

Environmental and Social Data Sheet

Overview

Project Name:	BWA DRINKING WATER NETWORK REHABILITATION
Project Number:	2017-0229
Country:	Barbados
Project Description:	Rehabilitation of drinking water distribution infrastructure in Barbados to improve efficiency, service quality and resilience to the adverse impacts of climate change.
EIA required:	no
This is a project made up of several schemes located across Barbados. None of them will require an EIA according to national legislation.	
Project included in Carbon Footprint Exercise ¹ :	no

Environmental and Social Assessment

Environmental Assessment

Barbados has a total population of about 290 000 inhabitants, concentrated in the urban corridor along the west and south coasts, with a density amongst the highest in the world. Groundwater is the main source of potable drinking water on the island. The water sector faces major problems:

- Limited resources: Barbados ranks among the top fifteen countries in the world in terms of water scarcity. Water abstractions for different purposes already exceed the sustainable ground water yields throughout the year.
- High Non-Revenue Water (NRW) in the water supply network caused by the age of the infrastructure –some dating back to the 1850s-, the lack of regular maintenance due also to the lack of access to financing.
- Climate change: Barbados freshwater supply (rain water) is a function of its climatic and its physical conditions. Climate change has led to more frequent hurricanes and prolonged drought conditions in recent years. It has also brought additional pressure on the available resources, namely saline intrusion into fresh water aquifers due to the drop of the water table and to sea-level rise.
- Sanitation: less than 5% of the dwellings are connected to a public sewerage network connected to two obsolete and under dimensioned wastewater treatment plants. The rest of the population has on-site, independent systems (septic tanks, pit latrines...), often poorly maintained and with minimal treatment efficacy. Thus, untreated effluents discharge underground or into the sea, close to the shore.

¹ Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO₂e/year absolute (gross) or 20,000 tons CO₂e/year relative (net) – both increases and savings.

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This situation puts Barbados into a delicate position as tourism accounts for almost half of the economy of the country and any further decrease in the availability of fresh water or in the quality of the services is likely to lead to adverse environmental and social impacts. This operation aims at improving the reliability and efficiency of the water supply distribution system as well as its resilience against climate change adverse factors (i.e. increases in temperature, sea level rise and changes in rainfall and storm patterns).

Investments will focus on the rehabilitation of aged and leaking infrastructure, mainly water supply mains and reservoirs. Part of the loan will be allocated to improve the operation of the drinking water treatment facilities. The Sanitation Master Plan to be prepared under the scope of this operation will lay the foundation for investments required to reduce the backlog in wastewater collection and treatment infrastructure. The EIB financed schemes will mainly focus on water leakage reduction through the replacement of about 16 km of aged water pipes –including household connections-. The Development Bank of Latin America (i.e. CAF) will finance the rehabilitation of existing reservoirs, pumping stations as well as the acquisition of energy generators for key infrastructure to secure the water supply in case of emergency i.e. hurricanes. None of the schemes of the project is expected to impact a protected nature area.

The Barbados Water Authority (BWA), the promoter of the project, is the entity charged with supplying the island with potable water as well as providing wastewater collection and treatment services. BWA is also responsible for the monitoring, assessment, control and protection of the water resources in the public's interest. The legal framework regarding environmental protection is covered within the Town and Country Planning Act (1985 TCPA), and the Coastal Zone Management Act (1998 CZM, updated recently with the support of the Inter-American Development Bank, IADB). Due to the size, different locations and typology of the schemes, none of the schemes are subject to a full environmental and social impact assessment according to Barbados' legal framework. Had the project been located within the European Union, none of the schemes would be subject to a full EIA under applicable Directive 2014/52/EU amending the EIA Directive 2011/92/EU. The project would also not require a strategic environmental assessment (SEA) under the SEA Directive 2001/42/EC.

BWA has acquired experience in similar projects through the implementation of the IADB *Water and Sanitation Systems Upgrade Project*, completed in March 2017. International consultants preparing the designs and supervising the works will also verify that the different components of the project obtain the required environmental permits and authorizations. They will also monitor compliance with the environmental and social management plans during the phase of implementation.

Social Assessment, where applicable

Barbados population and its economic activities will benefit from an improved and more resilient water supply service, being able to cope in a more efficient way with limited water resources on the island.

The nature of the works will not require any resettlement or expropriation activities. Social impacts include the possible disruption of services, noise and temporary occupation of public or private space, traffic disruptions, and safety hazards, common for this type of mainly urban projects, and will be addressed in the preparatory phase.

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BWA will use the trenchless pipe installation methodology in the rehabilitation of water mains in some cases, requiring significantly less construction time and equipment usage. It will provide a safer work environment, as well as decreased noise pollution, minimal traffic interruptions and annoyance to the population.

Public Consultation and Stakeholder Engagement

Due to the type and low complexity of the works to carry out, none of the project components will require a full EIA and the public consultation associated with it. Meetings with potentially affected people, organizations and other public entities will take place as part of BWA's standard operation and maintenance activities.

Other Environmental and Social Aspects

Barbados has ratified all ILO Fundamental Conventions.

Conclusions and Recommendations

The project aims at improving the quality, reliability and efficiency of Barbados' water supply. It will improve BWA's capacity to respond to prolonged droughts, through the optimization of the use of available water resources. It will have a positive impact on people's lives and the environment, and it will significantly contribute to adaptation to climate change in a very exposed region. Additionally, the project will also contribute to achieve Sustainable Development Goals 6 and 13 (*Clean Water and Sanitation* and *Climate Action*, respectively).

It will have a number of impacts on the environment, both positive and negative. Nevertheless it is expected to have significant positive economic benefits, which include savings of financial losses due to avoidance of malfunctioning of facilities and water losses; ensuring tourism revenues do not decline in the future due to the lack of water security; and environmental benefits such as water source protection. Some schemes could have a negative impact on the environment, notably in the construction phase. These impacts will be considered during the design phase and in the construction permits in order to minimise any residual impact.

Prior to the first disbursement for the financing of works, the promoter will be required: i) to submit an assessment identifying environmental and social impacts of the project and mitigation measures, as part of the project environmental and social management plan, and ii) to provide evidence that a consultant with proven experience has been recruited to support and monitor the implementation of the project's Environmental and Social Management Plan. Both conditions must be met to the satisfaction of the co-financiers.

Taking into consideration the above context and conditions, the project is considered to be acceptable for Bank financing from an environmental and social perspective.