

FIJI/FIJI DEVELOPMENT BANK



GREEN
CLIMATE
FUND

GLOBAL
PROGRAMMING
CONFERENCE

Project title	TRANSFORMING FIJI BUSES TO ELECTRIC (PHASE I)			
Result areas	Sector	Total financing, USD	GCF financing, USD	Financial instrument
Low emission transport	Public/Private	USD 9,683,349	USD9,175,014	Grant
Description of specific climate change problem and how the project will address it	<ul style="list-style-type: none"> • Fiji's bus industry is operated entirely by the private sector comprising of 57 bus companies and together these companies hold 164 Road Route Licenses (RRLs) which enable them to provide services under fixed routes and timetables. • As of September 2017, 1,673 buses were registered in Fiji. The total annual revenue of the bus industry in Fiji was estimated to be USD 40 million in 2017 by the World Bank. The business model of public transport in Fiji is profit-oriented without any government subsidy. • Issue is aging bus fleet - There are 400 buses 30 years old, and over 700 buses do not have any emission standards. The entire bus fleet is pre-Euro II emission standard (2017 data); their emissions, especially of air pollutants (NOx, SOx and PM), are significantly larger than the rest of the fleet, impacting both climate change and health of people. Despite buses only representing 1.39% of total vehicles, this transport mode accounts for approximately 4.2% of the country's total GHG emissions (Fiji LEDS, 2018). 			
Alignment with key country priorities and stakeholders engaged	<ul style="list-style-type: none"> • In 2018 Fiji released its Low Emission Development Strategy (LEDS) wherein the Government indicated the adoption of electric vehicles for taxis, buses, cars and urban trucks at 100% starting 2025 onwards. The government also published the NDC Roadmap which include the a low carbon pathway with the needs to set clear targets and actions has to be developed with clear milestones to achieve a gradual transition to electric transportation in Fiji in the long-term. The 2020 National Budget Announcement in July 2019 all saw various incentives towards moving to use of fuel efficient vehicles etc. 			



Project title: TRANSFORMING FIJI BUSES TO ELECTRIC (PHASE I)

Activities

- **Electric buses adopted.** Five buses aged 25 and above will be displaced with electric buses and will run in central city center in Suva that will operate in an existing route in coordination with Land Transport Authority of Fiji (LTA). The buses will have low floor to accommodate elderly, wheel-chaired and mother with strollers.
- **Capacity-building.** A training center shall be created and will train 27 bus operators in Central Division in Suva during the phase 1 and 2 of the project.
- **Revision of road plans.** Road and infrastructure plans shall be revised to accommodate the full transformation of the bus sector in Fiji. The scrappage and waste plan will also be refined as a pre-requisite for full implementation of the project.
- **Regulatory revisions.** In order to implement the transformation of full electric buses in Fiji, certain regulations and policies need to be revised to ensure that the implementation of the project will not turn into social, environmental and economic breakdown. Includes incentives (tax etc).
- **The transformation of the buses in Fiji to electric is divided into five phases.** The phases are design to manage the investment requirement and necessary improvements needed on the infrastructure, regulatory and policy changes. The four phases of the project are estimated to be implemented in 16 years and will achieve 50% of bus industry to be electric by 2035. The four phases are estimated to be USD653 million capital investment requirement if electric buses cost drop 35% from today's price point.

Expected outcomes

- **Impact Potential** - The project is expected to service 731,808 passengers annually and the training center will be able to build capacity for 27 bus operators in the Central Division. The project will displace 5 existing diesel buses aged 25 and above. Estimated to reduce 5,000 tCO₂eq of emission. Increased comfort to passengers will encourage for a modal shift to public transportation from using their private vehicles. Projects allows for an inclusive transportation system and will allow for scale up to turn the whole bus industry 50% electric in 15 years. The project can be a reference point for replication in the Pacific region and other island countries.
- **Sustainable development potential:** Environmental and Social Co-benefits - displacement of buses will reduce air pollutants such as NO_x, SO_x and PM in the urban area which will result to improved air quality.
- **Needs of the recipient** - the upfront capital cost of electric buses would be too high for bus operators in Fiji, who buy most of their buses from overseas second hand markets at low costs. To support the transitional move to electric buses, the local workforce needs to be trained. Currently there is no data available on the cost of operation and maintenance of the buses in Fiji and pacific region. The revenue data is also unreliable
- **Efficiency and effectiveness** - The financial analysis of the project using concession loan projected a unlevered IRR of -16.03% and cash burns for the whole life of the project due to the high capital cost of the buses and unreliable revenue data. The grant will allow the project to have an acceptable IRR for private sector investment and unlock finance mobilisation from the private and public sector.

FIJI/FIJI DEVELOPMENT BANK



GREEN
CLIMATE
FUND

GLOBAL
PROGRAMMING
CONFERENCE

Project title:

TRANSFORMING FIJI BUSES TO ELECTRIC (PHASE I)

Paradigm shift potential

- Fiji had several studies performed by various agencies, however the transformation of the bus fleet to low-emission will be difficult to realize without government intervention and initiation to support the private sector.
- The electric bus operations and maintenance is a crucial aspect into proving the viability within the Pacific context. The revenue is also unmeasured properly and comfort is not experienced by commuters to accept any fare increase.
- The project will result in behavioural changes from the commuters understanding a comfortable way of transportation and willingness to pay for improved services.
- The bus operators will be trained to operate electric buses to ensure readiness to perform the modal shift. The data collected in this project will support regulatory framework and policies upon scaling up of the project. It will also support financial access of bus operators to transforming their fleets and for government to prepare for the improvements required to facilitate the transformation of the bus industry to 100% electric.