



Project Data Sheet

Project 54456-001

Project Name	Sustainable Energy Transition - DAMRI E-bus Project	
Project Number	54456-001	
Country / Economy	Indonesia	
Project Status	Proposed	
Project Type / Modality of Assistance	Loan	
Source of Funding / Amount	<u>Loan: Sustainable Energy Transition - DAMRI E-bus Project</u>	
	Ordinary capital resources	US\$ 15.64 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth	
Drivers of Change	Gender Equity and Mainstreaming Knowledge solutions Partnerships Private sector development	
Sector / Subsector	Energy / Energy efficiency and conservation Transport / Urban public transport	
Gender	Some gender elements	
Description	The project will be aligned with the following impact: acceleration of electric vehicle deployment to increase energy conservation in the transportation sector, improve air quality, and reduce greenhouse gas emissions. The project's outcome will be transition to environmentally sustainable public transport initiated and project's economic viability proven. The three project outputs are (i) electric buses deployed, (ii) fast chargers installed, and (iii) DAMRI capacity enhanced.	

Project Rationale and
Linkage to Country/Regional
Strategy

Indonesia's capital, Jakarta, is the 10th most congested city in the world and the largest city in Southeast Asia, with 11 million inhabitants in 2019. Greater Jakarta houses approximately 30 million people, many of whom commute to Jakarta daily. Greater Jakarta's rising population has resulted in growing vehicle ownership and congestion. From 2000 to 2018, the number of motorcycles grew by 13.7% annually to 120 million, passenger cars by 10.3% to 16 million, freight vehicles by 9.3% to 7.7 million, and buses by 8.6% to 2.5 million. Traffic congestion has led to estimated annual economic losses of \$5 billion.

The Government has recognized the congestion problem and has prioritized the expansion of public transport options. The Transjakarta bus rapid transport system, introduced in 2004, has significantly expanded bus routes, reaching 265 million passengers in 2019. In 2018, an airport train to Soekarno-Hatta Airport commenced operations; and in 2019, the first underground line and phase 1 of Jakarta light rail transit (LRT) loop line corridor began operations. Phase 2 of the LRT loop line corridor from North to South Jakarta is expected to start operations by 2021, and eight more LRT routes are in the planning stage. These measures have contributed to reducing the traffic gridlock, but public transport is still inadequate and not sufficiently integrated.

Vehicle emissions contribute significantly to Jakarta's poor and worsening air quality. Vehicle emissions are responsible for 32% to 57% of Jakarta's air pollution. The low quality of transport fuels, a lack of stringent vehicle emission standards, and growing vehicle numbers continue to exacerbate the problem. In 2019, Jakarta's fine particulate matter (PM_{2.5}) concentrations were four times higher than the World Health Organization's guideline. Jakarta observed the largest number of deaths due to PM_{2.5} pollution nationwide. Children, the elderly, and women are particularly vulnerable to the adverse impacts of poor air quality.

Growing greenhouse gas transport sector emissions are a threat to Indonesia's climate commitments. Direct greenhouse gas (GHG) emissions from the transport sector in Jakarta stand at an estimated 15 million tons of carbon dioxide equivalent (tCO₂e) per year and are expected to more than double to 36 million tCO₂e by 2030. Jakarta contributes 11% of Indonesia's total GHG emissions in the transport sector driven by passenger cars (53%), motorcycles (38%), buses (5%), urban delivery trucks (3%), and taxis and 3-wheelers (1%).

The impact of the coronavirus disease (COVID-19) has led to a drop in air pollution levels in Jakarta. The introduction of low emission public transport is a key strategy to sustain these air quality improvements. The lower operation and maintenance cost of electric vehicles would help increase the Transport Motor Service of Republic of Indonesia's (DAMRI's) financial viability, which witnessed a 20% drop in ridership and revenue. Greater electric vehicles deployment will also support the government's agenda to strengthen the sustainability and efficiency of public transport and increase public transport options across the archipelago. Further, the deployment of electric public transport solutions will help create new jobs for a green recovery from COVID-19 and reorient Indonesia's automotive manufacturing sector. Government strategy. In 2019, Indonesia issued the first enabling regulation, Presidential Regulation No. 55/2019 (Perpres 55), on the acceleration of electric vehicles program for road transport, prioritizing electric vehicles. Electric transport is a priority target under the National Medium-Term Development Plan, 2020–2024, as a key strategy to reach Indonesia's Nationally Determined Contribution to reduce GHG emissions by 29% by 2030. The Regulation has resulted in the deployment of 1,300 electric vehicles by mid-2020, but deployment of public fast charging infrastructure to support the expansion of electric vehicles has been emerging slowly. In comparison, in 2019, electric vehicle deployment had reached 1.06 million units in the People's Republic of China, 560,000 in the European Union, and 326,000 in the United States. The number of battery electric buses (BEBs) reached 513,000 in 2019 globally. Indonesia is lagging behind its G20 peers in promoting electric vehicles.

Strategic alignment and lessons learned. The project contributes to the following operational priorities of the Asian Development Bank's (ADB) Strategy 2030: (i) accelerating progress in gender equality; (ii) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; and (iii) making cities more livable. ADB has worked closely with the government and state-owned enterprises on electric transport, and has supported the government in the analysis of electric transport options in a regional study on *E-Mobility Options for ADB Developing Member Countries* and two prefeasibility studies for BEB transport in Jakarta. Lessons learned from other BEB projects in the People's Republic of China and Costa Rica will be incorporated in the project design, including integrated procurement of BEBs, charging infrastructure, and maintenance services. In addition, ADB has provided technical assistance to the government to formulate implementing regulations under Perpres 55, is currently supporting the development of a road map for electric two-wheelers, and is working with the State Electricity Corporation (PLN) on the introduction of charging stations under the planned results-based loan for Sustainable and Reliable Energy Access Program. Indonesia lacks project financing in general, and for clean energy innovation initiatives in particular. Companies have difficulties in accessing project financing to switch their fleets to BEB infrastructure, as no BEB project has been implemented in Indonesia. Taxi companies have relied on corporate loans for their first electric taxi purchases. The high cost of corporate financing at 10% negatively affects the financial viability of deploying BEB infrastructure. In addition, preparation cost and knowledge transfers for a first mover project are considered high and the bankability of transport companies is low, which was a reason for the Private Sector Operations Department to decline financing the proposed project. Sovereign financing will help to overcome these challenges and facilitate the implementation of the first public BEB project to prove the concept and viability of BEBs.

The Transport Motor Service of Republic of Indonesia is the principal player in Indonesia's public bus transport sector. DAMRI is a state-owned general enterprise that has public service mandate. DAMRI is the largest bus company in the country with a rolling stock of 3,019 buses, 672 routes, 2,743 drivers, 5,500 employees, and 58 branch offices. It provides public transport services across the archipelago. DAMRI's revenue amounted to Rp1.3 trillion in 2019. From 2018 to 2019, it doubled its net profit from Rp21 billion to Rp43 billion.

Impact

Acceleration of electric vehicle deployment to increase energy conservation in the transportation sector, improve air quality, and reduce greenhouse gas emissions

Outcome	Transition to environmentally sustainable public transport initiated and project's economic viability proven
Outputs	Electric buses deployed Fast chargers installed DAMRI capacity enhanced
Geographical Location	Bekasi, Gambir, Rawamangun

Safeguard Categories

Environment	C
Involuntary Resettlement	C
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 Kitt, Florian

Responsible ADB Department Southeast Asia Department

Responsible ADB Division Energy Division, SERD

Executing Agencies
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Jakarta 10710, Indonesia
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Kota Jakarta Timur, Daerah Khusus

Timetable

Concept Clearance	06 Apr 2021
Fact Finding	01 Apr 2022 to 07 Apr 2022
MRM	04 May 2022
Approval	-
Last Review Mission	-
Last PDS Update	19 Apr 2021

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