access to sanitation (#)* -Households with wastewater treatment (#)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2850	Expand and improve water supply and basic sanitation.
Country Program Results Matrix	GN-2915-2	The intervention is included in the 2018 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		
3. Evidence-based Assessment & Solution	8.9	
3.1 Program Diagnosis	2.4	
3.2 Proposed Interventions or Solutions	4.0	
3.3 Results Matrix Quality	2.5	
4. Ex ante Economic Analysis	10.0	
4.1 Program has an ERR/NPV, or key outcomes identified for CEA	3.0	
4.2 Identified and Quantified Benefits and Costs	3.0	
4.3 Reasonable Assumptions	1.0	
4.4 Sensitivity Analysis	2.0	
4.5 Consistency with results matrix	1.0	
5. Monitoring and Evaluation	8.5	
5.1 Monitoring Mechanisms	2.5	
5.2 Evaluation Plan	6.0	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Low	
Identified risks have been rated for magnitude and likelihood	Yes	
Mitigation measures have been identified for major risks	Yes	
Mitigation measures have indicators for tracking their implementation	Yes	
Environmental & social risk classification	B	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, External Control, Internal Audit. Procurement: nformation System, parison.
Non-Fiduciary	Yes	Environmental Assessment National System.
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The Tietê IV River Decontamination Program is the fourth project to support the Government of São Paulo to reduce organic load produced by households and discharged into the Tietê River. The objective of the Tietê IV project is to contribute to improvement of the environmental and health conditions of the Alto Tietê Basin in the Metropolitan Region of São Paulo through expansion and optimization of the sewage collection, transport and wastewater treatment systems. To this end, the project relies on two components: (i) Sewage System Works, including construction of sewage networks, technological improvements and expansion of the treatment plants capacities, installation of household connections; and (ii) Institutional and Operational Sustainability, which includes actions to improve management capacity of the Sanitation Company of the State of São Paulo (SABESP), development and implementation of technological innovations for sewerage services, support to SABESP in meeting the requirements of the regulatory agency. The vertical logic presented in the POD is consistent, covering the inputs, outputs and results. The results matrix includes indicators for the main products and results of the program. The indicators in the results matrix meet the SMART criteria and include the sources and means of verification that will be used to measure them. Although final impact indicators are not proposed, the program monitors intermediate indicators of the access and use of sewage systems, wastewater treatment, and institutional capacity for the management of sanitation systems. The borrower and the Executing Agency is SABESP. SABESP through its Superintendence of Management of Special Projects will be responsible for carrying out monitoring and evaluation activities, which include data collection plan, designation of responsibilities and budget assignment. An ex-ante economic evaluation was carried out showing the profitability of the project, and an ex-post economic evaluation is planned. The program does not contemplate an impact evaluation to measure the causal effects of the program. An intermediate and final evaluation is planned to evaluate the results achieved using the before-after comparison methodology and to conduct a "theoretical" attribution analysis to link the program to the achievement of the proposed results.

RESULTS MATRIX¹

Program objective	The program objective is to help improve environmental and sanitary conditions in the Upper Tietê River watershed in the Metropolitan Region of São Paulo (MRSP), thereby reducing the organic load from households discharged into the Tietê River, through the sustainable expansion and optimization of the system for collecting, transporting, and treating sewage.										
Outcomes											
Outcome 1: Expanded wastewater treatment by the State of São Paulo Basic Sanitation Company (SABESP) in the MRSP											
Indicator	Unit of measure	Baseline (BL)	Base year²	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project end	Comments (C) / Means of verification (MV)
1.1 Organic load from households (BOD ₅) removed from Tietê River upstream from Pirapora dam	tons/day	602	2021	602	602	602	602	602	672	672	Responsible party (RP): SABESP BOD₅ removed = Increase in treated flow per day x reduction in BOD ₅ * 10E-9 Increase in treated flow per day = increased flow (l/s) x 86,400 (s/d) BL: 602 tons/day by end of the Tietê River Cleanup Program, Stage III MV: Midterm and final evaluation reports
1.2 Percentage of households with wastewater treatment (IEC) in MRSP in areas served by SABESP	%	84	2021	84	84	84	84	84	90	90	RP: SABESP IEC: Households with wastewater treatment / total active households (connected to the network) BL: 84% by end of the Tietê River Cleanup Program, Stage III. MV: Midterm and final evaluation reports based on information from SABESP's business management office
1.3 Wastewater treatment capacity at wastewater treatment plants (WTPs) in MRSP	m³/s	26.5	2021	26.5	26.5	26.5	26.5	26.5	29.5	29.5	RP: SABESP MV: Idem C: Parque Novo Mondo (PNM), São Miguel, and Barueri plants

¹ The baseline and targets are based on the sample and tentative project portfolio that may be eligible for the program. Targets should be considered tentative and subject to the inclusion of new projects during the program.

² For indicators with 2021 as the base year, the value given is the expected outcome upon completion of Tietê River Cleanup Program, Stage III.

Indicator	Unit of measure	Baseline (BL)	Base year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project end	Comments (C) / Means of verification (MV)
1.4 New households with wastewater treatment in WTPs expanded under the program	Household	0	2017	0	0	0	331,556	331,556	876,814	876,814	RP: SABESP MV: Idem C: Barueri, PNM, and São Miguel plants
1.5 Treated effluent flow available for potential industrial reuse	m ³ /s	1	2021	0	0	0	1	1	2	2	RP: SABESP BL: Considering expansion of Parque Novo Mondo with other financing, to be reviewed during execution Quality of effluent: BOD ₅ < 6 mg/l, N-NH ₃ < 0.5, NO ₃ -N < 10 mg/l MV: Operational reports and semiannual program status reports
Outcome 2: Expanded coverage and reach of sewerage service in area served by SABESP in the MRSP											
2.1 Percentage of households with effective connection (IAE) to sewerage system in MRSP	%	81	2017	81	81	81	83	83	85	85	RP: SABESP IAE: Households served with effective connection to network / households in the area served. "Households served" means connected and using the sewerage system. MV: Idem
2.2 Households with new connection to the sewerage system in the program area	Household	0	2017	0	0	0	226,365	226,365	406,723	406,723	RP: SABESP MV: Idem
2.3 New households with access ³ to sewerage system in the program area	Household	0	2017	0	0	0	217,289	217,289	415,185	415,185	RP: SABESP MV: Idem Access: Connected households + households with service available

³ This indicator is the direct result of implementing the works and, therefore, is a final output indicator. However, because there is no cost per se (as the cost is the total of all outputs—constructed networks + constructed collector mains), it is listed as an outcome indicator of physical coverage.

Outcome 3: Improved institutional and operational sustainability of SABESP											
Indicator	Unit of measure	Baseline (BL)	Base year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project end	Comments (C) / Means of verification (MV)
3.1 Percentage of sewerage networks inspected annually (km/year equivalent)	% (km/yr.)	6 (31)	2017	6 (31)	6 (31)	6 (31)	17 (90)	17 (90)	20 (104)	20 (104)	RP: SABESP MV: Operational technical report structured by SABESP C: Target is 20% of network per year.
3.2 Number of innovative technologies developed by SABESP in real conditions at a demonstration treatment plant	New technology tested	0	2018	0	0	0	0	0	1	1	RP: SABESP MV: Technical report by SABESP's Superintendency of Research, Technological Development, and Innovation (TX) C: Technologies may be developed by SABESP or they may be acquired technologies to be evaluated to determine applicability in SABESP's sewerage system.
3.3 Time to complete SABESP's third regular rate review (RRR)	Days	472	2018	472	472	472	472	236	236	236 ⁴	RP: SABESP C: Indicator of length of rate review process is total days scheduled in the timetables released by the regulatory body (ARSESP) for completion of the third RRR. MV: Technical report by SABESP's Superintendency of Regulatory Affairs (PR)

⁴ The rate review process period has been lengthened from 138 days in the first publication of the second RRR to 472 days in the most recent publication. The number of days was based on information published by ARSESP in Deliberations 706/2017, 720/2017, 725/2017, 748/2017, 780/2018, and 788/2018. The target was 236 days, which equates to a 50% reduction in the number of days for the rate review process.

Outputs												
Component I: Sanitary sewerage works												
Output	Unit of measure	Associated outcomes	Cost ⁵ (US\$)	Baseline ⁶	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project end	Comments (C) / Means of verification (MV)
Expanded WTPs ⁷	Plant	1	192,691,770	0					2	1	3	R: SABESP MV: Work progress report prepared by external consulting firm and approved by SABESP's Superintendency for Management of Special Projects (TG)
Collector mains constructed	km	1, 2	201,849,849	0	15.6	23.4	39.0	39.0	23.4	15.6	156	
<i>Sample</i> ⁸			75,629,698		5.7	8.6	14.3	14.3	8.6	5.7	57.2	
<i>Other</i> ⁹			126,220,151		9.9	14.9	24.8	24.8	14.9	9.9	99.2	
Networks constructed	km	1, 2	83,458,381	0	20.4	30.6	51.0	51.0	30.6	20.4	204	
<i>Sample</i>			16,261,988		5.4	8.1	13.5	13.5	8.1	5.4	54	
<i>Other</i>			67,196,393		15.0	22.5	37.5	37.5	22.5	15.0	150	

⁵ Costs also include costs of the works, of supervising the works, of auditing the works, and of producing final designs for the works.

⁶ The baseline year for output indicators is 2018.

⁷ The project from the sample is the Parque Novo Mondo WTP (northern part of município of São Paulo).

⁸ The projects for networks and collector mains in the sample include three initiatives in the MRSP municípios of Cotia, Jandira, and Itapevi (Initiative A); Santana de Parnaíba and Barueri (Initiative B); and São Paulo (Initiative C).

⁹ Other projects to be financed by the program include initiatives in the MRSP municípios of Jandira, Barueri, Santana de Parnaíba, Itapevi, São Paulo, Osasco, Itapeverica da Serra, Carapicuíba, Embu das Artes, Ferraz de Vasconcelos, and Itaquaquecetuba.

Component II: Institutional and operational strengthening												
Output	Unit of measure	Associated outcomes	Cost (US\$)	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project end	Comments (C) / Means of verification (MV)
2.1 Strengthened capacity of SABESP to manage the sewerage system												
Training events held	Courses	3	100,000	0	-	-	-	2	-	2	4	RP: SABESP MV: List of attendees at courses held. Semiannual status reports by TG based on information from SABESP's MRSP wastewater treatment business unit (MT)
Equipment procured to inspect and clean the sewerage system	Equipment	3	1,800,000	0	-	-	-	8	-	-	8	RP: SABESP MV: Equipment receipt reports by TG based on information from MT
Equipment maintenance facility for the linear sewerage system	Plant	3	400,000	0	-	-	-	-	1	-	1	RP: SABESP MV: Status report prepared by external consulting firm and approved by TG C: "Linear sewerage" refers to networks and collector mains.
2.2 Support for development of innovative operational technologies												
Study prepared for planning the demonstration WTP	Study	3	1,400,000	0	-	-	1	-	-	-	1	RP: SABESP MV: Technical report on alternatives, sizing, and location of demonstration WTP prepared by TX
Technological training events held	Events	3	600,000	0	-	-	3	3	3	6	15	RP: SABESP MV: List of attendees at training events on technologies related to sewage treatment and application at demonstration WTP

Output	Unit of measure	Associated outcomes	Cost (US\$)	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project end	Comments (C) / Means of verification (MV)
First phase of demonstration WTP implemented	Plant	3	8,700,000	0	-	-	-	-	1		1	RP: SABESP MV: Report on implementation of first phase of demonstration WTP underway
2.3 Support for SABESP to satisfy requirements of the regulatory body												
Regulatory master plan developed	Plan	3	450,000	0	-	-	1	-	-	-	1	RP: SABESP MV: Final report approved by the Superintendency of Regulatory Affairs (PR)
Study completed for modernization and restructuring of SABESP's regulatory affairs unit	Study	3	100,000	0	-	-	1	-	-	-	1	RP: SABESP MV: Proposed rate restructuring completed and approved by PR
Training plan carried out for SABESP professionals involved in regulatory affairs	Plan	3	450,000	0	-	-	1	-	-	-	1	RP: SABESP MV: Report in support of the regulatory training plan

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Brazil
Project number:	BR-L1492
Name:	Tietê River Cleanup Program, Stage IV
Executing agency:	Companhia de Saneamento Básico do Estado de São Paulo [State of São Paulo Basic Sanitation Company] (SABESP)
Fiduciary team:	Karina Diaz and Santiago Schneider (VPC/FMP)

I. EXECUTIVE SUMMARY

- 1.1 The institutional evaluation for program fiduciary management took into account: (i) the country's fiduciary context, (ii) the institutional assessment (using the Institutional Capacity Assessment Platform), (iii) the evaluation of the main fiduciary risks, (iv) prior experience on operations executed by SABESP with the Bank, and (v) working meetings with the executing agency and the government.
- 1.2 Brazil has robust country fiduciary systems that allow for effective management of administrative, financial, oversight, and procurement processes in compliance with principles of transparency, economy, and efficiency. The executing agency's systems related to its capacity for planning, organization, execution, and oversight are at an acceptable level of development.
- 1.3 SABESP has the legal and fiduciary capacity and the experience to execute the program. This is the fourth stage to be financed with Bank resources. The structure that has already been implemented and strengthened will be used, taking into account lessons learned.

II. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT

- 2.1 SABESP has mixed public-private ownership, with its majority shareholder (with a 50.3% stake) being the State of São Paulo. SABESP owns the concession for basic sanitation utilities in the state of São Paulo. It is one of the largest water utilities in the world, ranking fourth in 2017. SABESP serves 66% of the population in the state of São Paulo.
- 2.2 In 2002, SABESP was listed on the São Paulo Stock Exchange (BOVESPA), and its shares were traded on the New York Stock Exchange. SABESP is currently listed on the "New Market" (*Novo Mercado*) of the stock exchange—*Mercadorias e Futuros* (Bm&fBovespa), the segment with the highest degree of corporate governance in Brazil—and on the New York Stock Exchange (ADR Level III). It is therefore subject, in Brazil, to the rules of the Securities Commission (*Comissão de Valores Mobiliários*) and Bm&fBovespa and, in the United States, to those of the Securities and Exchange Commission and the New York Stock Exchange. In addition, external control by the government is carried out by the State of São Paulo Audit Office.
- 2.3 SABESP has the installed capacity to execute the operation. It executed Stages I and II and is currently executing Stage III of the Tietê River Cleanup Program; these stages are partially financed by the Bank. A similar structure to the one used in Stage III will be used in this operation, with a program management unit

consisting of SABESP personnel supported by an external management team and specialists from various SABESP departments. The program management unit will be the Superintendency for Management of Special Projects, which is under the Division of Technology, Startups, and the Environment. For execution of Component 2 of the program, the program management unit will be under the relevant units of SABESP, including the superintendencies of finance, legal affairs, and resource mobilization.

III. EVALUATION OF INSTITUTIONAL CAPACITY, FIDUCIARY RISK, AND MITIGATION ACTIONS

- 3.1 The institutional capacity assessment (Institutional Capacity Assessment Platform) of SABESP, the risk management workshop, and the validation exercise with SABESP teams and the state government determined that SABESP has a high degree of fiduciary institutional capacity with experience in executing operations with the Bank, as well as a low level of fiduciary risk for this operation. As a result, fiduciary reviews will be conducted on an ex post basis. The Bank's financial and procurement teams will assist the operation by monitoring the risk level and adjusting the supervision plan accordingly.

IV. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

A. Procurement execution

- 4.1 **Procurement of works, goods, and nonconsulting services.** Project contracts for works, goods, and nonconsulting services subject to international competitive bidding (ICB) will use the standard bidding documents issued by the Bank. Contracts subject to national competitive bidding (NCB) will use national bidding documents agreed upon with the Bank. The project's sector specialist will be responsible for reviewing the technical specifications for procurement processes.
- 4.2 **Selection and contracting of consultants.** Contracts for consulting services will use the standard request for proposals form issued by the Bank. The project's sector specialist will be responsible for reviewing the terms of reference for contracting consulting services.
- 4.3 **Use of country procurement system.** The country procurement (sub)system approved by the Bank, *Pregão Eletrônico*, will be used to procure commonly used goods/services for up to US\$5 million. Any system or subsystem that is subsequently approved will be applicable to the operation. The procurement plan, as updated, will indicate which procurement processes will be conducted using approved country systems.
- 4.4 **Advance procurement.** The executing agency is using its own resources, in accordance with local law, to conduct an advance procurement process on a competitive basis to hire a consulting firm to support the management, planning, control, and supervision of remaining works in Stage III (loan 2202/OC-BR), which will include supervision of works for this program. The Bank's team is assisting in this process to ensure compliance with Bank policies, in view of the potential need to make payments related to execution of this contract using resources from this operation. These payments will be made after the Bank has approved the project. In this scenario, the consulting firm's contract will include the provisions on

prohibited practices from the Bank's procurement policies (clause 1.14 of the general conditions of the model contract for consulting services).

4.5 **Direct contracting.** None expected.

Table 1. Threshold amounts for international bidding and international shortlist

Procurement method	ICB works	ICB goods and nonconsulting services	International shortlist for consulting services
Threshold amount	US\$25 million	US\$5 million	US\$1 million

Table 2. Main procurement items

Procurement item	Selection method	Estimated date	Estimated amount (US\$ million)
Works			
Construction of collector mains	ICB	2019/2020	192
Construction of networks	ICB/NCB	2019/2020	258
Consulting services			
Supervision of works	QCBS	2021	15
Consulting services for institutional strengthening	QCBS	2020	15

[\(Procurement plan\)](#)

B. Procurement supervision

- 4.6 Procurement processes will be subject to ex post supervision, except for cases in which ex ante supervision is justified. Procurements conducted using the country system will also be supervised using the country system.
- 4.7 The supervision method will be determined for each selection process. Ex post reviews will be carried out every 12 months, in accordance with the program's supervision plan. Ex post review reports will include at least one physical inspection visit selected from among the procurement processes subject to ex post review.

Table 3. Threshold for ex post review

Works	Goods	Consulting services
NCB and PC	NCB and PC	Under US\$1 million

C. Records and files

- 4.8 The coordinating unit will be responsible for documenting the process and will maintain all documentation needed for supervisory and auditing purposes.

V. FINANCIAL MANAGEMENT

A. Programming and budget

- 5.1 SABESP's annual budget is not dependent on the budget of the State of São Paulo. It is proposed by its Executive Board and approved by the board of directors. The State of São Paulo, acting through its finance and planning department, also participates in the annual budget approval process.
- 5.2 SABESP will be responsible for executing activities in accordance with the program execution plan, annual work plan, and financial plan.
- 5.3 The program management unit will ensure, and provide evidence to the Bank, that the program's budgetary resources (IDB and local) are allocated each year and secured for program execution as planned. These resources will be recorded in SABESP's financial system as an external source in the year of execution.

B. Accounting and information systems

- 5.4 SABESP manages its accounting and information systems independently from State institutions. It has an integrated financial reporting system (SiiS) that includes budgeting, accounting, and treasury functions on its own platform. SABESP's administrative and financial processes were transferred to the SAP platform in 2017, a process implemented by Accenture in partnership with SAP.
- 5.5 SABESP replaced its old mainframe-based administrative and financial systems with SAP ERP and SAP HANA. The implemented modules satisfy the main requirements of the control and finance units.
- 5.6 SABESP has an information technology unit that incorporates and maintains information technologies, including the integrated management system. All project data will be recorded in SiiS, and the system allows for transactions to be recorded in both Brazilian reais and U.S. dollars, as well as to be identified by component and source of financing (IDB or local).

C. Disbursements and cash flow

- 5.7 Disbursements will be made in U.S. dollars as reimbursement of eligible expenses financed with SABESP's own resources. These disbursements will be subject to ex post review.
- 5.8 Advance payments may be used in specific cases. Advance payments will be based on projected disbursements for up to 180 days and supported in a financial planning exercise approved by the Bank. For future advance payments, accounts must be rendered for at least 80% of the resources previously advanced.
- 5.9 The exchange rate used in rendering accounts on advance payments of loan proceeds will be the internalization rate. In determining the equivalent amount for reimbursement of resources against the loan, the exchange rate will be the rate in effect on the day before the Bank submitted the reimbursement request.
- 5.10 Expenditures deemed ineligible by the Bank will be repaid using other resources at the Bank's discretion, depending on the nature of the ineligibility.

D. Internal control and internal auditing

- 5.11 SABESP's internal auditing unit consists of 31 people across four areas: information technology, operations, finance, and engineering. The audit committee consists of three independent members of management who are knowledgeable about accounting and finance.
- 5.12 SABESP's auditing superintendency is in charge of the company's oversight activities, which are aimed at evaluating the effectiveness of internal controls and of processes related to governance, risk management, and reliability of financial statements. SABESP's internal audit unit received the most prestigious certification of internal auditing issued by the Institute of Internal Auditors in the 2017 Quality Assessment. SABESP is the first company of mixed ownership, and the first company in the sanitation sector, to receive this rating in Brazil. This certification shows that SABESP's internal auditing unit provides a sense of administrative security with its evaluations in accordance with laws and regulations.
- 5.13 SABESP is listed in the Corporate Governance Index and the Special Tag-Along Stock Index. Its governance structure includes a general shareholders' meeting, a board of directors, an audit committee, a fiscal council, an office of the executive secretary for governance, and internal and external audit units.

E. External control and reports

- 5.14 SABESP is subject to multiple levels of national and international oversight. As a company listed on stock exchanges, it must comply with the rules and regulations of Brazil's Securities Commission, Bm&fBovespa, the U.S. Securities and Exchange Commission, and the New York Stock Exchange.
- 5.15 External oversight of SABESP is carried out by a private external auditing firm hired for four-year terms and by the State of São Paulo Audit Office (TCE/SP), which conducts operational audits of public entities on an ongoing basis. While TCE/SP is a strategic partner of the Bank, it is not currently eligible to conduct audits of Bank-financed projects.
- 5.16 The SABESP, Stage IV operation will be audited on an annual basis by a Bank-eligible external auditing firm. If the external auditing firm that audits SABESP's financial statements is Bank-eligible, it may audit the Bank project. The firm will submit an audit report on the reasonability of financial statements within 120 days after the end of each fiscal year (31 December). The external audit of the program will be financed by the local contribution.

F. Financial supervision plan

- 5.17 This plan may be modified during the program in accordance with changes in risk levels or if additional controls are needed.

Table 4. Supervision plan

Supervision activity	Supervision plan			
	Nature/scope	Frequency	Responsible party	
			Bank	Executing agency
Financial	Ex post review of disbursements and procurement processes	Annual	Fiduciary team	PEU: external auditor
	Annual audit	Annual	Fiduciary team	PEU: external auditor
	Review of disbursement requests	Periodic	Fiduciary team	
	Supervision visits	TBD - annual	Fiduciary specialist	

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/18

Brazil. Loan ____/OC-BR to Companhia de Saneamento Básico do Estado de São Paulo – SABESP. Tietê River Cleanup Program, Stage IV

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with Companhia de Saneamento Básico do Estado de São Paulo – SABESP, as Borrower, and with the Federative Republic of Brazil and the State of São Paulo, as Guarantors, for the purpose of granting the former a financing to cooperate in the execution of the Tietê River Cleanup Program, Stage IV. Such financing will be for the amount of up to US\$300,000,000 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2018)

LEG/SGO/CSC/ EZSHARE-620307903-25427
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