



# Completion Report

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**PUBLIC**

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Technical Assistance Number: 6583  
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## Indonesia: Electric Transportation and Charging Infrastructure

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## TECHNICAL ASSISTANCE COMPLETION REPORT

<b>TA Number, Country, and Name:</b> TA 6583-INO: Electric Transportation and Charging Infrastructure		<b>Amount Approved:</b> \$200,000	
		<b>Revised Amount:</b> Not applicable	
<b>Executing Agency:</b> Ministry of Energy and Mineral Resources	<b>Source of Funding:</b> Republic of Korea e-Asia and Knowledge Partnership Fund	<b>Amount Undisbursed:</b> \$39,186.05	<b>Amount Used:</b> \$160,813.95
<b>TA Approval Date:</b> 27 October 2020	<b>TA Signing Date:</b> 27 October 2020	<b>TA Completion Date</b>	
		<b>Original Date:</b> 31 October 2021	<b>Latest Revised Date:</b> 31 October 2022
		<b>Financial Closing Date:</b> 27 October 2022	<b>Number of Extensions:</b> 3
<b>TA Type:</b> Knowledge and Support TA	<b>Nature of Activity:</b> Policy advice	<b>TA Arrangement:</b> Small-scale	

### Description

In 2019, the President of the Republic of Indonesia issued Regulation No. 55/2019 on the Acceleration of EV for Road Transportation to establish a domestic electric vehicle (EV) manufacturing industry, including batteries and charging stations. The promotion of electric transportation is a key strategic priority of Indonesia's National Medium-Term Development Plan, 2020–2024,<sup>1</sup> and line ministries were tasked with developing the implementing regulations related to road licensing, battery and charging station standards and electricity tariffs for EV charging, import regulations, and financial incentives.

The government committed to promoting electric transportation to decrease the number of fossil fuel-based vehicles to reduce emissions from combustion engines including carbon dioxide, nitrogen oxides, and sulfur oxides. The government also aimed to reduce oil consumption growth and oil imports to enhance energy security, and promoted an innovative new technology to ensure that the country included new automotive production chain by increasing its local manufacturing capacity for EVs.

The technical assistance (TA) project supported a road map, feasibility study, and implementing regulations for the deployment of electric charging infrastructure and proposed an adequate electricity tariff structure that are critical in boosting EV deployment. In addition, the TA project contributed to the policy action on electric transport included in the policy matrix for the policy-based loan on Sustainable and Inclusive Energy Program Subprogram 3, approved on 24 November 2022.

### Expected Impact, Outcome, and Outputs

The impact of the TA project was support provided to Indonesia to promote the deployment and production of EVs to reduce carbon dioxide and other emissions from transport fuels. The outcome was charging infrastructure road map for EVs in Indonesia developed. The major output was a study on charging infrastructure, electricity availability, and tariffs finalized.

### Implementation Arrangements

The TA project was planned to be implemented from October 2020 to October 2021 and was administered by the Asian Development Bank (ADB) for 2 years.

Actual recruitment of individual consultants followed the original plan. Three international consultants (7 person-months of total inputs) and one national consultant (3 person-months), with specializations in electric transport, electricity grid, charging station, and battery and energy policy were mobilized in December 2020. The consultants' contracts were extended twice until 31 December 2021 due to TA implementation delays and finalization of the EV road map for publication.

<sup>1</sup> Government of Indonesia, Ministry of National Development Planning. 2019. *National Medium-Term Development Plan, 2020–2024*. Jakarta.

The original TA closing date was extended three times for a cumulative duration of 12 months, resulting in a total implementation period of 24 months against the original plan of 12 months. The first extension from 31 October 2021 to 31 December 2021 (2 months) was to align the timing of the final roundtable discussion with Ministry of Energy and Mineral Resources (MEMR) staff availability and to provide sufficient time to incorporate MEMR's comments in the final report. The second and third extensions, from 31 December 2021 to 30 June 2022 (6 months) and from 30 June 2022 to 31 October 2022 (4 months), respectively, were to allow sufficient time to finalize the knowledge product for publication following ADB's internal procedures.

### Conduct of Activities

The TA output of finalizing a study on charging infrastructure, electricity availability, and tariffs was achieved.

The four individual consultants commenced work by mid-December 2020. The key TA activities were completed on time and within the original TA completion date of October 2021, including the draft final report covering the results of electricity demand analysis in relation to electricity infrastructure, the sustainability plan, and road map for charging infrastructure and deployment strategy. The final roundtable discussion initially scheduled in October 2021 was moved to December 2021 to accommodate the availability of MEMR staff concerned. Although the roundtable discussion and revision of the final report to incorporate MEMR's comments were completed within December 2021, the TA completion date had to be extended until 30 June 2022 to provide sufficient time to complete the publication activities for the Electric Motorcycle Charging Infrastructure Road Map for Indonesia. Funds were reallocated to include a new cost category for Miscellaneous TA Administration and Support Costs to cover publication expenses. The TA completion date was extended further until 31 October 2022 to allow ADB's Department of Communications and Knowledge Management to complete the knowledge publication production process.

The TA account was financially closed on 27 October 2022, with remaining TA balance of \$39,186.05 from TA savings in all cost categories.

### Technical Assistance Assessment Ratings

Criterion	Assessment	Rating
Relevance	The promotion of electric transportation is a strategic priority under the National Medium-Term Development Plan, 2020–2024. Completion of the road map under the TA project provided significant inputs to the Government of Indonesia in accelerating EV deployment and production, including batteries and charging stations, which is expected to promote better air quality and health. E-mobility and reduction of greenhouse gas emissions were aligned with the operational priorities of ADB's Strategy 2030 on climate change mitigation. The project rationale and design were clearly aligned with and appropriate for the TA type selected.	Relevant
Effectiveness	All planned TA activities leading to the delivery of the EV road map were fully completed. The outcome of developing a charging infrastructure road map for EVs, with focus on e-motorcycles was achieved. Although the road map was finalized and published later than anticipated, the TA extensions allowed the conduct of adequate discussions and consultations with MEMR and incorporation of government's inputs, which ensured the ownership of the knowledge product by MEMR. The Government of Indonesia will benefit from the EV road map to further advance its e-mobility plan.	Effective
Efficiency	TA implementation was less than efficient with fund utilization of 80%. The TA was extended thrice for a cumulative period of 12 months, largely due to the finalization of the EV road map for publication. The road map will help transform Indonesia by boosting EV deployment, which will reduce dependence on imported fuels and improve public health.	Less than Efficient
<b>Overall Assessment</b>	The TA project was successful in preparing the EV road map for Indonesia. It was designed well and aligned with both the government's strategic priorities and ADB's focus on supporting electric mobility and climate change mitigation. The TA also enabled ADB to act as a leading partner in the field and provide a platform of government and industry stakeholder collaboration in the early stage of Indonesia's EV deployment. The output of the study was fully delivered and is expected	Successful

Criterion	Assessment	Rating
	to guide the government in implementing e-motorcycle and EV deployment.	
<b>Sustainability</b>	It is anticipated that e-motorcycles will outpace fossil-fuel based units in terms of market share of newly sold units by 2030. Indonesia's decisive steps and strong political will as demonstrated by the issuance of a presidential decree that provides the legal framework to accelerate EV adoption, including provision of fiscal and nonfiscal incentives and the several derivative regulations across government agencies and local government regulations increase the likelihood of sustainability of the e-motorcycle/EV adoption.	Most likely sustainable

#### Lessons Learned and Recommendations

Implementation and/or delivery	It is essential to involve counterpart staff in the project analytical team from the design process to ensure full client ownership and participation and facilitate learning.
Management of staff and consultants	Careful selection of international industry experts and capable national expert/s as well as close coordination and monitoring among the experts, ADB, and the executing agency are key to ensure quality and timely delivery of outputs.
Knowledge building	Stakeholder consultation to discuss the output prior to finalization of the road map is essential in ensuring that the report covers the information and guidance that the government needs to enhance their knowledge, strengthen institutional capacity and governance, and adopt the proper direction.
Stakeholder participation	Conducting a roundtable discussion with the executing agency proved useful in disseminating the road map and increased engagement as comments and suggestions from the government were taken into account in finalizing the report.
Partnership	Liaising regularly and closely with the funder of the TA and drawing on their experience on the subject matter will be useful in assessing potential gaps and directing future work and possible collaboration.
Replication and/or scaling up	The key to scaling-up is the quality of the work and also availability of more funding. The scope of the road map could have been expanded to include all types of e-vehicles if more funds were available.
Post-TA financial resource	Electric transport is a key topic and more work is needed to support the government's EV implementation strategy and ensure viable and sustainable electric transport and charging projects. It would be beneficial to identify additional TA resources to expand and scale-up EV transport studies in close consultation with ADB's transport sector group.

#### Follow-Up Actions

The road map is an essential tool for the government in setting its vision and direction for the electric motorcycle industry. ADB will continue to assess the status of the electric motorcycle industry and monitor the impact of regulatory intervention with a view to providing further assistance to the larger electric vehicle industry and consider future financing possibilities.
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## DESIGN AND MONITORING FRAMEWORK

<b>Impact the TA is Aligned with</b> The TA will support Indonesia to promote the deployment and production of electric vehicles to reduce carbon dioxide and other emissions from transport fuels. <sup>a</sup>		
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Achievements</b>
<b>Outcome</b> Charging infrastructure road map for electric vehicles in Indonesia developed	By 2023: A government road map for investments in charging infrastructure adopted (2020 baseline: no roadmap)	<b>Achieved.</b> The Electric Motorcycle Charging Infrastructure Road Map for Indonesia published in October 2022 was adopted by the government in the issuance in 2023 of a regulation for the adoption of EV infrastructure, an update from the 2020 regulation.
<b>Output</b> Study on charging infrastructure, electricity availability, and tariffs finalized	By 2021: Analysis on charging infrastructure, electricity availability, and tariffs finalized (2020 baseline: not applicable)	<b>Achieved.</b> The Electric Motorcycle Charging Infrastructure Road Map for Indonesia containing the analysis on charging infrastructure, electricity availability, and tariffs was finalized and published in October 2022.
<b>Actual Key Activities with Milestones</b> <b>1. Study on charging infrastructure, electricity availability, and tariffs finalized</b> 1.1 The draft study was prepared in October 2021. 1.2 The final study and the roadmap were prepared and published in October 2022.		
<b>Actual Inputs</b> Republic of Korea e-Asia and Knowledge Partnership Fund: \$160,813.95		

EV = electric vehicle, TA = technical assistance.

<sup>a</sup> Government of Indonesia, Ministry of National Development Planning. 2019. *National Medium-Term Development Plan, 2020–2024*. Jakarta.

Source: Asian Development Bank.



## TECHNICAL ASSISTANCE COST

**Table A2.1: Technical Assistance Cost by Activity**  
(\$'000)

Item	Amount		
	Original	Revised	Actual
1. Consultants	185.9	185.9	156.1
2. Miscellaneous TA administration and support costs	0.0	6.0	4.7
3. Contingency	14.1	8.1	0.0
<b>Total</b>	<b>200.0</b>	<b>200.0</b>	<b>160.8</b>

TA = technical assistance.

Source: Asian Development Bank estimates.

**Table A2.2: Technical Assistance Cost by Fund**  
(\$'000)

	Republic of Korea e-Asia and Knowledge Partnership Fund	Total Cost
1. Original	200.0	200.0
2. Revised	Not applicable	Not applicable
3. Actual	160.8	160.8
4. Unused	39.2	39.2

Source: Asian Development Bank estimates.