



Enhancing Readiness for the Transition to Electric Vehicles in Indonesia (ENTREV)

Part I: Project Information

Name of Parent Program

Global Programme to Support Countries with the Shift to Electric Mobility.

GEF ID

10641

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

Enhancing Readiness for the Transition to Electric Vehicles in Indonesia (ENTREV)

Countries

Indonesia

Agency(ies)

UNDP

Other Executing Partner(s)

Ministry of Energy and Mineral Resources (MEMR)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Climate Change, Focal Areas, Climate Change Mitigation, Sustainable Urban Systems and Transport, Influencing models, Transform policy and regulatory environments, Demonstrate innovative approaches, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Stakeholders, Type of Engagement, Partnership, Consultation, Information Dissemination, Participation, Communications, Public Campaigns, Behavior change, Awareness Raising, Education, Civil Society, Non-Governmental Organization, Academia, Private Sector, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, Large corporations, SMEs, Capital providers, Gender Equality, Gender Mainstreaming, Beneficiaries, Capacity, Knowledge and Research, Capacity Development, Learning, Knowledge Generation

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 2

Submission Date

12/23/2021

Expected Implementation Start

7/1/2022

Expected Completion Date

6/30/2026

Duration

36In Months

Agency Fee(\$)

163,485.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1-2	Promote innovation and technology transfer for sustainable energy breakthroughs for electric drive technologies and electric mobility	GET	1,816,500.00	21,473,747.00
Total Project Cost(\$)			1,816,500.00	21,473,747.00

B. Project description summary

Project Objective

To support the Government of Indonesia and key stakeholders in policy, institutional, environmental & technical readiness to transition towards electric mobility and to demonstrate innovative business models in the transport sector

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Institutional framework and strategy for battery electric vehicle industry and charging infrastructure	Technical Assistance	BEV ecosystem (EV production and charging infrastructure) strengthened in response to national market uptake	<p>1.1 Business models and financing option elaborated and implemented for charging stations (SPBKLU) battery swap stations (SPKLU)</p> <p>1.2 National policies, standards and business models and financing options for battery swap stations (SPKLU) and charging stations (SPBKLU) elaborated and implemented</p> <p>1.3 Program to promote domestic manufacturing of BEV and their components</p> <p>1.4 Options assessed for purchase and trade-in, preferential loans, and second-hand market for four and two-wheelers ICE to BEV</p>	GET	313,992.00	1,654,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Demonstration of early BEV market development	Technical Assistance	Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions	<p>2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of BEVs</p> <p>2.3 Financing schemes set up for BEV two and four-wheelers utilization in pilot regions</p> <p>2.4 Local clearinghouses and programs implemented to promote purchase and use of BEV two and four-wheelers</p>	GET	214,187.00	2,007,000.00
Demonstration of early BEV market development	Investment	Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions	Demonstration of BEV charging stations and battery swap stations in pilot regions	GET	693,085.00	13,967,436.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Knowledge products and capacity building for scaling up and environmental-friendly battery use	Technical Assistance	Capacity of key stakeholders built and knowledge shared on BEV to officials, manufacturers, and potential BEV buyers and safeguards development	<p>3.1 Capacity is built in BEV industry (repair-shops) and research institutes</p> <p>3.2 Promotional activities conducted, results of demonstration in pilot locations disseminated and knowledge exchange between countries on e-mobility facilitated.</p> <p>3.3 Programs to address social, gender, environmental, and safety employment issues related to BEV adoption are developed (including battery use and disposal)</p>	GET	367,236.00	1,697,936.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Monitoring and evaluation (M&E)	Technical Assistance	Monitoring and evaluation (M&E)	1. Inception workshop 2. Inception Report 3. Monitoring of indicators in the project results framework 4. GEF Project Implementation Report (PIR) 5. Supervision and oversight missions 6. Final project workshop 7. Independent Mid-Term Review (MTR) 8. Independent Terminal Evaluation (TE)	GET	62,864.00	
Sub Total (\$)					1,651,364.00	19,326,372.00
Project Management Cost (PMC)						
GET			165,136.00		2,147,375.00	
Sub Total(\$)			165,136.00		2,147,375.00	

Project Management Cost (PMC)

Total Project Cost(\$)

1,816,500.00

21,473,747.00

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Energy and Mineral Resources (MEMR) ? DG NREEC	In-kind	Recurrent expenditures	4,384,000.00
Recipient Country Government	Ministry of Energy and Mineral Resources (MEMR) ? DGE	Grant	Investment mobilized	11,582,000.00
Recipient Country Government	Ministry of Energy and Mineral Resources (MEMR) ? DGE	In-kind	Recurrent expenditures	2,600,311.00
Recipient Country Government	Indonesia State Electricity Company (PLN)	In-kind	Recurrent expenditures	200,000.00
Recipient Country Government	Indonesia State Electricity Company (PLN)	Public Investment	Investment mobilized	600,000.00
Recipient Country Government	West Java Province	In-kind	Recurrent expenditures	222,000.00
Recipient Country Government	West Java Province	Grant	Investment mobilized	1,378,000.00
Recipient Country Government	Research and Development Center for Electricity, New and Renewable Energy, and Energy Conservation Technology (P3tek-KEBTKE)	In-kind	Recurrent expenditures	50,000.00
Recipient Country Government	Research and Development Center for Electricity, New and Renewable Energy, and Energy Conservation Technology (P3tek-KEBTKE)	Grant	Investment mobilized	407,436.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	UNDP	In-kind	Recurrent expenditures	50,000.00
Total Co-Financing(\$)				21,473,747.00

Describe how any "Investment Mobilized" was identified

See Annex G in the Project Document. Investment mobilized for EV, charging and battery swapping stations of USD 13,400,000 (MEMR NREEC: USD 11,422,000; PLN: USD 600,000 and W-Java: USD 1,378,000), of which USD 7,200,000 available for the purchase of up to 164 EV 4-wheelers and/or up to 90 charging stations, and USD 6,200,000 for the acquisition of up to 5000 2-wheelers and/or up to 954 battery swap stations. Additional INV co-financing of USD 407,436 for the conversion of conventional two-wheeler to BEV and USD for monitoring systems.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Indonesia	Climate Change	CC STAR Allocation	1,816,500	163,485	1,979,985.00
Total Grant Resources(\$)					1,816,500.00	163,485.00	1,979,985.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)
PPG Required **true**

PPG Amount (\$)
50,000

PPG Agency Fee (\$)
4,500

Agenc y	Trust Fund	Country	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Indonesia	Climat e Change	CC STAR Allocation	50,000	4,500	
Total Project Costs(\$)					50,000.00	4,500.00	54,500.00

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	0	473773	0	0
Expected metric tons of CO ₂ e (indirect)	0	6123146	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)		473,773		
Expected metric tons of CO ₂ e (indirect)		6,123,146		
Anticipated start year of accounting		2022		
Duration of accounting		14		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		75,399		
Male		246,213		
Total	0	321612	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Direct emission reduction (ER): lifetime GHG ER from pilots/demos Secondary ER: lifetime GHG ER from associated co-financing (investment mobilized) Indirect ER: based on number of 4-wheeled and 2-wheeled battery electric vehicles (BEV) in 2035 based on Ministry of Industry's EV Roadmap, assuming a causality factor of 30%. Details of emission calculation and direct beneficiary estimates are presented in Annex G of the Project Document

Part II. Project Justification

1a. Project Description

1) *The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);*

Barriers noted at the Concept Note stage remain unchanged, but the statement of the problem and the project's theory of change have been further elaborated and made more context-specific, with direct linkages of root causes and barriers to proposed activities, outputs, and outcomes.

Energy consumption in the transport sector in Indonesia grew by 7.6% annually from 2008-2019. The share of transport in Indonesia's final energy consumption was 41% (up from 31% in 2008). In absolute terms, energy consumption was 414 million barrels of oil equivalent (BOE), up from 186 million BOE in 2008^[1].

Almost all the energy consumed in the transport sector is in the form of petroleum products, mainly diesel (147 million BOE in 2018) and gasoline (95 million BOE), only about 6% comes from other sources (biofuel, natural gas, electricity). About 90% of the consumption is in land transportation (reflecting the 90% modal share of road transport in overall transport). In passenger transport, most energy is consumed by motorcycles (49%), passenger cars (44%), minibus (3%) and other (4%). Indonesia is among the world's top ten emitters of GHG emissions. Indonesia GHG emissions in 2016 were estimated at 1.45 gigatons of CO₂ (including LULUCF and peat-fire) Approximately 34% of Indonesia's GHG emissions come from the energy sector (0.54 GtCO₂), of which 0.14 GtCO₂ from transport (0.12 GtCO₂ from road transport), about 25% of total GHG emissions in the energy sector. The road transport system is the main emitter within land transport, comprising cars (11%), motorcycles (82%), buses (1.7%), and freight transport (5.3%).

Given the growth of the transport sector, there is an opportunity to build cleaner and more sustainable road transport systems to avoid a significant amount of future GHG emissions. This will help Indonesia to meet its targets of the NDC. The Government seeks to promote the use of low-carbon vehicles, including fuel-efficient gasoline and diesel vehicles (LCGC, low-cost green car) and a range of electric vehicles (HEV, PHEV, BEV, FCEV^[2]). The **development (long-term) solution** promoted in this project is a transition towards electric mobility by the increased use of electric vehicles (EV), in particular, the production, significant use of 2-wheel and 4-wheel battery electricity vehicles (BEV) with appropriate EV ecosystem support.

Barriers to more widespread introduction of BEVs

The implementation of this long-term solution is hindered by **several barriers in technical, regulation, financial, awareness, and knowledge development** that are briefly discussed below.

? BEV's price and total cost of ownership (TCO) more expensive than ICEV

One of the biggest hurdles for the introduction of EVs is currently the upfront cost. BEV and TCO prices for four-wheeled vehicles are still relatively higher than ICEV. The cheapest HEV is about USD 37,000, the cheapest PHEV about USD 86,000, and the cheapest BEV about USD 40,000, at least some USD 7,000 costlier than gasoline or diesel vehicles. Electric motorcycles cost 1.3-1.35 times as much as fossil fuel-powered counterparts[1]. BEV's price is not the only thing consumers consider; they also consider the total cost of ownership (TCO) of the cars they purchase (see Box 3). A recent LPEM FEB UI study (2019) shows the price of BEV is still much more expensive than ICEV but with the right incentives (such as PPnBm, BBNKB, and reduction of PKB) the TCO of BEV will become more competitive with or even lower than ICEV when used for high-frequency usage (in public transportation such as buses or taxis), although it may not reach competitive in terms of price or TCO for electric vehicles for personal use.

? Lack of EV ecosystem and limited charging infrastructure

Private and semi-public charging points refer to charging points installed at home or workplace while public charging points are installed in public places including highways, traffic hotspots, shopping malls, airports, etc. Public charging points are important to extend the range for limited range BEV drivers to allow long-distance drivers. A private charging point is a necessity for BEV owners given that the vehicle is typically parked at the residence for the longest portion of the day; it can also be an alternative for BEV owners for those who don't have access to a home charging point. By the end of 2020, there were 67 public charging points installed in 37 locations and 9 battery swap stations in 9 locations[2]. Acceleration of the deployment of semi-public and public charging points is a necessary condition for people to use BEV. Range anxiety is important for consumers given the current limited public charging stations. The state-owned electricity firm PLN has estimated that private and public players would need to invest IDR 54.6 trillion (USD 3.7 billion) to install more than 31,000 commercial charging stations by 2030[3]³ to reach the government's EV goals. Charging infrastructure with appropriate tariffs[4]⁴ form part of the EV ecosystem.

The ecosystem does not just mean the charging station and battery switching outlets, but establishes a whole local supply chain for the EV industry, from the manufacturing industry, sales outlets, and maintenance businesses as well as the environmentally friendly recycling and disposal of batteries.

On the raw material side, Indonesia holds a big opportunity by having the largest global nickel reserves. Nickel is a crucial material for EV's batteries to increase their energy density. The battery will hold not only an important role in the EV industry but also for renewable energy development.

Thus, investment in the battery industry is crucial for promoting an EV industry. In March 2021, the Ministry of State Owned Enterprises (SOE) established Indonesia Battery Corporation (IBC), a joint venture company consist of four SOEs namely PT Aneka Tambang Tbk (IDX: ANTM), PT Indonesia Asahan Aluminium (MIND ID), PT Pertamina, and PT PLN. It is expected that IBC will synergise with various global companies in the future to operate lithium battery plant for EV. IBC has a plan to pilot and develop the battery swap mechanism in Indonesia. In 2021, IBC plans to pilot battery swap stations that would service about 500 two-wheeled BEVs.

? Production of electric vehicles is limited

Despite the existing ambitious EV Roadmaps, there is no serious local production yet of four-wheel BEV and limited availability of models in the market. Local producers are still struggling as the overall demand is still low, thus hindering sales improvement. However, several ride-hailing platforms have established cooperation with electric two-wheelers companies: Grab with Kymco, and Gojek with Gesits and Viar. There are no domestic facilities to produce 4-wheeled electric cars as of now. Several plans for investments have been announced by several car companies. Two major companies, Hyundai (South Korea) and Toyota (Japan), have committed to invest approximately USD 2 billion and USD 2.8 billion, respectively, to build factories and do production in Indonesia.

? Lack of evidence to support the implementation of policies and plans

The policy regarding the acceleration of the battery-based electric motor vehicle program is a recent policy that has been enacted as of August 2020. Under the policy a number of regulations are planned. Recently, the policy on charging station standard has been issued under MEMR Ministry Regulation 13/2020. Plug-ins for BEV in charging station have adopted international standards: Type 2 AC Charging (AC Slow), DC Charging CHAdeMO (DC Fast), and DC Charging Combo Type CCS2 (Combo Slow AC & Fast DC). However, various stakeholders, both within the government (central and local government), producers (industry), and consumers still are not fully aware of or do not fully comprehend these regulations which may hinder the actual implementation of the policy and regulations aiming to support the development of the electric car ecosystem and encouragement of the BEV market.

? *Lack of knowledge, awareness, and demonstration*

A vehicle is considered as one of the most expensive purchases by individuals or households, often equal to months or years of income, and will last for many years. In general, the consumer wants a vehicle that is affordable, safe, comfortable, and reliable for travel and meets many practical needs. For all these reasons, consumers generally will undertake lengthy research and take safe decisions to choose a vehicle. In general, there is lack of customer awareness and knowledge about BEV advantages, existing incentives, and features which pose barriers to BEV adoption. There is a lack of demonstration and pilot projects with EVs (like taxis) and EV public charging, combined with campaigning and promotion stressing benefits.

? Issues in sustainable battery production, waste management and recycling

Battery electric vehicles are predicted to be the future driving solution, especially in cities because they do not produce air pollution and have the potential to reduce greenhouse gases. However, battery production and disposal has environmental impacts that need to be carefully managed. When the battery life has run out (usually between 6-10 years, depending on the number of charging cycles it undergoes), the used battery will become waste. Battery waste is dangerous and damages the environment. Battery waste contains heavy metals and hazardous substances such as mercury, manganese, lead, nickel, and lithium which can pollute water and soil and can harm the human body.

Globally, lithium-ion batteries (LIBs) are the dominant electricity storage technology for applications requiring high energy density. There are two main options for extending the useful life of Li battery materials. One approach is to reuse or recondition used battery packs for use in "second life" applications. At the end of their first (EV) life, many batteries will still retain over 75-80% of their original capacity and could, therefore, be used in less demanding applications. The other option is recycling. However, the recycling of larger EV Li-batteries is at an infant stage. There are only a limited number of recycling factories worldwide. Right now, there is one large battery recycling company in Indonesia, PT Indonesia Puqing Recycling Technology (in Morowali, Sulawesi) that can produce battery-grade materials through the recycling process of used batteries.

More regulation is needed and a good monitoring, verification and enforcement (MVE) system to be established, so that the waste of lithium batteries from electric cars does not become a new problem, following the bad example set by lead-acid battery recycling. Maybe up to 70% of used lead acid batteries are recycled in the informal sector. In Indonesia, more than 200 illegal used lead acid battery (ULAB) smelters are currently operating that emit lead and other metal particulates into the air which can be carried downwind and deposited in soil and surface water, potentially causing severe health problems.

[1] *The Indonesia Automotive Manufacturing: An Update* (June 2020), Gaikindo); *Indonesia Energy Transition 2021* (IESR)

[2] Source: MEMR presentation, draft of BEV public Launching, 3 December 2020. Until April 2021, a total of 122 charging stations have been built in 83 locations such as public oil-fuels stations, public natural gas stations, offices, hotels, shopping centers, parking areas, and rest areas along the toll roads (<https://www.esdm.go.id/en/media-center/news-archives/indonesia-to-accelerate-ecosystem-of-battery-electric-vehicles-says-energy-minister>)

[3] <https://www.thejakartapost.com/news/2020/10/15/consumers-concerns-hamper-electric-vehicle-adoption-in-indonesia-experts.html>.

[4] The charging tariff of SPKLU is included in the special service category, with rates ranging from IDR 1,644.52 to IDR 2,466.78 per kWh. Source: <https://www.esdm.go.id/en/media-center/news-archives/indonesia-to-accelerate-ecosystem-of-battery-electric-vehicles-says-energy-minister>

2) The baseline scenario and any associated baseline projects,

Baseline trends

- Indonesia's greenhouse gas emissions are projected to reach 2.87 GtCO₂ in 2030 (business-as-usual, BaU). Energy is forecasted to become the main contributor to Indonesia's GHG emissions in the near future. Based on the National Communication's BaU scenario, the energy sector will start to dominate Indonesia's GHG emission, surpassing the land-based sector, by 2024 and are projected to reach 1.67 GtCO₂ by 2030. The power generation sector will be the main contributor of GHG emissions in the 2030 BaU with a 48.6% GHG emissions share, followed by manufacturing industries, household, and commercial with 14.5%, 3.12%, and 0.8% GHG emissions share, respectively (Indonesia NC3, 2016; BUR2, 2018) and the transportation sector with a share of 31.4% (524 MtCO₂). The Government of Indonesia (GoI) submitted the First Nationally Determined Contribution (NDC) and submitted in November 2016 (along with the ratification of the Paris Agreement through Act 16/2016 in October 2016). The NDC set the unconditional reduction target of 29% below business-as-usual scenarios (base year 2010) by 2030 and the conditional reduction target (i.e., with international support) of up to 41%. Particularly, 11% (about 314 Mt CO₂e) to 14% (398 Mt CO₂) emission reduction from the total BAU in 2030 is expected to stem from the energy sector including transport (Indonesia NDC, 2016). The GoI has formulated an NDC Mitigation Road Map as a guideline for both Party stakeholder and non-Party stakeholders to contribute to the achievement of NDC targets through the provision of information on physical targets, timelines, and indications of potential locations for mitigation and adaptation actions.

Baseline policies

Given the growth of the transport sector, there is an opportunity to build cleaner and more sustainable road transport systems to avoid a significant amount of future GHG emissions. This will help Indonesia to meet its targets of the NDC. The Government seeks to promote the use of low-carbon vehicles, including fuel-efficient gasoline and diesel vehicles (LCGC, low-cost green car) and a range of electric vehicles (HEV, PHEV, BEV, FCEV^[1] (see [Box 16](#) in Annex F for a description of the electric vehicle types). Under the Automotive Industry Roadmap (see [Box 25](#) in Annex F), low-emission^[2] four-wheel vehicles are expected to reach 400,000 (20% of the vehicle market) by 2025 and 1,200,000 by 2035 (30% of the market) and 2-wheelers will have reached 2 million (20% of the market) by 2025 and 4.5 million in 2035 (30% of the market). This is linked with Indonesia's industrial development strategies. The Government seeks the development of a domestic electric vehicle (EV) manufacturing industry for both domestic sales and exportation. The efforts will leverage the country's rich supplies of nickel laterite ore, the primary input in the lithium-ion batteries, enabling Indonesia to become the leader of EV manufacturing within ASEAN.

A set of policies has been issued by the GoI relevant for the implementation of climate mitigations activities in transport:

? Law No 32/2009 on Protection and Management of Environment sets the basis for management of greenhouse gas emission and pollution, while Government Regulation No.41/1999 concerns Control of

Air Pollution. Minister of Environment and Forestry Regulation No.12/2010 on Implementation of Air Pollution quality in the regions sets the threshold for the vehicle emission level.

? New Government Regulation No. 30 (2021) on Implementation of road traffic and transportation, in response to Job Creation Law (Omnibus Law), this regulation is the government's effort to encourage the implementation of activities related to Road Traffic and Transportation by providing business facilities to increase investment and include traffic impact analysis, testing, and design of motorized vehicles, operation of terminals, business licensing and subsidies for transportation operations.

? Ministry of Transportation Decree No. 201/2013 aims to mitigate emissions in the transportation sector through a complete "avoid, shift and improve" approach, including fuel substitution from oil to gas and encouragement of using non-motorized vehicles.

? MEMR Regulation No. 12/2015 regulates the provision, utilization, and administration of biofuels.

? Government Regulation No. 41 (2013) differentiates level of taxation for various type of cars, including for low-cost green cars (LCGC), to support fuel conversion, and to increase the domestic production of motor vehicles. Government Regulation No. 14/2015 on National Industrial Development Master Plan Year 2015-2035 prioritizes hybrid and fuel cell technology development in the transport sector

The Presidential Regulation 55/2019 on the Acceleration of Battery Electric Vehicles for Road Transportation Program ("PR 55/2019") supports development and market diffusion in Indonesia of one type of vehicle in particular, namely battery electric vehicles (BEV). Regarding demonstration, the focus is on demonstration of (hybrid solar and) grid-powered charging stations for taxis and government fleet of electric vehicles as well as on two-wheelers (battery swap stations and conversion of combustion engine to electric).

After PR 55/2019, the Indonesian government has issued various derivative regulations related to EV industry and industrial and services sectors, such as the MEMR Regulation No. 13 (2020) on the ?Provision of Charging Infrastructure for Battery Electric Vehicles? and the Transport Ministry Regulation No. 45 (2020) on the ?Physical Type Testing of Electric-Powered Motorized Vehicles?. An important incentive is provided by lower the sales tax on electric vehicles in *Government Regulation Number 73 (2019)*. Other incentives to be provided are a) lowering the ownership transfer fee, b) reduction and exemption of corporate income tax for a certain period (for the EV and related battery and electric motor industries), c) exemption of fees for electricity installation for charging stations, d) exemptions of parking fee charges for EVs, e) relief of electricity charging fees at charging stations, f) funding support for charging station infrastructure development, g) incentive for charging station equipment production, and h) fiscal incentives for research, development and technological innovation. More details on these Regulations are given in Annex F. The GoI expects that with these Regulations to promote the production and use of electric vehicles that 400,000 units of EV will have been rolled out on the streets in 2025. It is expected that the sales of HEV and PHEV will be increasingly market-driven mechanism as these are becoming compatible with ICEV and are not fully dependent on the availability of charging stations, and do not need a whole new EV ecosystem.

[1] Hybrid electric vehicle (HEV), plug-in hybrid electric vehicle (PHEV), battery electric vehicle (BEV), fuel cell electric vehicle (FCEV)

[2] Including HEV, PHEV, full electric vehicles (BEV and FCEV) and flexy engine cars (running on ethanol or biofuel blends)

3) The proposed alternative scenario with a description of outcomes and components of the project

As mentioned in the previous section, Indonesia has advanced with formulation of a policy-regulatory framework for EVs, hence project activities only focus on those regulations and standards where there is still a clear need for support and instead incorporate new activities on stimulation of EV use and purchase, while maintaining activities on charging infrastructure.

There is no change from the Concept Note stage in terms of the core alignment with the GEF focal area strategy. This project still fits squarely within the GEF climate-change focal area strategy, seeking to achieve GHG emissions reductions through realization of well-proven and cost-effective technological opportunities in development of electric mobility.

The overall thematic emphasis of the project remains similar to that of the Concept Note stage. However, there have been a few revisions to certain outputs/activities for various reasons and needs based on the latest context; and extensive research and stakeholder consultation during the preparatory period. These changes are summarized in the table below.

ProDoc / CEO ER	Child project concept	Rationale for Change in PIF Outputs/Activities in Prodoc
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ProDoc / CEO ER	Child project concept	Rationale for Change in PIF Outputs/Activities in Prodoc
1. BEV ecosystem (EV production and charging infrastructure) strengthened in response to national market uptake	<p>1. Enhanced readiness for the development and implementation of Electric Vehicle Charging Stations (EVCS)</p> <p>2. Improved quality and affordability of electric vehicles, batteries and other related sub-components to allow shifting from internal combustion engines (ICEs) business to electric vehicles.</p>	<p>The Components 1 and 2 of the child project concept have been merged. On reason is that since the project concept was conceived (and included in the PFD addendum of the Global Programme) Indonesia has advanced considerably with policy formulation and regulations. Apart from the regular charging facilities (EV CS), the option of battery swap stations (BSS) for 2-wheelers has been given priority and related activities have been added throughout the project document both in terms of policy and regulations formulations (Component 1) as well as in the pilot/demos activities of Output 2.2. As main elements of the regulatory framework are in place, the focus has shifted to demand stimulation for EV and cost-effective business models for charging infrastructure</p>
1.1 Business models and financing option elaborated and implemented for charging stations (SPBKLU) battery swap stations (SPKLU)	<p>1.1 Assessment of Planning and Other Requirements to establish EVCS infrastructure</p> <p>1.3 Development of Optimized Business Model for EVCS Investment</p>	<p>The MoI has issued a EV Roadmap with targets on EV vehicles in the coming decades, while PLN has plans for the CS and BSS infrastructure, diminishing the need for the PIF Output 1.1. Rather ENTREV will focus more on the PIF Output 1.3 by assessing and elaborating cost-effective business models and financing for public and private CS and BSS</p>
1.2 National policies and standards for battery swap stations (SPKLU) and charging stations (SPBKLU) improved and implemented	<p>1.2 Development of Technical Standards for EVCS</p> <p>1.4 Development of Regulations for EVCS Implementation</p>	<p>After PR 55/2019 the Indonesian government has issued various derivative regulations related to EV industry and industrial and services sectors, such as the MEMR Regulation No. 13 (2020) on the "Provision of Charging Infrastructure for Battery Electric Vehicles" and the Transport Ministry Regulation No. 45 (2020) on the "Physical Type Testing of Electric-Powered Motorized Vehicles". Given the fact that the regulatory and technical standards is being formulated, the PIF Outputs 1.2 and 1.4 have been downsized and merged and will focus in the ProDoc Output 1,2 only on certain areas that still need attention, such as uniform standards for swappable e-motor scooter batteries and 4-wheeler batteries and on the development of BEV home charging safety standard and application measures (electricity tariff zonation, smart meter V2X)</p>

ProDoc / CEO ER	Child project concept	Rationale for Change in PIF Outputs/Activities in Prodoc
1.3 Program to promote domestic manufacturing of BEV and their components adopted and implemented	2.1 Development of Technical Standards for Electric Vehicles Manufacture / Assembly; 2.2 Development of Technical Standards for Electric Vehicle Batteries and Sub-components; 2.3 Development of Regulations for Electric Vehicles, Batteries and Sub-components	Similarly, a number of Regulations have been issued such as Regulation No. 13 (2020) on the "Provision of Charging Infrastructure for Battery Electric Vehicles". MoI Regulation Number 27 (2020) concerns "Specifications, Development Roadmap, and Provisions for Calculating Domestic Component Levels of Domestic Motor Vehicles for BEV". Thus, the PIF Outputs 2.1-2.3 have been redesigned into ProDoc Output 1.3, focusing more on development and implementation policies that directly incentivize domestic manufacturing of all-electric BEVs and their components as well as facilitating cooperation between manufacturers, researchers and investors
1.4 Options assessed for purchase and trade-in, preferential loans, and second-hand market for four and two-wheelers ICE to BEV		A newly added element is market demand stimulation, by providing reliable info on "total cost of ownership" and on options assessed for purchase and trade-in, preferential loans, and market for second-hand BEVs
2. Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions	2. Implementation of selected low carbon interventions in cities including piloting innovations	No major change in the Outcome's goals but adding the elements of demand stimulation
2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of two and four-wheeled BEVs	1.1 Assessment of Planning and Other Requirements to establish EVCS infrastructure 3.1 Key stakeholders Engagement to Support Implementation of Electric Vehicles	The Outputs focusses on the formulation and implementation of local policies and plans in the three focus regions (DKI Jakarta, West Java, Bali regarding CS and BSS infrastructure layout and stimulation of the purchase and use of 4-wheel and 2-wheel BEV
2.2 Deployment of BEV charging stations and battery swap stations in pilot regions	3.2 Demonstration of Electric Vehicle Implementation	The ProDoc specifies in detail the tupe of demonstration, namely CS implemented by MEMR (with solar) and DKI Jakarta and BSS with DKI Jakarta West Java and Bali
2.3 Financing schemes set up for BEV two and four-wheelers utilization in pilot regions	3.1 Key stakeholders Engagement to Support Implementation of Electric Vehicles	One addition to Output 3.1 is the addition of a separate Output 2.3 on financial schemes to stimulate demand for BEV in the pilot regions.

ProDoc / CEO ER	Child project concept	Rationale for Change in PIF Outputs/Activities in Prodoc
2.4 Local clearinghouses and programs implemented to promote the purchase and use of BEV two and four-wheelers	4.1 Preparation for Establishment of EV Knowledge Centres; Output 1;	No major change, except that knowledge centers (info clearing houses) are set up in the three pilot regions.
3. Capacity of key stakeholders built and knowledge shared on BEV to officials, manufacturers, and potential BEV buyers and safeguards development		The activities in the PIF Outcomes on social-environmental issues are put together as Output 3.3 in the ProDoc
3.1 Capacity is built in the BEV industry (repair-shops) and research institutes	4.2 Strengthening technical capacity of Universities/Research Institutions and EV service line persone	No major changes
3.2 Promotional activities conducted, results of demonstration in pilot locations disseminated and knowledge exchange between countries on e-mobility facilitated.	4.3 Knowledge Exchange on Transition to Electric Vehicles	No major change, except that an activity is added on scaling-up in six more pilot cities for post-project implementation

ProDoc / CEO ER	Child project concept	Rationale for Change in PIF Outputs/Activities in Prodoc
3.3 Programs to address social, gender, environmental, and safety employment issues related to BEV adoption are developed (including battery use and disposal)	2.4 Development of feasible strategy and regulation for managing end-of life battery and sub-components.	The output 2.4 in the PIF on environmentally sound battery disposal and recycling has been shifted to Outcome 3. In addition, to environmental impact, Output 3.3 looks at social issues and impacts, such as gender and employment. To study indirect impacts of the project associated with inherent impacts related to the life-cycle of BEV, a strategic assessment of social and environmental impacts of BEV in Indonesia will be conducted, looking at the life-cycle of batteries (including resource extraction). This strategic assessment will inform relevant decision-making, policies, guidelines, e.g. through assessment of technical and economic aspects of retired BEV battery use including the potential impact of discarded batteries (if not reused/ recycled), re-manufacturing, secondary use of retired BEV batteries (such as for off-grid power), and recycling after the secondary use life is exhausted as well as human rights, environmental issues related to the extraction of raw materials for the batteries.

Project Components, Outputs, Activities

The **project's objective** is to support Government of Indonesia and key stakeholders in policy, institutional & technical readiness to transition towards electric mobility and to demonstrate innovative business models in the transport sector that will lead to GHGs emissions reduction. The project seeks to achieve this objective through integrated activities targeting barriers and their underlying causes by achieving several **outcomes** that are grouped into three project **components**:

Component 1 Institutional framework and strategy for battery electric vehicle industry and charging infrastructure

1. BEV ecosystem (EV production and charging infrastructure) strengthened in response to national market uptake

Component 2 Demonstration of early BEV market development

2. Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions

Component 3 Knowledge products and capacity building for scaling up and environmental-friendly battery use

3. Capacity of key stakeholders built and knowledge shared on BEV to officials, manufacturers, and potential BEV buyers and safeguards development

The following box shows the dynamic strategy aspects of the theory of change, i.e., how the Project's strategy and outcomes address the challenges and gaps to the market penetration of battery electric vehicles (BEVs). The ENTREV project will provide incremental support to the government in a wide consultative process with stakeholders, to enhance the capacity of national/sub-national policymakers and procuring expertise for various activities to put in place readiness measures and appropriate incentives for scaling up EV deployment beyond 2025. Such a set of supportive regulations is crucial to provide an incentive for the industry and to encourage domestic demand, in addition to the incentives already provided under PR No. 55/2019 and derivative regulations. Creating domestic EV demand is a crucial task to attract more investment and to achieve a clean transport transition. The Project will facilitate pilot implementation and advance business models to attract private sector investment in EV manufacturing and infrastructure and EV fleet operation.

Box 1 Theory of change: results and impacts

Impacts

Reduced GHG emissions from (urban) transportation; reduced petroleum product consumption; air quality improvement; local manufacturing and job creation

Intermediate impacts

Transition towards electric mobility by increased use of BEVs

Broader adoption of BEVs by replication and scaling up and demonstration of attractive business models

Behavioral change in users (increase demand and use of BEV), public and private sectors (increased investment) and decision-makers (improving enabling conditions)

Project results (outcomes)

BEV ecosystem (EV production and charging infrastructure strengthened) in response to national market uptake

Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions

Capacity of key stakeholders built and knowledge shared on BEV to officials, manufacturers, and potential BEV buyers and social and environmental safeguards development

Project intervention

Production of BEV and EV components

Development of EV charging and battery swap stations

Promotion of purchase and use of BEV

Capacity, knowledge and information

Intervention area	National level – ENTREV outputs	Local level – ENTREV outputs
	Outcome 1	Outcome 2
Development of charging stations and battery swaps (infrastructure)	1.1 Business models and financing option elaborated and implemented for charging stations (SPBKLU) battery swap stations (SPKLU) 1.2 National policies and standards for battery swap stations (SPKLU) and charging stations (SPBKLU) improved and implemented	2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of BEVs 2.2 Deployment of BEV charging stations and battery swap stations in pilot regions
Production of BEV and EV components (supply)	1.3 Program to promote domestic manufacturing of BEV and their components	
Promotion of purchase and use of BEV (demand)	1.4 Options assessed for purchase and trade-in, preferential loans and second- hand market for four and two-wheelers	2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of BEVs 2.3 Financing schemes set up for BEV two and four-wheelers utilization in pilot regions
	Outcome 3	
Capacity, knowledge and information	3.1 Capacity built in BEV industry (repair-shops) and research institutes. 3.3 Programs to address social, gender, environmental and safety employment issues related to BEV, including environmentally sound battery waste management 3.2 Results of demonstration in pilot locations disseminated widely for replication	2.4 Local clearinghouses and programs implemented to promote purchase and use of BEV two and four-wheelers

Component 1 Institutional framework and strategy for battery electric vehicle industry and charging infrastructure

Outcome	Outputs
1. BEV ecosystem (EV production and charging infrastructure) strengthened in response to national market uptake	1.1 Business models and financing option elaborated and implemented for charging stations (SPBKLU) and battery swap stations (SPKLU) 1.2 National policies and standards for battery swap stations (SPKLU) and charging stations (SPBKLU) improved and implemented 1.3 Program to promote domestic manufacturing of BEV and their components adopted and implemented 1.4 Options assessed for purchase and trade-in, preferential loans, and second-hand market for four and two-wheelers ICE to BEV

Under this outcome, Project activities aim to enhance readiness for the development of charging infrastructure with economically viable business models being rolled out (that can provide affordable charging to two and four-wheel EV users, thus building the confidence of infrastructure providers and potential EV users. The Project will also promote the local manufacturing of EV and EV products in response to growing national market uptake, in particular by strengthening linkages and technical capacities on EV among Indonesian universities/research institutions and the manufacturing sector. This Outcome is linked with Outcome 3 of the Global e-Mobility Program.

Output 1.1 Business models and financing option elaborated and implemented for charging stations (SPBKLU) and battery swap stations (SPKLU)

Activities:

1.1.1 Develop and promote business models for charging stations, including financial models

? Business models will be elaborated for the private-sector operation of charging stations, including Excel-based financial models that show income projections and potential profitability and consideration of social and environmental risk management measures and sustainability.

? Outreach may involve focused group meetings or video conferences. To prepare for promotion efforts, identify businesses appropriate to running such charging stations businesses (especially those with land) to target in outreach efforts. Environmental and socially sustainable practices in running charging stations business to be included in outreach information.

1.1.2 Conduct assessment on business models for charging stations using renewable energy sources (e.g., solar PV) based on reliable statistics on electric vehicles

? Compile statistics on installed charging and swapping stations (from PLN, local government, private, others);

- ? Carry out an assessment to determine, standards, costs, and availability of devices for renewable energy charging stations.

1.1.3 *Develop and promote business models for battery swap stations*

- ? Carry out an overall cost-benefit analysis of a battery swap program (starting with Pertamina and to be extended to private sector entities). Determine viability of such a program. In assessing the viability, consider the option of users having one battery that they are responsible for along with a slot for incorporating an additional battery from a battery swap station to be changed out when needed;
- ? Conduct analysis of institutional structure for the national battery swap system (including possible provision of batteries by a single entity and distribution by multiple private sector partners)
- ? Determine business models for private entity involvement, including financial analysis (to show if this will be profitable for them as well as for Pertamina) and prepare the design of a public-private battery swap system.
- ? Conduct viability assessment of the designed battery swap systems for electric motorcycles and scooters and determine a business model for operationalizing the swap system. Based on findings, prepare the design for the battery swap systems.
- ? Review existing policy on 2-wheelers selling package to allow exclusion of batteries in the sale of the electric 2-wheeler. The existing policy from the MoI regulates that an EV motorbike has to include the battery when sold. If instead batteries can be rented at swap stations, this can positively affect the TCO (total cost of ownership).
- ? Identify environmental management measures needed to ensure the sustainable operation of battery swap stations, including protocols for battery storage and recycling and disposal of expired batteries.

Output 1.2 National policies and standards for battery swap stations (SPKLU) and charging stations (SPBKLU) improved and implemented

Activities:

1.2.1 *Develop and adopt uniform standards for swappable e-motor scooter batteries and 4-wheeler batteries.*

- ? Draft standards and promote to policy makers (National Standard Body or BSN). Determine the process to ensure standards are adhered to and inform relevant departments. Publicize the standards to relevant organizations involved in manufacturing or importing relevant equipment. Support to the issuance of mandatory standard of BEV batteries and other components for 2 and 4 wheelers BEV and readiness of testing facilities.

1.2.2 *Review, observe and provide feedback to battery swap policy and home charging*

- ? Conduct assessments and observation to the implementation of battery swap policy.
- ? Provide input on policy interventions in the form of a policy brief paper as feedback to the government.
- ? Develop online-based, integrated monitoring platform for SPKLU business concessions

- ? Develop BEV home charging safety standard and application measures (electricity tariff zonation, smart meter V2X)

1.2.3 Adjust MoI EV Roadmap and PLN charging stations Roadmap

- ? Updated MoI EV Roadmap and PLN EVCS Roadmap based on latest statistics (activity 1.1.2), information on cost of charging stations, and TCO calculations of activity 1.4.2

Output 1.3 Program to promote domestic manufacturing of BEV and their components adopted and implemented

Activities:

1.3.1 Support development and implementation of new and existing policies that directly incentivize domestic and green manufacturing of all-electric BEVs and their components

- ? Assess and provide draft policy to support domestic manufacturers by reducing cost for the importation of key BEV components (battery, motor, and inverter) and providing tax incentives to domestic component industries. This will include updating PMK 105 to include BEV key components to receive tax exemption (tax holiday) and other fiscal incentives (reduction or exemption of import duty). Adopt policy, determine implementation process, inform and train those responsible for implementation, promote to companies, and implement.
- ? Identify policy measures and incentives to strengthen green manufacturing of BEV and BEV components.
- ? Work to ensure process and responsibility for implementing existing BEV and BEV component manufacturing incentive policies are delineated, promoted to manufacturers interested in coming to Indonesia for longer-term investment.
- ? Assess and provide draft incentives to the nickel-refining industry for battery-grade product production, including reduced nickel royalty and reduced electricity price incentives. Propose an appropriate implementation process. Train relevant entities in their role in implementation, and promote to relevant commercial entities.
- ? Assess and provide new/ additional draft incentive policies to attract foreign manufacturers to establish joint ventures for BEV car manufacturing and BEV battery manufacturing for both two and four-wheelers (in particular, attracting a low-end BEV car manufacturer will be a priority). Propose an appropriate implementation process, train relevant entities in implementation, and promote policy to priority potential foreign partners.
- ? Carry out assessment and propose measures to reduce the cost of doing business in Indonesia for foreign investors in the BEV and BEV component industry. This may include the reduction of unnecessary red tape and various incentives while not reducing environmental protection.

1.3.2 Liaison and exchange facilitated between manufacturers, universities/institutes, and investors/financiers

? Facilitate liaison between universities/ technical institutes and BEV and BEV component manufacturers for the formation of R&D partnerships that will benefit from the super-R&D tax incentive and increase local content. As a first step, determine relevant research areas of universities/ research institutes and their synergies with manufacturers, e.g., R&D related to enhancing the greening potential and sustainability of BEV.

? Facilitate exchange between Indonesian manufacturers of BEV components and all-electric BEVs with international companies so that joint venture relationships that accelerate scale-up, sustainability, and cost reduction are achieved. This may include delegations to visit international partners, facilitation of remote discussions, or invitation of potential partners to visit Indonesia for discussions. Priorities for this exchange should include battery makers, low-end BEV cars (for which there is as of yet no domestic manufacturing and for which imports are mainly high end), and nickel refining to achieve battery-grade products.

? Facilitate liaison between domestic all-electric BEV and component manufacturers and potential investors and financiers. As a first step, determine a list of relevant investors and financiers.

Output 1.4 Options assessed for purchase and trade-in, preferential loans, and second-hand market for four and two-wheelers

Activities:

1.4.1 Carry out analysis on battery life and conduct foundation setting work for the development of second-hand BEV market

? Research and provide information on the potential lifetimes of batteries associated with various e-motor scooters and BEV cars in the market. Based on battery life and other findings (such as those regarding maintenance costs and cost of replacement batteries), estimate the value of BEVs (both e-motor scooters and BEV cars) on the second-hand market.

? Develop a website for the sale of second-hand e-motor scooters and BEV cars. In addition to serving as a platform to connect buyers and sellers, the website should include additional information from the above analyses, including what to expect in terms of the additional lifetime of batteries, etc. It should also include information on how to carry out (or commission) a diagnosis of the battery in a second hand-BEV the reader is considering buying.

1.4.2 Carry out TCO (total cost of ownership) calculations for e motor-scooters and BEV cars as compared to their respective ICEV equivalents and based on reliable statistics

? Compile statistics on sales and stock of electric vehicles (BEV, PHEV, HEV) and sales prices (from statistics office, government agencies, car producers and importers, customs, Police dept.)

? For the e-motor scooters, carry out TCO analysis, comparing ICEV motor-scooters (new and less fuel-efficient older models) with different models of e-motor scooters.

? TCO analysis will be carried out for different models of BEV cars vis-?-vis one another and in comparison, with other types (BEV, PHEV, ICEV, etc.). For both e-

motor scooter and BEV car TCO work, an analysis will make use of findings on battery life (activity 1.4.1) and potential for second-hand market carried out (see statistics improvement, activity 1.1.2).

? Dissemination of TCO analysis results to EV users and owners and other stakeholders (linked with Activity 3.2.2)

1.4.3 Options assessed for purchase and trade-in, preferential loans, and second-hand market for four and two-wheelers

? Analyze the need for added BEV fiscal incentives for BEV owners and users. Considering the TCO work done on BEV cars (Activity 1.4.2), determine whether an increase in BEV car purchase incentive is needed to stimulate the purchase of BEV cars. If an increase is needed, it might be achieved by a higher reduction or even elimination of annual registration tax. In addition, consider a corporate tax reduction for taxis, rideshare, and other companies that adopt BEV cars for a certain proportion of their fleet.

? Draft a proposal for a system with incentives for the purchase of second-hand BEV motor scooters and second-hand BEV cars as well as an attractive trade-in system from ICEV to BEV (both two and four-wheelers)

? Prepare to brief selected policies and discuss with relevant policymakers at national and/or local levels. Adopt revised BEV car incentive policy or policies at national and/or local levels as relevant, develop the process for implementation, inform and train responsible units, publicize policy revisions, and implement.

Component 2 Demonstration of early BEV market development

Outcome	Outputs
2. Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions	2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of two and four-wheeled BEVs 2.2 Deployment of BEV charging stations and battery swap stations in pilot regions 2.3 Financing schemes set up for BEV two and four-wheelers utilization in pilot regions 2.4 Local clearinghouses and programs implemented to promote the purchase and use of BEV two and four-wheelers

This component will raise awareness among local policymakers, the private sector, and the general public on the central government's strategy in transitioning towards electric vehicles through demonstration of electric vehicles implementation in the Jakarta, Bali and West-Java areas . The Project will also facilitate preparation for the establishment of EV knowledge clearinghouses.

Output 2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of BEVs

Activities:

2.1.1 Prepare, advocate planning and policies to promote investment in BEV infrastructure

? Prepare draft regional government policies for Jakarta, Bali, and West Java that will stimulate the establishment and sustainability of BEV charging stations. One such policy may be for the regional government to require charging stations in commercial building parking lots. Others, such as local tax breaks, may also be considered. Liaise with decision-makers and revise preferred policies to have these formulated for approval by the Governor. Determine the process for policy implementation. Liaise with departments responsible for implementation and ensure they are prepared for their duties. Promote incentives in national and regional policies to suitable private sector entities that have available land for charging stations and that may be interested;

? Prepare geographic analysis that shows, for each of Jakarta and Bali (and West Java), critical Phase 1 target locations for public charging stations. Plans should indicate the proposed type of charger that would make the most economic sense at each location. Promote the geographic charging plan to the private sector entities.

2.1.2 Prepare and advocate local policies in promoting BEV purchase/use, such as:

(a) limiting the number of licenses issued each year for new ICEV

? Conducting analysis, provide draft policy and briefing, to limit the number of licenses issued each year for new ICEV motor scooters (e.g., via a lottery method or a method of very high-priced licenses) in Jakarta and Bali (and West Java), as a means of pushing end-users purchasing new motor scooters to purchase e-motor scooters.

? Conducting analysis, provide draft policy and briefing, and liaise with national and Jakarta and Bali (and West Java) local decision-makers. Adopt and develop the process for implementation, inform and train responsible units, publicize policy, and implement.

(b) fiscal and non-fiscal incentives for the purchase of BEVs and financial support program for retiring old ICEV motor scooters

? Conducting analysis, provide draft policy and briefing, and liaise with Jakarta and Bali (and West Java) policy decision-making regarding fiscal and non-fiscal incentives for the purchase of BEVs, especially tax reduction measures. Adopt and develop the process for implementation, inform and train responsible units, publicize policy, and implement.

? Conducting analysis, provide draft program structure and briefing subsidy/grant/ coupon program for retiring old ICEV motor scooters (e.g., older than a certain age, such as 10 years) that would be used for the purchase of new e-motor scooter. Liaise with national and Jakarta and Bali (and West Java) policy and program decision-makers. This program will also consider potential environmental impacts and management measures for retiring of ICEV scooters. Adopt and develop the process for implementation, inform and train responsible units, publicize policy, and implement.

(c) prohibiting ICE two-wheelers in the city center or main roads in the Central Business District (CBD) in pilot project cities. Bali government has regulated the prohibition of ICE two-wheelers in CBD. The Jakarta government has allowed electric vehicles to pass roads that apply odd-even policy during peak hours. These policies can be expanded in broader areas in pilot cities.

Output 2.2 Demonstration of BEV charging stations and battery swap stations in pilot regions

Activities:

2.2.1 Purchase and install public charging stations for BEV and set up in-house battery swap for e-motor scooter fleets of government at selected sites (Jakarta, Bali, and West Java)

? Purchase and install (based on analysis of Output 1.1) public charging stations in cooperation with partners that own land with excess space. Proposed sites are at MEMR facilities in Jakarta (that have already solar rooftop PV installed, which can provide part of the energy of the EV fast-charging station (SPKLU) as well as a second EV charging station at a location (without being equipped with a PV rooftop) located at the CNG Station owned by the DKI Jakarta Government.

? Set up battery swap stations for government and public e-motor scooter fleets. It is planned that 36 public battery swap station (SPBKLU) will be distributed, powered by normal chargers. One unit of SPBKLU contains 12 batteries cabinets. The project is planning to introduce 36 swap station locations, of which 24 SPBKLU consisting of @ 12 batteries cabinets in DKI Jakarta Province, 8 SPBKLU consisting of @ 12 batteries cabinets in West Java Province, and 4 swap station consisting of @ 12 batteries cabinets in Bali Province. More details on the proposed demo/pilot activities are provided in ProDoc Annex G. ENTREV will only invest in provision of battery cabinets for charging and engagement of service provider or operator. The batteries will be provided by the operator, not by the Project.

? More details on the proposed demo/pilot activities are provided in ProDoc Annex G. GEF INV support is budgeted at USD 394,000 (for 2 EV fast-charging stations and 36 battery-swap stations) with INV co-financing (from MEMR, West Java government, and PLN) of an estimated USD 13,400,000 (for electric vehicles and charging infrastructure).

2.2.2 Develop partnerships with private-sector entities and install charging stations for BEV and set up battery swap for e-motor scooter with private sector entities in selected sites

? Advice on installing public charging stations in cooperation with commercial buildings partners (that own land with excess space) for post-project implementation

? Develop partnerships for private-sector-owned public battery swap outlets. This cooperation will be with the private sector entities as a means of extending the swap network initiated by Pertamina. This preliminary private sector involvement will set the stage for greater scale-up that will be needed to achieve the scale envisioned once the nation's motor scooter fleet is largely electrified. The private sector's co-financing letters (i.e., Bluebird, Grab, Gojek) have expressed their commitment publicly to change their fleet to electric vehicles.

2.2.3 Support demonstration of the conversion of 2-wheeled ICE to BEV

? In collaboration with research center P3TEK EBTKE at the Ministry of Energy, currently has initiated the conversion of ICE 2 wheelers to BEV. The Project will support P3TEK KESDM in the implementation of a pilot on the conversion of ICE motorbikes to BEV with a capacity of 110 CC. This will inform the formulation of an ICE to BEV Motorcycle Conversion Guidebook. For this reason, P3TEK will provide training and certification to conversion workshops. Thus, P3TEK is expected to

become a Certification Body for the conversion of ICE, motorcycles to BEV. Cost of conversion is considerably high IDR 14,500,000/unit and ways will be explored to make conversion compatible.

? MEMR-P3TEK will provide INV co-financing of USD 160,000 (see ProDoc Annex G).

2.2.4 Carry out monitoring of Jakarta, Bali, and West Java demos and disseminate results

? Prepare reports on results of demos, including achievements and lessons learned on, for example, including cost savings of BEVs, revenues of charging stations and battery swap stations, environmental and social impacts, and technical issues with both BEVs and charging stations

? Disseminate reports on Jakarta and Bali (and West Java) BEV demos widely nationwide, but with special focused efforts on the six priority target replication cities identified in Activity

? MEMR will provide USD 160,000 INV co-financing for monitoring equipment and supporting activities, while GEF INV support is USD 239,000.

Output 2.3 Financing schemes set up for BEV two and four-wheelers utilization in pilot regions

Activities:

2.3.1 Assess the benefit of preferential loans to purchase BEV cars and e-motor scooters

? Assess the benefit of preferential loans for taxi and ride-sharing companies to purchase BEV cars and e-motor scooters. This may also include a risk insurance mechanism to protect companies against the early failure of the BEVs.

2.3.2 Propose financing schemes and facilitate matchmaking between financiers

? Consultation with financial institutions to discuss their interest, the possibilities and their appetite to enter this market

? Provide advisory support on possible financing schemes and facilitate matchmaking between financiers and BEV-using companies in purchasing and operating e-motor scooters and cars, such as ride-sharing, taxi, and delivery companies.

? Provide advisory support on possible financing schemes and facilitate matchmaking between financiers and local government in purchasing and operating e-motor scooters (units with high daily mileage) and all-electric shuttle buses.

Output 2.4 Local clearinghouses and programs implemented to promote the purchase and use of BEV two and four-wheelers

Activities:

2.4.1 Develop at least one clearinghouse (info exchange and provision platforms) in each pilot region serving private and other interested parties

? The clearinghouse is established at a local public entity that provides information and advice on electric vehicles, charging options, national and local regulations and available incentives. The Project will support bringing the clearinghouse staff up to speed and promote the clearinghouse needs of the private sector by gathering and systematizing useful information on the status of BEV and charging related policies, procedures, business models, financing, partners, and actions (in Indonesia in general and the target region in particular).

? Organize awareness campaigns for the general public, reach out to appropriate private sector entities, and support these and other entities regarding Indonesia's BEV and (charging) infrastructure on a one-to-one and as-needed basis. The aim is to enable supporting local (regional) private sector entities and providing coordination with both domestic, national, and international parties.

Component 3 Knowledge products and capacity building for scaling up and environmental-friendly battery use

Outcome	Outputs
3. Capacity of key stakeholders built and knowledge shared on BEV to officials, manufacturers, and potential BEV buyers and safeguards development	3.1 Capacity is built in the BEV industry (repair-shops) and research institutes 3.2 Promotional activities conducted, results of demonstration in pilot locations disseminated and knowledge exchange between countries on e-mobility facilitated. 3.3 Programs to address social, gender, environmental, and safety employment issues related to BEV adoption are developed (including battery use and disposal)

The project will foster knowledge and information exchange based on lessons learned during its implementation at the national level and within the EV Global Program network. Development of programs for managing batteries and subcomponents at the end of their life will be conducted (to ensure environmental sustainability) as well for addressing gender and social aspects. Outcome 3 is cross-cutting and the outputs will also provide an input to and inform Outcomes 1 and 2.

Output 3.1 Capacity is built in the BEV industry (repair-shops) and research institutes

Activities:

3.1.1 *Build gender-sensitive capacity development in vehicle repair shop technicians on BEV and conversion from ICE to BEV (E-scooters) to address unemployment issues from the transition to BEV*
(so that they are skilled in maintenance and repair of e-motor scooters, e-bicycles, and all-electric cars, as well as in the conversion of ICEV motor scooters and bicycles into e-two wheelers)

? Conduct skills needs assessment

? Prepare a handbook and training videos on BEV repair and conversion in Indonesia. Post videos on one or more online platforms.

- ? Train technical personnel in BEV repair and conversion (with a focus on the three pilot regions, Jakarta, West-Java, and Bali). Trainees will include staff of taxi, ride-hailing, and delivery companies as well as personnel of motorcycle and auto repair workshops. Training sessions should ensure a strong representation of women trainees.
- ? Design and administer competency tests to trainees to determine whether they have mastered materials. Provide a certificate of accomplishment to those that achieve mastery.
- ? Prepare a plan for re-skilling of ICEV and ICEV component workers to enter BEV and BEV component industry to the extent the BEV-related industries can absorb them. Prepare a plan for the transition of excess ICEV workers to transition to other fields. Encourage female participation in the training/re-skilling programs

3.1.2 Develop BEV related curriculum and courses for high schools and universities

- ? Conduct capacity building and ToT needs assessment
- ? Prepare BEV curriculum for high school and university levels, working with universities (about 6 key universities), research institutes (LIPI, BPPT, and P3TEK EBTKE), and industry (Gesit, Toyota, Honda, and Hyundai). The curriculum will include training handbooks and training videos as well as opportunities for hands-on engineering lab experiences. It will also include mastery tests.

Output 3.2 Promotional activities conducted, results of demonstration in pilot locations disseminated and knowledge exchange between countries on e-mobility facilitated.

Activities:

3.2.1 Develop two-way international BEV knowledge exchange between Indonesia and the rest of the world through UNEP-led Global Program on E-mobility

- ? Hold and attend E-mobility workshops and site visits
- ? Collect, package, and translate into Indonesian relevant information from the parent project's BEV knowledge exchange platform.
- ? Research relevant case studies of international experience and carry out cross-country analyses as needed to provide insights for a specific policy, process, planning, and business models issues related to Indonesia's BEV ecosystem development.
- ? Ensure that key ENTREV knowledge products, especially demo monitoring reports and lessons learned and capacity building handbooks are shared globally via the parent project's knowledge exchange platform.

3.2.2 Create a program of promotion of the use of BEV in various media

(in the target regions of Component 2, and as part of national-level efforts to promote the use and purchase of BEVs)

- ? Identify those government departments/ organizations that are likely to drive the most vehicle miles per day and thus have the greatest cost savings with BEVs and focus promotion on these organizations.
- ? Provide information on BEV TCO analyses (see Output 1.4) to taxi, ride-hailing, and delivery companies. Also, provide guidance on battery care and charging, the ease and low cost of maintenance, flood resistance and safety, and durability as part of the promotion of BEVs to these companies. Hold

workshops on all-electric BEV adoption for taxi, ride-hailing, and delivery companies and organize an all-electric BEV exhibition for them.

3.2.3 Identify six priority cities for replication for additional scale-up and conduct outreach

? Identify six priority cities for replication of the demos (Outcome 3) and to other institutions and neighborhoods in Jakarta, Bali, West Java (or other areas) for additional scale-up.

? Conduct outreach to relevant parties in the six priority target cities for replication of successes in Jakarta (and other project focus areas (see Component 2) on BEV programs and confirm which cities will participate, aiming for a minimum of four cities to eventually initiate replication by the end of ENTREV.

Output 3.3 Programs to address social, gender, environmental, and safety employment issues related to BEV adoption are developed (including battery use and disposal)

Activities:

3.3.1 Mapping of the (battery) electric vehicle industry and components and assessment of social and environmental impacts

? As several of the Environmental & Social impacts identified in the Social and Environment Screening (ProDoc SESP, see ProDoc Annex K) are indirect impacts of the project associated with inherent impacts related to the life-cycle of BEV, a strategic environmental and social assessment of electric vehicle industry in Indonesia (with a focus on BEVs) will be conducted as one of the early activities of the project, looking at the life-cycle of batteries (including resource extraction, manufacturing and battery disposal). This strategic assessment will inform relevant decision-making, policies, guidelines related to BEV expansion in Indonesia. Therefore, while the assessment will inform components of the project, the scope of the assessment is expected to be useful beyond activities proposed in this project as it can, e.g., lead to recommendations for strengthening sustainability of the nickel extraction required for EVs. The resulting ?framework? of safeguards for the BEV sector in Indonesia will include a roadmap for activities to be put in place by national partners.

? The assessment will consider potential environmental impacts of retired BEV battery use including the potential impact of discarded batteries (if not reused/ recycled), re-manufacturing, secondary use of retired BEV batteries (such as for off-grid power), and recycling after the secondary use life is exhausted as well as human rights, environmental issues related to the extraction of raw materials for the batteries.

? The assessment will also consider potential social (incl. gender and employment) impacts and opportunity for women participation in jobs by giving priority to women for accessing the new jobs linked to EV (driving, maintenance and management; operation of charging stations and swap stations) in particular in the companies and government entities associated with the project pilots. The assessment will provide recommendation that will facilitate further streamlining of policies to facilitate the access of women to jobs and the consideration in working conditions the consideration of gender-sensitive working conditions (e.g., for flexible working hours) and gender-sensitive management plans in commuting (priority setting at parking places, and bike-sharing and public taxis).

3.3.2 Establishing guidelines on BEV safety and water (flooding) protection

- ? Carry out needed assessments, including assessment of water impacts on all-electric vehicles in the case of flooding and fire risks. Develop measures to prevent safety and reliability issues, such as waterproof encasement of batteries.
- ? Get guidelines adopted, determine implementation process, train implementers, and promote these to both manufactures and potential users as needed. Concerning fire safety, train first responders in dealing with accidents involving BEV batteries

3.3.3 Develop and implement a program for the retiring of BEV batteries, optimizing retired battery value, and minimizing environmental impacts

- ? Determine financially viable and environmentally and socially sustainable (informed by activity 3.3.1) business models for re-manufacturing, re-use, and recycling as inputs to the plan and marketplace efforts described in the subsequent sub-activity.
- ? Develop national plan and marketplace for remanufacturing and/or secondary use of retired BEV batteries (immediately after they are retired from vehicles), such as for off-grid power, and plan for the use of retired BEV batteries after no longer appropriate for secondary use. Design marketplace platform to facilitate the buying and selling of batteries at both of these two stages. Secondary use may include a combination with solar PV for off-grid village power applications (e.g., such as in the case of conversion from diesel to solar PV mini-grids).
- ? Draft, organize discussion and revision and promote adoption of retired BEV battery policy to support the foregoing plan.
- ? Publicize the retired BEV battery policy and program. Develop the process for implementation with relevant institutions identified and trained in their responsibilities.
- ? Develop and implement measures to identify and close down ?illegal recyclers? (that often do not actually recycle the batteries they collect).

4) alignment with GEF focal area and/or impact program strategies;

The eVehicles Project is strongly aligned with CCM 1-2: Promote innovation and technology transfer for sustainable energy breakthroughs for EV technologies and electric mobility. By demonstrating the use of super-fast charging stations, the reliability, convenience and environmental and social benefits of electric vehicles will be promoted for a desired impact of upscaling their usage and reduced GHG emissions from the transport sector.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, and co-financing;

The baseline scenario is that the purchase of EVs in Indonesia is based on price and to some extent, the quality and attractiveness. Since EVs are more costlier than their petrol and diesel equivalent, the market for EVs in a business-as-usual scenario, will change slowly due to EVs being a costlier and relatively new technology.

The incremental cost reasoning of the ENTREV Project includes that the Project will catalyse the EV market in Indonesia and that without GEF support, the Global Environmental Benefits will not be reached or will be delayed considerably as the EV market is currently only developing slowly. The project will accelerate eMobility development through the activities on policy development, the demonstration projects and capacity building.

The allocation of GEF investment to demonstration projects facilitating EV infrastructure is leveraging co-financing from PLN which is the responsible entity for charging infrastructure. Other co-financiers are contributing ?in-kind? contributions from the Ministry of Energy and Mineral Resources (MEMR) Directorate General of Electricity (DGE), Directorate-General of New and Renewable Energy and Energy Conservation (DG-NREEC) and the Research and Development Center for Electricity (P3TEK), providing staff and time for assistance on drafting and proposing regulation changes for the project and consulting and assisting through all stages of the project with a Project Board that will be especially set up for this project.

6) global environmental benefits (GEFTF) and. ?

There are no major deviations from the PIF. Regarding, global environmental benefits, these are estimated in great detail and presented in Annex G of the UNDP Project Document. Estimated direct emission reduction is 473.77 ktCO₂ (of which 14.34 ktCO₂ related to the implementation of the GEF-supported demos in the three pilot zones and 459.43 ktCO₂ of secondary direct emission reduction associated with co-financing in the three zones). Indirect emission reductions (based on estimated number of BEVs in 2035) is 6,123 ktCO₂.

Comparison with earlier estimates of direct and indirect emission reduction

(in tCO ₂)	PFD estimate (parent project)	ENTREV concept (UNEP estimate)	Actual ProDoc
Direct (GEF-INV, pilots)		28,723	14,342
Secondary (UNEP Excel EV projections)		278,850	
Secondary (based on cofinancing)			459,431
Total direct	449,333	307,573	473,772
Indirect (bottom-up, based on pilots replic.)		88,918	28,683 RF=2 {6 cities}
Indirect (top-down; UNEP Excel EV projection)	8,395,684		
Indirect (top-down; 2035 estimate)			6,123,146 CF=30%

A summary of the **direct emission reduction** (as a result of the pilot and demo activities) and secondary direct emission reduction (as a result of the associated co-financed investment) is given in the tables below. The figures are a summary compilation of the direct emission calculation presented for 4-wheelers in Annex G of the ProDoc.

Box ENTREV direct emission reduction

Emission reduction GEF pilots/demo (direct)	14,342 tCO ₂
Lifetime energy savings	311,014 GJ
Number of 4-wheeled EV	317
Number of 2-wheeled EV	4460
Number of EVCS	2
Number of BSS	36
GEF contribution, EVCS+BSS (INV)	394,000 USD
Emission reduction - cofin (secondary direct)	459,431 tCO ₂
Lifetime energy savings	9,963,357 GJ
Confirmed co-financing, EV and/or EVCS/BSS (INV)	13,400,000 USD
GEF contribution monitoring (TA)	239,000 USD
Co-financing monitoring (TA)	160,000 USD
Co-financing ICE-to-EV conversion (INV)	350,000 USD

The impact of ENTEV will go beyond 2025 and the direct emission reduction associated with the 36 BSS and 2 EVCS that receive GEF support. This consequential emission reduction (indirect) is resulting from indirect replications that are stimulated by the project policy support, technical and non-technical capacity building, awareness stimulation, and finance strengthening activities. The replications generating indirect reductions are those that do not receive any direct support from the project, either as TA or investment, and thus may be called ?indirect? replications.

A summary of these estimates is given in the following Box. The estimates are based on the maximum scaling-up potential for 4-wheelers can be defined as the total number of LCEV (low-carbon vehicles), as indicated in the Transport Ministry?s Roadmap of Low Carbon Emission Vehicle (2019), which is 30% of the 2.5 million vehicles sold in 2035 = 750,000 LCEVs.

Box ENTREV consequential (indirect) emission reduction calculation

Relation of causality factor with Roadmap targets		
Mot EV Roadmap	2025	2035
4-wheel	338,000	750,000
- BEV	20,280	150,000
2-wheel	1,800,000	3,900,000
ENTREV ProDoc		
4-wheel BEV	7,097	45,495
CF	35%	30%
2-wheel BEV	621,330	1,161,364
CF	35%	30%
Indirect GHG reduction (tCO ₂)	3,075,938	6,767,926

Four-wheelers	Indirect (2025)			Total	Total
	Superfast	Fast	Medium	Indirect (2025)	Indirect (2035)
Share of solar energy				0%	20%
Daily distance travelled {km/day}	49.32				
Annual mileage {km/yr}	18,000				
Annual GHG emission reduction {kgCO ₂ /yr}	1,311				1396
Lifetime emission reduction - car {kgCO ₂ }	15,418				16414
Number of different cars (BEV) (per year)	2,114	2114	2,819	7,048	45,178
Annual reduction per stations (tCO ₂ /yr)	185	92	25		
Annual reduction, all stations	2,772	2772	3,696	9,241	63,063
GHG reduction over lifetime all stations (tCO ₂)	27,723	27,723	36,965	92,411	630,632
Lifetime station	10	10	10	10	10
	Superfast	Fast	Medium	Indirect (2025)	Indirect (2035)
Capacity	120	60	16		
Batter charge time	0.3	0.63	2.38		
Cars per day	30	15	4		
Number of different cars	141	70	19		
% BEV cars	100%	100%	100%		
Number of stations	15	30	150	195	1250
Cost per station {USD}	80,000	54,000	5,800		
Two-wheelers			2025	2035	
Share of solar energy			0		20%
Daily distance travelled {km/day}			22		
Annual mileage {km/yr}			8,000		
Annual GHG emission reduction {kgCO ₂ /yr}			401		464
Lifetime emission reduction - car {kgCO ₂ }			2,253		2608
Number of different 2-wheelerts (per year)			536,550		1,184,591
Annual reduction per stations (tCO ₂ /yr)			28		
Annual reduction, all stations			214,923		549,251
GHG reduction over lifetime all stations (tCO ₂)			2,149,228		5,492,513
			10		10
Capacity {kW}			6		6
Number of batteries			12		12
Batter charge time {hrs}			3.0		3.0
E-bikes/scooters per day			48		48
Number of different vehicles			70		70
Number of BSS stations			7,700		17000

	2025 % of Roadmap EV and CS target		2035
Indirect GHG reduction (top-down)	2,241,640		6,123,146
Number of 4-wheeled EV (BEV only)	7,048	2%	45,178
Number of 2-wheeled EV	536,550	30%	1,184,591
Number of EVCS used (based on BEV only)	195	5%	1,250
Number of BSS used	7,700	55%	17,000

Note that EV Roadmap target includes all EV types (of which BEV 6% in 2025 and 20% in 2035)

7) innovativeness, sustainability and potential for scaling up

Sustainability

The project's policy context is characterized by consistent long-term strategies policies on Sustainable Development Goals (PR 59/2017, on Implementation of the SDGs), climate change (Nationally Determined Contribution, 2016), clean energy (PR 22/2017 on National Energy Planning) and promotion of e-mobility (PR 55/2019 on the Acceleration of Battery Electric Vehicles for Road Transportation Program).

The project aims at creating conditions for sustainable EV market growth. Despite the recent advances in EV policy formulation, the EV market in Indonesia is still in a nascent stage. To create more awareness and visibility, the government-led demonstration charging infrastructure is supported, together with local policy-making and fiscal and non-fiscal incentives and facilitation. A key element of the Project's sustainability is its focus on the private sector as a driving force both on the supply and demand side of the market and here close cooperation with taxi and ride-hailing companies has a central role in the proposal.

The development of the global EV marketplace will have an impact on the prices, demand, and general level of acceptance of EVs. The global EV market offers opportunities, that are linked with Indonesia's industrial development strategies. The government's Making Indonesia 4.0 strategy was launched in 2018 and outlines steps to enable the country to capitalize on the evolving trends of manufacturing provided. A key priority of the roadmap includes the development of a domestic electric vehicle (EV) manufacturing industry. Efforts to develop Indonesia's EV industry center on leveraging the country's rich supplies of nickel laterite ore, the primary input in the lithium-ion batteries that are used to power EVs. Under the government's strategy, EVs are expected to comprise 20% of the vehicle market by 2025. Officials have stated that the country's vast resources of lithium could enable Indonesia to become the leader of EV manufacturing within ASEAN.

A strategic environmental and social assessment of BEV in Indonesia will be conducted as one of the early activities of the project, looking at the life-cycle of batteries (including resource extraction,

manufacturing and battery disposal). This strategic assessment will inform relevant decision-making, policies, guidelines related to BEV expansion in Indonesia. The resulting 'framework' of safeguards for the EBV sector in Indonesia will include a roadmap for activities to be put in place by national partners. The assessment will consider potential environmental impacts of retired BEV battery use including the potential impact of discarded batteries (if not reused/ recycled), re-manufacturing, secondary use of retired BEV batteries (such as for off-grid power), and recycling after the secondary use life is exhausted as well as human rights, environmental issues related to the extraction of raw materials for the batteries.

Scaling up and innovativeness

The use of electric vehicles (cars, motorbikes, bicycles) is also an innovation in supporting energy security. In 2018, gasoline imports reached 128% of the national gasoline production. Thus, the use of electric vehicles will reduce the consumption of various types of gasoline (RON 88-92). The use of electric vehicles also encourages the development of the national battery industry; whose raw materials are abundantly available in Indonesia. This will encourage employment and add value to the nickel industry, especially if batteries and/or EVs become an export commodity.

As the specific project aims at the introduction of BEV vehicles, the maximum scaling-up potential for four-wheelers can be defined as the total number of LCEV (low-carbon vehicles), as indicated in the Transport Ministry's Roadmap of Low Carbon Emission Vehicle (2019), which is 30% of the 2.5 million vehicles sold in 2035 = 750,000 LCEVs. Assuming that 18% of the LCEVs are BEV, this implies a maximum sale of 150,000 BEV by 2035. Similarly, the Roadmaps aims at sales of 3.9 million two-wheelers, of which 30% electric by the year 2035. The actual scaling-up will depend on the development of the cost gap between fossil fuel and EV technology, the overall performance of EVs, and the availability of government policies supporting EV acquisition. These estimates have been used to determine the project's indirect (post-project) emission reduction impacts, by conservatively applying a causality factor of about 30%. The estimation method is explained in the ProDoc Annex G.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



Note: project pilot regions (DKI Jakarta, West Java, Bali) where demonstration projects will be implemented are indicated in red

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.



The current project is hosted under the ?Global Programme to Support Countries with the Shift to Electric Mobility?, led by UNEP. The Global Programme is based on the following four components:

- ? Component 1: Global thematic working groups and knowledge materials
- ? Component 2: Support and Investment Platforms
- ? Component 3: Country project implementation
- ? Component 4: Tracking progress, monitoring and dissemination

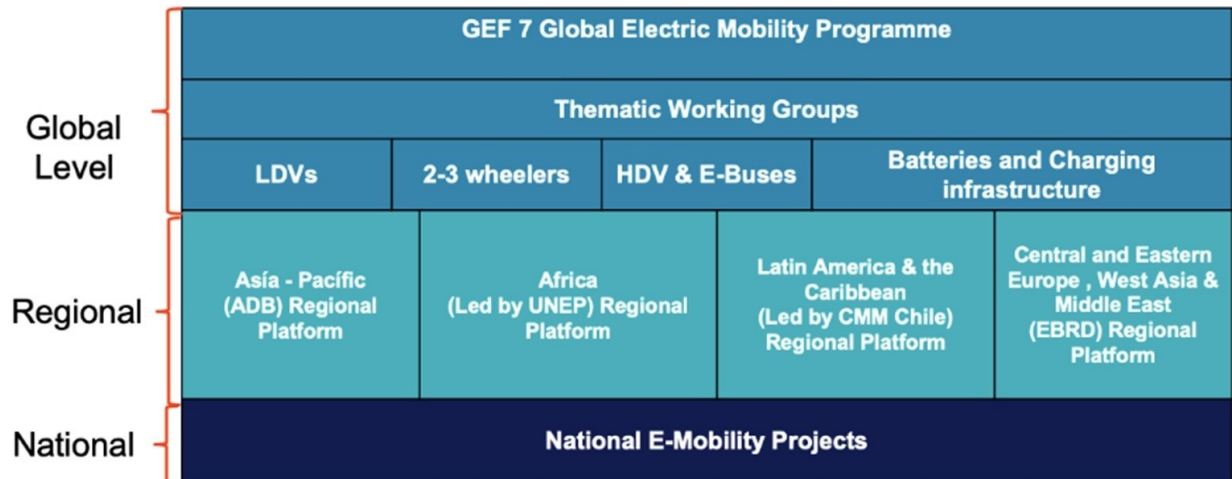
The Global Programme has put in place the monitoring framework (see table on the next page) to track progress both globally and at the level of the country child projects. 12 indicators have been designed for this purpose: 6 relying on global level information (highlighted in blue) and 6 relying on country level information (highlighted in green).

The global project will report against this framework on an annual basis, using (1) the global level data from the Global Thematic Working Groups and from the Support and Investment Platforms, and (2) country level data provided by each country project during their annual Project Implementation Review (PIR) process.

For this purpose and whenever applicable, the global level indicators highlighted in green are translated into a country-level indicator in the Project Results Framework located in Annex A of the present CEO Endorsement Document. During project implementation, the Implementing Partner will report against the indicators of the country Project Results Framework (Annex A) on an annual basis, during the PIR process, in addition to the usual GEF Core Indicators (mentioned at the top of the table above). Annex A indicates how the ENTREV progress indicators are linked with those of the Global Programme.

Global E-mobility Programme Monitoring Framework			
	 Global level monitoring	 Country level monitoring	
Objective level indicators			
Indicator A: Direct and Indirect Greenhouse Gas Emissions Mitigated (metric tons of CO2) mitigated			
Indicator B: Direct and Indirect energy savings (MJ)			
Indicator C: Number of direct beneficiaries (disaggregated by Gender)			
Component 1 Global thematic working groups and knowledge materials	Component 2 Support and Investment Platforms	Component 3 Country project implementation (Child Projects)	Component 4 Tracking progress, monitoring and dissemination
Outcome 1 Knowledge products are generated to support policy making and investment decision-making through four global thematic working groups	Outcome 2 Conditions are created for market expansion and investment in electric mobility through support and investment platforms	Outcome 3 Conditions are created at country and city level for the introduction of electric mobility demonstration projects, and wider up take of electric mobility	Outcome 4 Projects and electric mobility markets are tracked, and key developments, best practices and other lessons learned are shared to promote wider uptake of electric mobility.
Indicator 1.1 # of knowledge products developed by the four thematic working groups and used by the Support and Investment platforms in their training and outreach activities	Indicator 2.1 % of countries using services and knowledge products offered by the Support and Investment Platform	Indicator 3.1 % of countries with an improved institutional framework and a strategy to promote the uptake of low-carbon electric mobility	Indicator 4.1 % of countries generating and sharing best practices and other lessons learned on low-carbon electric mobility with the global programme
	Indicator 2.2 # of e-mobility scale-up and / or replication concepts facilitated as a result of the match-making	Indicator 3.2 % of countries with nationally generated evidence of the technical, financial and/or environmental benefits of low-carbon electric mobility	Indicator 4.2 # of e-mobility knowledge products refined based on evidence coming from the country projects
	Indicator 2.3 # of financial institutions / development banks (national/regional) that have been engaged through the Global Programme and are actively supporting e-mobility projects	Indicator 3.3 % of countries that have improved preparedness to accelerate market transformation towards low-carbon electric mobility	Indicator 4.3 # of non-e-mobility programme countries committing to actively promote the uptake of low-carbon e-mobility
	Indicator 2.4 # of US\$ leveraged to scale-up low-carbon electric mobility through the support and investment platforms	Indicator 3.4 % of countries with measures in place to ensure the long-term environmental sustainability of low-carbon electric mobility	

At the global level, a steering committee led by the United Nations Environment Programme will coordinate and monitor the implementation and the outputs of the GEF 7 Electric Mobility Programme. On technical gaps, four thematic working groups at the global level will support the rapid introduction of electric mobility in GEF recipient countries. These working groups will generate universal knowledge products that contain best practices, factsheets, interactive tools and guidance, as well as experiences from countries that have advanced their e-mobility market. The working groups will be integrated by representatives from the global programme regional platforms, GEF-7 countries, IEA, vehicle manufacturers, utilities, researchers and the civil society. The governance structure is presented in the figure below.



Governance structure between the global programme, the national e-mobility projects, and the regional Support and Investment Platform.

The coordination between the global program, the steering committee, the thematic working groups, and the national projects will be facilitated by the regional Support and Investment Platform. The role of the regional platform is to provide customized technical assistance to ensure the success of the country projects. Moreover, knowledge products developed by the working groups will be adapted and disseminated by the regional platform according to the regional and national context, specific needs and languages.

The 4 Support and Investment Platform will interact with and support participating countries in the region to link with each other through the following activities:

- ? The creation of a community of practice for the GEF 7 regional countries;
- ? Facilitation of knowledge transfer between countries, and regions, especially those with common characteristics like SIDS;
- ? The creation of thematic groups in light-duty vehicles (LDVs), 2-3 wheelers, and buses at regional level;
- ? A marketplace between countries, technology providers and financial institutions;
- ? Help desk for technical assistance to GEF 7 countries;
- ? Personalized assistance from international experts in electric mobility;
- ? Generation of training sessions and workshops.

The national child projects will generate a learning curve on electric mobility that can be transferred to other countries within and outside of the region through the global programme. As a first contact point, the regional Support and Investment Platform will facilitate the flow of learnt lessons from child projects, such as: data and demonstration results, working business models, operational know-how, working financial instruments, and working policies and regulations. At the global level, the scenarios proposed to share country knowledge and experiences on electric mobility are the thematic working groups, while at the regional level the countries will participate in the community of practice, the thematic regional groups, the marketplace, trainings and workshops.

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder Engagement Plan

Project preparation

During the project preparation (PIF and PPG stage), consultations were held with stakeholders with the objective of informing project design, validating project activities and ensuring interventions are as inclusive as possible, as well as in line with international best practice, the existing relevant national policies, electrification plans and off-grid electrification initiatives.

Project inception and implementation

The project will effectively engage the stakeholders involved in the project to get their support and guide the project implementation to achieve higher results.

? Project outreach proposed includes project website, media (print/audio visual), workshops, trainings, etc.

? The PMU and the Project Board will ensure that the Gender Action Plan recommended by the project is pursued and implemented. The various groups especially women will be engaged during the consultation meetings, prioritized to avail the program, and be included in the different capacity building programs. The project will also ensure that it is closely coordinated with other initiatives supported by development partners on electric mobility

? Meetings, monitoring visits, surveys, and written communications will be used to receive feedback to continue the ongoing dialogue as well as during implementation.

? The project will follow a participatory approach in decision making by engaging all the relevant stakeholders. The Government agencies, NGOs, CSOs, and the private sector actors will be actively involved during the project implementation.

The table below presents the Stakeholder Engagement plan and summarizes different categories of stakeholders, which are described in Section 4.2. Key indicator for the engagement of each group of stakeholders is their practical involvement in implementation and dissemination.

Stakeholder group or organization	Roles and responsibilities	Relation to project outcomes
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MEMR Directorate General for New and Renewable Energy and Energy Conservation (DG-NREEC)	<p>? The project will work closely with the DG of New and Renewable Energy and Energy Conservation (DG-NREEC) of Ministry of Energy and Mineral Resources (MEMR. As the project's <i>Implementing Partner</i>, MEMR will provide overall leadership and strategic direction and guidance to the project; Review the project's progress in monthly meetings held.; Chair the PSC for making consensus-based strategic, policy & management decisions for the project. MEMR will provide a senior official as the National Project Director (NPD)</p> <p>? MEMR contributes with cash and in-kind co-financing of USD 15,966,000</p>	All Components
Other ministries (MoI, MoT, MOEF)	<p>? Directorate-General for Metal, Machine, Transportation Equipment, and Electronics Industry is responsible to develop a standard for BEV</p> <p>? Directorate-General for Land Transport is responsible for BEV testing</p> <p>? Directorate General for Climate Change on mitigation reporting from BEV development</p> <p>? Directorate for Transportation of Bappenas is responsible for deciding national priority programs to be included in national mid-term development planning</p>	Component 1
Regional governments	? The project will work closely with DKI Jakarta government (Bappeda) to develop a demonstration project of BEV in Jakarta and with local government of West Java and Bali. The West Java Provincial Government has confirmed cash and in-kind co-financing of USD 1,600,000	Component 2
Local/ national and international NGOs	? The project will work with NGOs with sustainable transport interests on cooperation and information exchange regarding EV and EV infrastructure and experiences on the ground	Component 3
State companies (utilities); private companies (taxis, ride hailing)	<p>? PT PLN is responsible for determining charging tariff, the establishment of charging stations, and electricity supply. PPT PLN will technically and financially support the establishment of charging stations (with in-kind and cash co-financing of USD 800,000)</p> <p>? PT Pertamina has the mandate to develop batteries y for BEVs and battery swap station in Indonesia</p> <p>? PT IBC will pilot and develop the battery swap business</p> <p>? Bluebird, Grab and Gojek fleets have the potential to use BEV</p> <p>? Ezyfast is planning to cooperate with DKI Jakarta Government to install a battery swap station</p> <p>? PT JUP is going to build several charging stations in Jakarta</p>	<p>Component 1</p> <p>Component 2</p>

National research institutes and universities	<ul style="list-style-type: none"> ? Research and background studies on EV and EV ecosystem ? Provide training and education on EV-relevant subjects ? P3TEW (Research and Development Center), a government agency under MEMR, will lead the activities on enhancement of technical capacities in conversion of conventional two-wheelers to the battery-based electric motorcycle (contributing USD 457,436 in cash and in-kind co-financing) 	Component 3
Indonesian Conservation and Energy Efficiency Society (MASKEEI)	<ul style="list-style-type: none"> ? Involve in the policy discussion on accelerating transition to EVs ? Involve in policy advocacy to Government 	Component 1
Society Renewable Energy Women (SRE Women)	<ul style="list-style-type: none"> ? Involve in awareness raising on EVs among youth and women ? Provide input for gender-specific intervention in pilot demonstration design ? Involve in impact assessment to women employment due to transition to EVs 	Component 2 Component 3

Responsibilities

The PMU is primarily responsible for carrying out the specified stakeholder engagement activities. The stakeholders will be engaged while carrying out various assessments and studies, training, and workshop events.

Grievance mechanism

People concerned with or potentially affected by the project can express their grievances for consideration and redress. The Project Management Unit will receive grievances and will try to resolve at the PMU level if possible. If not possible then the issues will be referred to the Project Board that will try to settle the issues amicably. In the event the party is not accepting the decision then he/she can put the case to Arbitration. The design of the Grievance Redress Mechanisms (GRM) will be elaborated at project inception and operationalized prior to the initiation of activities. Any person or group of persons affected by a UNDP-supported project can make a claim to the UNDP Social and Environmental Complaints Unit (SECU) and the SRM (Stakeholder Response Mechanism) through <https://undp.tnwreports.com> and by e-mail (<https://undp.tnwreports.com>).

Monitoring and reporting

The project stakeholders would be engaged at various levels to carry out the monitoring activities. Then the PMU will liaise with relevant Government agencies and other partners and collect data and monitor the activities on a regular basis. The PMU will report back the results to the stakeholders at the earliest through letters or conduct meetings both individually as well as through engagement of all relevant agencies.

Communication plan

The Project will also emphasize strong communications with a broader range of stakeholders. Key elements of the project's communication strategy are outlined in the table below:

Key element	Relevant group	Means
1. Project governance meetings; PSC meetings; Working Group meetings	All stakeholders that are members of the PSC or its Working Groups or are invited to attend	Meetings
2. Seminars/workshops and training events, including the Inception workshop, and final project workshop	National and sub-national government officials Private sector; NGOs and CSOs	Workshop, meeting, seminar, training On-the-job training
3. Project documents, thematic reports and publications; Technical and other reports	Government departments and decision-makers at the national and subnational level; Development partners Research institutes and academia; individual experts; NGOs	Direct dissemination (e.g., email or hard copy/ USB-drive) Access via website to reports and documents and database and info systems
4. Project knowledge capturing and info dissemination	Government officials Financial and private sector Development partners; NGOs and CSOs	Online access; Printed materials Media

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Project preparation

During the project preparation (PIF and PPG stage), consultations were held with stakeholders with the objective of informing project design, validating project activities and ensuring interventions are as inclusive as possible, as well as in line with international best practice, the existing relevant national policies, electrification plans and off-grid electrification initiatives.

Project inception and implementation

The project will effectively engage the stakeholders involved in the project to get their support and guide the project implementation to achieve higher results.

? Project outreach proposed includes project website, media (print/audio visual), workshops, trainings, etc.

? The PMU and the Project Board will ensure that the Gender Action Plan recommended by the project is pursued and implemented. The various groups especially women will be engaged during the consultation meetings, prioritized to avail the program, and be included in the different capacity building programs. The project will also ensure that it is closely coordinated with other initiatives supported by development partners on electric mobility

? Meetings, monitoring visits, surveys, and written communications will be used to receive feedback to continue the ongoing dialogue as well as during implementation.

? The project will follow a participatory approach in decision making by engaging all the relevant stakeholders. The Government agencies, NGOs, CSOs, and the private sector actors will be actively involved during the project implementation.

The table below presents the Stakeholder Engagement plan and summarizes different categories of stakeholders. Key indicator for the engagement of each group of stakeholders is their practical involvement in implementation and dissemination.

Stakeholder group or organization	General role regarding energy and transport	Roles and responsibilities	Relation to project outcomes
MEMR Directorate General for New and Renewable Energy and Energy Conservation (DG-NREEC)	Develop energy planning and supply, including for the transport sector	<p>? The project will work closely with the DG of New and Renewable Energy and Energy Conservation (DG-NREEC) of Ministry of Energy and Mineral Resources (MEMR. As the project's <i>Implementing Partner</i>, MEMR will provide overall leadership and strategic direction and guidance to the project; Review the project's progress in monthly meetings held.; Chair the PSC for making consensus-based strategic, policy & management decisions for the project. MEMR will provide a senior official as the National Project Director (NPD)</p> <p>? MEMR contributes with cash and in -kind co-financing of USD 15,966,000</p>	All Components

Other ministries (MoI, MoT, MOEF)	<p>MoI: Developing planning for the industrial sector, including automotive manufacturing of vehicles and vehicle components, including batteries</p> <p>MoT: Construct national transport policy and manage public transport operation and transport infrastructure</p> <p>MoEF: Preparation of national policy for pollution control and environmental impact management of transport sector</p> <p>Bappenas: Construct national development planning, including transport sector</p> <p>Coordinating Ministry of Maritime and Investment: Coordinating several technical ministries, including MEMR and MoEF</p>	<p>? Directorate-General for Metal, Machine, Transportation Equipment, and Electronics Industry is responsible to develop a standard for BEV</p> <p>? Directorate-General for Land Transport is responsible for BEV testing</p> <p>? Directorate General for Climate Change on mitigation reporting from BEV development</p> <p>? Directorate for Transportation of Bappenas is responsible for deciding national priority programs to be included in national mid-term development planning</p>	Component 1
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Regional governments	Regulate development and regional-level planning, including local transport	? The project will work closely with DKI Jakarta government (Bappeda) to develop a demonstration project of BEV in Jakarta and with local government of West Java and Bali. The West Java Provincial Government has confirmed cash and in-kind co-financing of USD 1,600,000	Component 2
Local/national and international NGOs	NGOs working on energy conservation and efficiency issue, including in transport sector	? The project will work with NGOs with sustainable transport interests on on cooperation and information exchange regarding EV and EV infrastructure and experiences on the ground	Component 3

State companies (utilities); private companies (taxis, ride hailing)	PT Perusahaan Listrik Negara is an Indonesian government-owned corporation that has a monopoly on electricity distribution in Indonesia and generates the majority of the country's electrical power	<p>? PT PLN is responsible for determining charging tariff, the establishment of charging stations, and electricity supply. PPT PLN will technically and financially support the establishment of charging stations (with in-kind and cash co-financing of USD 800,000)</p> <p>? PT Pertamina has the mandate to develop batteries y for BEVs and battery swap station in Indonesia</p> <p>? PT IBC will pilot and develop the battery swap business</p> <p>? Bluebird, Grab and Gojek fleets have the potential to use BEV</p> <p>? Ezyfast is planning to cooperate with DKI Jakarta Government to install a battery swap station</p>	Component 1
	<p>PT Pertamina (Persero) is a national state enterprise that manages oil and gas mining in Indonesia. Pertamina once had a monopoly on the establishment of gas stations in Indonesia, but this monopoly was abolished by the government in 2001</p> <p>PT Indonesia Battery Company, established in 2021, is expected that IBC will synergize with various global companies in the future to operate lithium battery plant for EV</p> <p>Bluebird is a private taxi company</p> <p>Grab is a Singaporean ride-hailing</p>	<p>? PT JUP is going to build several charging stations in Jakarta</p>	Component 2

National research institutes and universities	BPPT is the government's research institute on technology P3TEK KESDM is the Ministry of Energy's research center for renewable energy technology	? Research and background studies on EV and EV ecosystem ? Provide training and education on EV-relevant subjects ? P3TEW (Research and Development Center), a government agency under MEMR, will lead the activities on enhancement of technical capacities in conversion of conventional two-wheelers to the battery-based electric motorcycle (contributing USD 457,436 in cash and in-kind co-financing)	Component 3
Indonesian Conservation and Energy Efficiency Society (MASKEEI)	MASKEEI is NGO working on energy conservation and efficiency issue, including in transport sector	? Involve in the policy discussion on accelerating transition to EVs ? Involve in policy advocacy to Government	Component 1
Society Renewable Energy Women (SRE Women)	SRE Women is a woman and youth-based CSO with focus on awareness raising, technology and capacity building activities for women in renewable energy	? Involve in awareness raising on EVs among youth and women ? Provide input for gender-specific intervention in pilot demonstration design ? Involve in impact assessment to women employment due to transition to EVs	Component 2 Component 3

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The PIF's overview of gender issues remains valid. The Project Document provides further elaboration, including a full gender assessment and gender action plan, with description of baseline conditions, challenges for gender mainstreaming, and specific ways in which the project will integrate gender mainstreaming into its strategy and activities.

Status of gender equality in Indonesia

Vast inequalities between men and women persist in Indonesia, at every level of society. In 2021, Indonesia ranked 101st out of 156 countries in the World Economic Forum's Global Gender Gap Report, scoring 0.688. This reveals a gap for female legislators, senior officials and managers. Indonesia has a Gender Inequality Index value of 0.480, ranking it 107 out of 189 countries in the 2020 index. The GII reflects gender-based inequalities in three areas: reproductive health, empowerment, and economic activity.[1]

Women and transportation

In transportation especially, women have a different travel pattern than men and characterized into inequality. Women have less access to transportation compared to men. Mobility is experienced differently by men and women due to gendered roles. Further economic, social and livelihood status greatly influence the mobility of men and women. Literature indicates that mobility patterns of women are more complex, have inferior access to transportation, and carry a higher travel burden than men. Women not only contribute to the formal economy but provide fundamental services which are generally unrecognized. Poverty and not having education push women to work in informal sectors and earn lower wages. Women, sometimes, have to search for jobs as paid labor in their neighborhoods while looking after children. A bad situation in transport will increase the risk to the health and safety of women and children. Given the opportunity for better health, education, employment, etc., women contribute to the well-being of their communities and the nation at large.

Also, women have different transport modes. A recent study in Semarang (2016) shows, there is a tendency that men and women have different mode preference, regardless of influencing factors such as destination, distance, route, and with whom to travel. Most of women respondents have a high dependence on public transport. Women use public transportation regularly for their daily activities, i.e., for working, studying or shopping. Only few of female respondents do not use public transport.

Those who do not use public transportation usually choose a motorcycle / car as a mode of transportation. In contrast to women, no man uses public transportation regularly.

Battery electric vehicle

Based on UNDP interviews with several 2-wheeler taxi drivers from Gojek regarding driver's preferences for electric motorbikes, several male drivers said that what is attractive for them to use an electric motorbike is low price, low credits and small down payment or no down payment at all. Several male drivers also conveyed the importance of an electric motor that is robust, can carry loads and can also be used to carry their family. Meanwhile, female driver prefers an electric motorbike as a backup vehicle, if the ICE motorbike cannot be used, while waiting for the infrastructure to support the electric motorbike to become available. Several male drivers have also suggested a trial use of this electric motorbike with a rental system.

Battery industry

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Based on research by Sunaria Taslim (2020) on the Socio-Economic Life of Women Workers at PT Weda Bay Nickel Mining Company in Central Halmahera District, female mining workers in which less than 10% of total employee at the company are having two lives, in which work life and family life. In work life, recruitment, work activities, and work shifts are general (gender-neutral), although there are specific policies for women related to reproductive health and not working on night shifts, this is based on the Manpower Law. As women who work in a shift system, women workers try to balance their work activities and household activities with the help of their husbands and other family members (such as their parents). In the workplace, although the involvement of women as heavy equipment operators is relatively acceptable among male workers, harsh criticism is directed at them, starting from their resilience to survive in the mining sector and company policies that are specific to women. By working as female workers, women feel a change in their lives, namely that they become more cared for by their families, are involved in decision making, can help the family economy and improve the family's social status. Although families (especially husbands) accept their family members (or wives) to work as female workers, criticism has come from the surrounding community, especially regarding childcare because it is considered as wife's duty, rather than as a joint duty between husband and wife. As a result, when something happens to the child, the wife becomes the most potential person to be blamed (socially blamed).

Altogether, ENTREV presents unique opportunities to strengthen women's participation in the energy efficient electricity sector along the entire value chain, from pilot, installation, maintenance, technology conversion, and business models. However deeper gendered assessments need to be conducted in order to illustrate how women and men interact with the local economy differently. Energy sectors are primarily male dominated in Indonesia and globally, however women are an untapped resource, as key beneficiaries of lighting technologies, and consultants on how to raise awareness most effectively about new lighting technologies. Finally, addressing gender gaps at leadership, policy and industrial levels in the electricity sector is an opportunity to advance gender equality, and the economy of Indonesia at large.

The following activities addressing gender issues have been included in the project.

Gender aims	Action	Additional indicators for GAP	Responsible institution
<p>Overall project objective:</p> <p>Support the Government of Indonesia and key stakeholders in policy, institutional & technical readiness to transition towards electric mobility and to demonstrate innovative business models in the transport sector that will lead to GHGs emissions reduction</p> <p><i>Gender-sensitive indicators in logframe:</i></p> <p>3) Number of direct project beneficiaries disaggregated by gender (individual people) [GEF core indicator]</p>			
Active participation of women and men in capacity building trainings throughout the project	Require and encourage active participation of women and men in capacity building trainings throughout the project	? Cumulative number of women and men participating in capacity building trainings throughout the project ? Ratio of women and men participating in capacity building trainings throughout the project	PMU MEMR/DGE
<p>Outcome 1</p> <p>Institutional framework and strategy for battery vehicle industry and charging infrastructure ecosystem</p> <p><i>Gender-sensitive indicators in logframe:</i></p> <p>4) Statistics updated including gender-disaggregated data on EV use (per type of transport, private, taxi, 2-wheeler) and employment in EV ecosystem</p>			

Gender aims	Action	Additional indicators for GAP	Responsible institution
Enhanced gender balanced employment in the energy sector	<p>Encourage company that includes in the BEV ecosystem (investor for charging station, swap battery and battery manufacturers) to increase the number of female interns.</p> <p>Contracting professional female workers as consultant, financial adviser, technicians, engineer, and customer service, as appropriate</p>	<p>? Ratio of women and men interns in several BEV related companies</p> <p>? Ratio of women and men employed through jobs created from the project (40/60)</p>	<p>PMU</p> <p>MEMR/DGE</p> <p>MEMR/DG</p> <p>PMU</p> <p>UNDP</p>
Women and men employees in relevant government institutions have an active role to develop policy and enforce BEV ecosystems	Require and encourage active participation of women and men in trainings, workshops and focus group dialogues	? Ratio of women and men participating in stakeholder consultation meetings on policy and regulation development	<p>PMU</p> <p>MEMR/DGE</p>
Outcome 2: Demonstration of early BEV market development			
Enhanced gender balanced employment in the energy sector	<p>Contracting women in consultancy, financial adviser, engineer, technicians, and customer services, as appropriate</p> <p>Require and encourage contractors to employ women, as appropriate</p>	? Ratio of women and men employed through jobs created from the project	<p>PMU</p> <p>MEMR/DGE</p> <p>UNDP</p>

Gender aims	Action	Additional indicators for GAP	Responsible institution
Equal participation of women and men in stakeholder consultation meetings on installation of charging station in pilot areas	<p>Require and encourage active participation of women and men in stakeholder consultation meetings for the public on installation of charging station in pilot areas</p> <p>Ensure that stakeholder consultation meetings are held at times and locations convenient for women</p>	? Ratio of women and men participating in stakeholder consultation meetings in pilot areas	<p>PMU</p> <p>MEMR/DGE</p>
Women and men in pilot areas are benefiting from BEV technologies equally	Collect information on number of beneficiaries and their level of satisfaction through periodic market surveys, monitoring visits etc.	<p>? Cumulative number of women and men benefiting from BEV and its infrastructures as influenced by the project</p> <p>? Ratio of women and men benefiting from BEV and its infrastructures influenced by the project</p> <p>? Women's and men's level of satisfaction with BEV and its infrastructures provided by the project (reliability, affordability, convenience, efficiency)</p>	<p>PMU</p> <p>MEMR/DGE</p>

Gender aims	Action	Additional indicators for GAP	Responsible institution
Active participation of women and men in the regular market surveys	<p>In the design of periodic market surveys on EV charging stations, incorporate gender preference questions</p> <p>In the design of periodic market surveys on battery manufacturer, specifically address women's needs, preferences and habits in acquirement, consumption, and disposal of battery products</p> <p>Ensure that periodic market surveys conducted amongst the beneficiaries of the BEV conversion from ICE are also targeting women.</p>	? Ratio of women and men participating in the periodic market surveys	PMU MEMR/DGE
<p>Outcome 3: Knowledge products and capacity building for scaling up and environmental-friendly battery use</p> <p><i>Gender-sensitive indicators in logframe:</i></p> <p>14) Number of people (disaggregated by gender) sensitized by the awareness campaigns through different media and implementation of project activities;</p> <p>16) Capacity enhancement of local technicians on EV repairing service, accessories business, and environment-friendly battery reuse or recycling (incl. % women)</p>			
Enhanced gender balanced employment in the energy sector	<p>Require and encourage to increase the percentage of women staff in repair shop and training institution for conversion ICE vehicle to BEV</p> <p>Require relevant government institutions to increase the number of women interns involved in assignments related to energy efficiency</p> <p>Contracting women in consultancy, financial and customer services, as appropriate</p>	<p>? Ratio of women and men certified for converting ICE to BEV</p> <p>? Ratio of women and men interns in government institutions engaged in assignments related to energy efficiency</p> <p>? Ratio of women and men employed through jobs created from the project</p>	PMU MEMR/DGE UNDP

A detailed Gender Analysis commissioned during PPG phase, as well as the Gender Action Plan are included as Annex H of this CEO-ER document.

[1] <http://hdr.undp.org/en/2020-report>

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making

Generating socio-economic benefits or services or women Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on private sector engagement in the project, if any

The project aims at creating conditions for sustainable EV market growth. Despite the recent advances in EV policy formulation, the EV market in Indonesia is still in a nascent stage. To create more awareness and visibility, the government-led demonstration charging infrastructure is supported, together with local policy-making and fiscal and non-fiscal incentives and facilitation. A key element of the Project's sustainability is its focus on the private sector as a driving force both on the supply and demand side of the market and here close cooperation with taxi and ride-hailing companies has a central role in the proposal.

Closely involved will be the private taxi company, Bluebird, the ride-hailing company Grab, the motorbike taxi company Gojek (an Indonesian on-demand multi-service platform and digital payment technology group) that partners with motorbike taxi drivers. Ezyfast is planning to cooperate with DKI Jakarta Government to install battery swap stations. The Project aims at developing partnerships with private-sector entities and install charging stations for BEV and set up battery swap for e-motor scooter with private sector entities in selected sites.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Description	Level	Mitigation Measures
<i>Social and environmental risks (see also Annex K)</i>		
1. Potential for the operation of unregulated Electric Vehicle Charging Stations (EVCS)	Low	This risk of unregulated EVCSs is low. First, state utilities like PLN will run charging stations and will comply with government instructions on safety. Second, the risk will be managed through the design of the project, with management measures integrated into the project's relevant outputs. Additional site-specific management measures will be considered, as needed, as specified in the Environmental and Social Management Framework (to be developed prior to project approval).
2. Inappropriate location of Electric Vehicle Charging Stations (EVCS) could be exposed to impacts of adverse climate change ^[1] and therefore harmful to people and/or the environment.	Moderate	Environmental and social assessment and due diligence will inform selection of demo/pilot sites to avoid placement of EVCS in hazardous locations or locations that present other environmental and social risks. Requirements for site selection will be further specified in the project ESMF.
3. Risk of limited participation of women in the program	Moderate	Gender analysis has been undertaken and a Gender Action Plan prepared with the aim to involve both women and men in the various activities, without discrimination. However, while the project will endeavor to encourage key players in the urban transport services to incorporate women either as operators, entrepreneurs, etc., the duration of the project may not be long enough to break the socio-cultural dynamics that impede women from participating in the sector.

Description	Level	Mitigation Measures
<p>4. Potential direct and indirect environmental impacts from battery production and disposal. This includes direct environmental risk related to handling batteries that have reached their end-of-life. Also indirect risk of increased impacts related to the resource extraction needed for the batteries (however: the Project will not directly be involved in battery manufacturing)</p>	<p>Substan-tial</p>	<p>During the project, an assessment of existing standards, laws, and regulations will be undertaken in order to determine the gaps that the project will fill in terms of delivering draft regulations and standards to govern the disposal of batteries and waste from battery manufacturing processes. These will be an important step towards strengthening environmental safeguards. During the Project, the option of 'extending' the life of the batteries will be examined for possible inclusion in the aforementioned standards and regulations. The project will include the development of policy guidelines/regulations for the collection, safe disposal/waste management, and recycling of the batteries (see Output 3.3.). A strategic assessment of social and environmental impacts of BEV in Indonesia will be conducted, looking at the life-cycle of batteries (including resource extraction). This strategic assessment will inform relevant decision-making, policies, guidelines, e.g. through assessment of technical and economic aspects of retired BEV battery use including the potential impact of discarded batteries (if not reused/ recycled), re-manufacturing, secondary use of retired BEV batteries (such as for off-grid power), and recycling after the secondary use life is exhausted as well as human rights, environmental issues related to the extraction of raw materials for the batteries. Requirements for the strategic environmental and social assessment will be clarified further in the project ESMF and aligned with UNDP's SES and related guidance.</p>
<p>5. Potential occupational health and safety risks associated with electric vehicle repair and decommissioning of battery banks and/or vehicles (indirect impact associated with activity 3.3.3)</p>	<p>Moderate</p>	<p>While project labour will not be involved in EV repair or decommissioning, this is identified as an indirect risk of the project. Therefore, as part of project implementation, a capacity assessment of the existing stock of automotive mechanical and electrical technicians will be undertaken to incorporate in the proposed project a component for building the capacity of technicians to enable them to handle the repair and decommissioning of electric vehicles. Also, the project will be designed to include a component for public awareness which will be useful to impress on the general public who will own electric vehicles, the need for taking them to repair shops that have the appropriate equipment and training to handle such cars. The training requirements will also be assessed and training provided to ensure that the operators of the EV charging Stations are sensitized about the risks and safety protocols (component 3). It is expected that electric vehicle dealers will also provide thorough end-user training to avoid accidental injury due to electric shock. The strategic environmental and social assessment will also look at OHS risks related to battery production, maintenance and disposal to inform safeguards and best practice OHS measures in the EV sector.</p>

Description	Level	Mitigation Measures
6. There could be other unforeseen unintended impacts arising from new standards/regulations to be developed during the project implementation	Low	It is expected that during project implementation, the risk assessment will be re-examined on a regular basis. During the start of project implementation, the scope of including a Grievance Redress Mechanism (GRM) at various levels will also be discussed with the Government of Indonesia. Requirements for subsequent social and environmental screening, assessment, management as well as design of the project GRM will be detailed in the project ESMF.
7. Vulnerable or marginalized groups, might not be involved in project design and therefore not engaged in, supportive of, or benefitting from project activities;	Low	A comprehensive Stakeholder Engagement Plan was developed during PPG that will be updated during project implementation, as needed, to ensure that all key stakeholders are involved during project implementation,
<i>Other risks (financial, socio-political, grid system)</i>		
8. Private sector stakeholders, NGOs, and end-users show a lack of interest. Low demand for vehicle discouraging new investment;	Moderate	Any potential risk will be mitigated through targeted public awareness and advocacy activities, dissemination of information and consultations, and capacity building, to be implemented under Component 3. In addition, the demonstrations to be undertaken under Component 2 will visibly showcase the technology to present the opportunities and benefits of the proposed technologies, supported by incentive and financing schemes. The project will advise PLN to reduce tariff price based on the result of the demonstration activities of Component 2
9. Incentives and the financial support system are insufficient.	Moderate	
10. International prices of petroleum products can fluctuate heavily. This may influence domestic fuel prices to which the risk can be added of fuel subvention (in particular during election times)	Moderate	
11. Loss of employment in service of conventional vehicles creates resentment[2]	Low	The project includes actions to facilitate access to EV-related jobs through training, and a revision of recruitment strategies, taking advantage of the appeal of EV technologies for potential workers (so that they are skilled in maintenance and repair of e-motor scooters, e-bicycles, and all-electric cars, as well as in the conversion of ICEV motor scooters and bicycles into e-two wheelers). The project also takes benefit of the new technology to accelerate the integration of women
12. Wavering interest and reduced participation by national and local government institutions; poor coordination	Low	Relevant government institutions have shown interest in and commitment to the promotion of EVs in Indonesia in several national EV initiatives. To date, the government and local government in the project areas have been proactive in EV policy and planning and setting up. The risks of poor coordination are present but considered too low.

Description	Level	Mitigation Measures
13. Power plants in Java still rely on coal to provide cheap electricity in the country. Therefore, the grid emission factor is still high. Should more coal be used in the near future, the emission reduction calculated will be less.	Low	Study on the use of solar PV rooftop as a source of electricity for BEV in component 1. One demo EV charger will be installed at MEMR facilities with already solar PV installed.
14. Applicable international, national and local norms to prevent the spread of the COVID-19 pandemics, including but not limited to the respect of quarantine periods and social distancing, lead to a delay in project activity implementation	Moderate	By the time the Project activities start with the Inception, the COVID pandemic may have well passed its peak both in Indonesia as worldwide with the largest part of the population vaccinated. Even then, new variants may come up leading to more waves of COVID-19 infections. In such cases, a contingency plan will be made by bringing some activities forward as possible and with meetings held online, where possible. The COVID-19 situation will be taken into account in the Project Inception Report and closely monitored. This assessment will both evaluate the possible negative effects of COVID-19 as well as any 'green' opportunities raising. Possible longer-term COVID-19 related risks in relation to transport preferences of the public, changes in the priorities of the government (due to shortage of capital financing) and any other limitations cannot be foreseen as of today.
15. Project partners and co-financiers divert priority and co-funding away from EV, leading to delays in pilot/demo procurement and implementation	Low	The Project will support proponents with proposal formulation and feasibility analysis. Realization of co-financing can be facilitated by a coordinated discussion with MEMR, co-financiers as well as regional governments and private sector (such as taxi operators)
16. The HACT Micro-Assessment of Implementing Partner was conducted in 2017 and may pose risk in cash advance management.	Low	HACT Micro-Assessment has been conducted on 2 October 2017 and still valid until 2 Oct 2022. The update of HACT MA will be conducted before October 2022. The implementing partner has experienced in cash advance management from UNDP during implementation of GEF3 and GEF4 projects (2006 - 2010) and has been audited with unqualified result.

More details on risks are given in ProDoc Annex D (Risk log register) and ProDoc Annex K (Social and environmental safeguards planning) of the UNDP Project Document.

[1] Climate change also has an impact on increasing the height and extent of flooding, and sea level rise. For this reason, the location and distribution of charging station and electrical substation needs to be carefully selected with a climate change adaptation analysis taking into account long-term vulnerability and climate risks per region

[2] The EV ecosystem may implicate a reduction in the workforce in many industries such as automotive industry, petroleum industry (less fossil fuel use), and vehicle repair services (as maintenance needs of EV in general are less than of conventional vehicles). Therefore, the use of electric vehicles needs to be

regulated to avoid massive layoffs of workers. The closure of various business due to the use of electric vehicles will also result in a reduction in national income, especially from the petroleum industry and vehicle service services. On the other hand, the assembly of electric vehicle for domestic sales and export will boost new employment opportunities.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Section 1: General roles and responsibilities in the projects? governance mechanism

Implementing Partner: The Project will be implemented under the Full National Implementation Modality (Full NIM). The Implementing Partner for this project is Ministry of Energy and Mineral Resources (MEMR). The DG of Electricity (DGE) of Ministry of Energy and Mineral Resources (MEMR) will take responsibility for implementation on behalf of MEMR.

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document

The Implementing Partner is responsible for executing this project. Specific tasks of the Implementing Partner include:

- ? Project planning, coordination, management, monitoring, evaluation, and reporting. This includes providing all required information and data necessary for timely, comprehensive, and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- ? Risk management as outlined in this Project Document;
- ? Procurement of goods and services, including human resources;
- ? Financial management, including overseeing financial expenditures against project budgets;
- ? Approving and signing the multiyear work plan;
- ? Approving and signing the combined delivery report at the end of the year; and,
- ? Signing the financial report or the funding authorization and certificate of expenditures.

Responsible Parties:

No Responsible Parties have been identified during project design.

Project stakeholders and target groups:

An overview of main stakeholders and target groups is given in section ProDoc 4.4, while ProDoc Annex J provides details on their involvement in the Project.

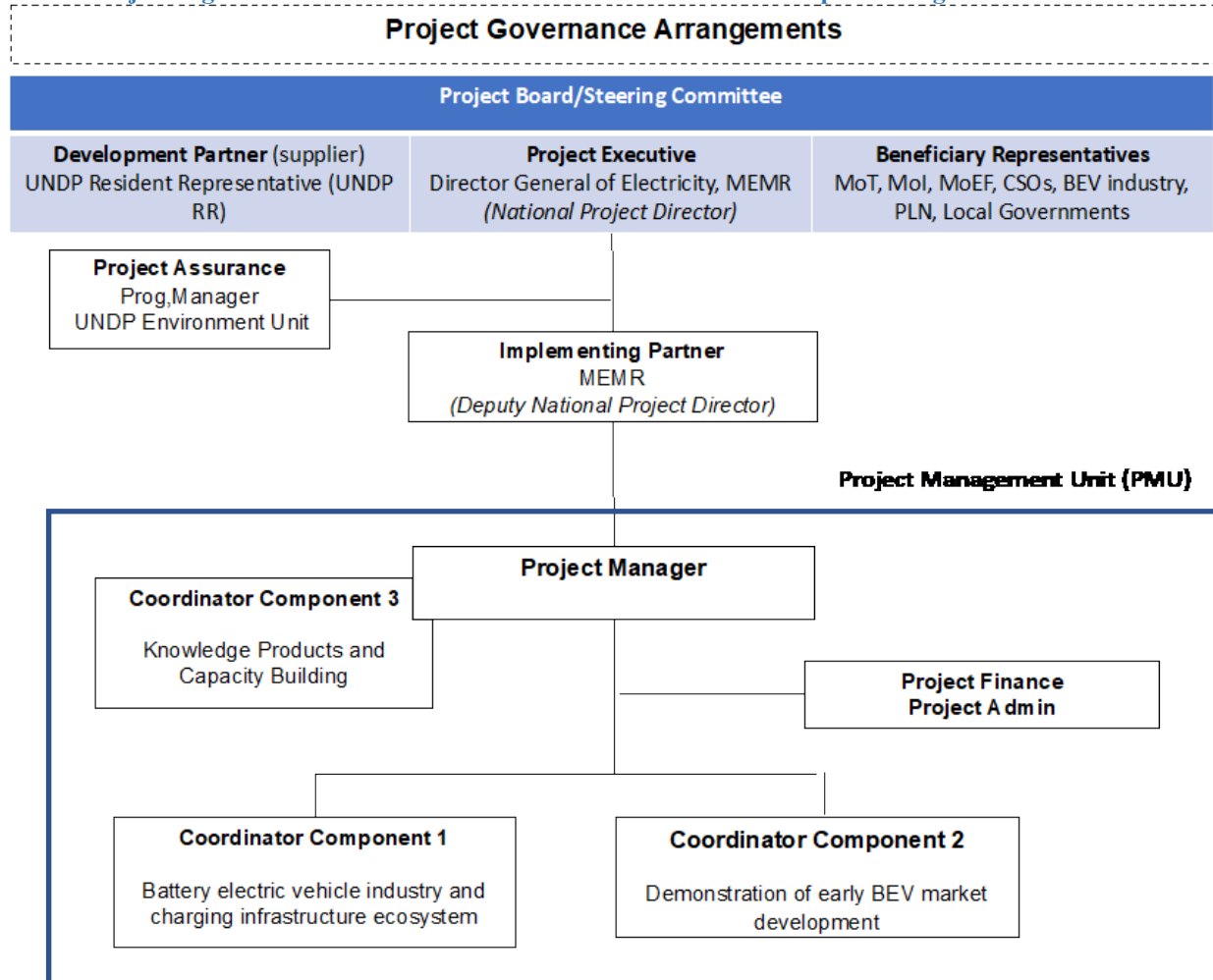
UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in

accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. **The UNDP GEF Executive Coordinator, in consultation with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project.** UNDP is responsible for the Project Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.

Section 2: Project governance structure

The UNDP Resident Representative assumes full responsibility and accountability for oversight and quality assurance of this Project and ensures its timely implementation in compliance with the GEF-specific requirements and UNDP's Programme and Operations Policies and Procedures (POPP), its Financial Regulations and Rules and Internal Control Framework. A representative of the UNDP Country Office will assume the assurance role and will present assurance findings to the Project Board, and therefore attends Project Board meetings as a non-voting member.

Box Project organization structure: Full NIM with Government as Implementing Partner



Section 3: Segregation of duties and firewalls vis-?-vis UNDP representation on the project board:

As noted in the [Minimum Fiduciary Standards for GEF Partner Agencies](#), in cases where a GEF Partner Agency (i.e. UNDP) carries out both implementation oversight and execution of a project, the GEF Partner Agency (i.e. UNDP) must separate its project implementation oversight and execution duties, and describe in the relevant project document a: 1) Satisfactory institutional arrangement for the separation of implementation oversight and executing functions in different departments of the GEF Partner Agency; and 2) Clear lines of responsibility, reporting and accountability within the GEF Partner Agency between the project implementation oversight and execution functions.

In this case, UNDP is only performing an implementation oversight role in the project vis-?-vis our role in the project board and in the project assurance function and therefore a full separation of project implementation oversight and execution duties has been assured.

Section 4: Roles and Responsibilities of the Project Organization Structure:

a) Project Board: All UNDP projects must be governed by a multi-stakeholder board or committee established to review performance based on monitoring and evaluation, and implementation issues to ensure quality delivery of results. The Project Board (also called the Project Steering Committee) is the most senior, dedicated oversight body for a project.

The two main (mandatory) roles of the project board are as follows:

- 1) **High-level oversight of the execution of the project by the Implementing Partner** (as explained in the [?Provide Oversight?](#) section of the POPP). This is the primary function of the project board and includes annual (and as-needed) assessments of any major risks to the project, and decisions/agreements on any management actions or remedial measures to address them effectively. The Project Board reviews evidence of project performance based on monitoring, evaluation and reporting, including progress reports, evaluations, risk logs and the combined delivery report. The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results.
- 2) **Approval of strategic project execution decisions of the Implementing Partner** with a view to assess and manage risks, monitor and ensure the overall achievement of projected results and impacts and ensure long term sustainability of project execution decisions of the Implementing Partner (as explained in the [?Manage Change?](#) section of the POPP).

Requirements to serve on the Project Board:

- ? Agree to the Terms of Reference of the Board and the rules on protocols, quorum and minuting.
- ? Meet annually; at least once.
- ? Disclose any conflict of interest in performing the functions of a Project Board member and take all measures to avoid any real or perceived conflicts of interest. This disclosure must be documented and kept on record by UNDP.
- ? Discharge the functions of the Project Board in accordance with UNDP policies and procedures.
- ? Ensure highest levels of transparency and ensure Project Board meeting minutes are recorded and shared with project stakeholders.

Responsibilities of the Project Board:**? Consensus decision making:**

- o The project board provides overall guidance and direction to the project, ensuring it remains within any specified constraints, and providing overall oversight of the project implementation.
- o Review project performance based on monitoring, evaluation and reporting, including progress reports, risk logs and the combined delivery report;
- o The project board is responsible for making management decisions by consensus.
- o In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.
- o In case consensus cannot be reached within the Board, the UNDP representative on the board will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

? Oversee project execution:

- o Agree on project manager's tolerances as required, within the parameters outlined in the project document, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded.
- o Appraise annual work plans prepared by the Implementing Partner for the Project; review combined delivery reports prior to certification by the implementing partner.
- o Address any high-level project issues as raised by the project manager and project assurance;
- o Advise on major and minor amendments to the project within the parameters set by UNDP and the donor and refer such proposed major and minor amendments to the UNDP BPPS Nature, Climate and Energy Executive Coordinator (and the GEF, as required by GEF policies);
- o Provide high-level direction and recommendations to the project management unit to ensure that the agreed deliverables are produced satisfactorily and according to plans.
- o Track and monitor co-financed activities and realisation of co-financing amounts of this project.
- o Approve the Inception Report, GEF annual project implementation reports, mid-term review and terminal evaluation reports.
- o Ensure commitment of human resources to support project implementation, arbitrating any issues within the project.

? Risk Management:

- o Provide guidance on evolving or materialized project risks and agree on possible mitigation and management actions to address specific risks.
- o Review and update the project risk register and associated management plans based on the information prepared by the Implementing Partner. This includes risks related that can be directly managed by this project, as well as contextual risks that may affect project delivery or continued UNDP compliance and reputation but are outside of the control of the project. For example, social and environmental risks associated with co-financed activities or activities taking place in the project's area of influence that have implications for the project.
- o Address project-level grievances.

? Coordination:

- o Ensure coordination between various donor and government-funded projects and programmes.
- o Ensure coordination with various government agencies and their participation in project activities.

Composition of the Project Board: The composition of the Project Board must include individuals assigned to the following three roles:

1. **Project Executive:** This is an individual who represents ownership of the project and chairs (or co-chairs) the Project Board. The Executive usually is the senior national counterpart for nationally implemented projects (typically from the same entity as the Implementing Partner), and it must be UNDP for projects that are direct implementation (DIM). In exceptional cases, two individuals from different entities can co-share this role and/or co-chair the Project Board. If the project executive co-chairs the project board with representatives of another category, it typically does so with a development partner representative. The Project Executive is: *Director General of Electricity, Ministry of Energy and Mineral Resources (MEMR)*
2. **Beneficiary Representative(s):** Individuals or groups representing the interests of those groups of stakeholders who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often representatives from civil society, industry associations, or other government entities benefiting from the project can fulfil this role. There can be multiple beneficiary representatives in a Project Board. The Beneficiary representative (s) are: *Ministry of Transport, Ministry of Industry, MoEF, PT.PLN, BEV industries, Local Governments.*
3. **Development Partner(s):** Individuals or groups representing the interests of the parties concerned that provide funding, strategic guidance and/or technical expertise to the project. The Development Partner(s) are: *UNDP Resident Representative or Deputy Resident Representative.*

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b) **Project Assurance:** Project assurance is the responsibility of each project board member; however, UNDP has a distinct assurance role for all UNDP projects in carrying out objective and independent project oversight and monitoring functions. UNDP performs quality assurance and supports the Project Board (and Project Management Unit) by carrying out objective and independent project oversight and monitoring functions, including compliance with the risk management and social and environmental standards of UNDP. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. Project assurance is totally independent of project execution.

A designated representative of UNDP playing the project assurance role is expected to attend all board meetings and support board processes as a non-voting representative. It should be noted that while in certain cases UNDP's project assurance role across the project may encompass activities happening at several levels (e.g. global, regional), at least one UNDP representative playing that function must, as part of their duties, specifically attend board meeting and provide board members with the required documentation required to perform their duties. The UNDP representative playing the main project assurance function is: *Programme manager from Environment Unit, UNDP.*

c) **Project Management ? Execution of the Project:** The Project Manager (PM) (also called project coordinator) is the senior most representative of the Project Management Unit (PMU) and is responsible for the overall day-to-day management of the project on behalf of the Implementing Partner, including the mobilization of all project inputs, supervision over project staff, responsible parties, consultants and sub-

contractors. The project manager typically presents key deliverables and documents to the board for their review and approval, including progress reports, annual work plans, adjustments to tolerance levels and risk registers.

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A designated representative of the PMU is expected to attend all board meetings and support board processes as a non-voting representative. The primary PMU representative attending board meetings is: *Project Manager*.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Indonesia's *Nationally Determined Contribution (NDC)* outlines the commitment to reduce emissions by 29% of BAU by 2030 and 41% with international support. Particularly, 11% (about 314 million tons of CO₂-eq (MtCO₂) to 14% (398 MtCO₂) emission reduction from the total BAU in 2030 is expected to stem from the energy sector including transport (Indonesia NDC, 2016). The GoI has formulated an NDC Mitigation Road Map as a guideline for both Party stakeholder and non-Party stakeholders to contribute to the achievement of NDC targets through the provision of information on physical targets, timelines, and indications of potential locations for mitigation and adaptation actions.

To achieve the Indonesian NDC target the Government aims to accelerate the development of low carbon-emission vehicles as one of the measures to by 29 per cent under a business-as-usual scenario by 2030. The Ministry of Industry Roadmap targets increasing the sale of electric vehicles to 20 per cent by 2025 (PEV, HEV and battery-only electric vehicles, BEV). In particular, Presidential Regulation 55/2019 on the Acceleration of Battery Electric Vehicles for Road Transportation Program ("PR 55") supports development and market diffusion in Indonesia of BEVs.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The project will effectively engage the stakeholders involved in the project to get their support and guide the project implementation to achieve higher results.

? Project outreach proposed includes project website, media (print/audio visual), workshops, trainings, etc.

? The PMU and the Project Board will ensure that the Gender Action Plan recommended by the project is pursued and implemented. The various groups especially women will be engaged during the consultation meetings, prioritized to avail the program, and be included in the different capacity building programs. The

project will also ensure that it is closely coordinated with other initiatives supported by development partners on electric mobility

? Meetings, monitoring visits, surveys, and written communications will be used to receive feedback to continue the ongoing dialogue as well as during implementation.

? The project will follow a participatory approach in decision making by engaging all the relevant stakeholders. The Government agencies, NGOs, CSOs, and the private sector actors will be actively involved during the project implementation.

The Project will also emphasize strong communications with a broader range of stakeholders. Key elements of the project's communication strategy are outlined in the table below:

Key element	Relevant group	Means	Approx. GEF budget (USD)
1. Project governance meetings; PSC meetings; Working Group meetings	All stakeholders that are members of the PSC or its Working Groups or are invited to attend	Meetings	--
2. Seminars/workshops and training events, including the Inception workshop, and final project workshop	National and sub-national government officials Private sector; NGOs and CSOs	Workshop, meeting, seminar, training On-the-job training	USD 265,000
3. Project documents, thematic reports and publications; Technical and other reports	Government departments and decision-makers at the national and subnational level; Development partners Research institutes and academia; individual experts; NGOs	Direct dissemination (e.g., email or hard copy/ USB-drive) Access via website to reports and documents and database and info systems	USD 26,000

4. Project knowledge capturing and info dissemination (see Outout 3.2)	Government officials Financial and private sector Development partners; NGOs and CSOs	Online access; Printed materials Media	USD 125,000
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9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project results, corresponding indicators, and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators are not yet available, it will be collected during the first year of project implementation. The Monitoring Plan (Annex C) includes details of the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#). The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements. Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the [GEF Monitoring Policy](#) and the [GEF Evaluation Policy](#) and other [relevant GEF policies](#)[1]. The costed M&E plan included below, and the Monitoring plan in Annex C will guide the GEF-specific M&E activities to be undertaken by this project.

A Mid-Term Review (MTR) is strictly speaking not required for MSP (medium-sized projects). However, given the large size (over USD 1.8 million of GEF funding), UNDP feels a MTR is necessary to be able to support project-level adaptive management. Other M&E activities may be agreed upon during the Project Inception Workshop and, if so, will be detailed in the Inception Report.

Monitoring and reporting requirements:

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Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

- a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
- b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies, and conflict resolution mechanisms.
- c. Review the results framework and monitoring plan.
- d. Familiarize key stakeholders with social and environmental safeguards requirements in place to ensure consistency with UNDP's SES.

- e. Discuss reporting, monitoring, and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.
- f. Update and review responsibilities for monitoring project strategies, including the risk log; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
- g. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
- h. Plan and schedule Project Board meetings and finalize the first-year annual work plan.
- i. Formally launch the Project.

GEF Project Implementation Report (PIR): The annual GEF PIR covering the reporting period of July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

GEF Core Indicators:

The GEF Core indicators included as Annex G will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent groundtruthing. The methodologies to be used in data collection have been defined by the GEF and are available on the [GEF website](#).

Independent Mid-term Review (MTR):

The terms of reference, the review process and the final MTR report will follow the standard templates and guidance for GEF-financed projects available on the [UNDP Evaluation Resource Center](#) (ERC).

The evaluation will be "independent, impartial and rigorous". The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by *October 2023*. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report's completion.

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Terminal Evaluation (TE):

An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the [UNDP Evaluation Resource Center](#).

The evaluation will be "independent, impartial and rigorous". The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by *March 2025*. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

Final Report:

The project's terminal GEF PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lessons learned and opportunities for scaling up.

Agreement on intellectual property rights and use of the logo on the project's deliverables and disclosure of information:

To accord proper acknowledgment to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgment to the GEF.

Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[2] and the GEF policy on public involvement[3].

Monitoring Plan:

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored by the Project Management Unit annually, and will be reported in the GEF PIR every year, and will be evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. Project risks, as outlined in the risk register, will be monitored quarterly. A detailed Monitoring Plan table is provided in ProDoc Annex C.

GEF M&E requirements	Responsible Parties	Indicative costs (USD)	Time frame

Inception Workshop	MEMR Project Manager (PM)	5,714	Within 60 days of CEO endorsement of this project.
Inception Report	PM	None	Within 90 days of CEO endorsement of this project.
Monitoring of indicators in the project results framework	PM Subcontract	6,500	Annually before GEF PIR and/or by contracted party before TE
GEF Project Implementation Report (PIR)	UNDP RTA ?CO; PM	None	Annually typically between June-August
Monitoring all risks (UNDP risk register)	UNDP CO; PM	None	On-going.
Supervision and oversight missions	UNDP CO, RTA and BPPS/GEF	None ^[4]	Annually, troubleshooting and oversight as needed
Final project workshop	MEMR, UNDP CO	5,000	Before project closure
Independent Mid-Term Review (MTR)	Independent evaluators	22,825	At least two months before mid-term
Independent Terminal Evaluation (TE)	Independent evaluators	22,825	At least two months before operational closure of activities
TOTAL indicative COST		62,864	

[1] See https://www.thegef.org/gef/policies_guidelines

[2] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[3] See https://www.thegef.org/gef/policies_guidelines

[4] The costs of UNDP CO and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The EV ecosystem may implicate a reduction in the workforce in many industries such as automotive industry, petroleum industry (less fossil fuel use), and vehicle repair services (as maintenance needs of EV in general are less than of conventional vehicles). Therefore, the use of electric vehicles needs to be regulated to avoid massive layoffs of workers. The closure of various business due to the use of electric vehicles will also result in a reduction in national income, especially from the petroleum industry and vehicle service services. On the other hand, the assembly of electric vehicle for domestic sales and export will boost new employment opportunities.

The project includes actions to facilitate access to EV-related jobs through training, and a revision of recruitment strategies, taking advantage of the appeal of EV technologies for potential workers (so that they are skilled in maintenance and repair of e-motor scooters, e-bicycles, and all-electric cars, as well as in the conversion of ICEV motor scooters and bicycles into e-two wheelers).

The project also takes benefit of the new technology to accelerate the integration of women. The project will endeavor to encourage key players in the urban transport services to incorporate women either as operators, entrepreneurs, etc. The project includes actions to facilitate access to EV-related jobs through training, and a revision of recruitment strategies, taking advantage of the appeal of EV technologies for potential workers (so that they are skilled in maintenance and repair of e-motor scooters, e-bicycles, and all-electric cars, as well as in the conversion of ICE motor scooters and bicycles into e-two wheelers).

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			
Measures to address identified risks and impacts Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any			

measures undertaken as well as planned management measures to address these risks during implementation.

One substantial risk has been identified (related to battery manufacturing and recycling). Assessment of battery manufacturing and recycling (planned under activity 3.3.3) and an ESMF for the project will be developed prior to project approval.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
PIMS_6333_Annex_K_SESP_12-10-2021	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

The following table shows the results framework of the ENTREV project (as can also be found in Section 5 of the UNDP Project Document).

<p>This project will contribute to the following Sustainable Development Goal (s): SDGs 3, 7, 9, 11, 12, 13 (see Box 7) a strategic environmental and social assessment of BEV in Indonesia will be conducted as one of the early activities of the project, looking at the life-cycle of batteries (including resource extraction, manufacturing and battery disposal). This strategic assessment will inform relevant decision-making, policies, guidelines related to BEV expansion in Indonesia</p>
<p>This project will contribute to the following country outcome included in the UNPDF/Country Programme Document (2016-2022): <i>Outcome 3</i> - Indonesia is sustainably managing its natural resources, on land and at sea, with increased resilience to the effects of climate change, disasters, and other shocks. <i>Output 3.6</i> - Inclusive and sustainable solutions adopted to increase energy efficiency and universal modern energy access; <i>Output 3.7</i> - Policies and regulations issued/adjusted and systems established to increase private sector investments in clean energy</p>

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (end 2024)

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (end 2024)
Project Objective: To support the Government of Indonesia and key stakeholders in policy, institutional & technical readiness to transition towards electric mobility and to demonstrate innovative business models in the transport sector that will lead to GHGs emissions reduction	1) Lifetime direct GHG emissions avoided as a result of the project-facilitated increase in the use of BEVs and indirect emission [GEF Core Indicator]	Zero by definition	It is assumed that by mid-term the ENTREV-supported pilots are installed and operating, so direct emission reduction is the same as at EoP	Direct emission reduction (ER) of 473.8 ktCO ₂ (see Annex G for details of the calculation), consisting of - ER from GEF-funded pilot activities: 14.3 ktCO ₂ (Box 36 and Box 37) - secondary direct ER 459.4 ktCO ₂ (from co-financed interventions, Box 41) Indirect emission reduction: 6,123.1 ktCO ₂ (see Box 42) ^[1]
	2) Volume of investment mobilized and leveraged by GEF for low GHG development (co-financing INV)	Expected co-financing for USD 18 million (of which at least USD 1 million INV; see PIF)	? of investment mobilized target is realised (USD 10 million)	Investment mobilized is at least USD 13.4 million (<i>Note</i> : this is part of confirmed cash and in-kind co-financing of USD 18.8 million)

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (end 2024)
	3) Number of direct project beneficiaries disaggregated by gender (individual people) [GEF core indicator]	.N/A	About ? of EoP target (241,000 of which 66,000 women)	Total of 321,612 (of which 87,850 women): - 318,186 passengers - 3,246 BSS and CS staff - 180 trained technicians (see Annex G for calculations; not Including the beneficiaries, mentioned in Indicator 10)

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (2024)
Component 1 Institutional framework and strategy for battery electric vehicle industry and charging infrastructure				
Outcome 1 BEV ecosystem (EV production and charging infrastructure) strengthened in response to national market uptake	4) Status and number of updated plans and revised regulations enabling and incentivizing investment in BEV and support infrastructure and on BEV manufacturing	Institutional framework and strategies existing in baseline form[2]: PR MEMR 13/020 on the Provision of Electric Charging Station for Electric Vehicle MoI Electric vehicle Roadmap Minister of Transportation Regulation No 65/2020 on Conversion or Modification of Internal Combustion Engine Motorbike into Battery-based Electric Motorbikes	MoI EV Roadmap and updated using improved statistics	Updated MoI EV Roadmap and PLN EVCS Roadmaps

	5) BEV infrastructure operated by public and private entities and Battery swap station (BSS) infrastructure developed and operated by public and private entities (facilitated by national policies and standards for battery swap stations and charging stations)	122 EVCS installed by April 2021 at 83 locations (info: ESDM, 2021) 9 BSS installed (by Grab, Kymco, Ezyfast, Oyiko): 6 in Jakarta South and 3 in Tangerang (August 2020; info: IESR, 2021)	1200 EV CS and 4000 BSS (nationally)	Nationally: 3,850 CS (by 2025) and 14,000 BSS (by 2025) (estimates based on EVCS and BSS Roadmaps) [3] .
Outputs, Outcome 1	1.1 Business models and financing option elaborated and implemented for charging stations (SPBKLU) battery swap stations (SPKLU) 1.2 National policies and standards for battery swap stations (SPKLU) and charging stations (SPBKLU) improved and implemented 1.3 Program to promote domestic manufacturing of BEV and their components 1.4 Options assessed for purchase and trade-in, preferential loans and second- hand market for four and two-wheelers			

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (end 2024)
Component 2 Demonstration of early BEV market development				
Outcome 2 Local policy and early market development promoted with demonstrated BEVs and charging infrastructure in selected regions	6) Number and type of charging stations (EVCS) and battery swap stations (BSS) established (directly related with ENTREV)	Jakarta: ? PT Pertamina installed a charging station at Fatmawati Street in South Jakarta ? DKI Jakarta Government installed charging station at CNG station in Perintis Kemerdekaan street ? Ezyfast installed battery swap station in MEMR office PLN has installed charging station in Bluebird pool and Soekarno ? Hatta airport	EVCS: 2 demos initiated as well as 36 BSS (with GEF funding)	EVCS: 2 (demo) (with GEF funding) BSS: 36 (demo) [4]

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (end 2024)
	7) Number of supportive regulation and incentive schemes established by local governments	Jakarta: Governor Regulation No 3/2020 on Tax Incentive Policy on Vehicle Ownership Transfer Fee (BBN-KB) for Battery-Based Electric Motorized Vehicles for Road Transportation Bali: Governor regulation no 48/2019 on concerning the Use of Battery-Based Electric Motor Vehicles W-Java: Target to increase the use of BEV by 5% of the total vehicle population in 2025	Report with assessment of EV-related policy issues and options assessed, including incentive and financial support schemes (as appropriate)	Three provincial EV plans formulated for approval by the Governor (in the provinces where the pilot areas/cities are located)
	8) Number of EV clearing houses in each region	No EVs clearing house exist in provincial level.	Two clearinghouses setup and operational (in West Java and DK Jakarta)	Three clearinghouses set up (one in each pilot region, DK Jakarta, West-Java and Bali)
Outputs, Outcome 2	2.1 Local policies and regulations developed to stimulate BEV infrastructure investment and purchase and use of BEVs 2.2 Deployment of BEV charging stations and battery swap stations in pilot regions 2.3 Financing schemes set up for BEV two and four-wheelers utilization in pilot regions 2.4 Local clearinghouses and programs implemented to promote purchase and use of BEV two and four-wheelers			

	Objective and Outcome Indicators	Baseline (2020/21)	Mid-term project (early 2023)	End of Project (EoP) target (end 2024)
Component 3 Knowledge products and capacity building for scaling up and environmental-friendly battery use				
	9) Number of people (disaggregated by gender) sensitized by the awareness campaigns through different media and implementation of project activities *	Zero per definition	50,000 people (40% women)	100,000 people (40% women)

	10) Introduced ToT course (including training materials) in TVET institutes on the EV repairing, accessories service, and charging infrastructures and number of certified trainers	No special EV ToT course available	ToT courses available at 3 TVET courses available at 3 institutions	60 people trained (20 in training organized by Project in pilot city in each focus region of Comp 2) plus 2*60 trained in TVET courses ? 20% women
	11) Number of cities in which replication of project demos occurs (including possible phase 2 scale up in Jakarta and Bali and West Java)	0	3 (cities indicating interest in scaling up)	6 (with plans for scaling up, including demos and/or city-level EV plans)
	12) Status of the guidelines on the safe and environment-friendly use of batteries (in EVs) developed and for the producers and consumers	No regulation on end-of-life battery recovery or disposal	Guideline drafted	One set of guidelines adopted by the responsible line ministry
	13) Lessons learned from the Indonesia project that are shared with the Global Programme	0	Outline of report on lessons learned developed	1 final report on lessons learned from Indonesia EV development
Outputs, Outcome 3	3.1 Capacity is built in BEV industry (repair-shops) and research institutes 3.2 Promotional activities conducted, results of demonstration in pilot locations disseminated and knowledge exchange between countries on e-mobility facilitated. 3.3 Programs to address social, gender, environmental, and safety employment issues related to BEV adoption are developed (including battery use and disposal)			

*) Gender-sensitive indicators. For additional gender-specific indicators, see Annex I.

The following table in section 5 of the Project Document indicates how the three ENTREV components contribute to the overall program and how the ENTREV logframe indicators are linked with those of the Global Programme

Global program indicators		Correspondence with ENTREV indicators
Indicator A: Direct and Indirect Greenhouse Gas Emissions Mitigated (metric tons of CO2) mitigated		1) Lifetime direct GHG emissions avoided and energy substituted as a result of the project-facilitated increase in the use of BEVs 3) Number of direct project beneficiaries disaggregated by gender
Indicator B: Direct and Indirect energy savings (MJ)		
Indicator C: Number of direct beneficiaries (disaggregated by Gender)		
Component 2 Support and Investment Platforms		
Outcome 2 Conditions are created for market expansion and investment in electric mobility through support and investment platforms	Indicator 2.1 % of countries using services and knowledge products offered by the Support and Investment Platform	13) Status of online knowledge platform and integration with global platforms
Component 3 Country project implementation (Child Projects)		
Outcome 3 Conditions are created at country and city level for the introduction of electric mobility demonstration projects, and wider uptake of electric mobility	Indicator 3.1 % of countries with an improved institutional framework and a strategy to promote the uptake of low-carbon electric mobility	4) Statistics updated on the number of BEV (2-4 wheelers) sold and manufactured 5) Status and number of updated plans and revised regulations enabling and incentivizing investment in BEV and support infrastructure and on BEV manufacturing
	Indicator 3.2 % of countries with nationally generated evidence of the technical, financial and/or environmental benefits of low-carbon electric	6) BEV infrastructure operated by public and private entities 7) BSS infrastructure developed and operated by public and private entities 8) Number and type of charging stations (EVCS) and battery swap stations (BSS) established (linked with ENTREV) 10) Number of BEV used in government fleet, taxi, and ride-hailing companies (in Jakarta and other project areas) 18) Number of cities in which replication of project demos occurs (including possible scale-up in Jakarta and Bali and West Java)

	<u>Indicator 3.3</u> % of countries that have improved preparedness to accelerate the market transformation towards low-carbon electric mobility	9) Number of supportive regulation and incentive schemes established by local governments 11) Number and status of the financial support mechanisms to promote BEV investment
	<u>Indicator 3.4</u> % of countries with measures in place to ensure the long-term environmental sustainability of low-carbon electric mobility	16) Capacity enhancement of local technicians on EV repairing service, accessories business, and environment-friendly battery reuse or recycling 19) Status of the guidelines on the safe and environment-friendly use of batteries (in EVs) developed and for the producers and consumers
Component 4 Tracking progress, monitoring, and dissemination		
Outcome 4 Projects and electric mobility markets are tracked, and key developments, best practices, and other lessons learned.	<u>Indicator 4.1</u> % of countries generating and sharing best practices and other lessons learned on low-carbon electric mobility with the Global Program	12) Number of EV clearing houses in each region 14) Number of people (disaggregated by gender) sensitized by the awareness campaigns 15) Introduced ToT courses (including training materials) in TVET institutes on EV?

[1] From EV and PLN roadmaps (see Annex F, Box 25) and ENTREV indirect emission estimate (see Annex G): a) about 13,000-20,000 4-wheel EV in 2025 and 600,000-2 million electric 2 wheelers by 2025 (domestic), b) Production = domestic + export of 4-wheelers: 84%+26%; 2-wheelers: 89%+11%, based on Roadmap, Box 25); c) realized 460% in e-bike/scooter and 40% in e-car

[2] In Indonesia's policymaking and planning setup, the Coordinating Ministry of Maritime and Investment has the responsibility for formulating action plans, resolving obstacles, and supervising the acceleration of EV and for coordinating several technical ministries, including MEMR, MoT, MoE, and MoEF

[3] Note that these numbers do not refer to the demos (see Indicator 6) and that indirect GHG emission reduction (Indicator 1) can only partly be attributed (see Annex G)

[4] The number of GEF-funded EVCS and BSS gives the direct emission reduction figures of Indicator, while co-financed interventions produce the secondary direct emission reduction

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

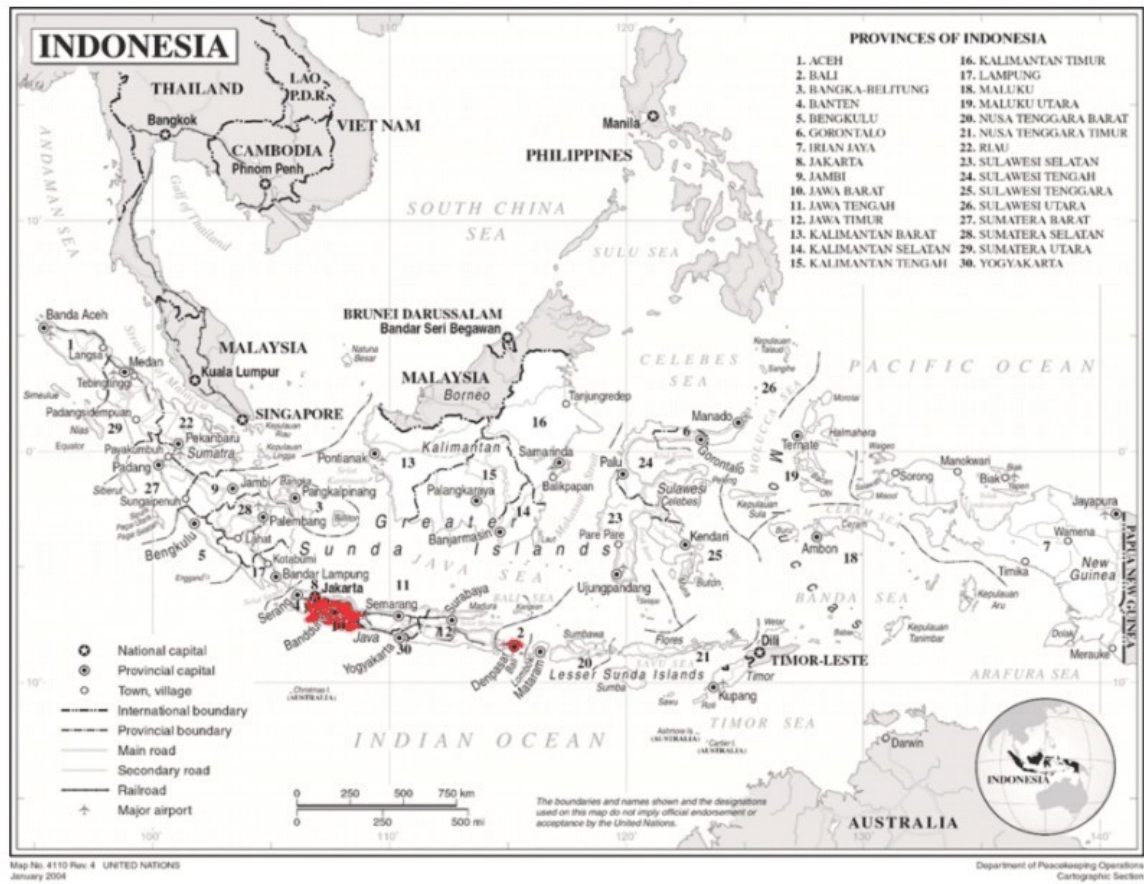
Submit as supplementary annexes (Annex B.1 - B.4)

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status in the table below:**

<i>Project Preparation Activities Implemented</i>	<i>GETF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Project preparation grant to finalize the UNDP-GEF project document for project Enhancing Readiness for the Transition to Electric Vehicles in Indonesia (ENTREV)	50,000	40,840	9,160
Total	50,000	40,840	9,160

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Note: project pilot regions (DKI Jakarta, West Java, Bali) where demonstration projects will be implemented are indicated in red

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	Component 2	Component 3	Sub-Total	M&E	PM C		(Executing Entity receiving funds from the GEF Agency) [1]
Equipment	Equipment for Component 2 (USD 10,000) and hardware for demo BSS and EVCS for pilot regions (USD 394,000) as detailed in Annex G		404,000		404,000			404,000	MEMR
Equipment	Office equipment for Component 1 (USD 5,000), e.g., computer, printer, modem, etc.	5,000			5,000			5,000	MEMR
Equipment	Office equipment for Component 3, e.g., computer, printer, modem, etc.			5,000	5,000			5,000	MEMR

Contractual services-Individual	Contractual Services IP: Allocation for Project Management Unit staffs (A) USD 71,156 for Project Finance Assistant (192 weeks over 4 years @ USD 17,789/yr) and USD 52,656 for Project Admin Assistant (192 weeks over 4 years @ USD 13,164/yr), charged to Project Management. B) USD 170,772 for National Project Manager (192 weeks @ 42,693/yr), technical-oriented activities and services are charged to technical components and administrative-managerial to PMC (project management cost), C) USD 232,960 for two technical specialists (for 4 years assignment @ USD 29,120/yr), total: USD 527,544	132,480			132,480			132,480	MEMR
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Contractual services-Individual	Contractual Services IP: Allocation for Project Management Unit staffs (A) USD 71,156 for Project Finance Assistant (192 weeks over 4 years @ USD 17,789/yr) and USD 52,656 for Project Admin Assistant (192 weeks over 4 years @ USD 13,164/yr), charged to Project Management. B) USD 170,772 for National Project Manager (192 weeks @ 42,693/yr), technical-oriented activities and services are charged to technical components and administrative-managerial to PMC (project management cost), C) USD 232,960 for two technical specialists (for 4 years assignment @ USD 29,120/yr), total: USD 527,544	132,480		132,480			132,480	MEMR
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Contractual services-Individual	Contractual Services IP: Allocation for Project Management Unit staffs (A) USD 71,156 for Project Finance Assistant (192 weeks over 4 years @ USD 17,789/yr) and USD 52,656 for Project Admin Assistant (192 weeks over 4 years @ USD 13,164/yr), charged to Project Management. B) USD 170,772 for National Project Manager (192 weeks @ 42,693/yr), technical-oriented activities and services are charged to technical components and administrative-managerial to PMC (project management cost), C) USD 232,960 for two technical specialists (for 4 years assignment @ USD 29,120/yr), total: USD 527,544			131,064	131,064			131,064	MEMR
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Contractual services-Individual	Contractual Services IP: Allocation for Project Management Unit staffs (A) USD 71,156 for Project Finance Assistant (192 weeks over 4 years @ USD 17,789/yr) and USD 52,656 for Project Admin Assistant (192 weeks over 4 years @ USD 13,164/yr), charged to Project Management. B) USD 170,772 for National Project Manager (192 weeks @ 42,693/yr), technical-oriented activities and services are charged to technical components and administrative-managerial to PMC (project management cost), C) USD 232,960 for two technical specialists (for 4 years assignment @ USD 29,120/yr), total: USD 527,544				-		131,520	131,520	MEMR
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Contractual services-Company	Company contract on national and local EV demand stimulation, financing schemes and BEV incentives under Comp.2 (USD 25,000) Company contract for monitoring and testing of pilot EC/BSS under Comp.2 (USD 239,000)		264,000		264,000			264,000	MEMR
Contractual services-Company	Company contracts for A) capacity building needs assessment and capacity building plan (USD 20,000); B) for design of media campaign and follow-up (USD 25,000); C) battery disposal and recycling (USD 15,000) included social-environmental assessments (activity 3.3), total USD60,000			60,000	60,000			60,000	MEMR
Contractual services-Company	Company contracts for implementation of study/assessment/survey under Comp.1 (USD 70,000)	70,000			70,000			70,000	MEMR
Contractual services-Company	Contract for synthesis M&E indicators				-	6,500		6,500	MEMR

International Consultants	International consultancy on battery recycling and international experiences in safe disposal and part of the budget for social-environmental assessments (activity 3.3), total USD 13,750			13,750	13,750			13,750	MEMR
International Consultants	International consultancy on electric vehicle technology and infrastructure to provide advice on work planning, participate in inception phase and provide advice on foreign investment in local manufacturing (USD 22,000, for 8 weeks)	22,000			22,000			22,000	MEMR
International Consultants	International consultants for MTR and TE (USD 27,500).				-	27,500		27,500	UNDP
Local Consultants	Local consultancy ? local policies for BEV and infrastructure (USD 10,125) ? Comp. 2		10,125		10,125			10,125	MEMR
Local Consultants	Local consultancy on A) business and financing models for charging infrastructure (USD 7,875, 4 weeks),) and EV local manufacturing (USD 3,375), total USD11,250	11,250			11,250			11,250	MEMR

Local Consultants	Local consultancy on gender and social issues (USD 4,500; gender plans and SESP) and for replication and scale-up (USD 4,500) ? Comp.3 and social-environmental assessments (activity 3.3), total USD 9,000			9,000	9,000			9,000	MEMR
Local Consultants	Local Consultant for MTR and TE (USD 9,000)				-	9,000		9,000	UNDP
Training, Workshops, Meetings	Organization and delivery of workshops/seminars related to activities of Component 1 (about 3 training at USD 15,000 per training and 7 workshops, USD4,500/workshop and part of the budget for social-environmental assessments (activity 3.3)plus USD3,561 related cost e.g interpreters, and printed materials)			80,061	80,061			80,061	MEMR
Training, Workshops, Meetings	Organization and delivery of workshops/seminars related to activities of Component 1 (at least 10 workshop, USD4,500/workshop plus USD5,122 related cost e.g interpreters, and printed materials)	50,122			50,122			50,122	MEMR

Training, Workshops, Meetings	Organization and delivery of workshops/seminars related to activities of Component 2 (estimated 14 workshops x USD4,500/workshop) including Inception workshop (USD4,500) plus USD7,739 related cost e.g interpreters, and printed materials), total USD75,239.		75,239		75,239			75,239	MEMR
Training, Workshops, Meetings	Training, workshops, conference, including project board meeting.				-	10,714		10,714	MEMR
Training, Workshops, Meetings	Training, workshops, conference, including project board meeting.				-		7,616	7,616	MEMR
Travel	Travel of PMU staffs and hired local consultants for conducting project activities under components 1 (USD18,140), component 3 (partial USD13,360) and Project Management (USD 9,500) and for travel cost of M&E consultant to pilot sites (USD 9,150), not including EV global program-related travel (see note 17). Total: USD 50,150	18,140			18,140			18,140	MEMR

Travel	Travel of PMU staffs and hired local consultants for conducting project activities under components 1 (USD18,140), component 3 (partial USD13,360) and Project Management (USD 9,500) and for travel cost of M&E consultant to pilot sites (USD 9,150), not including EV global program-related travel (see note 17). Total: USD 50,150				-	9,150		9,150	UNDP
Travel	Travel of PMU staffs and hired local consultants for conducting project activities under components 1 (USD18,140), component 3 (partial USD13,360) and Project Management (USD 9,500) and for travel cost of M&E consultant to pilot sites (USD 9,150), not including EV global program-related travel (see note 17). Total: USD 50,150				-		9,500	9,500	MEMR

Travel	Travel of PMU staffs and hired local consultants for conducting project activities under components 1 (USD18,140), component 3 (partial USD13,360) and Project Management (USD 9,500) and for travel cost of M&E consultant to pilot sites (USD 9,150), not including EV global program-related travel (see note 17). Total: USD 50,150 USD 40,000 for travel attending events in the framework of Global e-Mobility program (component 3)			53,360	53,360			53,360	MEMR
Travel	Travel of PMU staffs and hired local consultants for conducting project activities under components 2: USD 11,428		11,428		11,428			11,428	MEMR
Office Supplies	Office supplies, stationaries for Project Management (USD 6,500).				-		6,500	6,500	MEMR
Other Operating Costs	Professional services for project auditing				-		10,000	10,000	UNDP
Other Operating Costs	Professional Services for translation, interpretation (USD 10,000)			10,000	10,000			10,000	MEMR

Other Operating Costs	Small equipment (camera, video) for promotional activities and publication materials, total USD20,001	5,000			5,000			5,000	MEMR
Other Operating Costs	Small equipment (camera, video) for promotional activities and publication materials, total USD20,001		10,000		10,000			10,000	MEMR
Other Operating Costs	Small equipment (camera, video) for promotional activities and publication materials, total USD20,001			5,001	5,001			5,001	MEMR
Project Total		313,992	907,272	367,236	1,588,500	62,864	165,136	1,816,500	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencies is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).