

## **1. Scope of the IDB Invest's Environmental and Social Review**

Since the Project is limited to only the purchase of the new electrical units, the environmental and social evaluation of the proposed operation consisted of a documentary review of the transaction process, being the main documents consulted: i) the concession contracts; ii) the bus purchase contract; iii) the BYD maintenance manual; iv) the environmental, social and technical due diligence reports of the operation; v) the information of the vehicle supplier; and vi) BYD's used battery management protocol. The emphasis of the documentary review was on compliance with the following Performance Standards (PS): PS 1: Assessment and Management of Environmental and Social Risks and Impacts; PS 2: Labor and Working Conditions; and PS 3: Resource Efficiency and Pollution Prevention.

## **2. Environmental and Social Categorization and Rationale**

The Project has been classified as a Category C operation in line with the IDB Invest Environmental and Social Sustainability Policy, given that the incremental impacts it will generate are low or nil and easily manageable from a Project perspective. In addition, electric buses will replace the fleet that currently operates on diesel, which will generate a net positive impact particularly in the reduction of particulate matter (PM), nitrogen oxides (NOx) and carbon dioxide (CO<sub>2</sub>) emissions, since the new units will not generate emissions.

## **3. Environmental and Social Risks**

### **3.1 Assessment and Management of Environmental and Social Risks and Impacts**

This operation will generate practically no direct impacts or social risks.

Under the concession contract, the Concessionaires will be responsible for processing the corresponding permits to enable the operation of the fleet until it is handed over to the Integrated Public Transportation System (SITP for its Spanish acronym). For these purposes, the fleet purchase contract signed transfers the responsibility of executing the procedures and permits associated with the import process of the units to BYD, as well as that of obtaining the corresponding approvals from the Ministry of Transport.

A major milestone in the operation is the testing of the prototype bus, which will arrive together with the first shipment of buses from China. In that regard, and to minimize potential technical adjustments required by the fleet as a result of testing the prototype in Colombia, BYD will ensure that the tests to be carried out in China consider all the technical requirements included in the concession contract. However, to avoid compromising the permit issued by the Ministry, the Concessionaires will ask BYD for a corrective action plan in the event that adjustments to the buses are required as a result of the tests on the prototype in Colombia.

The buses will be driven from the port of unloading (Buenaventura) to the city of Bogotá, under BYD's responsibility. For that reason, the Concessionaires will require BYD to provide the Road Safety Plan that will be applied when the buses are being run.

The bus supply concession considers that, during the stage prior to the delivery of the buses for operation, the Concessionaires must implement, in coordination with the Operation and Maintenance Concessionaires, a fleet management system. To this end, all the concessionaires (Supply and Operation and Maintenance) have signed a Private Agreement to ensure the implementation of the required system. In addition, as the fleet is manufactured, the

Concessionaires, in conjunction with TMSA, will supervise and monitor the process implemented by BYD until delivery. Upon receipt of the fleet in Colombia, the installation of the Intelligent Transportation System (ITS), audio, and video equipment, as well as the Information, Collection, Control and User Information System (SIRCI for its Spanish acronym) used by TMSA, will be carried out. The contract also requires that prior to the delivery of the fleet the Concessionaires ensure that they have a provisional parking lot, for which reason that this provision has also been considered in the fleet purchase contract with BYD.

When the fleet of buses is delivered to the Operation and Maintenance Concessionaire, the Concessionaires will follow up on the units' operation and maintenance actions in order to maintain the warranty or apply it in the event that defects are identified. These actions will be coordinated with BYD so as to implement them through the guarantee claim mechanism. Similarly, the Concessionaires have the commitment and obligation to submit reports to TMSA on compliance with the application of the units' operation and maintenance manual.

Battery replacement of the purchased buses, which will be done under contract by BYD, will be implemented when the minimum operating range of the buses is less than 260 km, which is expected to occur between years 7 and 10 of operation. To this end, BYD has a protocol for handling and disposing of used batteries through authorized companies (ECOTEC and LITO S.A.S.) to manage waste with a post-consumption focus (Waste from Electrical and Electronic Equipment—WEEE—and hazardous waste such as batteries and others).

Finally, the Concessionaires have launched the development of a Integrated Management System (IMS) that includes environmental, social, and occupational health and safety management systems. To carry out this task, the Concessionaires have hired a specialized consulting firm to consolidate the IMS and have appointed its general manager as the person responsible for the system.

### **3.2 Labor and Working Conditions**

Concessionaires will have six employees, including management and administrative staff and two technical field supervisors who will be responsible for reviewing the fleet maintenance programs. Its comprehensive management system, currently in the design stage, will incorporate occupational health and safety issues to comply with Decree 1072 of the Ministry of Labor. These issues will be part of its Occupational Health and Safety Management System, which also considers policy, organization, planning, implementation, evaluation, auditing, and improvement actions to anticipate, recognize, assess, and control risks that may affect safety and health in the workplace.

### **3.3 Resource Efficiency and Pollution Prevention**

It is estimated that the new fleet of electric buses in Bogotá will prevent the annual emission of 21,900 tons of CO<sub>2</sub> and 526 kg of PM<sub>2.5</sub> polluting particulate matter. In addition, according to data provided by BYD, the operation of the new fleet will also be 60% cheaper compared to that of the buses currently running on diesel.[\[1\]](#)

The buses will be equipped with ITS technology, which provides real-time information on the performance of the vehicle, driver, etc. The diesel buses that will be replaced by the new fleet would enter a scrap process as established by TMSA.

## **4. Proposed Management Measures**

During the concession period, the Concessionaires will (i) ensure the correct management of the monthly reporting system to the authority; (ii) coordinate with the operator the correct implementation of the buses' operations manual; (iii) register and manage the permits obtained by

BYD for the buses; and (iv) document the battery replacement process and their correct final disposal or reuse as per the environmental legislation in force.

## Additional Information

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