

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**URUGUAY**

**DRINKING WATER SYSTEMS IMPROVEMENT PROGRAM – PHASE I**

**(UR-L1189)**

**LOAN PROPOSAL**

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## **ABBREVIATIONS**

|        |  |
|--------|--|
| EBITDA | Earnings before interest, taxes, depreciation, and amortization                              |
| ESPF   | Environmental and Social Policy Framework  |
| G&D    | Gender and diversity   |
| GFM    | Green finance marker   |
| LGBTQ+ | Lesbian, gay, bisexual, transgender, queer, and others                                       |
| OSE    | Administración de Obras Sanitarias del Estado [State Sanitation Works Administration]        |
| SOFR   | Secured Overnight Financing Rate   |
| TCR    | Tribunal de Cuentas de la República [Office of the Auditor General of the Republic]          |
| URSEA  | Unidad Reguladora de Servicios de Energía y Agua [Energy and Water Services Regulatory Unit] |
| WHO    | World Health Organization  |

## PROJECT SUMMARY

### URUGUAY DRINKING WATER SYSTEMS IMPROVEMENT PROGRAM – PHASE I (UR-L1189)

| Financial Terms and Conditions  |               |   |   |  |
|---|---------------|---|---|--|
| Borrower:   |               |   | Flexible Financing Facility <sup>(a)</sup>  |  |
| Administración de Obras Sanitarias del Estado [State Sanitation Works Administration] (OSE)   |               |   | Amortization period:  | 24.5 years                             |
| Guarantor:  |               |   | Disbursement period:  | 5 years                                |
| Eastern Republic of Uruguay   |               |   | Grace period:   | 6 years <sup>(b)</sup>                 |
| Executing agency:   |               |   | Interest rate:  | SOFR-based                             |
| OSE   |               |   | Credit fee:   | (c)                                    |
| Type of loan:   |               |   | Inspection and supervision fee:   | (c)                                    |
| Multiple works program  |               |   |   |  |
| Source  | Amount (US\$) | %   | Weighted average life:  | 15.25 years                            |
| IDB (Ordinary Capital):   | 30 million    | 100   | Approval currency:  | U.S. dollars                           |
| Total:  | 30 million    | 100   |   |  |
| Project at a Glance   |               |   |   |  |
| <b>Project objective/description:</b> The general objective of the program is to help lower health risks by improving the drinking water quality in beneficiary towns. The specific objectives are to: (i) improve water quality by reducing arsenic levels in drinking water systems in beneficiary towns; and (ii) strengthen the OSE’s capacities for the proper management of improved water systems.   |               |   |   |  |
| <b>Special contractual conditions precedent to the first disbursement of the loan:</b> The borrower, through the executing agency, will provide evidence of: (i) approval and entry into force of the program <a href="#">Operating Regulations</a> , under the terms and conditions previously agreed upon with the Bank, which will include, <i>inter alia</i> , the environmental and social management system and the environmental and social management framework; (ii) appointment and/or contracting, as appropriate, of the key team for the program set out in paragraph 3.1; and (iii) implementation of the intervention monitoring software for program works (paragraph 3.4). |               |   |   |  |
| <b>Special contractual conditions for execution:</b> Prior to the start of each work under Component 1 of the program, the borrower will present evidence to the Bank, as appropriate, of: (i) the start of legal proceedings to establish easements and/or expropriate the land affected by the work, identifying the estimated timeframe for those proceedings; or (ii) the necessary consensus agreements for the start, construction, and use of the works on the affected land (paragraph 3.5).  |               |   |   |  |
| In addition, see the special contractual conditions for disbursement and execution in Annex B of the environmental and social review summary ( <a href="#">required link 3</a> ).   |               |   |   |  |
| <b>Exceptions to Bank policies:</b> None.   |               |   |   |  |
| Strategic Alignment   |               |   |   |  |
| <b>Challenges:</b> <sup>(d)</sup>   |               | SI <input checked="" type="checkbox"/>  | PI <input checked="" type="checkbox"/>  | EI <input type="checkbox"/>            |
| <b>Crosscutting themes:</b> <sup>(e)</sup>  |               | GE <input checked="" type="checkbox"/> and DI <input checked="" type="checkbox"/> | CC <input checked="" type="checkbox"/> and ES <input checked="" type="checkbox"/> | IC <input checked="" type="checkbox"/> |

<sup>(a)</sup> Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, commodity, and catastrophe protection conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

<sup>(b)</sup> 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 or the last payment date as documented in the loan contract.

<sup>(c)</sup> The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.

<sup>(d)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(e)</sup> GE (Gender Equality) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem addressed, and rationale

- 1.1 **Context.** The Eastern Republic of Uruguay covers an area of 176,000 km<sup>2</sup>, consists of 19 departments, and has a population of 3.56 million inhabitants (projection based on the [2011 census](#) conducted by the Instituto Nacional de Estadística [National Institute of Statistics]), of whom approximately 60% live in the Montevideo metropolitan area. The Constitutional Reform of 2004 (Article 47) provides that access to water and sanitation is a fundamental human right and that these services should be provided exclusively by State-owned legal entities. Following this reform, the national government and the legislature undertook actions to strengthen the regulatory and institutional framework by enacting the Drinking Water and Sanitation Law in September 2009, creating the related institutional framework and preparing a National Comprehensive Drinking Water and Sanitation Policy.
- 1.2 **Sector structure.** The institutional framework has been gradually implemented since 2005 and distinguishes between the policy-making, regulation, and service delivery functions in independent entities. Under the Ministry of Environment, the Dirección Nacional de Aguas [National Water Department] oversees the sector and is responsible for putting forward the National Water Policy. Attached to the Office of the President of the Republic, the Unidad Reguladora de Servicios de Energía y Agua [Energy and Water Services Regulatory Unit] (URSEA) is responsible for economic regulation, service quality, customer service, the development of regulations for regulatory issues, and control of compliance. Responsibility for delivery of drinking water services nationwide falls to the Administración de Obras Sanitarias del Estado [State Sanitation Works Administration] (OSE), while responsibility for the provision of sanitation services throughout the country is divided between the OSE and the Montevideo city council, with the OSE responsible for providing service outside the country's capital. As the service provider, the OSE monitors the quality of the water supplied and is audited by URSEA, the regulatory body.
- 1.3 **Challenges in the drinking water sector.** In Uruguay, 94.7% of the population is concentrated in urban areas and 5.3% in rural areas. As regards drinking water coverage, 95.2% of the country's total population is supplied by networks, 4.2% from other improved water sources, and 0.5% from unprotected spring wells and/or cisterns.<sup>1</sup> According to the latest report of the Joint Monitoring Programme of the World Health Organization (WHO) and the United Nations Children's Fund,<sup>2</sup> 95% of the urban population has access to safely managed water,<sup>3</sup> although this figure is not reported for the rural sector. More than 350 million

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<sup>1</sup> Presidencia de la República and Oficina de Planeamiento y Presupuesto. (2018). Sustainable development goals – [Informe Nacional Voluntario. Uruguay 2018](#).

<sup>2</sup> Joint Monitoring Programme (2020) [Progress on Household Drinking Water, Sanitation, and Hygiene 2000-2020](#).

<sup>3</sup> Access to safely managed water means that households have a water source accessible on premises (located within the dwelling, yard, or plot), available when needed (sufficient water available for at least 12 hours per day), and free from contamination (meets microbial and priority chemical contamination standards).

cubic meters of drinking water is produced annually, with 90% of the water used for this purpose coming from surface sources and 10% from groundwater sources.<sup>4</sup> The main challenges facing the country in relation to drinking water are as follows: (i) the capacity to guarantee drinking water quality, including the redundancy of sources and other critical issues in the drinking water treatment and supply systems; (ii) the reduction of nonrevenue drinking water, which stands at 53.4% at the national level;<sup>5,6</sup> and (iii) the provision of universal access to the drinking water service, especially considering small villages and rural schools. As for specific quality challenges, there is the general principle of ensuring a sufficient, safe, and accessible water supply. The concept of safe water—understood as water that does not result in any significant risk to health—encompasses microbial, chemical, and acceptability considerations ([WHO, 2017](#)). Arsenic is one of the chemicals that has proven negative health effects as a result of exposure in excessive amounts in water.

- 1.4 **Arsenic concentration and standards in distributed water.** Due to its presence in geological strata, arsenic is found naturally dissolved in water, mainly groundwater.<sup>7</sup> Its presence is a global problem with a major impact mainly on developing countries, with more than 226 million people exposed. In Latin America, the problem affects at least 14 countries (Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Peru, and Uruguay), exposing an estimated 14 million people.
- 1.5 Based on the recommendations of the WHO's [Guidelines for Drinking-Water Quality](#)<sup>8</sup> and the [United States Environmental Protection Agency](#), as well as the UNIT-833-2010 rule and Decree 110/011 of 2011, which amends the National Bromatological Regulation (Decree 3015/994 of 5 July 1994), Uruguay has set more stringent values for arsenic—a potentially carcinogenic chemical element found naturally in water. In Decree 110/011, the maximum limit of 0.05 mg/l of water was lowered to 0.02 mg/l, and a 10-year period was granted as from enactment (ending in March 2021) to reach a target value of 0.01 mg/l.<sup>9</sup> In 2021, the Ministry of Public Health granted a two-year extension for compliance with the 0.01 mg/l limit.
- 1.6 In general, arsenic concentrations in water distribution systems in Uruguay do not exceed 0.03 mg/l. However, there are many boreholes, particularly in the Littoral zone, which exceed the guideline value of 0.01 mg/l. The presence of

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<sup>4</sup> OSE. (2018). [Reporte de sostenibilidad 2018](#).

<sup>5</sup> Asociación de Entes Reguladores de Agua y Saneamiento de las Américas. (2017). [Regional Benchmarking Working Group](#). Informe anual 2016. Lima.

<sup>6</sup> OSE. (2019b). [Préstamo BIRF N° 8183](#). Proyecto OSE sustentable y eficiente. Indicadores transitorios de desempeño. Published 27 September 2019.

<sup>7</sup> Arsenic is found in natural waters as a dissolved species, mainly in the form of arsenic oxyanions in two oxidation states: trivalent arsenic [As(3+)] and pentavalent arsenic [As(5+)]. Although both As(5+) and As(3+) are mobile in the medium, As(3+) is the more labile and biotoxic state (Lillo, 2008).

<sup>8</sup> WHO, 2011. Guidelines for Drinking-Water Quality: Fourth Edition, Incorporating the First Addendum. Geneva, Switzerland.

<sup>9</sup> The guideline value of 0.01 mg/l (10 µg/l) was designated by the WHO as an interim guideline value considering the uncertainty surrounding risks at low concentrations, the effectiveness of available arsenic removal technology, and the practical limit of quantification.

arsenic at these levels arises from the fact that the current technology used in these systems does not allow for its removal, and although in recent years the OSE has made investments in some water supply systems, they have not been sufficient to cover the universe of affected towns. There are currently 148 towns<sup>10</sup> in the country's southern and western regions (approximately 130,000 inhabitants) where arsenic concentrations are over 0.01 mg/l and in some cases even above 0.02 mg/l. The population served by these systems ranges from 7 to 16,800, with 80% serving less than 1,300 people.

- 1.7 The OSE currently uses two technologies for arsenic removal: conventional and reverse osmosis. Although the OSE boasts extensive experience in managing these technologies, adopting new technologies would elicit the need to strengthen its capacities to manage them.
- 1.8 **Health impacts of arsenic consumption.** At certain concentration levels, arsenic can cause chronic poisoning when small amounts are ingested over long periods of time, such as drinking water or eating food grown or cooked with such water.<sup>11</sup> In 2010, the Joint Expert Committee on Food Additives of the Food and Agriculture Organization of the United Nations and the WHO concluded that for certain regions of the world where concentrations of inorganic arsenic in the water supplied exceed 0.5-0.1 mg/l (50-10 times higher than the threshold in Uruguayan regulations), there is some evidence of adverse effects. In other areas, where arsenic concentrations in water are elevated, albeit to a lesser degree (0.01-0.05 mg/l), the committee concluded that while adverse effects may occur, they are not detectable in an epidemiological study because of their low incidence ([WHO, 2018](#)). To date, considerable uncertainty remains about the shape of the dose-response curve for low ingestion. However, there are reports in the literature of increased risks of lung and bladder cancer and skin lesions associated with ingestion of drinking water with arsenic concentrations of even less than 0.05 mg/l ([WHO, 2022](#)).<sup>12</sup>
- 1.9 **Climate change and environmental sustainability considerations.** Scientific evidence establishes links between climate change and groundwater availability, with climate change reducing groundwater availability and thus increasing the concentration of pollutants such as arsenic ([Intergovernmental Panel on Climate Change, 2013](#)). In Uruguay, the [Informe de Ambiente \(2020\)](#)<sup>13</sup> highlights the vulnerability of aquifers and the role climate change plays in the overconcentration of pollutants therein.

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<sup>10</sup> Estudio básico de gestión de arsénico en sistemas de potabilización en Uruguay. Estudio Pittamiglio, 2022. IDB consultancy.

<sup>11</sup> Chronic exposure to high concentrations has been associated with a variety of health problems, including: various cancers (skin, lung, bladder, liver, kidney, and prostate); neurological, gastrointestinal, and hematological effects and diseases, perinatal pathologies, and other clinical manifestations; immunological and vascular effects, including myocardial infarction, hypertension, and diabetes; miscarriage; low birth weight; hyperkeratosis; and hyperpigmentation ([WHO, 2022](#)).

<sup>12</sup> WHO, 2022. Guidelines for Drinking-Water Quality: Fourth Edition Incorporating the First and Second Addenda. Geneva, Switzerland.

<sup>13</sup> Ministry of Environment. [Informe del estado del ambiente 2020](#) (2016-2019 period). Ministry of Environment, Uruguay (2020).



- 1.10 **Gender, diversity, and inclusion considerations.** The labor force participation rate for women in Uruguay is 55% and 69% for men. In the country, 12% of companies are majority-owned by women, and only 11% have women in senior management. The 2011 census shows that the labor force participation rate of persons with disabilities is 37% (Mareño, 2019). To include gender and diversity (G&D) considerations in the program, an institutional diagnostic assessment of G&D at OSE is being conducted (with the consequent design of a G&D action plan, which is being funded by technical-cooperation operation [ATN/JF-19221-UR](#)), the initial findings of which are as follows: OSE employees total 3,681, of which 63.16% are men, 0.06% are trans men, and 36.78% are women. In addition, 22 men (0.60%) and 14 women (0.38%) are persons with disabilities. A diagnostic assessment conducted in 2017 indicates that 4.7% of employees hired identified as Afrodescendant and filled unskilled positions. The OSE has established criteria and provided for the use of inclusive language in calls for applications, although these have not been used recently, and certain personnel selection mechanisms designed to avoid gender bias have not been approved. The company has a Gender Unit in place, but it faces major challenges in implementing G&D actions due to a lack of effective intrainstitutional mechanisms.
- 1.11 **Bank experience in the sector.** In Uruguay, the Bank has a long history of supporting drinking water treatment and distribution. In particular, it supported implementation of the first phase of the National Water and Sanitation Program ([785/OC-UR](#)), executed by the OSE and concluded in 2004, through which it financed, *inter alia*, the expansion of drinking water systems, the construction of sewerage systems, and the preparation of the Montevideo Master Sanitation and Storm Drainage Plan. It subsequently financed three operations of the Integrated Sanitation Program for Ciudad de la Costa ([2095/OC-UR](#) and [2785/OC-UR](#); [2790/OC-UR](#); and [3258/OC-UR](#) and [3259/CH-UR](#)), of which the first two have been completed and relate to the first and second operations under the Conditional Credit Line for Investment Projects UR-X1006. In addition, the Bank used nonreimbursable resources from the Spanish Cooperation Fund for Water and Sanitation in Latin America to support a drinking water supply program for small rural communities ([GRT/WS-12278-UR](#)), the preparation of the National Integrated Water Resources Management Plan, and the strengthening of the National Water Department ([ATN/OC-12393-UR](#) and [ATN/WS-12866-UR](#)). In Bank-implemented programs in Uruguay over the last 30 years, 33,000 households have benefited from adequate sanitation (collection and treatment), 11,000 have been protected from flooding, and 11,800 have been connected to drinking water systems. In the case of Montevideo, the city's wastewater treatment systems were built to treat wastewater from 344,000 households, reducing the organic load discharged and rendering the city's beaches suitable for recreation. Lessons from the final evaluations and project completion reports of the aforementioned operations were used in the design of this operation. These include the need for a system for tracking and monitoring multiple interventions, to facilitate information management during execution, and that having engineering designs in an early phase of program preparation saves time in execution and allows for better planning of targets (paragraph 1.13).

- 1.12 Lastly, in 2022, the Bank approved the technical-cooperation operation to improve arsenic management in water supply systems ([ATN/JF-19221-UR](#)) in order to develop a national strategy for intervention in these systems, including issues relating to communication strategy vis-à-vis the population. The technical-cooperation operation on the design and management of adsorption technologies for arsenic removal in drinking water systems in Uruguay (UR-T1305) is in the process of being approved and aims to accelerate the learning curve in a removal technology (adsorption) not currently applied in the country.
- 1.13 **Lessons learned applicable to the program.** This program incorporates lessons learned from operations in the country (paragraph 1.11), as well as from evaluations of other similar operations in the region ([Water and Sanitation Sector Framework Document](#)) such as: (i) having the engineering designs for projects at the start of execution to accelerate the commitment of program resources; to this end, the designs for 20 drinking water supply systems were financed using technical-cooperation funding [ATN/JF-19221-UR](#); (ii) strengthening the capacity to supervise works in order to reduce deviations in deadlines and costs, for which specific activities and consulting services are included in the program to support the OSE; (iii) including activities to ensure proper operation and maintenance of investments; to this end, the OSE's management capacities will be strengthened by training its employees in the new technologies and infrastructure to be financed; and (iv) having a monitoring system in place to systematize all the information on the interventions from the outset of the program; to this end, a monitoring system will be financed for the program's interventions.
- 1.14 **Strategy of the operation.** With a view to ensuring that distributed water has an arsenic concentration below the target value, the program will finance infrastructure interventions, as applicable to each specific project, to: (i) change the source by discarding boreholes that provide water with out-of-range values; (ii) dilute water from boreholes exceeding the target value by using other sources with lower concentrations to ensure a blend with adequate values; and/or (iii) treat the water to reduce the arsenic concentration for which three internationally validated treatment systems are identified:<sup>14</sup> conventional, reverse osmosis, and adsorption.<sup>15,16,17</sup> The systems to be built follow prevailing best practice for process automation. The program will also strengthen the OSE's capacities in the operation of the technologies<sup>18</sup> to ensure the sustainability of the

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<sup>14</sup> Estudio Pittamiglio. Estudio Básico - Arsénico en sistemas de potabilización. Consulting report. IDB. 2022.

<sup>15</sup> Conventional treatment consists of coagulation-flocculation, sedimentation, rapid filtration, and disinfection systems, which require a prior oxidation stage (usually chlorine dosing). This option is widely known and standardized by the OSE. Evidence of effectiveness shows arsenic values in treated water reaching parameters below 0.005 mg/l for dosages of approximately 70 mg/l of aluminum sulphate (Instituto de Mecánica de los Fluidos e Ingeniería Ambiental, 2019).

<sup>16</sup> Reverse osmosis treatment consists of a physicochemical treatment in which water is purified through semipermeable membranes, thereby removing ions, molecules, and larger particles from the water. Evaluations prove the effectiveness of the treatment by achieving treated water with arsenic levels below 0.003 mg/l with the membranes in their optimal state (Estudio Pittamiglio, 2022).

<sup>17</sup> Adsorption treatment employs arsenic removal filters where the water passes through a filter medium of iron and titanium oxides, among others. Evidence shows that treated water with arsenic levels below 0.003 mg/l is generally obtained with new filter medium (Estudio Pittamiglio, 2022).

systems built, particularly in the case of systems with adsorption technology, which will make it possible to draw lessons for their implementation—both by the Bank and different actors—generating value added for other similar projects in the region (paragraphs 1.12 and 1.18). In turn, these solutions will be designed to ensure their resilience to the effects of climate change. This operation addresses one of the consequences of climate change by helping lower the concentration of pollutants such as arsenic in groundwater.

- 1.15 **G&D strategy and actions.** The institutional diagnostic assessment of G&D at the OSE will lead to an action plan for bridging the gaps identified. Since this plan is being prepared and looks to secure a budget to cover a portion of its implementation, as part of the actions to bridge G&D gaps, this program includes awareness-raising activities on G&D issues for OSE personnel linked to the targeted systems, specifically the implementation of at least six awareness-raising and/or training workshops for OSE personnel connected to the program. This will therefore provide monitoring for a portion of the action plan. This awareness-raising seeks to boost diversity at companies, which, according to the International Labour Organization (2019),<sup>19</sup> leads to a probability increase of 62% for higher profits and productivity and of 60% for the company's creativity, innovation, and openness.
- 1.16 **OSE strategy.** The OSE's various action plans include the provision of universal access to drinking water and sanitation services as a strategic theme. In particular, its 2022 action plan sets out Strategic Plan Eight on the implementation of solutions for compliance with the new arsenic standard at the national level.
- 1.17 **The Bank's country strategy.** The operation is aligned with the Country Strategy with Uruguay 2021-2025 (document GN-3056) in the strategic area of equity and social inclusion, contributing to the strategic objective of facilitating urban services and housing. The operation also aligns with the Bank's country strategy in the crosscutting area of digital transformation by including activities to digitize water supply systems (process automation). The program is included in the 2023 Operational Program Report (document GN-3154-1).
- 1.18 **Strategic alignment.** The operation is consistent with the second Update to the Institutional Strategy (document AB-3190-2) and directly aligns with the following development challenges: (i) Social inclusion and Equality, considering that the interventions are aimed at improving the population's drinking water services; and (ii) Productivity and Innovation, as the program will finance innovative systems in the country for arsenic removal (adsorption technology). It also aligns with the crosscutting areas of: (i) Institutional Capacity and Rule of Law, by improving the management capacities of drinking water systems; (ii) Gender Equality and Diversity, by strengthening the OSE with G&D action plans (persons with disabilities, Afrodescendants, and LGBTQ+); and (iii) Climate Change and Environmental Sustainability, by lowering elevated arsenic concentrations resulting

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<sup>18</sup> According to the [2020 Development in the Americas Report](#), technological change can contribute a change in the paradigm under which water and sanitation services are organized and operated.

<sup>19</sup> International Labour Organization, 2019. Women in business and management: the business case for change. Geneva, Switzerland.

from reduced groundwater recharge. In all, 57% of the operation's resources are invested in climate change mitigation and adaptation activities, according to the [joint methodology of the multilateral development banks](#). According to the methodology adopted by the Bank for green finance (document [GN-3101](#)), this could be classified as a GFM 2 operation, i.e. 100% is considered green finance. Specifically, the first component is deemed to relate to activities that contribute to the environmental objective on the “sustainable use and protection of water and marine resources,” and the second component contributes to the objective of “strengthening environmental governance systems.” In addition, the indicator on “households with improved access to drinking water services in targeted towns” could qualify for green financing.

- 1.19 This operation has been reviewed using the Joint Multilateral Development Bank Assessment Framework for Paris Alignment and the IDB Group Paris Alignment Implementation Approach (document GN-3142-1) and is considered to be aligned with both the mitigation and the adaptation objectives set out in the Paris Agreement ([optional link 7](#)).
- 1.20 In turn, the operation will contribute to the Corporate Results Framework 2020-2023 (document GN-2727-12) through indicators 2.4 on “households with new or improved access to water and sanitation” and 2.26 on “institutions with strengthened managerial and digital technology capacities” and is aligned with the Sustainable Infrastructure Strategy for Competitiveness and Inclusive Growth (document GN-2710-5), particularly with the priority area to “support the construction and maintenance of an environmentally and socially sustainable infrastructure, thus enhancing quality of life.” Lastly, the project is consistent with: (i) the Water and Sanitation Sector Framework Document (document GN-2781-13), with the premise that “projects and programs are environmentally and socially sustainable and incorporate climate change considerations and environmental and cultural sustainability”; (ii) the Climate Change Sector Framework Document (document GN-2835-8) with the premise relating to the fourth dimension of success that “countries make progress on mainstreaming climate change considerations across sectors”; and (iii) the Gender and Diversity Sector Framework Document (document GN-2800-13) related to delivering “quality public services that promote gender equality or women’s empowerment” as well as projects that support the social inclusion of persons with disabilities.
- 1.21 **Compliance with the Public Utilities Policy (document GN-2716-6).** The proposed program and country sector objectives are consistent with the principles of the Public Utilities Policy and meet conditions of financial sustainability and economic evaluation. The financial evaluation conducted showed that the operator has the financial capacity to meet the commitments arising from the investments proposed in this project ([optional link 2](#)). The economic evaluation has shown that the projects analyzed are socioeconomically viable ([optional link 1](#)).

## **B. Objectives, components, and cost**

- 1.22 **Program objectives.** The general objective of the program is to help lower health risks by improving the drinking water quality in beneficiary towns. The specific objectives are to: (i) improve water quality by reducing arsenic levels in drinking water systems in beneficiary towns; and (ii) strengthen the OSE’s

capacities for the proper management of improved water systems. To achieve the objectives, the program is divided into the following components:

- 1.23 **Component I. Drinking water systems (US\$28 million).** The construction of complementary infrastructure to reduce arsenic levels will be financed. The works to be financed include investments in existing drinking water supply systems, including new drinking water plants, new boreholes, pipelines, storage, servicing, and support in initial operation. This will include actions necessary for the proper management of effluents and waste from drinking water treatment systems. The development of water system designs with complementary infrastructure for arsenic removal will also be financed.
  - 1.24 **Component II. Institutional strengthening of the OSE (US\$400,000).** Investments under this component contribute to the objective of strengthening the OSE's capacities to ensure proper program implementation and sustainability. The measures to be financed include actions to strengthen the various areas linked to arsenic management (with emphasis on adsorption technology) in order to ensure the proper operation and sustainability of the systems. Specifically, it will finance the development of maintenance and environmental management strategies for the improved systems, training workshops for OSE personnel, and G&D awareness-raising activities (persons with disabilities, Afrodescendants, and LGBTQ+) following the recommendations of the G&D action plan.<sup>20</sup>
  - 1.25 **Administration, evaluation, and audit (US\$1.6 million).** The operation will also finance the program's administration and monitoring costs (including technical consulting services to monitor the interventions), external audit, and evaluation.
- C. Key results indicators**
- 1.26 The project's main results are linked to improved quality of water services in the targeted towns. The key results indicators are presented in Table I-1 below (see Annex II).

**Table I-1 – Key indicators**

| Results indicator | Measurement unit | Baseline | Target |
|-------------------|------------------|----------|--------|
|-------------------|------------------|----------|--------|

<sup>20</sup> This action plan is currently in the design phase and is being funded by technical-cooperation operation [ATN/JF-19221-UR](#). Some of the actions included are: (i) review of the OSE's coresponsibility policy in order to (a) verify whether any adjustments are needed to improve its implementation; (b) define monitoring indicators that promote the concrete achievement of its objectives; and (ii) awareness-raising and training plan on gender equality and diversity inclusion for all OSE personnel, tailoring training to the functions of each department, especially those relating to: (a) communications and the organization's image; (b) human talent management at the OSE; (c) prevention of sexual harassment in the workplace. In terms of the inclusion of persons with disabilities: (i) training of human talent on the rights of persons with disabilities and concepts of universal accessibility; and (ii) awareness-raising activities for OSE employees on the inclusion of persons with disabilities.

| Results indicator  | Measurement unit | Baseline | Target |
|--|------------------|----------|--------|
| Systems with arsenic parameter value < 0.01 mg/l in the targeted towns   | Systems          | 0        | 20     |
| Households with improved access to drinking water services in the targeted towns                                 | Households       | 0        | 15,673 |
| OSE personnel linked to the targeted water systems with improved capacities for proper management of the systems | Percentage       | 0        | 100    |

- 1.27 **Benefits and expected outcomes.** Interventions are expected to be carried out in 20 drinking water treatment systems, directly benefiting approximately 45,000 inhabitants (out of a total of 130,000 inhabitants that have arsenic content in water exceeding 0.01 mg/l), for whom water quality will be improved. The benefits relate to the population's lowered health risk associated with the presence of arsenic in quantities exceeding the established standard.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 **Modality.** The operation is structured as a multiple works program. It complies with the operational guidelines for this type of program since: (i) the projects to be financed are similar interventions, but independent of each other; (ii) the viability of each project does not depend on the execution of other projects; (iii) the size and number of projects does not warrant the operation being managed directly, and therefore [Operating Regulations](#) covering all individual program-financed projects will be developed.
- 2.2 **Cost and financing.** The total program cost is up to US\$30 million, which would be financed with a loan from the Bank's Ordinary Capital. The consolidated budget by component is detailed in Table II-1. The loan will also have a five-year disbursement period, consistent with the multiyear execution plan ([required link 1](#)). The disbursement schedule is presented in Table II-2.

Table II-1 – Estimated program costs\* (US\$ millions)

| Component                                   | IDB         | %          |
|---|-------------|------------|
| I - Drinking water systems                  | 28          | 93.3       |
| Infrastructure works                        | 27.6        |            |
| Preliminary draft projects                  | 0.4         |            |
| II - Institutional strengthening of the OSE | 0.4         | 1.3        |
| Administration, evaluation, and audit       | 1.6         | 5.4        |
| <b>Total</b>                                | <b>30.0</b> | <b>100</b> |

\*Costs per subcomponent or main activity are indicative.



**Table II-2 – Disbursement schedule (US\$ millions)**

| Source | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|--------|--------|--------|--------|--------|--------|-------|
| IDB    | 17.99  | 4.87   | 3.92   | 2.86   | 0.36   | 30    |
| %      | 60     | 16     | 13     | 10     | 1      | 100   |

- 2.3 **Period for the material start of the works.** All works relating to the financed projects will be awarded no later than 24 months before the date of the final disbursement, considering that the execution time of the works may not exceed the term of the loan. This period is justified on the basis that the works to be performed in the last phase of the program will be smaller, such that the execution period ensures that they can be completed prior to program closing.

**B. Environmental and social safeguard risks**

- 2.4 **Environmental and social safeguards.** In accordance with the IDB's Environmental and Social Policy Framework (ESPF) and based on the evaluation made during due diligence, this is classified as a Category "B" operation, because the activities to be performed will generate moderate, localized, and short-term negative environmental and social impacts. The associated impacts and risks are as follows: (i) impacts on air quality from particulate and gas emissions during construction; (ii) noise and vibrations relating to machinery and equipment used during construction; (iii) soil contamination from spilled grease, oil, fuel, and other hazardous materials; (iv) removal of vegetation cover for the installation of pumping and distribution networks and plants; (v) traffic disruptions resulting from the laying of networks and greater risk of accidents during construction; (vi) moderate economic impacts from the acquisition of land through expropriation and access restrictions during the construction of water pipelines; and (vii) potential risk of alteration in the quality of liquid effluent receiving bodies due to inadequate operation of the systems. The classification of disaster risk due to natural hazards is moderate since the project area is exposed to flood and drought risks. As such, the type of interventions proposed will consider alternative treatments, materials, and procedures to reduce vulnerability to such risks. The environmental and social risk rating is substantial due to the executing agency's lack of experience in implementing the ESPF, the existence of natural hazards that may affect the functioning of the systems, and the risk of causing direct impacts on ecosystem services during operation of the systems. To meet the requirements set out in the ESPF and the Environmental and Social Performance Standards, an environmental and social management system has been prepared that contains the items set out in the ESPF. In addition, an environmental and social assessment, an environmental and social management plan ([optional link 3](#)), and the environmental and social management framework ([optional link 9](#)) have been prepared for works outside the sample. Significant public consultations were held the week of 10 April 2023, and the population showed itself in favor of the project. The main consultations related to the start date of the works and the use of reject water (irrigation), along with several technical consultations regarding arsenic. The final instruments have been published on the IDB website.

### C. Fiduciary risks

- 2.5 During program preparation, no fiduciary risks were identified that might adversely affect execution of the operation. The risk identification and management process will be maintained during the execution period.

### D. Other key issues and risks

- 2.6 Table II-3 presents the program's high or medium-high risks:

**Table II-3. Table of program risks (high and medium-high) and mitigation actions**

| Risk  | Taxonomy        | Level       | Mitigation action  |
|---|-----------------|-------------|--|
| If it is not possible to find/attract specialists (Drinking Water Department, Environmental Management Department) to reinforce the loan execution team, the team will not be able to meet the established schedules, and the targets set by the program will not be achieved.  | Human resources | Medium-high | Improve the value proposition set out in the call for drinking water, environmental management, procurement, and planning specialists. |
| Under technical-cooperation operation <a href="#">ATN/JF-19221-UR</a> , if there are delays in the planning stages required to commence the bidding process for works (preparation of preliminary and detailed designs, environmental licenses, etc.), the schedules of works will not be met, leading to delays in the execution of the planned works. | Planning        | Medium-high | Continuous monitoring of <a href="#">ATN/JF-19221-UR</a>   |

- 2.7 **Representative sample and project portfolio.** Since this is a multiple works program, a viability analysis was conducted for a representative sample of the projects to be financed<sup>21</sup> in terms of technologies, geographical distribution, and size of towns, for US\$14 million, representing 47% of the total program value (see [optional link 4](#)). The projects meet the eligibility criteria (paragraph 3.3). In addition, a portfolio of 16 projects amounting to approximately US\$15 million<sup>22</sup> is in the design stage, as part of the portfolio of interventions to be financed by this operation ([optional link 4](#)).
- 2.8 **Technical viability.** The program's activities are technically viable, appropriate to the identified needs and to the defined capacity and quality objectives, and in line with previous strategies and plans. In accordance with generally accepted engineering principles and standards, the projects will be developed at the detailed design level before the related works are carried out ([optional link 4](#)).
- 2.9 **Socioeconomic viability.** As a multiple works program, an economic evaluation of the projects in the representative sample was carried out (paragraph 2.7). For

<sup>21</sup> The projects in the sample include: (i) conventional drinking water treatment system for the city of Young; (ii) conventional drinking water treatment system for Paso Severino (including supply to other towns such as Mendoza and 25 de Mayo, among others); (iii) reverse osmosis system for supplying the town of Campana; and (iv) adsorption system for supplying the town of Brisas del Plata.

<sup>22</sup> The 16 projects included in the out-of-sample portfolio are: 1 conventional, 2 reverse osmosis, 1 connection to existing network, and 12 adsorptions.



the economic analysis, a cost-effectiveness analysis was conducted by comparing the cost of the different alternatives for arsenic removal in order to select the most cost-effective option in each case. The effectiveness indicator used was cubic meters of water treated that meet water quality standards. The economic analyses showed that in all cases the selected alternatives were the most cost-effective. The evaluations were complemented by the related sensitivity analyses, which show that the chosen alternative remains the least costly option, even when key variables are modified ([optional link 1](#)). For nonevaluated projects, an analysis will be performed following Bank-accepted evaluation methodologies, and only socioeconomically viable projects will be financed (paragraph 3.3). In addition, it was verified that the monthly bill for the drinking water service is less than 3% of household income for the beneficiary population, taking into account the rates applied by the OSE to its users and the discounted rate applied to vulnerable groups ([optional link 1](#)).

- 2.10 **Institutional viability.** In preparing the program, the institutional capacity assessment was updated following the methodology of the [Institutional Capacity Assessment Platform](#) applied to the OSE, the results of which indicate satisfactory verification of the execution conditions. The tool identified the need to designate a project coordinator and a project assistant to liaise with the various OSE departments and ensure proper program execution. It also identified key personnel to ensure proper program execution and the need for software to monitor the interventions.
- 2.11 **Financial viability.** The financial analysis of the OSE was carried out as part of program preparation. It included both a historical analysis based on the entity's financial statements and the development of a financial model that projects the estimated financial position for the next 10 years ([optional link 2](#)). Historical financial information indicates that the OSE, with its own funds (rates charged) from service delivery, has been able to cover its operation, maintenance, and administration costs adequately (reflected in the EBITDA margin of approximately 25% on average per year for the 2019–2021 period). From the projection, it is estimated that during the projection period OSE's EBITDA margin will remain close to historical levels, thus confirming that it will maintain an adequate financial position.

### III. IMPLEMENTATION AND MANAGEMENT PLAN

#### A. Summary of implementation arrangements

- 3.1 **Borrower and executing agency.** The borrower and executing agency will be the OSE. The Eastern Republic of Uruguay will be the guarantor and will guarantee all the borrower's financial obligations in accordance with the policy on guarantees required from borrowers (document GP-104-2). The OSE has executed loans [2095/OC-UR](#), [2785/OC-UR](#), [2790/OC-UR](#), [3258/OC-UR](#), [3259/CH-UR](#), and [4642/OC-UR](#); accordingly, it has experience in the use and application of the Bank's various tools in the programs it is currently executing. Through the Externally Financed Programs Department, the executing agency will be responsible for the adequate fulfilment of program objectives, the administration of loan proceeds, and the administration of procurement. The OSE will be responsible for supervising execution of program works, the OSE's

Environmental Management Department will be responsible for executing the environmental and social management framework, and the OSE's Drinking Water Department will be responsible for managing the program's technical aspects. The key team for program execution will comprise: a technical coordinator; a technical assistant for information management; a specialist for monitoring engineering issues for the Drinking Water Department; an environmental management specialist for the Environmental Management Department; a procurement specialist; and a planning specialist for the Externally Financed Programs Department.

- 3.2 **Program Operating Regulations.** The program will be governed by program Operating Regulations reflecting this project's needs and specificities. The program Operating Regulations will include the following: (i) project cycle; (ii) key and nonkey personnel required for execution; (iii) eligibility criteria; (iv) prioritization criteria; (v) system structure necessary for monitoring interventions; (vi) institutional structure for execution; and (vii) engineering, procurement, financial management, socioenvironmental, monitoring, and evaluation considerations of the program, among others ([optional link 8](#)).
- 3.3 **Eligibility and prioritization criteria.** For a project to be financed using program resources, it must meet the following requirements: (i) relate to drinking water system infrastructure works that require improvements to comply with arsenic standards; (ii) be viable from a technical, institutional, legal, financial, environmental and social, and socioeconomic perspective (cost-effectiveness analysis with the least economic cost alternative, with at least two alternatives analyzed) and based on the issues defined in the program Operating Regulations ([optional link 8](#)); and (iii) not be classified as a Category "A" operation under the environmental and social classification of the Bank's ESPF and the guidelines set out in the program's environmental and social management framework. Projects will be prioritized considering the arsenic concentration in the water supplied, the affected population, and its vulnerability, as detailed in the program Operating Regulations.
- 3.4 **Special contractual conditions precedent to the first disbursement of the loan:** The borrower, through the executing agency, will provide evidence of: (i) approval and entry into force of the program Operating Regulations, under the terms and conditions previously agreed upon with the Bank, which will include, *inter alia*, the environmental and social management system and the environmental and social management framework; (ii) appointment and/or contracting, as appropriate, of the key team for the program set out in paragraph 3.1; and (iii) implementation of the intervention monitoring software for program works. Condition (i) is necessary to agree on the program execution framework. Condition (ii) ensures that the executing agency has the key personnel for the proper program execution. In the framework of an execution mechanism based on technical teams in various executing agency departments, condition (iii) is justified by the need to have a system in place to monitor the program's multiple interventions.
- 3.5 **Special contractual conditions for execution:** Prior to the start of each work under Component 1 of the program, the borrower will present evidence to the Bank, as appropriate, of: (i) the start of legal proceedings to establish

**easements and/or expropriate the land affected by the work, identifying the estimated timeframe for those proceedings; or (ii) the necessary consensus agreements for the start, construction, and use of the works on the affected land.** This condition ensures the borrower's obligations regarding use of land that will be affected by program works.

- 3.6 **Operation and maintenance.** The borrower will commit to taking the necessary steps to ensure that the program's works and goods are properly maintained in accordance with generally accepted technical standards. During the disbursement period and as part of the semiannual progress reports, the borrower will also submit a report on the status of such works and goods. If, based on the Bank's inspections or reports it receives, it is determined that maintenance is performed below the agreed levels, the borrower must take the necessary steps to ensure that the deficiencies are fully remedied.
- 3.7 **Procurement, disbursements, and audits.** Procurements financed in whole or in part with loan proceeds will be made in accordance with the Policies for the Procurement of Goods and Works Financed by the IDB (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (document GN-2350-15). The country procurement system approved by the Bank's Board of Executive Directors on 26 February 2021 will be used in accordance with the scopes provided for in the respective approval and as set forth in Annex III of this document. An 18-month procurement plan has been prepared ([required link 4](#)). Single-source selection will be used to select individual consultants (from consultants currently working in the context of loans [3258/OC-UR](#) and [3259/CH-UR](#)) to support the project coordination unit in line with paragraph 3.11(a) of document GN-2350-15. In order to maintain the project's technical focus and execution capacity, five consultants will be hired to support the Externally Financed Programs Department, and one consultant will be hired to support the Environmental Management Department for the entire loan execution period.<sup>23</sup> The executing agency's request is deemed to be in line with the requirements of the single-source selection policy since the personnel to be recruited under the new operation is qualified personnel with satisfactory performance who were initially selected through a competitive process duly approved by the competent authorities.
- 3.8 **Disbursements** will primarily take the form of advances of funds or another mode set out in document OP-273-12 or prevailing guidelines. Funds will be advanced under a financial plan that covers the project's actual liquidity needs for up to six months or another period following the aforementioned guidelines. With the exception of the first advance of funds, subsequent advances will be processed when at least 70% of the total cumulative balances pending justification have been justified. The executing agency will use the national treasury single account to manage program resources.
- 3.9 The OSE will submit **audited financial statements** every year and at the end of the operation, under the terms and within the periods required by the Bank in its

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<sup>23</sup> The estimated amount for the consulting services is US\$815,000 and US\$165,000 for the Externally Financed Programs Department and the Environmental Management Department, respectively.

policies, guidelines, and instructions. The financial statements may be audited by an independent audit firm or by the Tribunal de Cuentas de la República [Office of the Auditor General of the Republic] (TCR).

- 3.10 **Sustainability considerations in procurement.** Procurement processes may incorporate sustainability criteria (environmental, social, or economic) at different stages, including planning, preparation of standard bidding documents, definition of technical specifications, bidder evaluation and selection criteria, and bid evaluation and awarding.

**B. Summary of arrangements for monitoring results**

- 3.11 **Monitoring.** The executing agency will prepare reports on the progress and achievement of outcomes relating to the activities under its responsibility. The monitoring structure will include the procurement plan, the multiyear execution plan, the annual work plan, the Results Matrix, the progress monitoring report, and the risk management plan. The executing agency will submit to the Bank semiannual reports on the progress made and outcomes achieved as well as an action plan for the following six-month period within 60 days of the end of each six-month period ([required link 2](#)). The first multiyear execution plan and annual work plan for the program will be submitted to the Bank before the kickoff workshop. The multiyear execution plan will comprise the complete planning of the program and the critical path of milestones or actions to be executed in order for the loan to be disbursed within the disbursement period. The content of the annual work plan should take into account the guidelines set by the Bank. The second and subsequent multiyear execution plans and annual work plans will be submitted to the Bank within the original disbursement period or extensions thereof no later than 30 November of each year, for use in the following year.
- 3.12 **Evaluation.** The executing agency will commission a midterm evaluation to be submitted 90 days after the date on which one of the following two conditions is met: (i) after 30 months from program eligibility; or (ii) when 50% of the project resources have been disbursed, whichever comes first, and will take the form of a project completion report. The executing agency will commission a final evaluation when 90% of the loan proceeds have been disbursed. The proposed methodology to evaluate project effectiveness will be a before and after comparison, which will consist of measuring the outcome indicators after the interventions have been implemented and comparing the measurements to verify achievement of the targets. This analysis will be complemented by an attribution analysis based on a review of the project's theory of change at close. As part of the final evaluation, an ex post economic evaluation will also be conducted, the methodology of which is detailed in the monitoring and evaluation plan ([required link 2](#)).

| Development Effectiveness Matrix   |  |   |
|--|--|---|
| Summary  |  | UR-L1189  |
| I. Corporate and Country Priorities  |  |   |
| Section 1. IDB Group Strategic Priorities and CRF Indicators   |  |   |
| Development Challenges & Cross-cutting Issues  | -Social Inclusion and Equality<br>-Productivity and Innovation<br>-Gender Equality and Diversity<br>-Climate Change<br>-Institutional Capacity and the Rule of Law |   |
| CRF Level 2 Indicators: IDB Group Contributions to Development Results   | -Households with improved access to water and sanitation (#)<br>-Agencies with strengthened digital technology and managerial capacity (#)                         |   |
| 2. Country Development Objectives  |  |   |
| Country Strategy Results Matrix  | GN-3056  | Facilitate urban and housing services   |
| Country Program Results Matrix   | GN-3154-1  | The intervention is included in the 2023 Operational Program.   |
| Relevance of this project to country development challenges (If not aligned to country strategy or country program)  |  |   |
| II. Development Outcomes - Evaluability  |  | Evaluable   |
| 3. Evidence-based Assessment & Solution  |  | 10.0  |
| 3.1 Program Diagnosis  |  | 2.5   |
| 3.2 Proposed Interventions or Solutions  |  | 3.5   |
| 3.3 Results Matrix Quality   |  | 4.0   |
| 4. Ex ante Economic Analysis   |  | 10.0  |
| 4.1 Program has an ERR/NPV, or key outcomes identified for CEA   |  | 2.0   |
| 4.2 Identified and Quantified Benefits and Costs   |  | 3.0   |
| 4.3 Reasonable Assumptions   |  | 2.0   |
| 4.4 Sensitivity Analysis   |  | 2.0   |
| 4.5 Consistency with results matrix  |  | 1.0   |
| 5. Monitoring and Evaluation   |  | 9.5   |
| 5.1 Monitoring Mechanisms  |  | 4.0   |
| 5.2 Evaluation Plan  |  | 5.5   |
| III. Risks & Mitigation Monitoring Matrix  |  |   |
| Overall risks rate = magnitude of risks*likelihood   |  | Low   |
| 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.<br><br>Procurement: Information System, Price Comparison, Contracting Individual Consultant, National Public Bidding. |
| Non-Fiduciary  |  |   |
| 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  | UR-T1274  |

*Evaluability Assessment Note: The overall objective of the program is to contribute to reducing health risks through improvements in the quality of drinking water in beneficiary localities. The specific objectives are: (i) to improve water quality through the reduction of arsenic levels in drinking water systems in beneficiary localities; and (ii) to strengthen OSE's capacities for the proper management of improved water systems.*

*The project presents a complete diagnosis; with a precise description related to the specific challenges of water quality and OSE's capacity building in the management of new technologies. The outcome indicators included in the results matrix are SMART and have means of verification.*

*The economic analysis of the project sample was carried out through cost-efficiency analysis (CEA) for each of the municipalities included in the sample. CEAs compare the different alternatives for arsenic removal, and provide relevant information for selecting the most cost-effective alternative in each case. The effectiveness indicator used was cubic meters of water treated that complies with water quality standards. The ECAs have reasonable assumptions and appropriate sensitivity analyses.*

*The project includes a monitoring and evaluation plan in accordance with Bank standards. The effectiveness of the proposed intervention will be measured through an evaluation using a before and after methodology.*

## RESULTS MATRIX

|                          |   |
|--------------------------|---|
| <b>Project objective</b> | The general objective of the program is to help lower health risks by improving the drinking water quality in beneficiary towns. The specific objectives are to: (i) improve water quality by reducing arsenic levels in drinking water systems in beneficiary towns; and (ii) strengthen the OSE's capacities for the proper management of improved water systems. |
|--------------------------|---|

### SPECIFIC DEVELOPMENT OBJECTIVES

| Indicators  | Measure-<br>ment unit | Base-<br>line | Baseline<br>year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | End of<br>project | Means of<br>verification                                     | Comments  |
|---|-----------------------|---------------|------------------|--------|--------|--------|--------|--------|-------------------|--|---|
| <b>Specific development objective 1: Improve water quality by reducing arsenic levels in drinking water systems in beneficiary towns.</b> |                       |               |                  |        |        |        |        |        |                   |  |   |
| 1.1 Systems with arsenic parameter value < 0.01 mg/l in the targeted towns  | Systems               | 0             | 2022             | 0      | 3      | 9      | 9      | 20     | 20                | OSE laboratory analysis                                      | For each system, compliance will be evidenced when 90% or more of the total samples taken in the year meet the arsenic parameter (monthly measurements in each elevated water system).<br>Measurement is taken per system.  |
| 1.2 Households with improved access to drinking water services in the targeted towns  | Households            | 0             | 2022             | 0      | 974    | 13,644 | 13,644 | 15,673 | 15,673            | Active housing complexes in the commercial management system | Improved access refers to water from systems that meet the standard.  |
| <b>Specific development objective 2: Strengthen the OSE's capacities for the proper management of improved water systems.</b>             |                       |               |                  |        |        |        |        |        |                   |  |   |
| 2.1 OSE personnel linked to the targeted water systems with improved capacities for proper management of the systems                      | Percentage            | 0             | 2022             | 0      | 0      | 0      | 0      | 100    | 100               | Reports on training activities                               | OSE personnel linked to the systems include: technical manager, supervisor, and assistant supervisor (at least three people per system).<br><u>Numerator</u> : personnel who have completed management training workshops.<br><u>Denominator</u> : OSE personnel linked to the systems.   |
| 2.2 OSE personnel linked to the targeted systems with awareness raised on G&D issues  | Percentage            | 0             | 2022             | 0      | 0      | 0      | 0      | 100    | 100               | Report on training activities                                | OSE personnel linked to the systems include: technical manager, supervisor, and assistant supervisor (at least three people per system).<br><u>Numerator</u> : personnel who have completed G&D awareness-raising workshops.<br><u>Denominator</u> : OSE personnel linked to the systems.<br><u>Definition of diversity</u> : Persons with disabilities, Afrodescendants, and LGBTQ+. |

### OUTPUTS

| Indicators  | Associated result          | Measure-ment unit | Base-line | Base-line year | US\$ millions | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | End of project | Means of verification  | Comments   |
|---|----------------------------|-------------------|-----------|----------------|---------------|--------|--------|--------|--------|--------|----------------|--|--|
| <b>Component 1: Drinking water systems</b>  |                            |                   |           |                |               |        |        |        |        |        |                |  |  |
| Systems with complementary infrastructure built for arsenic removal   | R1.1 and R1.2              | Systems           | 0         | 2022           | 27.6          | 0      | 3      | 6      | 0      | 11     | 20             | Works reports / physical inspection                              | The amount includes the preparation of detailed designs and adsorption maintenance plans where appropriate.  |
| System designs developed with complementary infrastructure for arsenic removal (additional systems)   | R1.1 and R1.2 <sup>1</sup> | Design            | 0         | 2022           | 0.4           | 0      | 4      | 0      | 0      | 0      | 4              | OSE-approved consulting outputs                                  | Preliminary draft projects for systems not financed using program resources (for bidding of works)   |
| <b>Component 2: Institutional strengthening of the OSE</b>  |                            |                   |           |                |               |        |        |        |        |        |                |  |  |
| Strategies developed for maintenance of improved systems  | R2.1                       | Strategy          | 0         | 2022           | 0.215         | 0      | 0      | 0      | 0      | 3      | 3              | Report approved by the OSE's Drinking Water Department           | Strategies: (1) adsorption; (2) reverse osmosis; (3) conventional (water treatment plants)   |
| Strategies developed for environmental management of improved systems   | R2.1                       | Strategy          | 0         | 2022           | 0.110         | 0      | 0      | 0      | 0      | 3      | 3              | Report approved by the OSE's Environmental Management Department | Strategies: (1) adsorption; (2) reverse osmosis; (3) conventional<br>Strategies include integrated waste and effluent management of the implemented systems.                         |
| Training workshops on the management of osmosis and adsorption systems for OSE personnel linked to the targeted water systems                                       | R2.1                       | Workshop          | 0         | 2022           | 0.060         | 0      | 1      | 1      | 1      | 0      | 3              | Report on training activities                                    | Aimed at system operators and teachers of the adsorption and osmosis modules.<br>First workshop provided by the consulting firms and subsequent workshops by qualified OSE trainers. |
| Awareness-raising workshops on gender issues, based on the recommendations of the action plan, <sup>2</sup> for OSE personnel linked to the targeted water systems. | R2.2                       | Workshop          | 0         | 2022           | 0.010         | 0      | 1      | 1      | 1      | 0      | 3              | Report on training activities                                    | Aimed at system operators and teachers of the adsorption and osmosis modules.<br>First workshop provided by the consulting firms and subsequent workshops by qualified OSE trainers. |

<sup>1</sup> While this output does not directly contribute to the R1.1 and R1.2 targets at project close, the preliminary draft projects developed will contribute to increasing the number of water systems that meet the quality standard beyond the project's lifetime.

<sup>2</sup> The G&D action plan is being financed using nonreimbursable technical-cooperation funding.

| Indicators  | Associated result | Measure-ment unit | Base -line | Base-line year | US\$ millions | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | End of project | Means of verification         | Comments   |
|---|-------------------|-------------------|------------|----------------|---------------|--------|--------|--------|--------|--------|----------------|-------------------------------|--|
| Awareness-raising workshops on diversity inclusion issues (persons with disabilities, Afrodescendants, and LGBTQ+), based on the recommendations of the action plan, for OSE personnel linked to the targeted water systems | R2.2              | Workshop          | 0          | 2022           | 0.005         | 0      | 1      | 1      | 1      | 0      | 3              | Report on training activities | Aimed at system operators and teachers of the adsorption and osmosis modules.<br>First workshop provided by the consulting firms and subsequent workshops by qualified OSE trainers. |



Country: Uruguay

Division: WSA

Operation number: UR-L1189

Year: 2023

## Fiduciary Agreements and Requirements

**Executing agency:** Administración de Obras Sanitarias del Estado [State Sanitation Works Administration] (OSE)

**Operation name:** Drinking Water Systems Improvement Program – Phase I

### I. Fiduciary Context of the Executing Agency

1. Use of the country system in the operation. (Any system or subsystem that is subsequently approved may be applied to the operation, in accordance with the terms of the Bank's validation.)

|  |  |  |  |
|--|--|--|--|
| <input checked="" type="checkbox"/> Budget   | <input type="checkbox"/> Reports                     | <input checked="" type="checkbox"/> Information system     | <input checked="" type="checkbox"/> National competitive bidding |
| <input checked="" type="checkbox"/> Treasury | <input type="checkbox"/> Internal audit              | <input checked="" type="checkbox"/> Shopping               | <input type="checkbox"/> Other                                   |
| <input type="checkbox"/> Accounting          | <input checked="" type="checkbox"/> External control | <input checked="" type="checkbox"/> Individual consultants | <input type="checkbox"/> Other                                   |

2. Fiduciary execution mechanism: N/A.

3. Fiduciary capacity

|  |   |
|--|---|
| Fiduciary capacity of the executing agency | During preparation of the loan, the OSE was identified as responsible for the proper fulfillment of program objectives and management of fiduciary matters. The OSE's institutional capacity was analyzed, and it was determined that it has a satisfactory institutional fiduciary capacity with a low level of risk for program execution. The OSE has executed loan contracts <a href="#">2095/OC-UR</a> , <a href="#">2785/OC-UR</a> , <a href="#">2790/OC-UR</a> , <a href="#">3258/OC-UR</a> , <a href="#">3259/CH-UR</a> , and <a href="#">4642/OC-UR</a> and has extensive experience in the use and application of the Bank's policies, regulations, and fiduciary instruments and are the local regulations applicable for the execution of investment projects. Therefore, no fiduciary risks were identified that would adversely affect execution of the operation, and the fiduciary agreements and requirements established for this program are based on the OSE's prior work as the executing agency for the foregoing operations. The project will be governed by program Operating Regulations reflecting the project's needs and specificities, including the necessary coordination mechanisms and instruments for fiduciary activities. |
|--|---|

4. Fiduciary risks and risk response

| Risk taxonomy | Risk   | Level of risk | Risk response   |
|---------------|--|---------------|---|
| Planning      | If delays arise in the bidding processes for works, the work schedules will not be met, resulting in delays in the execution of the planned works. | Medium-low    | Create loan-specific awarding committees and provide for ongoing monitoring using with monitoring software, with alerts for delays. |

5. Policies and guidelines applicable to the operation. The Financial Management Guidelines for IDB-financed Projects (document OP-273-12) (or prevailing document) will be used for the program's financial management. Procurement will apply the policies contained in documents GN-2349-15, GN-2350-15, and GN-2538-35.
6. Exceptions to policies and guidelines. Not applicable.

## II. Considerations for the Special Provisions of the Loan Contract

Exchange rate: For the purposes of Article 4.10 of the General Conditions, the parties agree that the exchange rate to be used will be the rate stipulated in Article 4.10(b)(i). To determine the equivalency of expenses incurred in local currency from the local contribution or reimbursement of expenses from the loan proceeds, the agreed exchange rate will be the rate on the date on which the borrower, executing agency, or any other individual or legal entity to which the authority to incur expenses is delegated effectively makes the respective payments to the contractor, vendor, or beneficiary.

Audit: The program's audited financial statements will be submitted within 120 days following the end of the program's fiscal year if audited by an independent audit firm acceptable to the Bank or within 180 days following the end of the program's fiscal year if audited by the Tribunal de Cuentas de la República [Office of the Auditor General of the Republic] (TCR). The last of these audited financial statements will be submitted within 120 days following the date of the final disbursement or extensions thereto if audited by an independent audit firm acceptable to the Bank or within 180 days following the date of the final disbursement or extensions thereto if audited by the TCR.

## III. Agreements and Requirements for Procurement Execution

|                                     |                        |   |
|-------------------------------------|------------------------|---|
| <input checked="" type="checkbox"/> | Bidding documents      | <p>For the procurement of works, goods, and nonconsulting services executed in accordance with the procurement policies (document GN-2349-15) subject to international competitive bidding, the Bank's standard bidding documents or those agreed on by the executing agency and the Bank for the procurement in question will be used. Also, consulting services based on international shortlists will be selected and hired in accordance with the policies for the selection of consultants (document GN-2350-15), and the standard request for proposals issued by the Bank will be used. For all other bidding processes, a procurement document will be developed and agreed on by the country's competent authority and the Bank.</p> <p>The project's sector specialist is responsible for reviewing the technical specifications and terms of reference of procurements during preparation of the selection processes. This technical review may be ex ante as decided jointly with the Bank's project team leader and is independent of the procurement review method.</p> |
| <input checked="" type="checkbox"/> | Use of country systems | <p>As an agency included in the list in Article 2 of the Texto Ordenado de Contabilidad y Administración Financiera [Amended Text on Financial Accounting and Administration], the OSE may use the country procurement system under the conditions agreed between Uruguay and the IDB and in line with the approval granted by the Bank's Board of Executive Directors on 26 February 2020. The processes that will make use of the country procurement system in the approved scope will be explicitly identified in the operation's procurement plan. Should the scope of the Board's approval for</p>  |

|                                     |  |  |                     |       |                |                     |     |               |             |             |
|-------------------------------------|--|--|---------------------|-------|----------------|---------------------|-----|---------------|-------------|-------------|
|                                     |  | use of the country system be enlarged, such enlargement will apply to the operation.   |                     |       |                |                     |     |               |             |             |
| <input checked="" type="checkbox"/> | Procurement and single-source selection                    | Single-source selection will be used to select individual consultants to support the project coordination unit in line with paragraph 3.11(a) of document GN-2350-15. In order to maintain the project's technical focus and execution capacity of the project, five consultants will be hired to support the Externally Financed Programs Department for a total of US\$815,000 for the full loan execution period (approximately US\$163,000 per year), and one consultant will be hired to support the Environmental Management Department for a total of US\$165,000 for the full loan execution period (approximately US\$33,000 per year). The executing agency's request is deemed to be in line with the requirements of the single-source selection policy since the personnel to be recruited under the new operation is qualified personnel with satisfactory performance who were initially selected through a competitive process duly approved by the competent authorities. |                     |       |                |                     |     |               |             |             |
| <input checked="" type="checkbox"/> | Special procurement provisions applicable to the operation | National competitive bidding will be used to procure the drinking water systems works to improve water quality through conventional treatment (National Competitive Bidding process 2-1C in line with paragraphs 3.1 and 3.4 of document GN-2349-15), considering as well that the country procurement system has been validated for advanced use since 26 February 2020. The works will be carried out through various bidding processes where the executing agency (OSE) reports that it will be purchasing water treatment plants, thus reducing the amount of work to be financed by the Bank to approximately US\$5.8 million. Given the characteristics of the work, it is estimated that there would be no added value in carrying out an international competitive bidding process, but rather a national competitive bidding process would be most efficient, since the capacity to execute the work exists in the local market.  |                     |       |                |                     |     |               |             |             |
| <input checked="" type="checkbox"/> | Procurement supervision                                    | <p>The supervision method will be ex post, except where ex ante supervision is warranted. Where procurement is executed through the country system, supervision will be carried out through the country supervision system. The supervision method ((i) ex ante, (ii) ex post, or (iii) country) will be determined for each selection process. Ex post reviews will be conducted in accordance with the project supervision plan, subject to change during execution. Ex post review reports will include at least one physical inspection visit selected from the procurement processes subject to ex post review. The thresholds for the ex post review are as follows:</p> <table><tr><td>Executing agency</td><td>Works</td><td>Goods/services</td><td>Consulting services</td></tr><tr><td>OSE</td><td>US\$5,000,000</td><td>US\$500,000</td><td>US\$200,000</td></tr></table>   | Executing agency    | Works | Goods/services | Consulting services | OSE | US\$5,000,000 | US\$500,000 | US\$200,000 |
| Executing agency                    | Works  | Goods/services   | Consulting services |       |                |                     |     |               |             |             |
| OSE                                 | US\$5,000,000  | US\$500,000  | US\$200,000         |       |                |                     |     |               |             |             |
| <input checked="" type="checkbox"/> | Records and files  | The execution unit will keep a record of procurement documents. This will include the documents for each tendering process; general information on the number, types, values, and dates of contracts awarded; and the names of the successful bidders and of the awarding organizations. The minimum requirements for all registrations will be listed in the program Operating Regulations.   |                     |       |                |                     |     |               |             |             |

### Main procurement items

| Description  | Selection method                                  | New procedures/ tools | Estimated date | Estimated amount (US\$ thousands) |
|--|---|-----------------------|----------------|-----------------------------------|
| <b>Works</b>   |   |                       |                |                                   |
| Drinking water treatment systems works to improve water quality through conventional treatment – International competitive bidding 1-2C and 3C     | International competitive bidding                 |                       | 01/07/2023     | 9,310                             |
| Drinking water treatment systems works to improve water quality through reverse osmosis and adsorption – National competitive bidding 4-3A, 1R, 4A | National competitive bidding                      |                       | 01/06/2023     | 5,870                             |
| Drinking water treatment systems works to improve water quality through conventional treatment – National competitive bidding 2-1C                 | National competitive bidding                      |                       | 01/06/2023     | 7,200                             |
| <b>Firms</b>   |   |                       |                |                                   |
| Consulting firm – Preliminary draft projects, other towns  | Quality- and cost-based selection                 |                       | 11/06/2023     | 200                               |
| Consulting firm – Preliminary draft projects, conventional alternative   | Quality- and cost-based selection                 |                       | 11/08/2023     | 200                               |
| <b>Individuals</b>   |   |                       |                |                                   |
| Environmental Management Department support consultant   | Single-source selection of individual consultants |                       | 03/01/2024     | 165                               |
| Execution unit support consultants   | Single-source selection of individual consultants |                       | 01/03/2024     | 815                               |

To access the 18-month procurement plan, see [required link 4](#).

#### IV. Financial Management Agreements and Requirements

|                                     |  |   |
|-------------------------------------|--|---|
| <input checked="" type="checkbox"/> | Programming and budget                         | The OSE's annual budget is prepared on the basis of the five-year budget and in accordance with the constitutional provisions in force, following the guidelines of the Planning and Budget Office for budget determination, execution, and monitoring as part of the National Public Investment System. The OSE Board of Directors approves the following year's budget by 31 July, and it is then analyzed by the Planning and Budget Office with the involvement of the TCR and approved by the executive branch by the last day of the year. This operation is included in the current approved budget with forecasts for 2023 and subsequent years.  |
| <input checked="" type="checkbox"/> | Treasury and disbursement management           | Project funds will be managed through the national treasury single account, for which the Tesorería General de la Nación [National Treasury of the Nation], at the OSE's request, will set up a special account at the Central Bank of Uruguay to receive the Bank's funds, as well as a project-specific bank account at Banco de la República Oriental del Uruguay (State-owned commercial bank) to make program-related payments. U.S. dollars will be used to manage the operation, and the exchange rate to be used is identified in Section II. Disbursement requests will be made via Online Disbursement (or prevailing platform), and disbursements will preferably be made as advances based on financial plans of up to six months or another term pursuant to document OP-273-12 and liquidity needs. The operation is expected to justify at least 70% of the cumulative balances pending justification, considering the flows and processes of the OSE's administrative and financial systems that require long lead times to handle project-related payments, since they are part of the entity's general payment process (document OP-273-12, paragraph 3.3, criterion (iii)(d)). |
| <input checked="" type="checkbox"/> | Accounting, information systems, and reporting | The OSE uses the SAPI software that runs on the SAP accounting and management system platform used by the OSE for its financial management under International Financial Reporting Standards. SAPI enables the project's dual-currency accounting and the issuance of the related financial reports required by the operation. As a complement to the policies and guidelines applicable to the operation, the program Operating Regulations will be used with the definition of workflows and internal controls.   |
| <input checked="" type="checkbox"/> | Internal control and internal auditing         | The Internal Audit Department executes an annual program approved by the OSE Board of Directors following the International Standards on Internal Auditing of the Institute of Internal Auditors and, in particular, the Governmental Internal Auditing Standards in Uruguay. As a complement to the OSE's internal framework, the program Operating Regulations will be used with the definition of workflows and internal controls.   |
| <input checked="" type="checkbox"/> | External control and financial reporting       | The TCR (Bank-eligible) will foreseeably exercise external control, as it will for the loan contracts being executed where the OSE is the executing agency. However, an independent audit firm may also audit the program. The project will be audited pursuant to terms of reference previously agreed on with the Bank. The cutoff dates and deadline for submission are identified in Section II. The extra time for the TCR arises from the TCR's internal process for the approval of the audited financial statements issued prior to submission to the Bank, the executing agency, and the General Assembly.   |

|                                     |  |  |
|-------------------------------------|--|--|
|                                     |  | It should be noted that under the Amended Text on Financial Accounting and Administration, the TCR must carry out the preventive intervention for all expenditures related to project execution.   |
| <input checked="" type="checkbox"/> | Financial supervision of the operation | This plan may be adjusted to execution of the program and the external audit reports. Activities foreseen include monitoring of program progress and instruments, review of disbursement requests, and visits (in-person or virtual) to the OSE. |

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/23

Uruguay. Loan \_\_\_\_/OC-UR to Administracion de Obras Sanitarias del Estado (OSE)  
Drinking Water Systems Improvement Program– Phase I

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 Administracion de Obras Sanitarias del Estado (OSE), as borrower, and with the Eastern Republic of Uruguay, as guarantor, for the purpose of granting the former a financing to cooperate in the execution of the Drinking Water Systems Improvement Program– Phase I. Such financing will be for the amount of up to US\$30.000.000, 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 \_\_\_\_ 2023)