ADB ASIAN DEVELOPMENT BANK

Kyrgyz Republic: Urban Transport Electrification Project

Project Name	Urban Transport Electrification Project
Project Number	54123-001
Country	Kyrgyz Republic
Project Status	Proposed
Project Type / Modality of Assistance	Grant Loan
Source of Funding / Amount	Grant: Urban Transport Electrification Project concessional ordinary capital resources lending / Asian Development Fund — US$ 15.00 million Loan: Bishkek E-Bus Project concessional ordinary capital resources lending / Asian Development Fund — US$ 35.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Governance and capacity development Knowledge solutions Private sector development
Sector / Subsector	Energy - Energy efficiency and conservation
Gender Equity and Mainstreaming	Effective gender mainstreaming
Description	Kyrgyz national government and Bishkek municipality have identified the improvement of air quality as one of their top policy priorities. Due to the country's rich hydropower resources, which account for more than 91% of Kyrgyz national electricity production, the government understands that besides air quality improvement, a long-term electrification of the transport sector would hold a multitude of positive co-benefits. These include (i) a decrease in air pollution-related health costs, (ii) significant savings of foreign exchange, (iii) increased energy independence, (iv) improved life quality in Bishkek, and (v) a reduced local and national GHG footprint of the transport sector. This project represents a first step towards a long-term electrification of the Kyrgyz transport sector. The project will increase the share of low emission, energy-efficient, large-buses in Bishkek's public transport sector by replacing outdated conventional and trolleybuses with electric buses. Considering the high renewable energy share in Kyrgyz power sector the project will take advantage of the low levels of air pollutants (pm2.5, SOx, NOx) and GHG emissions at generation level, to initiate a long-term transition towards an environmentally and economically sustainable transport sector in Bishkek. Based on a detailed technical assessment the project will consist of the following four interlinked outputs:Output 1: Zero-emission tailpipe bus fleet in Bishkek municipality upgraded; Output 2: Bus depot infrastructure upgraded; Output 3: Electric bus pilot corridor in Bishkek established; and Output 4: Bishkek bus operation sustainability improved.
Project Rationale and Linkage to Country/Regional Strategy	Bishkek is the capital and economic center of Kyrgyz Republic. Since 2000 the city experienced a continuous population growth of 1.5% annually, reaching at total of 1.02 million inhabitants in 2019. The city, which is home to one sixth of Kyrgyz population, accounts for 40% of the country's GDP. Since 2006 Bishkek's gross regional product (GRP) has grown at 7.5% annually, with per capita income of up to 2.5 times above the national average. Due to increasing urbanization, rising incomes and the ready availability of low-cost, used vehicle imports, the city's transport system has undergone a significant transformation over the last years. This transformation has been characterized by two major factors: A significant increase in the ownership of private passenger vehicles and a rapid shift of passenger travel away from the use of large buses, operated by the two municipality-owned bus companies (Bishkek Trolleybus Company and Bishkek Public Transport Company), towards the utilization of private minibus transport services. In 2018 of the total 1.2 million vehicles registered in Kyrgyz Republic, 391,450 private vehicles were registered in Bishkek. Between 2005 and 2018 the passenger car density within the city increased from 61 to 332 vehicles per 1,000 inhabitants. While private car ownership has increased substantially over the recent years, the emergence of private minibus service providers, has led to a steep decline in passenger numbers of Bishkek Trolleybus Company (BTC) and Bishkek Public Transport Company (BPTC). Whereas the annual volume of minibus passengers increased from 51 to 193 million between 1995 and 2019, combined the two municipality-owned public transport companies have seen a decline from 192 million to 62 million passengers during the same period. This trend was reinforced by the fact that, following the collapse of the Soviet Union, BTC and BPTC have operated below cost recovery, making it challenging to adequately maintain their existing fleet and replace decommissioned buses. In 2018, compared to 313 large buses of BTC and BPTC, 4,071 minibuses were operating in the city of Bishkek. The change in transport modes away from large public buses, towards minibus services and private passenger vehicles most recently has been reflected by research conducted by the Japanese International Cooperation Agency (JICA). Accordingly, in 2013 public transport represented 65% of all motorized trips of which 90% was realized by minibuses and 10% by large buses. Given that most passenger cars and minibuses are outdated, run on low-quality fuel and do not undergo regular technical inspections, the vehicle fleet in Bishkek exerts an increasing negative environmental and economic impact on the city. From an environmental perspective the city's increasing traffic has caused (i) a significant deterioration of air quality, (ii) an increase in greenhouse gas emissions and (iii) frequent traffic congestion, which compounds aforementioned issues during peak traffic hours. According to government data, in 2018 annual average concentration of major pollutants such as NO2 and pm2.5 amounted to 60 and 30 g/m3 annual mean respectively, by far exceeding WHO recommended guidelines (i.e. NO2: 40 g/m3 annual mean; pm2.5: 10 g/m3 annual mean). The State Agency for Environmental Protection and Forestry (SAEPF) estimates that, depending on the season, the transport sector is responsible for up to 87% of air pollution in Bishkek. According to WHO estimates outdoor air pollution is responsible for approximately 400 premature deaths annually in the city. As an additional environmental impact, recent research has shown that Bishkek's transport sector accounts for approximately 10% of Kyrgyz national greenhouse gas emissions. From an economic standpoint the city's transport sector (i) consumes a large share of the country's imported fuel products, (ii) uses a large portion of Kyrgyz' scarce foreign exchange resources, (iii) consolidates the high level of energy dependence, and (iv) leads to significant health-related costs due to air pollution. Kyrgyz Republic currently imports more than 90% of its domestic demand for gasoline, diesel and CNG and in 2018 spent 11.1% of its national GDP ($901 million) on fuel imports. The WHO estimates that the national health-related costs for ambient particulate matter pollution in 2010 amounted to $1.39 billion. Bishkek, as the largest urban center and economic hub in Kyrgyz Republic shoulders the bulk of this economic burden.
Impact	

Outcome	
Outputs	
Geographical Location	Bishkek

Safeguard Categories	
Environment	B
Involuntary Resettlement	B
Indigenous Peoples	C

Summary of Environmental and Social Aspects
Environmental Aspects
Involuntary Resettlement
Indigenous Peoples
Stakeholder Communication, Participation, and Consultation
During Project Design
During Project Implementation

Responsible ADB Officer	Vogel, Johannes E.
Responsible ADB Department	Central and West Asia Department
Responsible ADB Division	Energy Division, CWRD
Executing Agencies	Ministry of Economy 106, Chui Prospect, Bishkek, Kyrgyz Republic

Timetable	
Concept Clearance	17 May 2020
Fact Finding	15 Jun 2020 to 29 Jun 2020
MRM	03 Aug 2020
Approval	-
Last Review Mission	-
Last PDS Update	17 May 2020

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