

Project Administration Manual

Project Number: 43207
Loan Number: 2964/8261-PHI
12 October 2017

Republic of the Philippines: Market Transformation
through Introduction of Energy-Efficient Electric
Vehicles Project

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Department of Energy (DOE) is primarily responsible for the execution of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by DOE of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures. The Department of Finance (DOF) shall assist the DOE in respect of the lending arrangements to intended beneficiaries under the Project.

At Loan Negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the Loan agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

Abbreviations

ADB	=	Asian Development Bank
AFS	=	audited financial statements
ASR	=	Assessment, Strategy and Roadmap
BTr	=	Bureau of Treasury
CCC	=	Climate Change Commission
CDM	=	clean development mechanism
CNG	=	compressed natural gas
CTF	=	Clean Technology Fund
DBP	=	Development Bank of the Philippines
DBM	=	Department of Budget and Management
DENR	=	Department of Environment and Natural Resources
DMF	=	design and monitoring framework
DOE	=	Department of Energy
DOF	=	Department of Finance
DOTC	=	Department of Transportation and Communications
e-trikes	=	electric tricycles
EIA	=	environmental impact assessment
EMP	=	environmental management plan
ESMS	=	environmental and social management system
GACAP	=	governance and anticorruption action plan
GDP	=	gross domestic product
ICB	=	international competitive bidding
ICE	=	Internal combustion engine
LBP	=	Land Bank of the Philippines
LIBOR	=	London interbank offered rate
LGU	=	local government unit
LTO	=	Land Transportation Office
NCB	=	national competitive bidding
NEDA	=	National Economic Development Authority
PAI	=	project administration instructions
PAM	=	project administration manual
PIU	=	project implementation unit
QBS	=	quality based selection
QCBS	=	quality- and cost based selection
RRP	=	report and recommendation of the President to the ADB Board
SBD	=	standard bidding documents
SGIA	=	second generation imprest accounts
SOE	=	statement of expenditure
SPS	=	Safeguard Policy Statement
SPRSS	=	summary poverty reduction and social strategy
TODA	=	Tricycle Operators and Drivers Association
TOR	=	terms of reference
UNFCCC	=	United National Framework Convention on Climate Change

I. PROJECT DESCRIPTION

A. Project Rationale

1. In 2011, the Philippines spent about \$12.8 billion (29% more than in 2010) on imported petroleum products; 70% of the imports went to the transport sector¹. This heavy dependence on imported fuels renders the country vulnerable to energy supply disruptions and global price fluctuations. With a rapidly growing population and increased urbanization, the cost of fuel imports is expected to rise even further. With the current growth rates in motorization of about 6%, the emission from road transport are estimated to rise from 24 million tons of carbon dioxide equivalent (MtCO₂e) in 2007 to 37 MtCO₂e and 87 MtCO₂e by 2015 and 2030, respectively. This will further deteriorate the country's air-quality and energy security, and increase the Philippines' carbon footprint. The National Framework Strategy on Climate Change, 2010–2022² considers a low-carbon path in the transport sector as an essential part of its strategic priority and argues for cleaner, indigenous and optimized energy and transport bases so that the Philippine can address its energy security while providing the much needed co-benefits from pollution reduction.

2. Transport is central to connecting people and economic centers at a national and local level. In 2010, according to the Philippine Department of Energy (DOE), using LTO vehicles statistics 92% of the transport sector's fuel consumption was by road transport. Although public vehicles represent only about 15% of road transport, they are major fuel users and cause most of the transport pollution, while tricycles account for 67%, followed by Jeepneys (23%), cars (4%) and buses (6%). The 3.5 million tricycles currently operating are major contributors of greenhouse gas emissions and inefficient use of imported fuel. Although tricycles numbers are regulated by the local government units (LGUs), this will rise as motorcycles sales increase. An estimated 1 million motorcycles are expected to be sold domestically in 2012, nearly a third more than the 760,000 units sold in 2010.

3. The International Energy Agency considers electric vehicles as one of the best options for reducing carbon emissions in the transport sector, especially in urban areas³. Local tricycle experts estimate that switching to e-trikes will reduce the greenhouse gas impact of tricycles by 54%⁴. International studies also point to similar savings^{5 6}. Tricycles are a popular local mode of transport in the Philippines and are entirely run by the private sector. They are restricted primarily to local areas and in many cases provide a critical link as a feeder service to the larger-scale public transport network. The government has banned the importation of two-stroke motorcycles⁷. However, existing two-stroke engines are easy to fix and hence they continue to be used as tricycles. Isolated initiatives since 2009 to develop an e-vehicle industry—e-trikes, e-jeepneys, and e-buses, were based mostly using lead acid or substandard lithium ion batteries given cost considerations and the limited brand availability.

¹ Department of Energy (available at: <http://www.doe.gov.ph/DO/Report2011.htm>).

² The National Framework Strategy on Climate Change, 2010–2022 (<http://climate.gov.ph>).

³ International Energy Agency. 2011. Technology Roadmap: Electric and plug-in hybrid electric vehicles. Paris. (June, http://www.iea.org/papers/2011/EV_PHEV_Roadmap.pdf).

⁴ Cost benefits analysis of technology and replacement options for 2-stroke three wheelers in the Philippines, Clean Air Initiatives for Asian Cities, Manila, July 2011.

⁵ Source: Alternative Fuels Data Center (http://www.afdc.energy.gov/vehicles/electric_emissions.php)

⁶ US Department of Energy available at: <http://www.fueleconomy.gov/feg/evtech.shtml#end-notes>

⁷ Source: <http://cleanairinitiative.org/portal/node/8236>

4. In April 2011, ADB and DOE, piloted, 20 locally made e-trikes powered by imported lithium-ion batteries in the City of Mandaluyong⁸. Collectively, the e-trikes have travelled more than 600,000 km over the last 20 months and the drivers have paid a total of \$16,000 as their daily “rental” payments. Surveys from the pilot-testing showed that overall the tricycle operators carried more passengers implying increased turnover and greater daily income. The overall savings from fuel-switching yielded an average daily net income of \$17 per day (double their earlier income) and the additional income will help loan repayments for new e-trike units in the future. The program also benefitted from driver feedback on the handling and operating of an e-trike to design an improved model for a scaled-up program.

5. Although the drivers and passengers are satisfied with the performance of the pilot units, keeping all 20 operating has been a challenge⁹. ADB, the government, and the drivers of the pilot units were concerned about (a) the availability of reliable spare parts; (b) technical skills to repair and maintain the motors and batteries; and (c) ensuring the battery life beyond the second year as the pilot program was not able to secure batteries from reputable brands. The lessons from the pilot program confirmed the need for significant up scaling to ensure sustainability of an e-vehicle initiative and to attract reputable e-vehicles and battery technology holders to come to the Philippines. To scale-up the program it will require that e-trike manufacturing and maintenance be localized to ensure that the need for after sales services, repairs, spare parts, and battery warranties are met. Furthermore, a local e-trike industry will help minimize technology risk, enhance broader adoption of electric vehicles, and help create jobs. These lessons induced the government to initiate a scaling up of the pilot program¹⁰ to establish a viable, sustainable, local e-vehicle industry with participation from several local and international e-trike manufacturers. This initiative has gathered the interest of several reputable global battery and car manufacturers to investing in the country.

6. With approximately 3.5 million existing and a growing number of new tricycles and motorcycles registered in the country, a transformation of the industry to clean technology tricycles will take time. Initially, it is expected that the introduction of e-trikes will be largely through the substitution of existing gasoline powered units (i.e. non-incremental). This is expected to be followed by generated demand from new entrants to the e-trike market as the affordable clean technology e-trike becomes more widely available. A survey at the local government level showed an immediate demand for more than 120,000 e-trike units. Based on this interest, the government plans an initial scale-up of the program to 100,000 units as a means of creating an environment conducive for the manufacture, distribution and after sale support for the e-trike technology. As the private sector establishes itself on the supply and maintenance of e-trikes in the market, the Government’s involvement will reduce.

7. The introduction of e-trikes with lithium-ion battery technology will also be expected to pave the way for increased safety standards and improved environmental compliance. The proposed e-vehicle program complements government’s plans to support e-vehicle businesses including e-trikes¹¹. To ensure this transformation, the government has secured \$5 million grant and \$100 million concessional loan from the Clean Technology Fund (CTF). The project is consistent with the Fueling Sustainable Transport Program of DOE and promotion energy-

⁸ Financed by ADB. 2007. *Technical Assistance for Efficiency Improvement and Connectivity Strengthening in Archipelagic Southeast Asia Project*. Manila (TA 6441-REG).

⁹ CNN Interview (<http://edition.cnn.com/video/#/video/world/2012/04/30/lah-phill-e-trikes.cnn?iref=allsearch>)

¹⁰ Prepared by ADB. 2010. *Technical Assistance to the Republic of the Philippines for Mitigation of Climate Change through Increased Energy Efficiency and the Use of Clean Energy*. Manila (TA 7754-PHI).

¹¹ Senate Committee Report No. 44 on Senate Bill No. 285–Electric, Hybrid, and Other Alternative Fuel Vehicles Incentives Act of 2011 (accessible from the list of linked documents in Appendix 2).

efficient transportation is part of the core lending strategy of the assessment strategy and road map for the Philippine energy sector, and the program is in the country operations business plan, 2012–2014^{12 13}.

8. The e-trike market is potentially large for the replacement of existing tricycles and generated demand for the new e-trike technology given the rapid growth of trike industry. To initiate the Government's goal of industry transformation through e-trike technology, the project recognizes the need to capture economies of scale by ensuring that the supply of e-trike technology and services, are cost effective and meet aggregate and as well as diverse local demand and conditions. The design of the e-trike has evolved through the pilot phase to cater for a range of conditions in the Philippines. The selected e-trike design uses a standard, high quality lithium battery and frame, which is expected to ensure cost-effective market entry for national and international investors, including reputable e-vehicle producers and components manufacturers and facilitate cost effective after sales service. Successful establishment of the industry in Philippines will also lead to employment generation beyond e-trike operators and has the potential for growth into other south and Southeast Asian markets.

B. Impact and Outcome

9. The impact of the project will be sustainable energy use by the transport sector, and the outcome will be the transformation of the public transportation through large-scale adoption of locally made energy efficient electric vehicles, in particular e-trikes.

C. Outputs

10. The project has five outputs.

Output 1: E-trike units. The project will deliver 100,000 complete E-Trike units to selected cities (para. 27) and areas to replace ICE tricycles. The supply contract will include a standard warranty on mechanical and technical performance of the E-Trikes and after-sales services. The risk of technical defects and poor performance of batteries during this guaranteed performance period (at least 3 years or 2,000 charges or 60,000 km) will be borne by the battery manufacturer.

Output 2: Battery supply chain. The project will initiate creation of a lithium-ion battery supply chain by creating an initial substantial market.¹⁴ The transformation objective is to attract reputable international suppliers that have supplied at least one large global vehicle brand.¹⁵

Output 3: Solar and grid-connected charging stations. The project will establish (i) on a pilot basis five off-grid solar charging stations to meet the demand of 1,000 e-trikes; and (ii) establish grid-connected charging stations. Some pilot solar charging stations will be in island locations that are easily accessible and plans to adopt large number of e-trikes. The project will establish (i) on a pilot basis five off-grid solar charging stations—200 kilowatts each—either as a cluster or stand-alone, and (ii) certain number of grid-connected charging stations. The solar charging

¹² DOE's Fueling Sustainable Transport Program (accessible from the list of linked documents in Appendix 2).

¹³ ADB. 2011. *Country Operations Business Plan: Philippines, 2012–2014*. Manila (<http://www.adb.org/sites/default/files/cobp-phi-2012-2014.pdf>).

¹⁴ By April 2012, one leading brand sold 11,000 electric cars in the United States, requiring about 264 megawatt-hours of lithium-ion batteries—the 100,000 e-trikes will need at least 300 megawatt-hours of lithium-ion batteries.

¹⁵ International Energy Agency. 2011. *Technology Roadmap*. Paris. (Table 5A: Manufacturers of EVs/PHEVs and partnering battery manufacturers, electric and plug-in hybrid electric vehicles, June).

stations will be sufficient to support the electricity needs of 1,000 E-Trikes. Some pilot solar charging stations will be in island locations that are easily accessible and will adopt large number of E-Trikes under the project, for example, Puerto Princessa. In all areas, certain number of grid-connected charging stations will be included to reduce the “range anxiety” of drivers. Private sector will be encouraged to invest in solar charging stations and in some cases, where feasible, the aggregated demand of the drivers will be converted into an equivalent 5-year power purchase agreement to reduce off-take risks of potential private investors. In addition, existing electric utilities will be encouraged to establish charging stations as commercial operation.¹⁶

Output 4: Materials Recovery. The Project will ensure that there is a mechanism for the collection of existing passenger cabin of tricycles and used batteries (lead-acid batteries from old tricycles and spent lithium-ion ones from e-trikes). (original: The Project will ensure that mechanism for the collection and disposal of existing tricycles to be replaced with the E-Trikes supplied under the Project in each participating city or municipality that is acceptable to DOE and the respective LGU. Used batteries (lead-acid ones from ICE tricycles and lithium-ion ones from E-Trikes) will also be recovered.¹⁷

11. **Output 5: Communication, social mobilization, and technology transfer.** All stakeholders will be educated about the project’s benefits, technical parameters, costs, and market potential of e-trikes. This includes specific training of the drivers on use and maintenance of e-trikes and technical training to other stakeholders to develop local human resources to support local industry development.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

	2011/12	2012	2013			
Indicative Activities	Jan –Dec/ Jan-Nov	Dec	Jan	Feb	Mar	Who responsible
Advance contracting actions						DOE, ADB
Establish project implementation arrangements						DOE, ADB, LGU
ADB Board Approval						ADB
Loan Signing						DOF, ADB
Government Opinion provided						DOJ
Government Budget Inclusion						DBM, DOE
Loan Effectiveness						DOF, DOE, ADB

¹⁶ E-Trikes Charging Infrastructure (accessible from the list of linked documents in Appendix 2).

¹⁷ Disposal of Internal Combustion Engine Tricycles (accessible from the list of linked documents in Appendix 2).

B. Overall Project Implementation Plan

[illegible]

[illegible]

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations

12. As the executing agency, DOE will be responsible for overall implementation, technical supervision, and execution of the project. It will oversee and coordinate implementation, monitoring, and evaluation of the program; execute contract of sale agreements with the LGUs to ensure effective implementation; and establish and oversee the project management unit. DOE will lead in all project procurement activities, including management of the supply and service contracts of various suppliers. The e-Trike Project Management Unit (PMU), which will include DOE organic staff with support from project consultants, will be responsible for direct management and supervision of the overall operation of the project. DOE will also chair the Coordinating Committee, which includes other Departments, agencies, and the Climate Change Commission (CCC). DOE will help establish an e-Trike office at each participating LGU.(orig: DOE will provide assistance in the establishment of an E-Trike office at each participating LGUs) ADB will establish an internal advisory group to ensure that the project benefits from high quality technical feedback from ADB's Sustainable Transport and Climate Change professionals during project implementation.

13. LGUs will be involved in the project as they are the regulator of the tricycles in the country. Their collaboration with Land Bank of the Philippines (LBP) and/or government financial institute (financing conduits) will create a situation where “credit risk of the drivers” can be managed. The “project approach” where LGU and bank conduits work together will address the present situation where most of the drivers have no collaterals and are unable to borrow from the bank. Some financing are available from other formal and informal sources with interest rates varying from 3% to 10% per month.

Project implementation organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> Department of Finance 	<ul style="list-style-type: none"> ➤ Borrower's representative, Loan signatory ➤ Assist DOE in respect of the lending arrangements to intended beneficiaries under the Project.
<ul style="list-style-type: none"> Executing agency Department of Energy (DOE) 	<ul style="list-style-type: none"> ➤ Primary responsible for overall implementation of the project. ➤ Oversee and coordinate the implementation, monitoring and evaluation of the program. ➤ Execute agreements with the local government units to ensure effective implementation. ➤ Establish and oversee the Project Management Unit. ➤ Take lead in all project procurement activities including management of the supply and service contracts of various suppliers. ➤ Responsible for submission of required project reports to ADB.
<ul style="list-style-type: none"> DOE- e-Trike Project Management Unit (PMU) 	<p>The PMU composed of DOE organic staff, together with project consultants will be responsible for the following:</p> <ul style="list-style-type: none"> ➤ Direct management and supervision of overall operations of the project. ➤ Mobilization, management and accounting for all project funds and resources including monitoring project repayments.

	<ul style="list-style-type: none"> ➤ Management and safekeeping of all information and data about the project ➤ Preparation of administrative, technical and financial reports to ADB. ➤ Provision of technical assistance to the DOE Bids and Awards Committee on all procurement aspects under the project ➤ Management and monitoring of all contracts and contractors under the project.
<ul style="list-style-type: none"> • Coordinating Agencies (members aside from DOF, DOE, LBP) 	<ul style="list-style-type: none"> ➤ National Economic Development Authority (NEDA) ➤ Climate Change Commission (CCC) ➤ Department of Interior and Local Government (DILG) ➤ Land Transportation Office (LTO) ➤ Department of Science and Technology (DOST) ➤ Department of Environment and Natural Resources (DENR) ➤ Bureau of Customs (BOC) ➤ Bureau of Product Standards (BPS) under Department of Trade and Industry (DTI) ➤ Board of Investment (BOI) ➤ Tariff Commission ➤ Technical Education and Skills and Development Authority (TESDA)
<ul style="list-style-type: none"> • Local Government Units (LGUs) – Implementing Agencies 	<p>The various LGUs will be responsible for the implementation at the ground level. It will:</p> <ul style="list-style-type: none"> ➤ Ensure achievement of the outputs. ➤ Submit and prepare reports to the EA. ➤ Develop and implements policies, regulations and ordinances to support adoption of e-trikes within their localities. ➤ Implement the e-Trike Project through a dedicated unit, The e-Trike Office who <i>will</i> directly oversee the implementation of the project ➤ The e-Trike Office shall have the following responsibilities: <ul style="list-style-type: none"> ○ Information Drive ○ Screening of Drivers Applicants ○ Training of Drivers ○ Manage the Battery Charging Station (as needed) ○ Project Monitoring ○ Periodic Reporting and Documentation ○ Design appropriate financing scheme for drivers ○ Manage daily payments and/or collection from drivers ○ Facilitate payment/remittance to designated bank ○ Generate simple financial reports and documentation for submission to EA.

<ul style="list-style-type: none"> Land Bank of the Philippines (LBP) and accredited conduits (currently under discussion and subject to agreement between ADB and the government) 	<p>LBP will extend special financing package to the LGU or its accredited conduits participating in the Project</p> <p>LBP will pay Bureau of Treasury (BTr) outright and in full amount corresponding to the number of E-Trike units delivered and duly accepted by DOE, LBP/LBP conduits and LGU concerned; Other GFIs may be involved in the future.</p> <p>The LBP bank and/or financing conduits will work in conjunction with and operate within the confines of the E-Trike Office. They will have the following responsibilities:</p> <ul style="list-style-type: none"> Design appropriate financing scheme for drivers Manage daily payments and/or collection from drivers Facilitate payment/remittance to designated bank Generate simple financial reports and documentation
<ul style="list-style-type: none"> ADB 	<ul style="list-style-type: none"> ➤ Primary responsible for financing and supporting project implementation and covenant compliance ➤ Provide support and technical assistance and supervise implementation ➤ Work with the government to endeavour to ensure the project achieves expected outputs and outcomes. ➤ Administer CTF funds
<ul style="list-style-type: none"> Clean Technology Fund (CTF) 	<ul style="list-style-type: none"> ➤ Provide financing

B. Key Persons Involved in Implementation

Executing Agency

Department of Energy

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Coordinating Government Agencies

Secretary/Undersecretary/Head of the following:

- National Economic Development Authority (NEDA)
- Climate Change Commission (CCC)
- Department of Interior and Local Government (DILG)
- Land Transportation Office (LTO) under Department of Transportation and Communication (DOTC)
- Department of Science and Technology (DOST)
- Department of Environment and Natural Resources (DENR)
- Bureau of Customs (BOC) under Department of Finance

(DOF)

- Bureau of Product Standards (BPS) under Department of Trade and Industry (DTI)
- Board of Investment (BOI) under DTI
- Tariff Commission
- Technical Education and Skills and Development Authority (TESDA) under Department of Labor and Employment (DOLE)

ADB

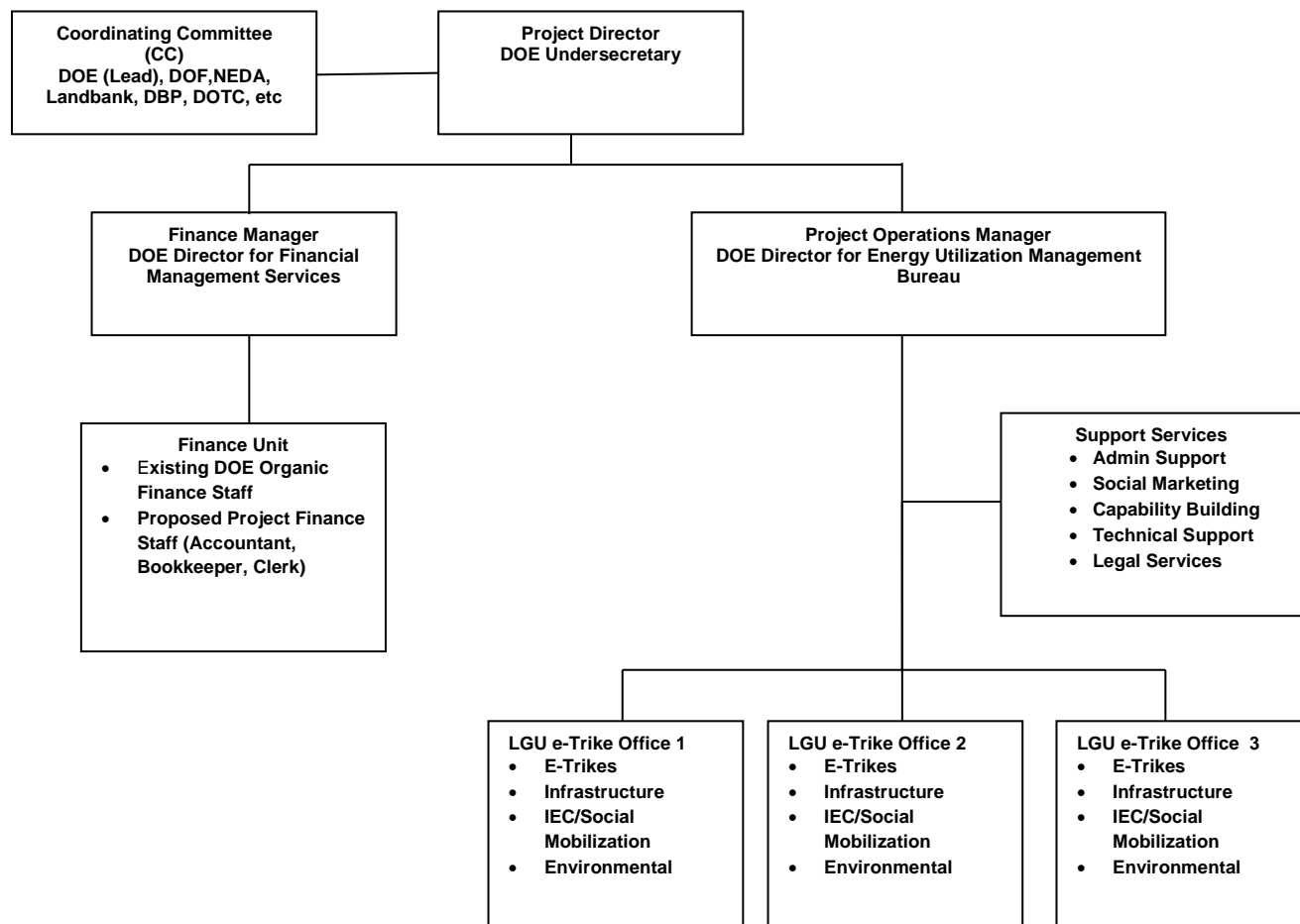
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C. Project Organization Structure



IV. COSTS AND FINANCING

14. The project is estimated to cost \$504 million (Table 1). ADB will provide \$300 million from its ordinary capital resources, with a 20-year term, including a grace period of 5 years, an interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility,¹⁸ and a commitment charge of 0.15% per annum, and such other terms and conditions as set forth in the draft loan and project agreements. Based on such loan terms and repayment method, the average loan maturity is 12.75 years and there is no maturity premium payable to ADB.

Table 1: Project Investment Plan
(\$ million)

Item	Total
A. Base Cost^b	
1. E-trike components	
a. Lithium-ion battery	118.80
b. Body and other parts	211.20
c. Motor	37.84
2. Supporting infrastructure	
a. Charging stations	0.48
b. Battery recycling	2.30
c. Materials Recovery	2.64
d. Communication, social mobilization, and administrative support	0.87
e. Solar charging station pilot	4.00
3. Consulting support	
a. Technology transfer and local industry support	0.87
b. Implementation consultant	0.87
Subtotal (A)	379.86
B. Contingencies^c	
1. Physical	44.38
2. Price	14.07
Subtotal (B)	58.45
C. Taxes	51.25
D. Financial Charges During Construction^d	14.44
Total	504.00

^a Includes taxes and duties, government's contribution will be as tax exemption.

^b In mid-2011 prices.

^c Physical contingencies (11.6% for foreign and 12.6% for local base costs). Price contingencies at projected using the differential between international inflation rate and inflation rate on local currency costs.

^d Includes interest during construction and commitment charges. Interest during construction for ADB loan(s) has been computed at the 5-year London interbank offered rate fixed swap rate plus a spread of 0.4%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount. ADB loan may finance local transportation and insurance costs. This covers interests accrued from both ADB and CTF loans.

Source: ADB Estimates.

15. The ADB CTF will cofinance the project with a grant of \$5 million (\$1 million for capacity building and \$4 million for a solar charging pilot) and a loan of \$100 million, with a 40-year term, including a grace period of 10 years, a management fee of 0.18%, 2% principal payment (years 11–20), 4% principal payment (years 21–40), and an interest charge of 0.25% of disbursed and outstanding credit balance. ADB will administer the CTF funds and receive \$240,000 for project

¹⁸ The government's choice to borrow under LIBOR-based lending was its own independent decision.

implementation and supervision services from the \$5 million grant. CTF funds will be used to blend with ADB's investment and to fill the investment gap. Softer CTF term is justified on the grounds of negative financial returns from the government's perspective and the range of financial risks borne by the government. ADB will finance the financial charges during construction for both ADB and CTF loans. The project will likely receive payments (about \$20 million) for carbon credits after it is implemented. The government will finance the remaining \$99 million, including taxes and contingency amounts for the e-trikes.

A. Allocation and Withdrawal of Loan and Grant Proceeds

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS				
Market Transformation through Energy-Efficient Electric Vehicles				
CATEGORY				ADB FINANCING BASIS
Number	Item	Total Amount Allocated for ADB Financing		Percentage of ADB Financing from the Loan Account
		Category	\$ Subcategory	
1	Equipment	268,320,000		
1A	e-Trike Units		267,840,000	73.0 percent of total expenditure*
1B	Charging Stations		480,000	100.0 percent of total expenditure*
2	Material Recovery	4,940,000		100.0 percent of total expenditure*
3	Consulting Services	730,000		85.0 percent of total expenditure*
4	Others	870,000		100.0 percent of total expenditure*
6	Financing Charges	14,440,000		100.0 percent of total expenditure*
6	Unallocated	10,700,000		
	Total	300,000,000		

* Exclusive of taxes and duties

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS Market Transformation through Energy-Efficient Electric Vehicles				
CATEGORY				CTF FINANCING BASIS
Number	Item	Total Amount Allocated for CTF Financing \$ Category Subcategory		Percentage of CTF Financing from the Loan Account
1	e-Trike Equipment	100,000,000		27.0 percent of total expenditure claimed*
	Total	100,000,000		

* Exclusive of taxes and duties

ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS Market Transformation through Energy Efficient Electric Vehicles				
CATEGORY				CTF FINANCING BASIS
Number	Item	Total Amount Allocated for CTF Financing \$ Category Subcategory		Percentage of CTF Financing from the Grant Account*
1	Main Equipment	3,760,000		
1A	Solar Charging		4,000,000	100 percent of total expenditure claimed*
2	Consulting Services	1,000,000		
2A	Implementation Consultant		130,000	15.0 percent of total expenditure claimed*
2B	Technology Transfer		870,000	100.0 percent of total expenditure claimed*
	Project Administration Fee	240,000		
	Total	5,000,000		

* Exclusive of taxes and duties

B. Detailed Cost Estimates by Financier

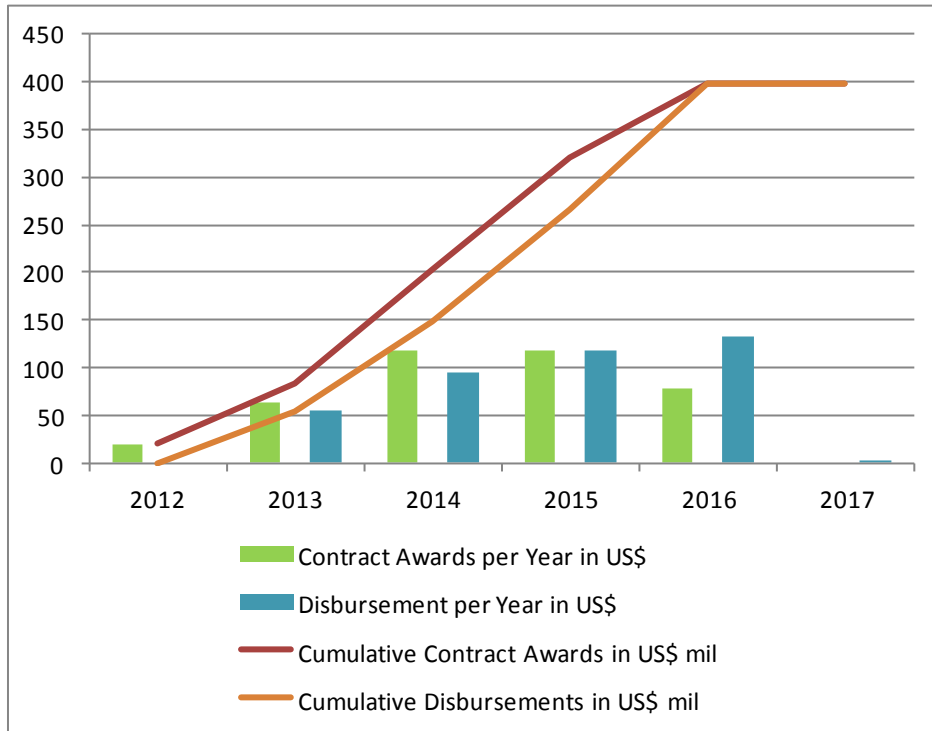
Item	ADB		CTF Loan		CTF Grant		GOP		Total Cost		Taxes
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category			
A. Base Cost											
1. Etrike Components											
a. Lithium Ion Battery	18.80	16%	100.00	84%	-	-	-	-	118.80		16.20
b. Body and other parts	211.20	100%	-	-	-	-	-	-	211.20		28.80
c. Motors	37.84	100%	-	-	-	-	-	-	37.84		5.16
2. Supporting Infrastructure											
a. Charging stations	0.48	100%	-	0%	-	0%	-	-	0.48		0.07
b. Battery recycling	2.30	100%	-	0%	-	0%	-	-	2.30		0.31
c. Materials Recovery	2.64	100%	-	0%	-	0%	-	-	2.64		0.36
d. Communication, social mobilization and admin support	0.87	100%	-	0%	-	0%	-	-	0.87		0.12
e. Solar charging station pilot					4.00	100%			4.00		
3. Consulting Support											
a. Technology Transfer and Local Industry Support	-		-		0.87	100%	-	-	0.87		0.12
b. Implementation Consultant	0.73	85%	-	0%	0.13	15%	-	-	0.86		0.12
Sub-Total (A)	274.86	72%	100.00	26%	5.00	1%	-	-	379.86		
B. Contingencies											
1. Physical	2.07	5%	-	-	-	-	42.31	95%	44.38		
2. Price	8.63	61%	-	-	-	-	5.44	39%	14.07		
Sub-Total (B)	10.70	18%	-	-	-	-	47.75	82%	58.45		
C. Taxes	-	0%	-	-	-	-	51.25	100%	51.25		
D. Financial Charges During Construction	14.44	100%	-	-	-	-	-	-	14.44		
Total (A+B+C)	300.00	60%	100.00	20%	5.00	1%	99.00	20%	504.00		

C. Detailed Cost Estimates by Outputs

Item	E-Trike Unit		Battery		Solar Charging		Material Recovery		Communication		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	
A. Base Cost											
1. Etrike Components											
a. Lithium Ion Battery			118.80	100%							118.80
b. Body and other parts	211.20	100%									211.20
c. Motors	37.84	100%									37.84
2. Supporting Infrastructure											
a. Charging stations	0.48	100%	-	0%	-	0%	-		-		0.48
b. Battery recycling			-	0%	-	0%	2.30		-		2.30
c. Materials Recovery			-	0%	-	0%	2.64		-		2.64
d. Communication, social mobilization and admin support			-	0%	-	0%	-		0.87		0.87
e. Solar charging station pilot					4.00	100%					4.00
3. Consulting Support											
a. Technology Transfer and Local Industry Support	-		-		0.87	100%	-		-		0.87
b. Implementation Consultant	0.73	85%	-	0%	0.13	15%	-		-		0.86
Sub-Total (A)	250.25	66%	118.80	31%	5.00	1%	4.94		0.87		379.86
B. Contingencies											
1. Physical	29.24	66%	13.88		0.58		0.58	1%	0.10	0%	44.38
2. Price	9.27	66%	4.40		0.19		0.18	1%	0.03	0%	14.07
Sub-Total (B)	38.51	66%	18.28		0.77		0.76	1%	0.13	0%	58.45
C. Taxes	33.76	66%	16.03		0.67		0.67	1%	0.12	0%	51.25
D. Financial Charges During Construction	9.51	66%	4.52		0.19		0.19		0.03		14.44
Total (A+B+C)	332.03	66%	157.62	31%	6.63	1%	6.55	1%	1.15	0%	504.00

D. Detailed Cost Estimates by Year

E Trike Project Breakdown by Year		2013	2014	2015	2016	2017
Item	Total	Year 1	Year 2	Year 3	Year 4	Year 5
A. Base Cost						
1. Etrike Components						
a. Lithium Ion Battery	118.80	5.94	17.82	17.82	35.64	41.58
b. Body and other parts	211.20	10.56	31.68	31.68	63.36	73.92
c. Motors	37.84	1.89	5.68	5.68	11.35	13.24
2. Supporting Infrastructure						
a. Charging stations	0.48	0.02	0.07	0.07	0.15	0.17
b. Battery recycling	2.30	0.11	0.34	0.34	0.69	0.80
c. Materials Recovery	2.64	0.13	0.40	0.40	0.79	0.92
d. Communication, social mobilization and admin support	0.87	0.04	0.13	0.13	0.26	0.30
e. Solar Charging Pilot	4.00		4.00			
3. Consulting Support						
a. Technology Transfer and Local Industry Support	0.87	0.04	0.13	0.13	0.26	0.30
b. Implementation Consultant	0.87	0.04	0.13	0.13	0.26	0.30
Sub-Total (A)	379.86	18.79	60.38	56.38	112.76	131.55
B. Contingencies						
1. Physical	44.38	2.22	6.66	6.66	13.31	15.53
2. Price	14.07	0.70	2.11	2.11	4.22	4.92
Sub-Total (B)	58.45	2.92	8.77	8.77	17.54	20.46
C. Taxes	51.25	2.56	7.69	7.69	15.38	17.94
D. Financial Charges During Construction	14.44	0.72	2.17	2.17	4.33	5.05
<i>Total Project Cost</i>	504.00	25.00	79.00	75.00	150.00	175.00

E. Contract Awards and Disbursement S-curve

F. Funds Flow Arrangements, Agreements, and Delivery of E-Trike Units

1. Summary

16. Prior to the distribution of e-trikes, a government financial institution (GFI) with existing lending operations in the municipalities, such as the Land Bank of the Philippines (LBP), will establish a loan facility with the LGU to cover the cost of the e-Trikes. The government will enter into a separate agreement with the GFI on the financial terms of the loans from GFI to each selected LGU. The LGU will take the driver's credit risk as they are in a better position to assume such risk. The choice of the GFI may vary depending on the municipality and GFI's interest, availability of retail branch in local area, etc. The e-trikes will be distributed in three steps: (i) ADB will pay the competitively selected suppliers directly upon DOE's request (withdrawal application); (ii) the supplier will deliver the e-trike to the LGU concerned in accordance with an agreed upon schedule; and (iii) the LGU's e-trike office will distribute the e-trikes to drivers pre-selected based on a transparent lottery with priority to two stroke tricycles.

17. The collected funds from the drivers and payment back to government will also involve three steps: (i) the drivers will pay a daily amount as part of the "lease to own" scheme either to the e-trike office, or to a bank account or to a third party responsible for collection (this activity will be "ring-fenced" from the LGU); (ii) the collection from the drivers will be used to pay the GFI; and (iii) the GFI will pay DOF's Bureau of Treasury.

2. Arrangements

18. DOE, as the executing agency, will procure the e-trikes following ADB's Procurement Guidelines (2010, as amended from time to time) through ICB, and will instruct the supplier to deliver the e-Trikes directly to the LGU concerned. ADB will directly pay the supplier once ADB has received withdrawal application from the DOE for the delivered units.

19. LBP or other GFIs will recover this amount from the LGU or other LGU conduits through a 5-year loan with a single-digit interest rate. LBP or other GFIs will pay the Bureau of Treasury (BTr) the full cost of the supplied e-trikes.

20. LGUs or LBP or GFIs will charge the drivers a "single-digit" interest rate, which the drivers will repay through daily payments amount of which shall approximate what they currently pay under their existing "boundary system" over a 5-year period. The Borrower will work with other GFIs to develop alternative options to widen the participation of other LGUs.

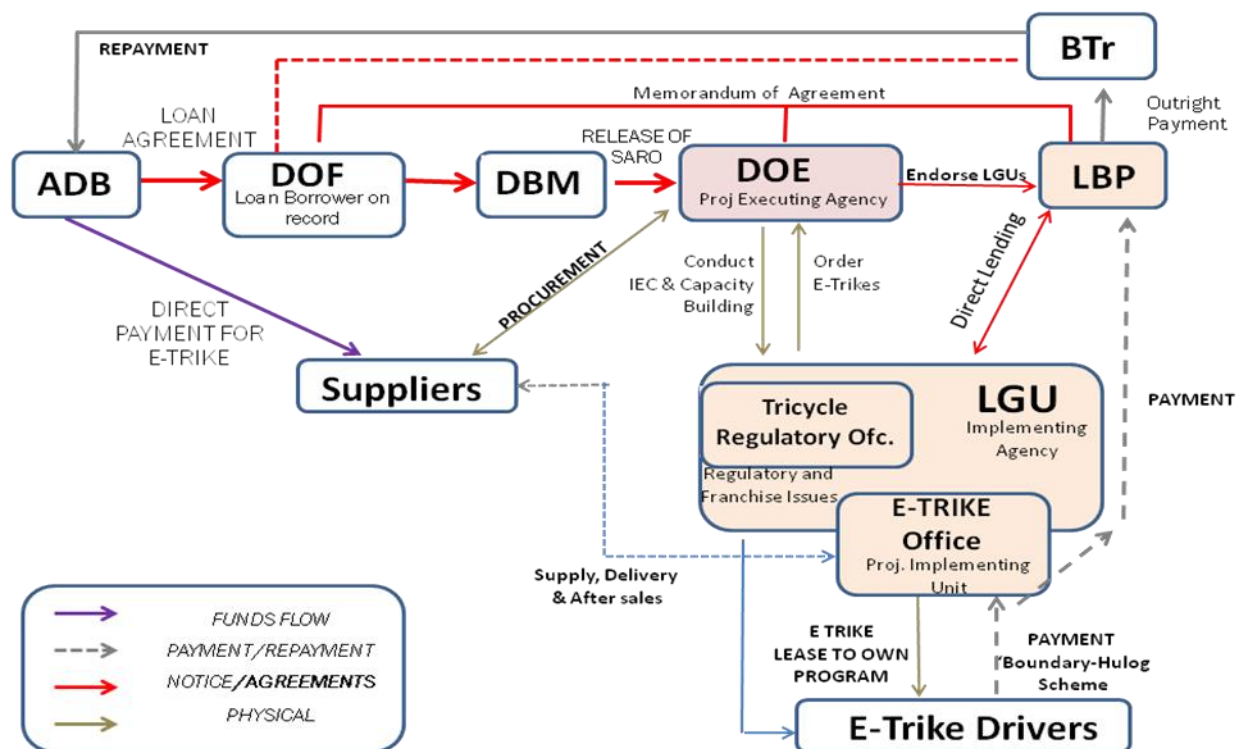
21. This innovative funds flow arrangement helped to achieve a reasonable and favorable interest rate for the drivers and no credit risk for the Department of Finance (DOF) —the two key guiding principles for this project's design.

22. In designing the fund flow arrangement, multiple situations had to be addressed: (i) LGUs that had satisfactory credit rating enabling them to directly borrow from Landbank and are interested to borrow from Landbank for e-trike operation, (ii) LGUs that had capable Tricycle Drivers and Owners Association (TODA) who may be able to borrow from local sources to finance the project; (iii) combination of other funding organizations working with the LGU (a rural bank, for example). Taking all those options and after extensive consultation with the parties, the DOE and DOF came up with two fund flow scenarios as explained below:

23. The following text describes these arrangements in steps:
- i. DOE, DOF and LBP will execute a tripartite MOA indicating their individual responsibilities in the e-trike Project;
 - ii. ADB and DOF will sign a loan agreement. DOF will be the borrower on record;
 - iii. DBM will issue the Special Allotment and Release Order (SARO) to DOE for the e-Trike and non-e-trike component of the ADB loan;
 - iv. DOE, as the project executing agency, procuring entity and seller in this project will conduct information, education and communication (IEC) campaign to LGUs, and/or other LBP conduits for the purpose of obtaining firm orders from the latter. LBP and its conduits will support DOE in the IECs;
 - v. DOE will endorse the LGUs who have expressed interest to participate in the program and avail of e-trike units to LBP for credit due diligence (Diagram A), However in cases where LGUs have very limited borrowing capacity or other reasonable cases, other LBP accredited conduits can be tapped to do the role of LGU specifically in terms of financing (Diagram B). This means that in lieu of LGU borrowing from LBP, it will now be the accredited conduits who will borrow from LBP for the purchase of e-trikes that will be distributed to the drivers under the e-Trike Project to be implemented by the LGU. It is to be noted that under this scenario, the Project, through the EA, will exert maximum effort to ensure that: a.) loan terms to drivers will still be very reasonable and affordable; b.) accredited conduits will operate within the confines of the e-trike Office. This will help lower the “credit risk” of the drivers by ensuring that appropriate regulations/ordinances are observed and implemented through the careful watch of the e-trike Office;
 - vi. As the case may be, either DOE and LGU (Diagram A) or DOE and LBP accredited conduits (Diagram B) will enter into a Contract of sale, which becomes effective once the E-Trikes are delivered and accepted by DOE, LBP, LGU/accredited conduits ;
 - vii.) will enter into a loan agreement, which becomes effective once the e-trikes are delivered and accepted by DOE, LBP, LGU/accredited conduits;
 - viii. DOE will conduct bidding (procurement) activities;
 - ix. As the case may be, either DOE and LGU (Diagram A) or DOE and LBP accredited conduits (Diagram B) will enter into a Contract of sale, which becomes effective once the e-trikes are delivered and accepted by DOE, LBP, LGU/accredited conduits ;
 - x. Supplier will deliver the e-trike units directly to the LGU through the e-trike Office;
 - xi. DOE, LBP and LGU/ accredited conduits will jointly inspect and accept the delivery. Supplier will extend after sales warranty to LGUs/ accredited conduits;
 - xii. DOE will notify ADB to pay the suppliers;
 - xiii. DOE will issue billing statement to LGU/ accredited conduits;
 - xiv. LGU will authorize LBP to release loan proceeds / payment to BTr;
 - xv. LBP will pay BTr outright and in full amount corresponding to the number of e-trike units delivered and duly accepted by DOE , LBP and LGU concerned;
 - xvi. BTr will pay ADB;
 - xvii. LGUs, as the project implementing agencies, will create an e-trike Office whose functions will be the following:
 - a. conduct IEC to the drivers or associations;
 - b. screen driver-applicants;
 - c. train drivers on technology and basic financial management;
 - d. manage charging station, as needed;
 - e. manage after-sales service to drivers by the suppliers;
 - f. conduct project monitoring and reporting;
 - g. manage (with support of third party) daily collection from drivers; and
 - h. timely remit payments to LBP.

Funds Flow Arrangement, Agreements, and Physical Delivery of E-Trike Units

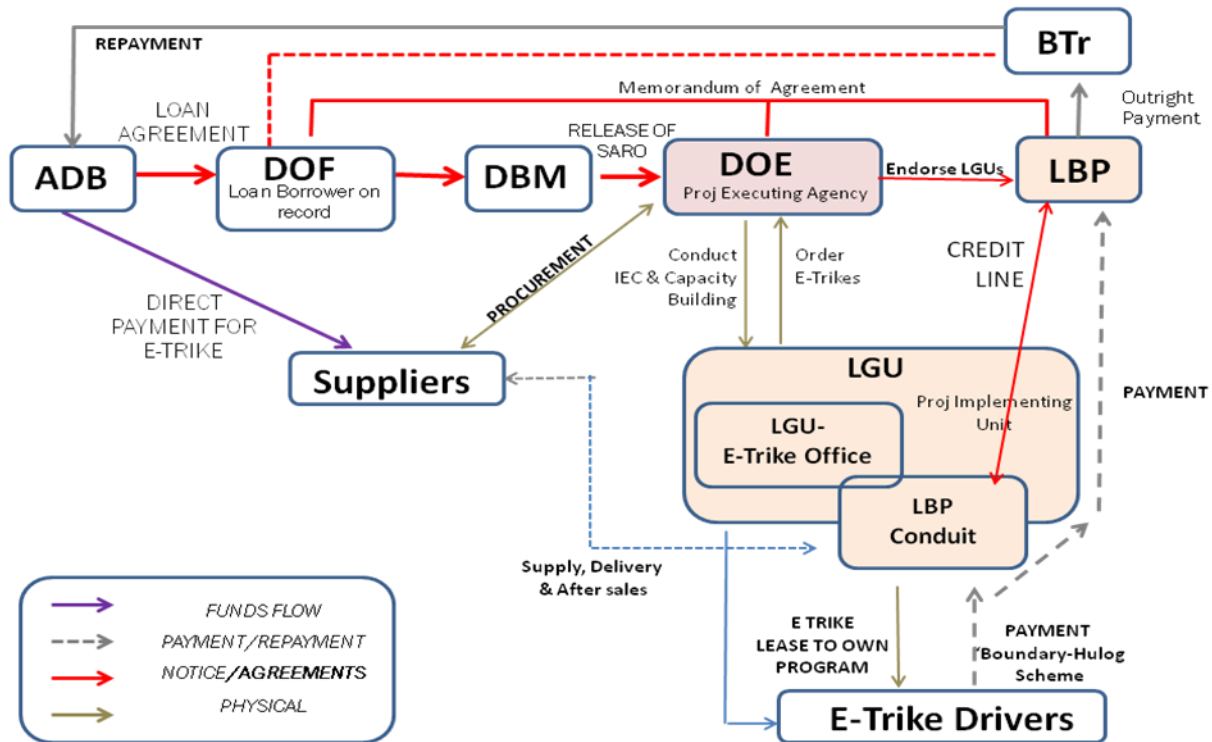
Diagram A. LGU as borrower from LBP and as lender or lessor to Drivers



ADB = Asian Development Bank, BTr = Bureau of Treasury, DBM = Department of Budget and Management, DOE = Department of Energy, DOF = Department of Finance, IEC = information, education and communication, LBP = Land Bank of the Philippines, LGU = local government unit, SARO = special allotment and release order

Funds Flow Arrangement, Agreements, and Physical Delivery of E-Trike Units

Diagram B. Bank conduits as borrower from LBP and as lender/lessor to Drivers

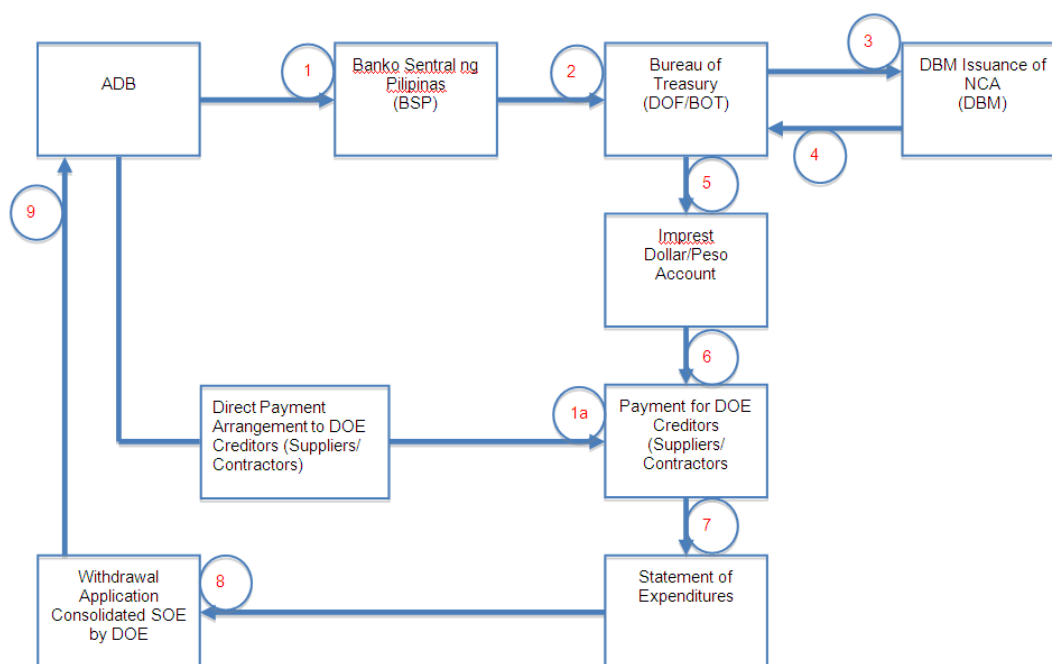


ADB = Asian Development Bank, BTr = Bureau of Treasury, DBM = Department of Budget and Management, DOE = Department of Energy, DOF = Department of Finance, IEC = information, education and communication, LBP = Land Bank of the Philippines, LGU = local government unit, SARO = special allotment and release order

3. Fund Flow for Smaller components

24. While the procurement of the e-trike units will be paid through direct payment procedure, the others smaller components will be paid through the Imprest Account using the Statement of Expenditure method and the funds flow will be as shown below.

Fund Flow for Imprest Account



G. E-Trike Distribution, Selection and Lease-to-Own Scheme

1. E-Trike Lease-to-own program:

25. The drivers will pay a daily boundary (rental payments) for about five years towards owning the vehicles. The following text explains the broad arrangement:

- i. LGUs/accredited conduits will enter into a “rent-to-own agreement” with the drivers;
- ii. Drivers will remit daily “hulog” (*similar to boundary system*) to e-trike Office;
- iii. LGUs/accredited conduits will pay loan amortization to LBP;
- iv. LGUs/accredited conduits will enter into Contracts of Sale with drivers who completed payment of the e-trike units; and
- v. LGUs/accredited conduits will transfer ownership of the e-trike to drivers and issue the necessary franchise.

2. Selection of e-trike Recipients.

26. Since the number of two-stroke tricycles vary across the nation and replacement of two-stroke tricycles (still operating in large numbers) and older tricycles are a priority, the selection criteria will be different for different LGUs.

27. LGUs, where the number of two-stroke tricycles are less, selection based on a lottery among the applicants for joining the program will be the best solution. Any public lotteries will be managed by a neutral party or a participating NGO in the locality with the presence of DOE or ADB official. But in areas, where large two-stroke tricycles are present, the selection will be based on a set of criteria to be approved by ADB and the DOE. All stakeholders have to agree on these arrangements before implementation: for example, two-stroke engines and the oldest motorcycles will be given priority.

28. As participation is voluntary, interested drivers will be required to apply to be included in the project. An application form will include:

- a. Name of driver or the owner;
- b. ICE tricycle registration number;
- c. Engine size;
- d. Photo, if possible (ICE tricycle)
- e. Copy of drivers' license;
- f. Age of the motorcycle;
- g. Outstanding loan, if any;
- h. Location where tricycle is stored when not in use; and
- i. Expected market value of the tricycle.

29. Once selected, drivers will be asked to sign a commitment form with an initial deposit of Php 500 (or other agreed amounts). Each driver will also be required to undergo a two-day training program.

30. Day one of the training program will include:

- A general introduction to electric vehicles and e-trikes specifically;
- A summary of e-trikes as a solution to economic development and environmental stewardship;
- The personal income effects of driving an e-trike;
- A presentation of basic parts of the e-trike and their function relative to ICE tricycles;
- A "How To" on charging e-trikes;
- A safety overview; and
- Driving instructions that include proper driving habits for safety, efficiency and convenience.

31. Day two will cover basic maintenance, troubleshooting and repair and discussion on institutional operation, local laws, agreements on e-trike use, repayment responsibilities, warranty, charging and other common concerns and frequently asked questions

A number of leaflets will be designed and provided by the e-trike supplier with clear illustrations and information conveyed in the local dialect: these may be distributed during training. It will cover: how to operate and charge the e-trike, how and where to make payments, what not to do to an e-trike, troubleshooting, and maintenance contact information.

H. Division of Roles and Responsibilities

Outline for discussion with LGUs and DOE during implementation at each LGUs, which may result slightly different arrangement for each LGUs).

1. Guiding Principles

- i. The tricycle regulatory office at each LGU will continue its regulatory roles and the e-trike project office will undertake project specific roles.
- ii. Collection of boundary payment from drivers will be outsourced to a third party where possible, and will be outside the influence of the Tricycle Regulatory Office of an LGU.
- iii. A project website will disclose all quarterly progress report from all IAs to the project including weekly collection from the drivers. The website will be used as a way of monitoring and controlling the implementation.
- iv. Services that could be competitively sourced may be added as "associated services" to be provided by the bidders in each region.
- v. Selection of e-trike recipients (drivers or owners) for each region will be done through open and transparent lottery with the exception of areas where large number of two-stroke tricycles is present. DOE, ADB, LGU, and Civil Society representatives will be directly involved in the selection process, which may vary region to region. All data related to the selection of drivers, will be publicly disclosed through the project websites.

2. Responsibilities of LGU

a. Tricycle Regulatory Office

- i. Pass ordinance which contains:
 - authority for the Mayor to sign agreements on e-trike
 - number of e-trike to be procured as a replacement program
 - replacement of ICE by e-trike
 - support to e-trike project, facilities, businesses
 - provide budget allocation, in-kind distribution and logistic support to establish e-trike office
- ii. Identify areas for charging stations
 - addressed safety and regulatory aspect including permits from electricity authorities
 - Identify location in consultation with TODA and e-trike office
 - Ensure right of way
- iii. Execute the following legal instruments as necessary
 - loan agreement with LBP
 - contract of sale with DOE
 - lease to own agreement with drivers
 - contract of sale with drivers after full payment

- iv. Closely coordinate with the electricity provider
 - all legal and regulatory issues are addressed
 - sufficient supply of electricity for e-trikes
- v. Assist Supplier on the following:
 - securing business licenses (could be one-stop-shop)
 - registration of e-trikes
 - access on tricycles, drivers, demands data for improved project design
 - provide access to land where ICE trikes will be collected.

b. e-trike Office

- i. Once established, the e-trike office
 - should be composed of organic employees (risk management in view of local elections, accountability) and some consultants and contractors
 - must establish close working relation with TODAs and establish standard operating procedures and operating guidelines
 - It will establish its own chart of accounts and report back quarterly to DOE all financial systems and accounts of the e-trike office will be ring-fenced from the LGUs core activities
- ii. Design and implement e-trike Lease to own program – with support from DOE, ADB and project consultants
 - Identify and evaluate options for outsourcing of collecting payment from drivers on daily basis (3 days, 5 days max)
 - establish penalties and remote immobilization procedures in case of default
 - role of TODAs in monitoring collection from drivers
 - finalize processes and systems for accounting/remittance of proceeds, including using of non-cash of technology options
- iii. Develop list of e-trike recipients
 - advertise widely availability of e-trike under the project working closely with the TODA
 - request interested participants to fill up an application form
 - conduct open lottery/selection based on criteria – two-stroke and old tricycles as priority among the applicants, in presence of ADB, DOE and Civil Society representatives
 - have all selected drivers or owners to sign commitment form and pay P500 initial deposit

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

32. An assessment of the financial management system of the DOE, the executing agency of the proposed Project was undertaken to ensure the Department's readiness to implement the Project. The review covered the DOE's financial management arrangements in the National Office, particularly the adequacy of budgeting, accounting, funds flow, financial reporting and internal control systems.

33. The DOE adopts the government-wide electronic accounting system with features that promotes transparency and makes financial management more effective. This system (i) is simple and generates understandable and accurate information that facilitates understanding of the accounting system by public managers even those with no sufficient technical background on accountancy, (ii) conforms to international standard thus making interpretation of information uniform, and (iii) enables generation of periodic and financial reports for better monitoring of performance pursuant to responsibility accounting. The electronic software used was designed to timely record government financial transactions enabling the government central auditor Commission Audit to carry out also timely audit of the DOE.

34. The DOE Financial Services has had extensive experience in handling large foreign-assisted projects such as the ADB-financed Energy Efficiency Project, World Bank-financed Rural Power Project and a substantial number of foreign assisted projects. It has well-placed permanent financial management personnel in the National and three Field Offices in addition to project-based contractual staff dedicated specifically to handle the financial transactions of a particular project. Overall, the financial management system of the DOE meets the financial management requirements of the Project. Given the substantial amount of financial data and transaction the Project will entail, the DOE, however, will have to ensure that the needed complementary staff and financial arrangement are adequately provided. DOE should hire additional finance project staff to help in performing and managing day-to-day financial transactions and ensuring that project financial covenants are met.

As part of the project financial arrangement, DOE, DOF and LBP shall enter into a MOA to define the responsibilities of each party. The DOE Project Management Unit (PMU) will regularly monitor the performance of each LGU relative to the project. DOE will furnish ADB copy of the MOA, once signed by the parties.

35. Each beneficiary LGUs will also be required to establish a dedicated project management structure to handle for the collection and remittance of driver's payments for the E-trikes. The LGU project finance staff will also be mainstreamed or integrated with the regular Financial Management Service of the concerned LGUs.

B. Disbursement

36. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),¹⁹ and detailed arrangements agreed upon between the Government and ADB. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS),²⁰ ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure

¹⁹ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

²⁰ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list (Appendix 5) to subprojects financed by ADB.

37. All payments to the supplier will be Direct Payments except for smaller components. DOE, as the Executing Agency, will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

38. For imprest procedures, two imprest accounts will be established—one for ADB and one for CTF grant funds. The maximum ceiling of the imprest accounts will not at any time exceed the estimated ADB financed expenditures to be paid from the imprest account for the next 6 months or US\$ 350,000 whichever will be lower. The accounts will be maintained in US dollars and administered by the PMU. The request for initial advance to the imprest accounts should be accompanied by an Estimate of Expenditure Sheet²¹ setting out the estimated expenditures for the first six (6) months of project implementation, and submission of evidence satisfactory to ADB that the imprest account has been duly opened. For every liquidation and replenishment request of the imprest account, the borrower will furnish to ADB (a) Statement of Account (Bank Statement) where the imprest account is maintained, and (b) the Imprest Account Reconciliation Statement (IARS) reconciling the above mentioned bank statement against the EA's records.²²

39. Statement of Expenditure (SOE) procedures may be used when claiming under reimbursement or liquidation of the imprest account. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.²³ As indicated in the loan agreement, the SOE will have a ceiling of US\$ 100,000 per payment. Individual payments in excess of the SOE should be accompanied by full supporting documents when submitting the withdrawal applications to ADB.

40. Before the submission of the first withdrawal application, DOE should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US\$100,000, unless otherwise approved by ADB. DOE is to consolidate claims to meet this limit for reimbursement and imprest account claims. Withdrawal applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

C. Accounting

41. The Department of Energy will maintain separate project accounts and records byfunding source for all expenditures incurred on the Project. Project accounts will follow international accounting principles and practices.

²¹ Available in Appendix 29 of the *Loan Disbursement Handbook*.

²² Follow the format provided in Appendix 30 of the *Loan Disbursement Handbook*.

²³ Checklist for SOE procedures and formats are available at:

http://www.adb.org/documents/handbooks/loan_disbursement/chap-09.pdf
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-100-Below.xls
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-Over-100.xls
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Operating-Costs.xls
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Free-Format.xls

D. Auditing

42. Audit procedures will be per agreed loan agreement (Art IV section 4.05 (a) iv of the OCR Loan Agreement). The Department of Energy will cause the detailed consolidated project accounts to be audited in accordance with International Standards on Auditing by an auditor acceptable to ADB. The audited accounts will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the executing agency. The annual audit report will include a separate audit opinion on the use of the imprest fund, and the SOE procedures. The Government and Department of Energy have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures. For revenue generating projects, ADB requires audited financial statements (AFS) for each executing and/or implementation agency associated with the project.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Procurement Action

43. All advance procurement action will be undertaken in conformity with ADB's *Procurement Guidelines*²⁴ (April, 2010, as amended from time to time) and ADB's *Guidelines on the Use of Consultants* (April, 2010 as amended from time to time).²⁵ The ADB Management has approved the advance action activities on 3 November 2011. The issuance of invitations to bid under advance contracting will be subject to ADB's prior approval. The Borrower (DOF) and Department of Energy (DOE) have been advised that approval of advance contracting does not commit ADB to finance the Project.

44. Advance Procurement Action will cover initial steps of procurement, prior to loan signing of 5,000 units of e-trike for Puerto Princesa City (1,500 units), Mandaluyong City (500 units), Paranaque City (1,000 units), and Quezon City (1,000 units), and Balanga, Bataan (1,000 units) in 2012. Specifically, bidding documents will be prepared for the supply and delivery of the e-trikes and the engagement of project implementation consultants under consulting services. The steps to be concluded in advance—e.g. (i) prequalification of contractors, tendering, and bid evaluation for procurement of e-trike units. The Borrower has conducted a design competition and selected designs have been used as bases for the final design. The technical specifications, has already been completed.

45. **Prequalification activities.** A prequalification was conducted for Package 1 on 2 October 2012 with eleven (11) applicants participating. The draft bidding document for Package 1 has been completed and ready for submission to ADB for review. The first 100 e-trikes (20 units for each lot) for operational testing are expected to be delivered in Q1/ 2013, and the remaining number of units for Package 1 in Q3/2013.

B. Procurement of Goods, Works and Consulting Services

46. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines*. International competitive bidding procedures will be used for contracts with a value above a \$1 million threshold.

²⁴ Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

²⁵ Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>

47. At the request of the DOE, and with the prior agreement of ADB, locally manufactured vehicles may be granted a margin of “domestic preference” provided that Domestically Manufactured Goods meet the requirements in Appendix 2 of ADB’s Procurement Guidelines. Any margin of preference in evaluation of bids for goods under international competitive bidding (ICB) procedures must be applied in accordance with the current version of ADB’s Project Administration relating to Domestic Preference (currently issued as PAI 3.06).¹ Before the start of any procurement ADB and the Government will review the public procurement laws of the central and state governments to ensure consistency with ADB’s *Procurement Guidelines*.

48. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

49. The minimum time to prepare responsive bids shall be no less than 42 days.. Before that time, the project will conduct Market consultation sessions and hold a pre-bid conference to ensure that potential suppliers will have adequate time to make representations on the design, warranty and specification, and discuss options which may promote innovation without “designing in” propriety technologies.

50. All consultants will be recruited according to ADB’s *Guidelines on the Use of Consultants*.²⁶ The terms of reference for all consulting services are detailed in Section D.

51. Consulting services will assist in project implementation and administration, procurement, quality assurance of the delivered components, facilitate technology transfer and development of technical know-how and project monitoring and reporting. An estimated 119 person-months (24 international, 95 national) of consulting services are required to (i) facilitate project management and implementation, and (ii) strengthen the institutional and operational capacity of the executing agency. Consultants will be selected and engaged under the Project in accordance with the Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers (2010, as amended from time to time). Consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality: cost ratio of 90:10 and using simplified technical proposal.

C. Procurement Plan

Basic Data

Project Name: Market Transformation through Introduction of Energy-Efficient Electric Vehicles Project	
Country: PHI	Executing Agency: Department of Energy
Loan Amount: \$300 million from ADB OCR and \$100 ADB Clean Technology Fund (CTF)	Loan (Grant) Number:
Date of First Procurement Plan: (Date of Loan approval)	Date of this Procurement Plan:

²⁶ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

1. Process Thresholds, Review and 18-Month Procurement Plan

a. Project Procurement Thresholds

52. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding (ICB) for Goods	\$1,000,000 and above
International Competitive Bidding (ICB) for Works	\$1,000,000 and above
National Competitive Bidding for Goods	Beneath that stated for ICB, Goods
National Competitive Bidding for Works	Beneath that stated for ICB, Works
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000

b. ADB Prior or Post Review

53. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement of Goods and Works		
Procurement Method	Prior or Post	Comments
Prequalification	Prior	
ICB Goods	Prior	A Bidder may be awarded a maximum of three (3) contracts. The next lowest Bidder shall be required to submit its Best and Final Offer (BAFO). In case the BAFO is not acceptable to the Purchaser, the contract shall be awarded to the lowest evaluated bidder notwithstanding the maximum number of lots that one bidder can be awarded.
NCB Goods	Post	Prior review for 1st works and goods package, post review for succeeding similar package
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection (QCBS) Quality-Based Selection (QBS) Other selection methods: Consultants Qualifications (CQS) Single Source (SSS)	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	

c. Goods and Works Contracts Estimated To Cost More Than \$1 Million

54. The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value exclusive of Tax (in \$ Million)	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Package 1: Supply and Delivery of 5000 e-Trike units	19.50	ICB	yes	Q4/2012	Financed by ADB and CTF
Lot 1.1: Puerto Princesa City, Palawan	5.85				1500
Lot 1.2: Balanga, Bataan	3.90				1000
Lot 1.3: Paranaque City, Metro Manila	3.90				1000
Lot 1.4: Quezon City	3.90				1000
Lot 1.5: Mandaluyong City, Metro Manila	1.95				500
Package 2: Supply and Delivery of 10000 e-Trike units	39.00	ICB	yes	Q1/2013	Financed by ADB and CTF
Lot 2.1: Quezon City, Metro Manila	15.60				4000
Lot 2.2: Makati City Metro Manila	15.60				500
Lot 2.3: City of Manila, Mtro Manila	1.95				500
Lot 2.4: Boracay Island, Malay, Aklan	1.95				500
Lot 2.5: Lipa city, Batangas	3.90				1000
Lot 2.6: Tarlac City, Tarlac	1.95				500
Lot 2.7: Dagupan City Pangasinan	3.90				1000
Lot 2.8: Davao City, Davao del Sur	1.95				500
Lot 2.9: Sta Cruz and Los Banos, Laguna	3.90				1000
Package 3: Supply and Delivery of 5000 e-Trike units	15.60	ICB	yes	Q3/2013	Financed by ADB and CTF
Lot 3.1: Quezon City, Metro Manila	7.80				2000
Lot 3.2: Caloocan City, Metro Manila	3.90				1000
Lot 3.3: Makati City and City of Manila	3.90				1000
Lot 3.4: Lipa City, Batangas	11.70				1000
Package 4: Solar Power Charging Stations in Boracay and Puerto Princesa (Turnkey)	3.60	ICB		Q4/2013	Financed by CTF

d. Consulting Services Contracts Estimated to Cost More Than \$100,000

55. The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value (in \$ million exclusive of Tax)	Recruitment Method	Advertisement Date (quarter/ year)	International or National Assignment	Comments
Package 5: Project Implementation Consultants	1.0	QCBS (90:10) using Simplified Technical Proposal (STP)	Q3/ 2012	An estimated 119 person- months (24 international, 95 national)	Financed by ADB

e. Goods and Works Contracts Estimated to Cost Less than \$1 Million and consulting Services Contracts Less than \$100,000

The following table groups smaller-value goods, works and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

56.

General Description	Estimated Value (cumulative) (in \$ Million) Exclusive of Tax	Estimated No. of Contracts	Procurement/ Recruitment Method	Domestic Preference Applicable	Comments
Works: Materials Recovery to support Packages 1 and 2	Lot 1: 0.13 Lot 2: 0.18	2	NCB	N/A	Financed by ADB
Consulting Services	1.0	12	Various individual consultants Total 36 months (ave. 3 PM/ expert)	N/A	Financed by CTF Technology Transfer consultants (6), Communications (IEC) Consultants (6) May coordinate with TESDA on technical training

2. Indicative List of Packages Required Under the Project

57. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project. Contracts financed by the Borrower and others should also be indicated, with an appropriate notation in the comments section.

58. Since a suitable local supply chain does not currently exist for these vehicles and the associated services, the implementation will be localized by allocating demand into lots reflecting the aggregated requirements of particular LGUs, which may include differing engine sizes to take into account local conditions such as hills or increased susceptibility to salt water induced corrosion. To avoid the establishment of a national monopoly for the supply of e-trikes during the industry development phase, to reduce the risk of technical failure within the project, and to ensure competitive pressure on suppliers to provide quality goods, it is proposed that at least three vehicle manufacturers/assemblers will be awarded individual packages for the supply and support of the vehicles with a pre-defined minimum warranty in the Philippines. These packages will be awarded by geography, i.e. a supplier will win the contract to supply e-trikes to a specific geography.

59. The procurement will be organized into two phases: (i) a development phase, during the geographic supply packages will be procured to allow new operators to organize the supply chain for associated services and spares, plus allow the project to address any initial implementation issues, and (ii) a wider scale-up phase, during which LGUs in other geographies will procure vehicles with associated local support. The industry development phase is planned to be 15 to 24 months long, and a mid-term review will conclude this phase. Results of the mid-term review/evaluation will determine whether to proceed to the scale-up phase. Twenty thousand (20,000) e-trikes will be distributed during the initial industry development phase, while the remaining 80,000 units will be manufactured and distributed over the subsequent three year period.

General Description	Estimated Value (cumulative) (in \$ Million) exclusive of Tax	Estimated No. of Contracts	Procurement/ Recruitment Method Method	Domestic Preference Applicable	Comments
Goods	375	20	ICB		e-Trike units
Works	3.6	1	ICB		Solar Power Charging Station
	2.6	8	NCB		Materials Recovery for ICE Tricycles and Batteries
Consulting Services	1.0	1	QCBS		Project Implementation Consultants (1)
	1.0	12	Individual		Technology Transfer consultants (6), Communications (IEC) Consultants (6)

3. National Competitive Bidding

1. General

60. The procedures to be followed for national competitive bidding shall be those provisions referring to open competitive bidding procedures set forth in Republic Act 9184 the Republic of the Philippines, effective 26 January 2003, and its Revised Implementing Rules and Regulations, effective 2 September 2009, with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the Procurement Guidelines, Section I and paras. 3.3 and 3.4 of Section III.

2. Eligibility

- (i) Eligibility screening shall not be applied. However, bids that do not contain any of the following documents will not pass the documentary compliance check: (i) evidence of the required financial, technical or production capability; (ii) audited financial statements; (iii) credit line, or cash deposit certificate; (iv) bid security; and (v) authority of the bid signatory.
- (ii) National sanction lists may be applied only with prior approval of ADB

3. Advertising

61. Bidding of NCB contracts estimated at \$500,000 or more for goods and related services or \$1,000,000 or more for civil works shall be advertised concurrently with the general procurement notices on ADB's website.

4. Price of Bidding Document

62. The price of bidding documents should be nominal, covering only reproduction and mailing/courier costs.

5. Price Ceiling

63. The approved budget for the contract (ABC) may be published, but it shall not be stated or implied that bid prices may not exceed the ABC, or that bid evaluation will in any way take into account the ABC. The ABC, budgetary allocation, ceiling price, or similar estimates of contract value may not be used to reject bids without prior concurrence of ADB.

6. Preferences

- (i) No preference of any kind shall be given to domestic bidders or for domestically manufactured goods.
- (ii) Suppliers and contractors shall not be required to purchase local goods or supplies or materials.
- (iii) Foreign suppliers and contractors from ADB member countries shall be allowed to participate, if interested, without first being required to associate with, or enter into joint venture with, local firms.

- (iv) Foreign suppliers and contractors from ADB member countries shall be allowed to bid subject to the prequalification guidelines approved by DOE and ADB

7. Experience Qualification

64. For works contract, the experience qualification requirement shall be: (i) at least one previous contract at 80% of the estimated cost of the contract being procured; and (ii) an annual turnover from all works averaged over the last three years equal to 100% of the estimated cost of the contract being procured.

8. Anticorruption Provisions in Bidding Documents

65. Anticorruption provisions in the Instructions to Bidders section of ADB standard bidding documents (SBDs) shall be incorporated into NCB bidding documents including those under "Corrupt Practices" and "Eligible Bidders" clauses of the SBDs.

9. Bidding Period

66. Bidders shall be given a minimum period to prepare and submit bids of 4 weeks, counted from the date of invitation to bid or the date of availability of bidding documents, whichever is later,

10. Single Bid Submission

67. When a lone bidder obtains a bidding document and submits a bid at the deadline for bid submission under a post qualification bidding, bid opening and evaluation shall not proceed but it shall be considered a failure of bidding. Before taking any alternative procurement action, a proper assessment of the cause of lack of participation shall be made and ADB prior approval shall be sought for any proposed subsequent action.

11. Shopping Method

68. If included as a procurement method in the Procurement Plan, "Shopping" shall be undertaken in accordance with the **ADB Procurement Guidelines** (April 2010, as amended from time to time).

12. Contract Amendment

69. In case of contracts for prior review, modifications exceeding 15% of contract amount material changes in the conditions during implementation require prior ADB concurrence.

13. Member Country Restrictions

70. Bidders must be nationals of member countries of ADB, and offered goods must be produced in member countries of ADB.

D. Consultant's Terms of Reference

71. **Project Implementation Consultants (Firm).** The implementation consulting team will require the services of a multidisciplinary team of international (24 person months) and national

(95 person months) consultants. The consultancy firm will be responsible for the timely delivery of the output requirements.

1. The international consultants should have wide experience in (i) the setting-up and implementation of a large scale community-based mass transport system using alternative fuels and related technology, preferably electric vehicles (ii) expertise in the design, procurement, management, operations of electric vehicle fleet and related infrastructure such as the charging stations for electric vehicles (iii) capable of establishing the project procurement, logistical preparation, program implementation, distribution, operational design, and monitoring processes.
2. The national consultants are expected to have: (i) a good understanding of the situational aspect of the mass transport system in the Philippines and (ii) the expertise in developing the appropriate social and techno-economic assessment of the project implementation. (iii) expertise in developing the marketing strategy for electric vehicles (iv) develop an information, education and communication strategy in a nationwide scale.
3. The national consultants are expected to do documentations of the performance and progress of the project such as but not limited to: (a) introduction and basic data; (b) utilization of the funds (ADB Loan, co-financing and counterpart funds); (c) project purpose (status of project scope/implementation arrangements; assessment of changes in the key assumptions and risks; etc.); (d) implementation progress; (e) compliance with the loan covenants; (f) social and environmental factors; and (h) major project issues and problems. The consultants should submit this report to the Department of Energy-Alternative Fuels and Energy Technology Division e-Trike Team Members

Scope of Services. The consultants will have the following responsibilities;

- (i) Assist the EA in the procurement process through the preparation of bidding documents, minimum technical and safety standards, qualification processes, bid evaluation and reporting.
- (ii) Develop with the EA a mechanism for quality assurance and monitor quality at all aspects of procurement and supply.
- (iii) Facilitate with the EA, local government, battery manufacturers, logistics suppliers, electricity transport organizations and other stakeholders the establishment of the vehicle supply and battery charging infrastructure.
- (iv) Ensure adequate quality control of the components, manufacturing process, factory tests, delivery, and acceptance of the complete e-Trike units and their associated maintenance.
- (v) Facilitate with the EA, local government, distribution utility and other stakeholders the establishment of commercial charging infrastructure for the e-trikes and the arrangements for the administration of warranty claims and disputes.

- (vi) Assist the EA, the local government, and the transport organization on the daily management, operation and maintenance of the e-trikes.
- (vii) Assist the EA and local government in designing commercial arrangements and enforcing warranty and contractual obligations of equipment suppliers and service providers.
- (viii) Ensure safe and efficient operation of the e-trike and the charging stations.
- (ix) Facilitate with the EA, local government, transport organization and other stake holders the program for recycling, resource recovery/disposal of old tricycle and the appropriate disposal of spent lithium ion battery.
- (x) Communication with all stakeholders including payment collection entities and periodic progress reporting.
- (xi) In addition, the consultant team will assist DOE and LGU in evaluating trial operations and acceptance test before suppliers formally handover the units to LGU's as accepted units.

72. During project implementation, in addition to providing on-the-job training to the EA in the fields of procurement, contract management, technical, environmental, and social issues, the PIC consultant will do the following:

- (i) Keep records of all correspondence between the EA, contractors, the consultant, ADB and other co-financiers.
- (ii) Keep records of any disbursement under the Project. Prepare and update on a regular basis the forecast disbursement schedule.
- (iii) Develop and implement applicable procedures required to ensure adequate control of the manufacturing, factory tests, delivery, and acceptance of the materials and equipment.
- (iv) Update the overall project disbursement schedule and physical target accomplishment periodically.
- (v) Prepare and implement an environment monitoring plan on the basis of the initial impact assessment report. Ensure that procedures are in place to generate accurate records to track carbon credits and other environmental targets.
- (vi) Capacity building for environment, alternative fuel, and energy technology, and health safety.
- (vii) Assist with the implementation and, if necessary, periodic revisions of the RPs and ensure that timely reporting on RPs implementation is carried out and included in the quarterly report.
- (viii) Assist the EA and the local government with necessary public consultations.
- (ix) Liaise with EA and local government to ensure that all compensations are paid in a timely manner.
- (x) Undertake project monitoring and evaluation during the project implementation. Ensure that supervision visits take place to confirm that the recycling requirements are being met.
- (xi) Prepare the EA's project completion report.

73. **Output and Reporting Requirements.** The Firm consultant will prepare the following reports: Quarterly progress reports that will include but not limited to: (a) introduction and basic data; (b) utilization of the funds (ADB Loan, co-financing and counterpart funds); (c) project purpose (status of project scope/implementation arrangements; assessment of changes in the key assumptions and risks; etc.); (d) implementation progress; (e) compliance with the loan covenants; (f) social and environmental reports; (g) grant reports; and (h) major project issues and problems.

74. **Experts Required**

VII. Position	VIII. Inputs (in person months)
International Experts	
1. Electric Vehicle Specialist/Team Leader	8
2. Battery Specialist	6
3. Procurement Specialist	3
4. Finance Specialist/Economist	3
5. Environment/Clean Development Mechanism Specialist	2
6. Information, Education, and Communication Specialist	2
TOTAL	24
National Experts	
1. Electric Vehicle Specialist/Deputy Team Leader	23
2. Battery Specialist	18
3. Information, Education, and Communication Specialist	12
4. Procurement Specialist	11
5. Finance Specialist/Economist	7
6. Environment/Clean Development Mechanism Specialist	6
7. Monitoring and Evaluation (M & E) Specialist	18
TOTAL	95

75. **Other Relevant Information**

- Facilities to be provided by the Client: *[1. Office space at DOE, 2. Office chairs and tables, 3. Lightings and other office utilities.]*
- Assignment Location: Metro Manila (home office) and selected cities and municipalities in the Philippines (field).
- Field Schedule:

Phase I (2013-2014)

Location	Tentative Dates
<u>Metro Manila</u>	November 2012 – March 2013
Quezon City	Specific dates to be determined during

Caloocan City	Inception Mission
Makati City	
City of Manila	
Parañaque City	
Mandaluyong City	
Puerto Princesa City, Palawan	
Malay, Aklan (Boracay)	
Cabanatuan City, Nueva Ecija	
Lipa City, Batangas	
Tarlac City, Tarlac	
Sta. Cruz, Laguna	
Los Banos, Laguna	
Davao City, Davao del Sur	
Dagupan City, Pangasinan	

Phase II (2015-2017)

Location	Tentative Dates
<u>Metro Manila</u> Quezon City Caloocan City Makati City City of Manila Paranaque City Mandaluyong City	Specific dates to be determined during Midterm Review Mission
Puerto Princesa City, Palawan	July 2014
Malay, Aklan (Boracay)	November 2014
Cabanatuan City	January 2015
Lipa City	April 2015
Tarlac	July 2015
Davao City	November 2015
Dagupan City	November 2015

76. **Materials Recovery Component.** The Project implementation consultants will use the materials recovery framework for ICE tricycles and used batteries and in preparing an implementation plan for recycling or disposal aspects of the Project to be adapted in every participating LGU (notional budget of \$2 million). The Project will collect old ICE tricycles (both the side-car and the motorcycle) separately, following the requirements of United National Framework Convention on Climate Change (UNFCCC). Details are in supplementary document

77. **Reporting.** The Firm consultant will prepare the following reports: Quarterly progress reports that will include but not limited to: (a) introduction and basic data; (b) utilization of the funds (ADB Loan, co-financing and counterpart funds); (c) project purpose (status of project scope/implementation arrangements; assessment of changes in the key assumptions and risks; etc.); (d) implementation progress; (e) compliance with the loan covenants; (f) social and environmental reports; (g) grant reports; and (h) major project issues and problems.

VII. SAFEGUARDS

78. The project is categorized as C for environment, involuntary resettlement and indigenous people. The proposed project will bring positive environmental and socio-economic benefits since the e-trikes will have no tail-pipe air emission, almost no noise pollution, and will replace the petrol powered tricycles with lithium ion acid batteries. It is classified as category C for environment as it will have no adverse environmental impacts, accordingly no environmental assessment will be required although environmental implications need to be reviewed.

79. Under the e-trike project, there should be an overall framework to be developed on the proper handling of the old tricycles and used batteries. This framework should also include a template or a checklist and set of guidelines that could be adapted by each LGU for their specific situation. Monitoring mechanism should be in place to check compliance with the material recovery program that follows local regulations.

80. In addition to the principles embodied in the United Nations Framework Convention on Climate Change (UNFCCC) on environment protection, the provisions of national and local legislations such as the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 and the Ecological Solid Waste Management Act of 2000 should be observed.

81. The framework should apply to two types of material recovery: for old tricycles and used batteries. For used batteries, there should be separate guidelines on (i) used lead acid batteries and (ii) used lithium ion batteries. However, this framework and preliminary plans are not yet in place and to date there has been no consultation among the various stakeholders to clarify institutional responsibilities.

82. The specific objectives of this framework are:

- To analyze the regulatory, organizational and institutional coordination needs in the material recovery of old tricycles and used batteries;
- To review the collection, storage, transport, and recovery options for old tricycles, lead-acid batteries and parts; and
- To develop guidelines in old ICE tricycles and used acid battery management.
- To identify the specific roles and responsibilities of various institutions involved.

83. The Department of Energy will form an environmental working group composed of representatives from government and stakeholders such as the LGUs, Department of Interior

and Local Government (DILG), League of Cities and Municipalities, Environmental Management Bureau of the Department of Environment and Natural Resources (DENR), National Solid Waste Management Commission (NSWMC), Land Transportation Office/DOTC, Department of Science and Technology (DOST), the academe, NGO and recycling entities (such as Philippine Business for Social Progress, PBSP and the Philippine Recyclers Inc, PRI., Philippine Business for Environment, PBE.

84. Based on guidance from the environmental working group, project implementation consultants to be recruited later will develop and implement the following:

- a. Revised Framework for Material Recovery of ICE Tricycles and Used Batteries
- b. Template/Flow Diagram for LGU Material Recovery plan
- c. Environmental Sustainability and Implementation Action Plan for e-Trike project

VIII. GENDER AND SOCIAL DIMENSIONS

85. The social aspects of the Project are described in the Summary Poverty Reduction and Social Strategy. It has proven beneficial for poverty reduction and income generation.

86. Motorcycles/Tricycles are not only popular means of transportation, but are also important sources of livelihood to millions of Filipinos. Tricycles are more commonly used in urban areas and around town centers while motorcycle-taxis are used outside the city. A tricycle is a motorcycle with a sidecar (passenger-cabin) on a third wheel attached on a third wheel attached. It can accommodate 4 to 8 passengers depending on the cabin size. Tricycles are often used on narrower roads, especially on road where jeepneys or buses are usually not operating. A motorcycle-taxi has extended seats and sometimes extra shock absorbers at the rear. Motorcycle-taxis are common in rural areas, especially on farm roads.

87. A tricycle driver either rents or owns the unit he/she drives. Daily rent (locally referred to as “boundary fee”) is about ₱130 and the typical take home pay of the driver is about ₱240 per day. Drivers who own their units get at least ₱370 per day; some of them obtain their units on loan and pay monthly amortization (which means lesser daily net pay). Many drivers work nearly half a day and 7 days a week. There is also an undetermined number of small businesses nationwide engaged in fabrication and assembly as well as repair and maintenance of motorcycles/tricycles that provide jobs. On the average, a brand new motorcycle with 125 cc engine costs ₱75,000 (cash basis); for installment basis, down payment of about ₱4,000 and ₱3,600 monthly installments for 36 months (shorter loan terms are available). A sidecar costs ~~₱15,000–₱25,000~~ (may cost more depending on size).

88. The Project will support the promotion of local industry and supply chain for e-trikes that have a direct impact on tricycle drivers and entrepreneurs throughout the country. Tricycle drivers will receive a higher take-home pay on a daily basis and will have an improved quality of life as a result of higher wages and more time available to spend with family. In the Philippines, a typical tricycle driver uses about ₱250 worth (5 liters) of gasoline to drive 80 km in a day and can save about ₱200 a day by switching to an electric tricycle—for 80 km, an electric tricycle will consume about 7 kWh of electricity costing about ₱ 80. The Project will not displace or negatively impact on the livelihood of tricycle drivers/families and other individuals/groups engaged in the motorcycle/tricycle industry. Instead, the Project seeks to provide positive socio-economic benefits to tricycle drivers, local entrepreneurs, and their families.

89. The Project will also not involve displacement of households or have any detrimental effect or loss of income on the livelihood of residents or existing tricycle drivers. The project will have positive socio-economic benefits among direct beneficiaries. The project will not displace existing tricycle drivers, as beneficiaries will be chosen from among existing drivers. A sample survey of the 25 associations²⁷ of drivers/operators in Davao, showed that about 92% drivers were renters of the unit they drive and paid a daily “boundary fee”. A typical driver works an average of 13 hours a day, 7 days a week, drives about 70 km, receives about ₱540 a day, and pays about ₱170 for about 4 liters of gasoline. Typical take home pay is about Peso 240 after paying the boundary fee of about ₱130 a day. The average age of tricycle drivers interviewed was 39, about 80% were married with an average of three dependents, and 71% reached secondary degree of education.

90. Driver in Boracay operated on 24-hour basis (two to three drivers in shifts) the usual fare charge by the tricycles is ₱75 to ₱100 per trip, the average fuel consumption 6 litres (about P380). The average net daily income is about ₱700, and about 40% of the drivers own their tricycles. Switching from gasoline the fuel cost (cost of 3-4 kWh of electricity) will be less than ₱45 each day compared with ₱170 (saving ₱130) in Davao, P380 (saving ₱320) in Boracay, or about ₱240 (savings ₱200) in Mandaluyong. On an average fuel cost savings will be about P200 a day.

In addition, since the fabrication and assembly of the e-trikes may be largely domestic, the project will also transfer and promote development of local technology in the design and assembly of electric operated vehicles and create a net employment gain²⁸ of between 500 and 10,000 jobs by 2015.

91. The health care benefit of the project will be significant. A University of California Study²⁹ indicates the net present value of the cost savings stem from lower emissions of airborne pollutants, for the United States (24% adoption of electric vehicles) is between \$105 and \$210 billion when vehicles are charged using non-polluting sources of electricity and health care cost savings will remain positive even when electric vehicles are charged using the current electricity grid. Benefits of introduction of e-trikes will be significant for the Philippines population.

92. Current design of e-trike has incorporated women’s need with better seating arrangements. This will be improved in future designs. Female passengers will be consulted on the design aspects. Mobile phone charging facility inside the e-trikes will also be added for improved safety. For metro-Manila, we plan to consult women as focus group for the design. Since it is a replacement program scope for additional women drivers will be limited.

93. We will target that at least 30% operators of charging stations will be women (only during day-time shifts).

94. Women workers will also be trained to inspect the e-trikes for basic safety issues (road-worthiness, for example) and collection of e-trike data on every charge.

²⁷ ADB. 2011. *Moving Davao on the Green Road*. Consultant’s report. Manila (TA 7243-REG).

²⁸ Assuming a E-Trike assembly requiring 30 person-day of labor

²⁹ Electric Vehicles in the United States, A New Model with Forecasts to 2030: Center for Entrepreneurship & Technology (CET), Technical Brief, http://cet.berkeley.edu/dl/CET_Technical%20Brief_EconomicModel2030_f.pdf

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
Impact Sustainable energy use by the transport sector	<p>Number of cities using e-vehicles increased from below 10 (2012) to 40 by 2020.</p> <p>Air pollution in selected cities reduced by at least 20% (from the baseline measurement under the project)</p>	<p>E-vehicle registration data published by Land Transportation Office</p> <p>Annual report published by DENR on air quality</p>	<p>Assumptions</p> <p>Sufficient renewable energy investment in the power sector across the country</p> <p>Public transport use pattern will not be altered significantly by introduction of less expensive (electric) fuel.</p> <p>Risks</p> <p>Low demand for e-vehicle discouraging new investment</p>
Outcome Transformation of the public transportation through large-scale adoption of energy efficient electric vehicles, in particular e-Trikes	<p>By 2017: At least five manufacturing companies are established that are registered by the Board of Investments as new industries.</p> <p>At least three internationally reputable battery companies established active presence in the Philippines by 2017 (from none in 2011)</p> <p>At least 50% of the conversions outside the project boundary using lithium-ion batteries</p> <p>About 10,000 jobs created in this new industry (2012: less than 100 people)</p>	<p>Data published by the LGUs collected by project implementation consultants</p> <p>Published reports by DOE and the Board of Investments</p> <p>Market survey during the midterm review</p> <p>Annual report submitted by Tricycle Regulatory Office at each LGU covered by the project</p> <p>LGU's public employment service office annual report</p> <p>TESDA report on job generation from due to completed e-vehicle trainings</p>	<p>Assumptions</p> <p>Locally made e-trike will meet its expected design life.</p> <p>Enough local technical expertise is available to support the local industry.</p> <p>No significant change in oil price</p> <p>Risks</p> <p>Multiple layers of government intermediary and insufficient LGU capacity to manage and support the project</p> <p>Poor quality of manufactured e-trikes undermining technology credibility and project viability</p> <p>Significant increase of electricity prices and power shortages in specific areas</p> <p>Inadequate capacity of local industry to meet demand</p> <p>Efficient supporting industry will not be set-up to supply quality spare parts</p>
Outputs <u>1. E-trike units</u> Complete e-trike units delivered to LGUs with standard 3-year warranty <u>2. Battery supply chain</u> Lithium-ion battery supply chain, including support infrastructure, created	<p>At least 20,000 e-trikes operating by December 2014; 50,000 by 2015; and 100,000 by 2017</p> <p>At least two retailers distributing lithium-ion and other high-energy-density batteries locally</p>	<p>Project progress reports</p> <p>Reports from Tricycle Regulatory Office of LGUs</p> <p>Industry commission and Board of Investments reports</p> <p>Report from Securities and Exchange Commission</p>	<p>Assumptions</p> <p>The project will transform local industry and will be able to attract overseas investors to partner with local businesses, enabling technology transfer and employment generation.</p> <p>Government commitment to e-trikes will continue and the government will resolve registration and franchise issue across the country.</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks																
<p><u>3. Solar and grid-connected charging stations</u> Solar and other charging stations available in selected areas to meet the public charging needs</p> <p><u>4. Material recovery</u> Collection of used batteries and old ICE tricycles: (i) recycling of lithium-ion batteries and (ii) body disposal</p> <p><u>5. Communication, social mobilization, and technology transfer</u></p>	<p>Five solar charging stations of 200 kilowatts each established by 2014.</p> <p>At least 100 locally assembled charging stations are installed in selected project areas by 2017.</p> <p>At least 30% of operators of public charging stations are be women (only for daytime shifts).</p> <p>Battery-recycling options are studied and recommendations implemented by 2017.</p> <p>Targeted beneficiaries attended operations and maintenance workshops conducted by accredited institutions (at least one workshop per LGU, total 10 workshops by 2017).</p>	<p>Project progress reports</p> <p>Project progress reports</p>	<p>Acceptance of e-trikes by drivers and passengers is ongoing.</p> <p>The project will be able to attract reputable lithium-ion battery manufacturers and/suppliers to the Philippines.</p> <p>Local manufacturing will be able to meet the project demand.</p> <p>Risks</p> <p>Cheaper and poorer-quality lithium ion batteries</p> <p>Stakeholder acceptance of lease-to-own e-trike scheme, and non-payment by e-trike drivers</p> <p>Accidents and unforeseen events undermining e-trike technology</p>																
Activities with Milestones			Inputs																
1. E-trike units			ADB: \$ 300.00																
<p>1.1 Sign memorandum of agreement between DOE, Landbank, and LGU (intermittent per LGU) (1 January 2013 – 31 March 2015)</p> <p>1.2 Finalize prequalification documents for goods package (1 June 2012–30 June 2012)</p> <p>1.3 Conduct prequalification activity and evaluation for goods package (30 June 2012–31 March 2015)</p> <p>1.4 Conduct procurement activity from advertisement, bid submission, and bid evaluation to contract award (intermittent eight packages, (1 November 2012–31 December 2015)</p> <p>1.5 Deliver and distribute e-trikes to LGUs (for drivers) and sign supply and maintenance agreement between supplier and LGU (1 June 2013 – 31 December 2016)</p>			<table><tr><th>Item</th><th>Amount (\$ million)</th></tr><tr><td>Lithium-ion battery</td><td>18.80</td></tr><tr><td>E-trike body and other parts</td><td>211.20</td></tr><tr><td>Motors</td><td>37.84</td></tr><tr><td>Supporting infrastructure</td><td>6.29</td></tr><tr><td>Consulting support</td><td>0.73</td></tr><tr><td>Contingencies</td><td>10.70</td></tr><tr><td>Financial charges during implementation</td><td>14.44</td></tr></table>	Item	Amount (\$ million)	Lithium-ion battery	18.80	E-trike body and other parts	211.20	Motors	37.84	Supporting infrastructure	6.29	Consulting support	0.73	Contingencies	10.70	Financial charges during implementation	14.44
Item	Amount (\$ million)																		
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Supporting infrastructure	6.29																		
Consulting support	0.73																		
Contingencies	10.70																		
Financial charges during implementation	14.44																		
2. Battery supply chain			CTF Loan: \$ 100.00 million																
<p>2.1 Conduct procurement activity and sign supply and maintenance agreement between suppliers and LGUs (for drivers) (see output 1 schedule) (1 November 2012–31 December 2015)</p> <p>2.2 Establish a service center per LGU (1 June 2013 – 31 December 2016)</p>			<table><tr><th>Item</th><th>Amount (\$ million)</th></tr><tr><td>Lithium Ion battery</td><td>100.0</td></tr></table>	Item	Amount (\$ million)	Lithium Ion battery	100.0												
Item	Amount (\$ million)																		
Lithium Ion battery	100.0																		
3. Solar charging stations			CTF Grant: \$ 5.00 million																
<p>3.1 Select electricity provider for each area (1 January 2013–31 May 2014)</p> <p>3.2 Sign each memorandum of agreement between electricity provider, LGU, and DOE (1 January 2013–31 December 2014)</p>			<table><tr><th>Item</th><th>Amount (\$ million)</th></tr><tr><td>Solar charging station pilot</td><td>4.00</td></tr><tr><td>Consulting support</td><td>1.00</td></tr></table>	Item	Amount (\$ million)	Solar charging station pilot	4.00	Consulting support	1.00										
Item	Amount (\$ million)																		
Solar charging station pilot	4.00																		
Consulting support	1.00																		
			Government: \$ 99.00 million																
			<table><tr><th>Item</th><th>Amount (\$ million)</th></tr><tr><td>Contingencies</td><td>47.75</td></tr><tr><td>Taxes</td><td>51.25</td></tr></table>	Item	Amount (\$ million)	Contingencies	47.75	Taxes	51.25										
Item	Amount (\$ million)																		
Contingencies	47.75																		
Taxes	51.25																		

<p>3.3 Finalize technical specifications for charging stations per LGU (1 January 2013–31 December 2013)</p> <p>3.4 Conduct procurement activity from advertisement, bid submission, bid evaluation to contract award, turnkey package for solar charging stations in Boracay and Puerto Princesa (1 July 2013–31 December 2013)</p> <p>3.5 Install solar charging stations (1 January 2014– 30 June 2014)</p> <p>4. Materials recovery</p> <p>4.1 Finalize material recovery plan for batteries and old tricycles (1 January 2013–31 December 2015)</p> <p>4.2 Allocate budget for each LGU and designate area for collection and disposal (1 March 2013–31 March 2016)</p> <p>4.3 Develop database of old tricycles in each LGU (1 January 2013–31 December 2016)</p> <p>5. Communication, social mobilization, and technology transfer</p> <p>5.1 Conduct implementation-related training for project management unit, selected LGUs, and other related agencies, and establish technical working group to prepare material recovery plan (intermittent, 1 January 2013–31 December 2016)</p> <p>5.2 Prepare and implement general information, education, and communication plan for each LGU (1 January 2013–31 December 2016)</p> <p>5.3 Undertake training and workshop on technical operation and maintenance of e-trikes (1 June 2013–31 June 2017)</p>	
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ADB = Asian Development Bank, ADB CTF = ADB Clean Technology Fund, DOE = Department of Energy, LGU = Local Government Unit

Source: Asian Development Bank

B. Monitoring

95. **Project performance monitoring** EA will undertake overall monitoring of the Project in terms of progress. ADB, the Government and EA/IAs will conduct semiannual reviews throughout the implementation of the Project. The review will monitor the (i) project output quality, (ii) implementation arrangements, (iii) implementation progress, and (iv) disbursements. Performance will be monitored based on indicators and targets stipulated in the design and monitoring framework. The EA and IAs will identify and maintain profiles of new project recipients as baseline data for the post project analysis.

96. **Compliance monitoring:** In addition to the standard assurances, compliance with the specific assurances will be monitored. They will be based on the Project Agreement as well as include Consulting Services, Procurement and Disbursement Guidelines. All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants* (2010, as amended from time to time). The procurement of goods, related services, and works financed by the grant will follow procedures outlined in the ADB's *Procurement Guidelines* (2010 as amended from time to time). The grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2010, as amended from time to time).

97. **Safeguards monitoring:** The Government shall ensure that the implementation of the Project shall be conducted in a manner consistent with: (i) the Government's environmental laws and regulations; and (ii) ADB's *Safeguards Policy Statement* (2009). In the event there is a conflict, then the provisions under the Safeguard Policy Statement (2009) shall prevail.

C. Evaluation

98. The mid-term review will finalize the cities selected to be included in Phase II, and describe in detail the Phase II implementation and procurement plan. For Phase II to proceed, (i) at least 85% of the 20,000 e-trikes have been acquired and deployed and (ii) a score of 750 out of 1000 is attained based on the following criteria below. The overall implementation schedule is conservative, taking into account the nascent state of the industry. The criteria for concluding the initial industry development phase are:

Table 1: Criteria for Phase II Implementation

Item		
1	At least three battery suppliers have established local presence and involvement in the E trike project.	300
2.	At least 85% of beneficiaries have on-schedule repayments	200
3.	At least five body manufacturing businesses are operating and can produce at least 50 units per month.	200
4.	At least three leasing operations are present and participating in the project.	100
5.	Multiple national vehicle charging business has been established (with at least 100 charging stations).	200

Source: ADB staff and DOE project team

99. Within 6 months of physical completion of the Project, EA will submit a project completion report to ADB.³⁰

D. Reporting

100. The Department of Energy will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the Project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency AFSs, together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

1. Project Communication Requirements

101. **Establishment of a Local e-Trike Manufacturing and Supply Industry.** A local e-Trike manufacturing and supply industry will be created targeting multiple levels of the value chain: e-Trike assembly, lithium ion battery assembly, lithium ion battery leasing, charging station assembly, and overall leasing or banking operation. Communication strategies will include:

- (i) Development of an e-Trike website with information regarding the project and notification of opportunities to bid;

³⁰ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

- (ii) Use of a social media platform (Facebook, Twitter) to keep stakeholders informed of developments on a regular basis;
- (iii) Informal industry meetings to answer questions throughout the process; and
- (iv) More formal meetings to engage stakeholders, introduce potential partners, and maintain an open dialogue with the industry.

102. **Coordination with Participating Local Government Units (LGUs).** LGUs will play a critical role in multiple aspects of the project: establishing a local legal and regulatory framework for the e-trikes; implementing a successful distribution strategy for the e-trikes; garnering public support; and minimizing environmental impact by properly disposing of conventional tricycles. In order to identify, select, and work with participating LGUs, the following methods will be employed:

- (i) DOE will target LGUs with an initial letter inviting an expression of interest and outlining the required regulatory framework;
- (ii) Meetings will be held with targeted LGU officials in order to gauge the level of commitment to the project;
- (iii) Letters, meetings and presentations will continue to keep LGU officials, ADB staff, and the DOE informed of project developments; and
- (iv) Brochures will be available for LGUs to distribute to interested parties.

103. **Consumer Education and Public Awareness.** The e-trikes allotted to each LGU will be distributed as conventional tricycles are phased out. Education and awareness will be increased through promotional methods and materials that will include the following:

- (i) As LGUs are selected, workshops will be held in the community to educate drivers on the operation and benefits of e-trikes (multiple workshops can take place, which can also be expanded to include the larger community);
- (ii) Newspaper and other media announcements will discuss the project and the benefits to the community;
- (iii) Banners, brochures and other promotional materials can be distributed at roll-out events to introduce the e-trikes to the public; and
- (v) Follow-up information sessions and workshops can be held to assess the impact of the e-trikes throughout implementation.

104. **Civil Society Outreach and Awareness.** As civil society stakeholders were highly interested in the project design, the project will continue to reach out to interested civil society stakeholders. Activities will include the following:

- (i) Invitation to participate in specialized working groups that the project includes;
- (ii) Participation at roll-out events, including occasional speaking opportunities at such events to share a civil society perspective;
- (iii) Opportunities to help communicate project information as appropriate, such as by distributing promotional materials at events related to energy efficient transport;
- (iv) Other events and opportunities as indicated by civil society stakeholders.

2. Social Mobilization Requirements

105. Promotional materials to be used include:

- (i) Information kits on electric tricycles, electric vehicles, and lithium ion battery technology to be used in workshops and capacity-building activities;
- (ii) Letters and information to stakeholders, users, legislators, potential financial partners, policymakers and similar groups to lead policy changes, build ownership, and increase project participation; and
- (iii) Information to industry groups, e.g., tricycle manufacturers, battery leasing and assembly companies, financial institutions, and others related to the electric vehicles industry.

3. Stakeholders Workshop for the Materials Recovery Component.

106. The Department of Energy should organize a consultation among various representatives from government and stakeholders such as the LGUs, Department of Interior and Local Government (DILG), League of Cities and Municipalities, Environmental Management Bureau of the Department of Environment and Natural Resources (DENR), National Solid Waste Management Commission (NSWMC), Land Transportation Office/DOTC, Department of Science and Technology (DOST), the academe, NGO and recycling entities (such as Philippine Business for Social Progress, PBSP and the Philippine Recyclers Inc, PRI., Philippine Business for Environment, PBE, to elicit consensus on the framework and to identify the specific plans to be prepared once the project is implemented. Project implementation consultants will be recruited later but they should receive clear directions on their terms of reference.

107. This proposed consultative workshop will consist of around 20-25 participants from the above institutions that would meet for a half-day to one-day consultation and workshop to (i) review and refine the draft Framework for Material Recovery of ICE Tricycles and Used Batteries, (ii) identify the best model/template to be adapted by the respective LGUs, and (iii) prepare the Action Plan during implementation of e-Trike. The consultation is expected to come up with ideas and comments for the following desired outputs: (i) Revised Framework for Material Recovery of ICE Tricycles and Used Batteries; (ii) Template/Flow Diagram for LGU Material Recovery plan; (iii) Environmental Sustainability and Implementation Action Plan for e-Trike project.

108. Consultative workshops and other consensus building activities may be planned on an as-needed basis. These components will be procured using national competitive bidding as this will require extensive travel in the country and understanding of local transportation needs, culture and customs.

109. Consultative workshops and other consensus building activities may be planned on an as-needed basis. These components will be procured using national competitive bidding as this will require extensive travel in the country and understanding of local transportation needs, culture and customs.

X. ANTICORRUPTION POLICY

110. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.³¹ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project.³²

111. To support these efforts, relevant provisions are included in the loan agreement and the bidding documents for the Project.

XI. ACCOUNTABILITY MECHANISM

112. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.³³

XII. RECORD OF PAM CHANGES

113. All revisions/updates during course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

114. The succeeding changes in implementation arrangements have been approved by ADB on 12 October 2017 and will replace pages 21-28 of the existing PAM.

I. FUNDS FLOW ARRANGEMENTS, AGREEMENTS, AND DELIVERY OF E-TRIKE UNITS

A. Summary

1. The Department of Energy (DOE) will distribute the E-Trike units through (i) Sale and (ii) Donation. Sales can be through (i) direct sales to local government units (LGU)/ government agencies, and (ii) public auction to private entities. Donation is only available to government agencies that will be selected by DOE as partner in the implementation of the E-Trike Project and the assumption of ownership of the E-Trikes is subject to the Deed of Donation.

2. Prior to the distribution of E-Trikes, one or more of the following shall be put in place, as applicable:

³¹ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

³² ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

³³ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

- (i) in case of a sale, a Purchase Agreement between the DOE and Purchaser³⁴ that details the agreed Purchase Price³⁵ of the E-Trike units and other financial and non-financial terms and conditions;
- (ii) in case of a loan, Loan Agreement between the Purchaser and financial institution that covers or partially covers the payment of the Purchase Price of the E-Trike; and
- (iii) in case of a donation, Deed of Donation between DOE and Recipient³⁶ LGUs/government agency that details the agreed terms and conditions that will need to be fulfilled.

3. For E-Trikes distributed through Sales, the financial terms and payment arrangements shall be as follows:

- (i) for LGUs/Government Agencies Purchasers (for direct sales): payment through the Land Bank of the Philippines (LBP) or other financial institutions and one or a combination of the following, as applicable:
 - (a) deferred payments,
 - (b) loan from LBP and other financial institutions, and
 - (c) lump sum payments;
- (ii) for Private Purchasers through Auction: Purchasers under this mode are required to pay for the units via cash payment either through direct bank transfer, cash, manager's check, cashier check, or personal check.

4. The E-Trikes will be distributed in the following steps: (i) ADB will disburse the loan proceeds to the competitively selected Supplier directly upon DOE's request (withdrawal application); (ii) DOE will identify the purchasers/recipients and enter into relevant agreements; and (iii) the Supplier will deliver the E-Trikes to purchasers/recipients in accordance with DOE's instructions.

5. Purchasers will be responsible for meeting E-Trike purchase payments in accordance with their Purchase Agreement with the DOE and/or financial institution, as applicable. If applicable, Purchasers will also be responsible for the collection of funds from drivers from which such E-Trike purchase payments might be made.

³⁴ "Purchasers" here refers to: (i) Government agencies (including LGUs) that meet DOE's Government Agency E-Trike Purchaser Criteria and buy E-Trike units through a "Purchase Agreement" with the DOE; and (ii) private parties that meet DOE's Private Party E-Trike Purchaser Criteria and buy E-Trike units through an auction only open to such qualified private parties. For both cases, the DOE's Government Agency E-Trike Purchaser Criteria and Private Party E-Trike Purchaser Criteria must be approved by ADB prior to respective sales.

³⁵ "Purchase Price" here refers to the amount to be accepted by DOE for the Purchasers' acquisition of the E-Trike units. DOE may offer the E-Trike units according to one or several of the following: (i) equal to the contracted supply cost; (ii) a purchase price for government purchasers which includes discounted price; (iii) a bid/auction price for private purchasers through auction sale; and (iv) other mechanisms determined by the DOE and approved by the ADB.

³⁶ "Recipient" here refers to LGUs and government agencies that meet DOE's E-Trike Recipient Criteria and execute a "Deed of Donation". The E-Trike Recipient Criteria must be approved by ADB. The Deed of Donation must detail the terms and conditions for the transfer of the E-Trike units from the DOE to the Recipient. The Recipient shall be required to perform its obligation under the "Deed of Donation;" failure to do so will give the DOE the right to repossess the E-Trikes.

B. Arrangements

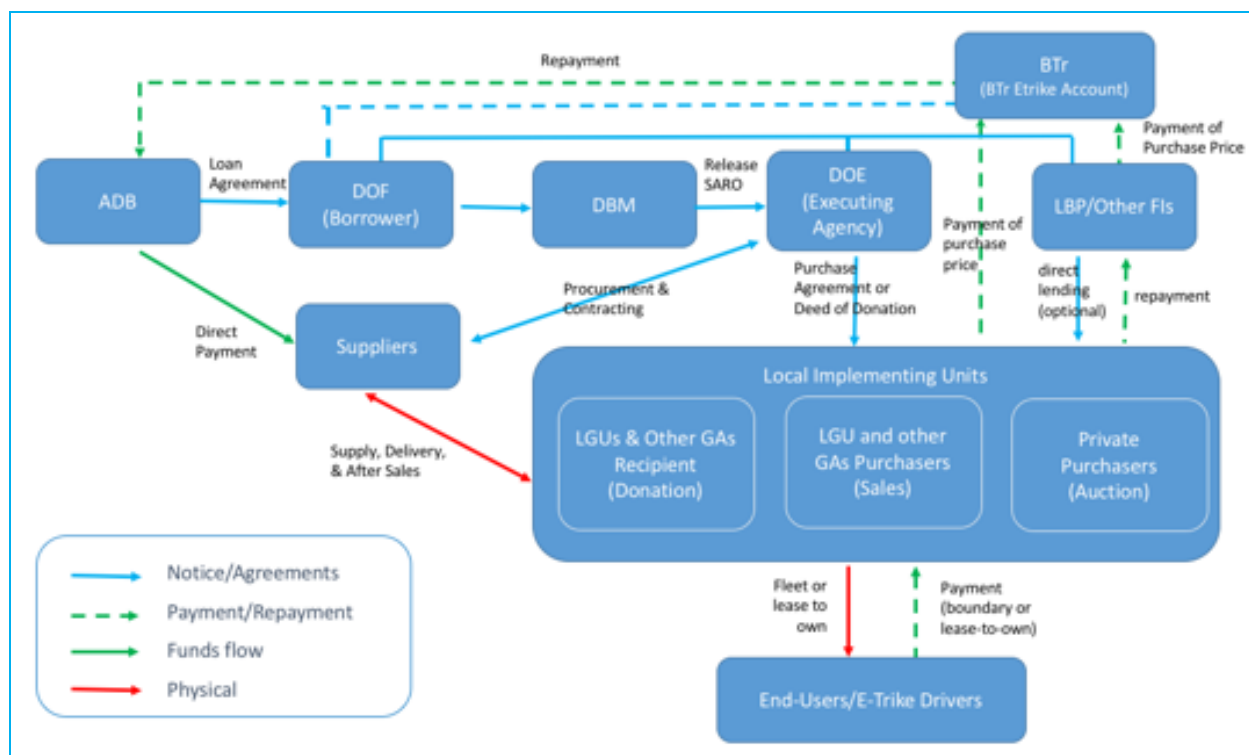
6. DOE, as the executing agency, will procure the E-Trikes following ADB's Procurement Guidelines (2015, as amended from time to time) through international competitive bidding, and will instruct the Supplier to deliver the E-Trikes directly to the concerned Purchaser or Recipient. ADB will directly disburse the loan proceeds to the Supplier once ADB has received withdrawal application from the DOE.

7. The following text describes these arrangements in steps, which are also depicted in the figure below:

- (i) DOE, the Department of Finance (DOF), and LBP (or other financial institutions) will execute a tripartite memorandum of agreement indicating their individual responsibilities in the E-Trike Project.
- (ii) ADB and DOF will sign a Project Loan Agreement. DOF will be the borrower on record.
- (iii) The Department of Budget and Management will issue the Special Allotment and Release Order to DOE for the E-Trike and non-E-Trike component of the ADB loan.
- (iv) DOE, as the project executing agency (and Project procuring and selling entity) will conduct an information, education and communication campaign to prospective purchasers for the purpose of obtaining firm orders and/or selecting donation Recipient LGUs/Government Agencies for the implementation of the E-Trike Project.
- (v) DOE will offer the E-Trikes to Purchasers/Recipients which may be:
 - (a) LGU and other government agency purchasers through direct sales; or
 - (b) LGU and other government agencies identified by the DOE as Recipient of the units under a Deed of Donation arrangement.
- (vi) Private purchasers through auction. Purchasers may enter into a loan agreement with LBP or other financial institutions. Government Purchasers may also opt for a deferred payment arrangement and/or a lump sum payment arrangement and/or they may be selected for a Deed of Donation arrangement.
- (vii) DOE will conduct bidding (procurement) activities to procure the E-Trikes.
- (viii) Supplier will deliver the E-Trike units once agreements with the Purchasers/Recipients are in place.
- (ix) Subject to the conditions set in the Contract with the E-Trike Supplier, DOE will notify ADB to disburse loan proceeds to the Suppliers.
- (x) Subject to the conditions set in respective Purchase Agreements and /or financial institutions loan agreement, DOE will issue billing statements to Purchasers.
- (xi) Purchase payments for all delivered E-Trike units shall be made payable to the "BTr³⁷ E-Trike" account at LBP Intramuros Branch.

³⁷ BTr means Bureau of Treasury.

Figure 1: Funds Flow Arrangement, Agreements, and Physical Delivery of E-Trike Units

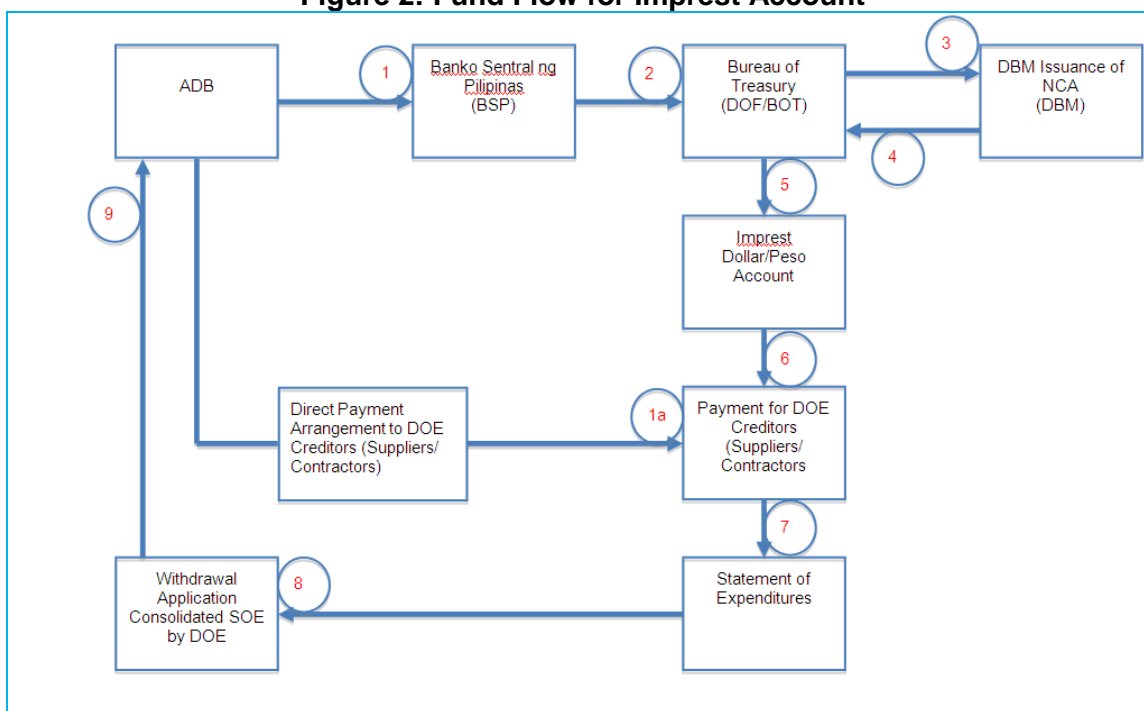


ADB = Asian Development Bank, BTr = Bureau of Treasury, DBM = Department of Budget and Management, DOE = Department of Energy, DOF = Department of Finance, GA = Government Agencies, IEC = information, education and communication, LBP = Land Bank of the Philippines, LGU = local government unit, SARO = special allotment and release order.

Note: Payment of purchase price is for sales and auction mode only.

C. Fund Flow for Smaller Components

8. While the procurement of the E-Trike units will be paid through direct payment procedure, the others smaller components will be paid through the Imprest Account using the Statement of Expenditure method and the funds flow will be as shown below.

Figure 2: Fund Flow for Imprest Account

II. DELIVERY MECHANISM

9. The Executing Agency will distribute the E-Trike units in accordance with the following Distribution Options.

A. Distribution Options

1. Direct Sales to Local Government Units and Other Government Agencies

10. For direct (including discounted) sales to LGUs and other government agencies, the project will directly offer the E-Trike units to the LGUs and other Government Agencies. DOE and LGUs/Other Government Agencies Purchasers will execute a Purchase Agreement for the latter's acquisition of the E-Trike units.

11. Payments by the Purchasers under this mode can be made by one or a combination of the following:

- (i) deferred payments,
- (ii) loan from LBP and other FIs, and
- (iii) lump sum payments.

12. LGU and other government agency Purchasers may directly operate the E-Trike business or engage/hire a fleet operator for the operation, management, and maintenance of the E-Trikes at the local level.

2. Deed of Donation to Selected Local Government Units/ Government Agency Recipients

13. Under the Deed of Donation model, the Recipient LGUs and Government Agencies will be selected based on meeting one or more of the following criteria:

- (i) LGUs with tourism/historical significance,
- (ii) LGUs recently affected by natural and/or man-made calamities (“Build back better opportunities.”),
- (iii) LGUs with existing ordinances in support of or give preference to electric vehicles,
- (iv) LGUs with existing electric vehicles in their localities,
- (v) LGUs with poor air-quality due to tricycle emissions,³⁸ and
- (vi) LGUs who will facilitate the set-up charging infrastructure and demonstrated a plan to sustain the project.

14. For any round of donation, the selection criteria, selection process, conditions, and agreements will be formulated by DOE and submitted to ADB for no-objection. DOE will then execute a selection process and enter into Deeds of Donation with the Recipient LGUs/Government Agencies for the transfer of the ownership of the E-Trike units. The following conditions, among others, will be set forth in the Deed of Donation to the Recipient LGUs/Government Agencies:

- (i) implement a plan for phasing out old or two-stroke engines from their locality;
- (ii) collect fees during the warranty period coverage to be used for ensuring sustainability of the local project;
- (iii) facilitate the setup of charging facilities and locations, including the issuance of necessary permits to build and operate the charging station;
- (iv) issue permits, licenses, and/or franchise agreements to provide for the operation of the E-Trikes;
- (v) supervise and monitor the e-trike and project performance through the Tricycle Regulatory Office or its equivalent; and
- (vi) report regularly on the local project and submit to the DOE.

3. Auction Sales

15. Under this option, DOE will undertake auctions in a phased manner whereby the number of E-Trikes to be sold at each auction shall be decided based upon market assessment. Private sector auction shall be open to all private parties that meet DOE’s Private Party E-Trike Purchaser Criteria. The Private Party E-Trike Purchaser Criteria will be formulated by DOE and subject to a no-objection by ADB.

16. Auction reserve prices will be based on a market assessment and take government appraised value into consideration. DOE will formulate the auction terms and procedures and submit, along with analytical justification, to ADB for no-objection. Upon receipt of ADB’s no-objection, auction dates and procedures will be advertised on the DOE website and published in major newspapers.

³⁸ Department of Environment and Natural Resources airshed quality measurements.

4. Demonstration Units

17. Some of the units procured may be used for demonstration purposes. After demonstration, the DOE may sell or donate the units as per distribution options described in Section 4.1 (i), (ii), and (iii) and following the no-objection process describe in para 42, clause (i).

B. Other Strategies

18. Other options to lower the price of the E-Trikes and make them attractive to the purchasers will also be considered. Among these strategies are as follows:

- (i) **Separate the E-Trike and the battery certificates of ownership.** This would likely be carried out in conjunction with a charging station strategy. By separating the e-trike and battery ownership, the e-trike buyer only pays for the e-trike less the battery, and the charging station owner pays for the battery, but can require the e-trike owner to patronize that charging station until the value of the battery is fully paid for;³⁹
- (ii) **Old gasoline tricycle trade-in program.** Owners of old gasoline tricycle can trade-in their e-trikes to the LGU (or their appointed private partner) to get a discount on a new e-trike based on the offered rebate value of the surrendered gasoline tricycle. This also achieves the Program's aim of replacing old gasoline tricycles with e-trikes (noting that gasoline tricycles are privately owned and cannot simply be confiscated); and
- (iii) **Encourage private participation in charging stations.** This may be done in conjunction with the battery ownership scheme. The DOE (or the LGU) can encourage private entities to setup charging stations in the planned areas of operation of the E-Trikes, and support these with the proper legal framework, permits, and whatever encouragement incentives are required.

C. E-Trike Business Models

19. Local implementing units may implement the E-Trike Project in accordance to the business models set out below.

1. E-Trike Lease-to-Own Model

20. The drivers will pay a daily boundary fee (rental payments) for about five years towards owning the vehicles. The following text explains the broad arrangement:

- (i) Purchasers/Recipient will enter into a "rent-to-own agreement" with the drivers.
- (ii) Drivers will remit a daily agreed "*hulog*" (similar to boundary system) to the Purchaser/Recipient.
- (iii) If financed through loan from a financial institution, Purchaser will pay the agreed loan amortization to the financial institution.
- (iv) Purchaser/Recipient will enter into Contracts of Sale with drivers and issue any required franchise.

³⁹ Subject to the negotiation with the Supplier.

- (v) Purchaser/Recipient will transfer ownership of the E-Trike to drivers once all due payments have been received. Recipients, however, can only transfer the units if the conditions of the Deed of Donations are fulfilled.

2. Fleet Operation Model

21. LGU and Government Agency Purchasers or Recipients may operate the e-trike units as a “fleet”. They may contract a Third Party for the operation, management, and maintenance of the units at the local level. Recipient LGUs/GAs, however, are restricted from resale of the units until the warranty period and the conditions of the Deed of Donation are fulfilled.

3. Other models

22. Other business models may be allowed subject to ADB’s no objection.

D. Selection of E-Trike Drivers

23. All drivers should have a Professional Driver’s License. The final selection criteria for each round of e-trike distribution will be formulated by DOE and will be implemented subject to ADB’s no-objection.

24. Each driver will also be required to complete a training program covering the following:

- (i) a general introduction to electric vehicles and e-trikes specifically;
- (ii) a summary of e-trikes as a solution to economic development and environmental stewardship;
- (iii) the personal income effects of driving an e-trike;
- (iv) a presentation of basic parts of the e-trike and their function relative to internal combustion engine tricycles;
- (v) a “How To” on charging e-trikes;
- (vi) a safety overview;
- (vii) driving instructions that include proper driving habits for safety, efficiency and convenience; and
- (viii) basic maintenance, troubleshooting and repair and discussion on institutional operation, local laws, agreements on e-trike use, repayment responsibilities, warranty, charging and other common concerns and frequently asked questions.

25. Information materials will be designed and provided by the E-Trike Supplier with clear illustrations and information conveyed in the local dialect and will be distributed during training. It will cover: (i) how to operate and charge the E-Trike, (ii) what not to do to an e-trike, troubleshooting, (iii) and maintenance contact information.

E. Materials Recovery Strategy

26. DOE will ensure that there is mechanism for the collection of existing passenger cabins of tricycles and used batteries (lead-acid from old tricycles and spent lithium-ion ones from E-Trikes). The framework for the material recovery and disposal allows for the following options for disposal and waste management:⁴⁰

⁴⁰ Documents to be made publicly available.

1. Disposal of Old Tricycles

- (i) disposal through recycling centers (junk shops), and
- (ii) disposal of complete old tricycle unit through trade-in system.

2. Disposal of Used Batteries

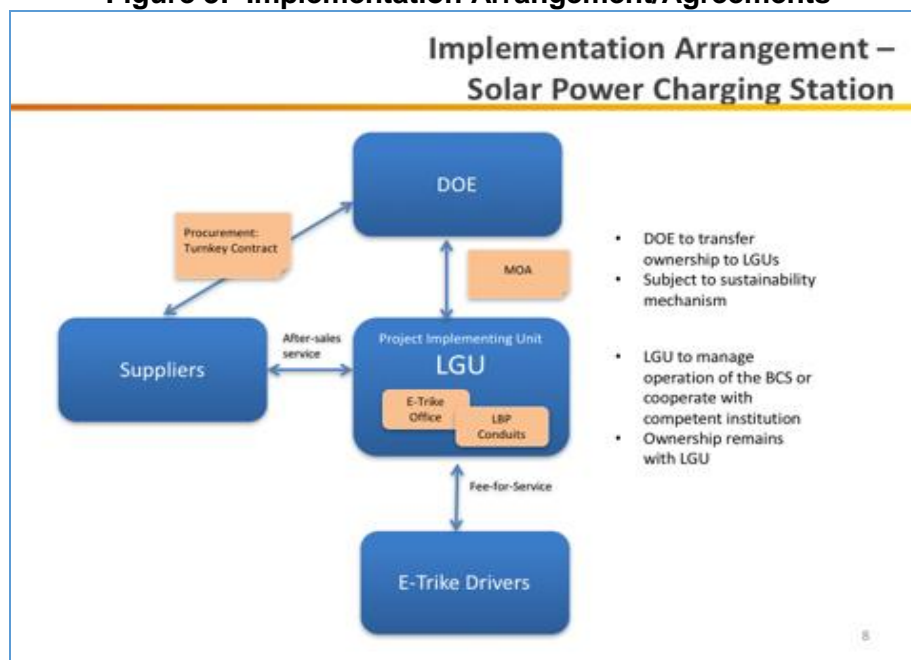
- (i) through existing DENR-accredited hazardous waste Treatment, Storage, and Disposal facilities;
- (ii) through the “*Balik-Bateria*” Program; and
- (iii) through the buy back or trade-in system with battery dealers/suppliers.

27. For e-trike deployment that involves retirement of old and two-stroke engines, DOE will formulate a plan for materials recovery to be submitted for ADB's no objection. DOE will also formulate a plan for recovery of spent lithium ion batteries, to be submitted for ADB no-objection, and to be implemented in parallel with the project implementation.

F. Implementation Arrangement for the Solar Battery Charging Stations

28. DOE will formulate technical specifications for the solar charging station systems that can charge 10–15 e-trike units in consultation with technical advisors and LGUs. DOE, as the executing agency, will procure the supply, delivery, installation, and commissioning (turnkey) of the solar powered battery charging stations in areas identified by DOE following ADB's Procurement Guidelines (2015, as amended from time to time).

Figure 3: Implementation Arrangement/Agreements



29. Supplier/s of the stations will be required to provide after-sales service support to ensure that the systems are functioning consistent with any “defects liability” provisions of the contract.

30. DOE will transfer ownership of the charging stations to LGUs or other government agency through a Memorandum of Agreement. The LGU or government agency may directly manage the operation of the battery charging station or may execute a partnership agreement

with an appropriate institution (i.e., electric cooperative in the area or implementing LBP conduits) for the operation and maintenance of the charging station. The LGU or government agency will also provide for the land and/or sky-space where the charging station will be installed. For grid-tied solar charging stations, the recipient LGU will be encouraged to execute a net metering arrangement with the distribution utility.

31. DOE will formulate selection criteria subject to ADB's no-objection.

G. Division of Roles and Responsibilities

32. Responsibilities of LGU under the Tricycle Regulatory Office:

- (i) The tricycle regulatory office at each LGU will continue its regulatory roles and will undertake additional E-Trike Project functions.
- (ii) Pass ordinance which contains:
 - (a) authority for the Mayor to sign agreements on E-Trike;
 - (b) phasing out of old or 2-stroke tricycles;
 - (c) support to E-Trike project, facilities, businesses; and
 - (d) provide budget allocation, in-kind distribution and logistic support to establish E-Trike office.
- (iii) Identify areas for charging stations:
 - (a) address safety and regulatory aspects including permits from electricity authorities;
 - (b) identify location in consultation with Tricycle Operators and Driver's Association and E-Trike office; and
 - (c) ensure right of way.
- (iv) Execute the following legal instruments as necessary:
 - (a) loan agreement with LBP or other financial institutions,
 - (b) purchase agreement/Deed of Donation with DOE,
 - (c) lease to own agreement with drivers, and
 - (d) contract of sale with drivers after full payment.
- (v) Closely coordinate with the electricity provider to ensure:
 - (a) all legal and regulatory issues are addressed, and
 - (b) sufficient supply of electricity for E-Trikes.
- (vi) Assist supplier on the following:
 - (a) securing business licenses,
 - (b) registration of E-Trikes, and
 - (c) access on tricycles, drivers, demands data for improved project design.
- (vii) Carry out additional functions, including:
 - (a) establish an account that is ring fenced from the LGUs core activities and send quarterly financial reports to DOE,
 - (b) develop a list of E-Trike recipients or a data base listing in their locality, and
 - (c) ensure the implementation of the terms and conditions of the applicable contract (e.g. Purchase Agreement, Deed of Donation, etc.).

33. Responsibilities of DOE:

- (i) Before each recipient selection/sale event, DOE will formulate and submit for ADB's no objection all relevant documents detailing the criteria, processes, and agreements. This will include the following:
 - (a) rationale for the distribution method (sale, donation, auction) at the current time,
 - (b) purchaser/Recipient selection criteria and process,
 - (c) any required payments and the basis for said payments,
 - (d) business model for e-trike use,
 - (e) driver selection criteria and process,
 - (f) template agreements including conditions and consequences of non-compliance, and
 - (g) any other relevant documents or analysis pertaining to the selection/sale event.
- (ii) DOE will be responsible for oversight of the implementation of the e-trike programs at the local level to ensure that Recipients and Purchasers are in compliance with any conditions set forth in the agreements.
- (iii) DOE will ensure the material recovery program is implemented in accordance with the strategy set forth in the project administration manual.