



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZE PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

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PART I: PROJECT INFORMATION

Project Title:	Promotion of Low Carbon Urban Transport Systems in the Philippines		
Country(ies):	Philippines	GEF Project ID: ¹	5717
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5304
Other Executing Partner(s):	Department of Transport and Communications	Submission Date:	06 March 2014
		Resubmission Date:	18 March 2014
GEF Focal Area (s):	Climate Change	Project Duration(Months)	48
Name of parent program (if applicable):	N/A	Agency Fee (\$):	250,774
<ul style="list-style-type: none"> • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> 			

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK²:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCM-4	GEFTF	2,639,726	15,840,000
Total Project Cost		2,639,726	15,840,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Creating an enabling environment for the commercialization of low carbon urban transport systems (e.g. electric and hybrid vehicles) in the Philippines						
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
1. Policy support for the promotion of low carbon modes of transport	TA	1. Effective enforcement of policies and regulatory frameworks on low carbon modes of transport	1.1 Approved supportive policy framework and regulations to facilitate the uptake of low carbon transport systems 1.2 Completed and operationalized Low-Carbon Transport Master Plan and supportive infrastructure roadmap 1.3 Approved and enforced low carbon vehicle owners and manufacturer guidelines	GEFTF	710,000	1,400,000

¹Project ID number will be assigned by GEFSEC.

²Refer to the reference attached on the [Focal Area Results Framework](#) when completing Table A.

			1.4 Guidelines to the local governments units (LGUs) on the approval of related supportive infrastructures (e.g. charging station locations, right-of-way)			
2. Awareness and institutional capacity development	TA	2. Major cities adopt and implement low carbon transport plans and /or programs	2.1 Developed capacity of planning institutions, regulatory agencies on (a) coordinated policy making, investment planning and implementation of low carbon transportation with broader urban development; and (b) modern planning tools, registration and licensing of low carbon vehicles; 2.2 Established institutional framework supportive of low carbon transport development and commercialization; 2.3 Established centers of excellence to support local capability and expertise for new applications/ services/ products.	GEFTF	404,025	1,100,000
3. Investment on low carbon transport systems in the country	TA	3.1 Increased private sector participation in the widespread deployment and commercialization of low carbon transport systems	3.1.1 Completed public transport route rationalization assessment; 3.1.2 Developed standard procedures for on-road and laboratory tests of new vehicle-fuel technologies; 3.1.3 Established and approved electric vehicle (EV) charging protocol and standardization.	GEF TF	400,000	600,000
	INV	3.2 Increased private sector investment in low carbon transport systems	3.2.1 Completed and adopted viable business plan to support the wider application of low carbon vehicles; 3.2.2 Installed standardized solar EV charging stations in pilot cities; 3.2.3 Introduced and operational at least 15-20 hybrid or electric vehicles for mass transit and operational automated guideway transit (AGT) system in the pilot cities.	GEFTF	1,000,000	12,000,000
Subtotal					2,514,025	15,100,000
Project Management Cost (PMC)					125,701	740,000
Total Project Cost					2,639,726	15,840,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	Department of Transportation and Communications, Department of Science and Technology	In-kind and Grant	6,500,000
Private Sector	Private Transport Companies and Financial Institutions	Loan, equity	9,100,000

Academe/ Civil Society Groups/NGOs	National Center for Transportation Studies - University of the Philippines National (UP NCTS), Electric Vehicles Association of the Philippines (EVAP), Institute for Climate and Sustainable Cities (ICSC)	In kind	150,000
GEF Agency	UNDP Country Office	In kind and grant	90,000
Total Co-financing			15,840,000

**D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY^a:
N.A.**

E. PROJECT PREPARATION GRANT (PPG)³

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	<u>Amount Requested (\$)</u>	<u>Agency Fee for PPG (\$)⁴</u>
• No PPG required.	-- 0--	--0--
• (up to) \$50k for projects up to & including \$1 million	_____	_____
• (up to)\$100k for projects up to & including \$3 million	100,000	_9500_
• (up to)\$150k for projects up to & including \$6 million	_____	_____
• (up to)\$200k for projects up to & including \$10 million	_____	_____
• (up to)\$300k for projects above \$10 million	_____	_____

F. PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY: N. A.

PART II: PROJECT JUSTIFICATION

A. PROJECT OVERVIEW:

A.1. Project Description:

Global environmental problems, root causes and barriers that need to be addressed

In the Philippines, the transportation sector accounts for almost 37% of total national energy consumption, where road transport typically consumes about 80% of this share. More alarmingly, transportation is one of the fastest growing consumer of fossil fuels and the fastest growing sources of CO2 emissions. With rapid urbanization, energy consumption and CO2 emissions by urban transport are increasing rapidly. In the past decades, transport planning model adopted by the Philippines, as other Asian countries, prioritized the movement of cars and motorized vehicles to facilitate the growing demand for mobility of passengers and goods. So not surprisingly, urban and inter-regional transport is dependent primarily on road-based transportation such as buses, cars, motorcycles and tricycles, jeepneys and utility vehicles. The number of utility vehicles and cars, in particular, are increasing significantly with over 50% of the registered vehicles located in Metro Manila and adjacent regions. As such, there has been an increasing preference for private fossil fuel based motorized travel and less investments has been made for sustainable public transport and non-motorized transport like walking and cycling. With the exception of the use of Auto-LPG in taxis, there has been a marginal increase in the share of cleaner vehicles using alternative fuels such as CNG buses, Auto-LPG jeepneys, electric vehicles (jeepneys, tricycles in selected cities). There is still more work to be done to increase the efficiency of the urban public transport system considering the increase in

³ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁴ PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

number of people commuting regularly between Metro Manila and adjacent provinces. The expansion of rail-based mass transit systems have been at a slower pace and inter-modal transportation facilities such as integrated provincial bus terminals are still lacking where provincial buses are found to be mixed with city buses competing for road space in major arterial roads.

The transport sector energy consumption is projected to grow at an annual average rate of 6.4% per year which exceeds the global 2.7% rate of annual increase and accounts for 90% of total transport energy demand in 2030. The externalities of unsustainable transport practices is obvious from increased urban air pollution and associated GHG emissions to traffic congestions, energy security, health and road safety issues as well as economic losses equivalent to about 4.6% of the GDP. Despite these negative externalities and trend towards rising emissions, opportunities exist for low carbon urban transport development in the Philippines as a cost effective and efficient alternative to individual private modes for accessing urban opportunities. However, experience in the country and internationally suggest that there are no easy solutions to leverage the planning, delivery and quality of urban public transportation services in a manner that would also simultaneously lead to lower carbon footprint of the transport system. Challenges are abound and the proceeding section underscores some specific ones across the following broad categories:

Planning and institutional barriers: There is a lack of unified and strategic government framework to plan, manage and monitor sustainable urban transport in the country. Multiple and fragmented government agencies involved in the planning and delivery of urban transport services are a fundamental hurdle for cities to make a quantum improvement in the quality of public transport they are able to offer. Plans and policies are mode specific and sponsored by national agencies with limited regard for developing an integrated and sustainable transport system. This is coupled with institutional capacity constraints and lack of accountability. The missing link between transport projects and urban development policies is oftentimes complemented with obscure or lack of fiscal and non-fiscal incentives. Several plans on environmentally sustainable transport systems have been formulated in the past but most of them not effectively implemented due to lack of strategic vision among agencies responsible for transport planning, financing constraints and a shift of focus of the decision makers to other conflicting priorities. For instance, the National Environmentally Sustainable Transport Strategy (2011) and National Implementation Plan Environment Improvement in the Transport Sector have been formulated but they are yet to be mainstreamed at both national and local levels. The Alternative Fuels Incentive Bill which calls for incentives to electric, hybrid and other cleaner transport options has passed both the chambers of Congress in early 2013⁵ but the approval has been deferred to await more comprehensive “Fiscal Incentives Bill” by the Department of Finance.⁶ This bill is anticipated to be filed in the next congress but little is known how long it will take to pass.

Investment barrier: Offering low carbon urban transport services require significant investments but access to upfront capital is a persistent hurdle. Much of available financing, by and large, are more inclined to prioritizing road expansion and infrastructure development to facilitate increased motorization rather than striving for a comprehensive urban transport development. The Development Bank of the Philippines provides a window for financing transport projects but with stringent terms which usually inhibits small-scale operators and project developers. Financing instruments specifically created to facilitate low carbon transport solutions are completely absent as they fall outside the typical purview of commercial lending practices or budgeted municipal expenditures.

⁵ The bill also known as the Recto Bill exempts manufacturers, assemblers, converters and importers from excise tax and duties, value added tax for importation and sale of raw materials, spare parts, components and capital equipment related to vehicles using AF, hybrid and electric technology.

⁶ which will grant incentives and benefits to both foreign and local investors from all industries – not just automotive

Capacity and awareness barrier: Limited capacity both in terms of knowledge and technical expertise is prevalent at city and state level agencies to develop and implement appropriate mix of strategic interventions for low carbon transport planning including vehicle, fuel and infrastructure standards; assessment, evaluation and accounting of project impacts. A need exists to improve the local data availability and quality to facilitate performance measuring and develop transparency to hold agencies and officials accountable. There is no clear system for monitoring, gathering, analyzing and disseminating information on developments and progress of urban transport projects. Improved data can enable performance based expenditure of public funds and improve transport planning. Furthermore, low level of interest, understanding and awareness of the multiple benefits of low emitting vehicles is common among decision makers and consumers.

Market and technology barriers: Some low emitting vehicle technologies are not yet commercially competitive with their higher carbon intensive counterparts. Broader commercialization is inhibited as the business case including service delivery models is not adequately established and domestically available after sales services and product standards are absent. While globally low carbon transport technologies, such as EVs and hybrid vehicles, have been gaining maturity over the years and the technological roadmap looks relatively settled, there are still a plethora of open questions on the viability aspects from a business and economic point of view in the Philippines. Although a local EV manufacturing industry exists, lack of critical scale to reduce manufacturing costs; negligible fiscal and non-fiscal incentives and the inability to recognize the need to stimulate investments in technology development and manufacturing capacity are limiting factors. Technology validation issues; lack of integrated charging solutions; perceived range anxiety vis-à-vis the costs involved, and, problems of reduced battery life due to overheating, for instance, in the case of EVs have been major adoption blocker.

Baseline scenario and any associated baseline projects

A package of policies and investments that simultaneously targets key aspects of low carbon transport system is required to systematically reduce the carbon footprint of the transport sector in a sustainable and timely manner. Or else, the motorization rate is anticipated to continue growing to about 6% per year with corresponding business as usual emissions from road transport estimated to rise from 24.4 million tCO₂e in 2008 to 37 million tCO₂e in 2015 and 87 MtCO₂e by 2030. Estimates suggest that the transport sector's GHG contribution can be reduced by over half through intensive and accelerated implementation of a diverse and integrated package of measures that promotes shifts to lower emitting transport modes, fuel efficiency improvements, and transport demand management. More specifically, technical vehicle improvements such as hybrid, EVs and biofuels have been identified as having high abatement potentials. In response, the Government of the Philippines (GOP) has adopted a set of actions which include improvement in the efficiency and quality of public transportation systems, as well as, a shift towards low emitting modes for urban mobility. Some of the targeted interventions towards this end that are considered as baseline projects to the proposed GEF project are as follows:

1. The Department of Transport and Communication (DOTC) as mandated by the GOP supports the planning and implementation of environmentally sustainable transport (EST) initiatives. As a part of its on-going efforts such as the Energy Efficiency in Land Transportation Project, it is preparing to roll out a plan of actions to optimize the use of Special Vehicle Pollution Control Fund (SVPCF) in the formulation and implementation of EST plans, programs and projects. The SVPCF is a dedicated fund managed by the DOTC. Likewise, as a part of its Public Transport Modernization Programme, the DOTC intends to formulate and implement a comprehensive programme to reduce GHG emissions from transport sources by promoting alternate fuel vehicles comprising EVs and hybrids; its supportive infrastructures as well as related policy and regulatory measures. In a separate initiative, the DOTC is exploring the development of a guarantee fund in collaboration with the Development Bank of the Philippines to support the commercialization of low carbon transport and stimulate private sector participation.

2. The Department of Science and Technology (DOST) has been spearheading the Advanced Transport Project since 2011 which is a comprehensive support program for mass transport that comprises of, among other activities, development and deployment of Passenger Coach Capacity Automated Guideway Transit (AGT) Systems. In collaboration with the University of the Philippines, it has recently completed the development of a 60-passenger coach AGT system. And currently, the design and development of AGT System Passenger Station is underway. Accordingly, there are concrete plans to further scale up additional 120 passenger capacity coach AGTs and explore possible areas of deployment of the systems. This will be accompanied by investments on supportive infrastructures such as expansion of the tracks and passenger stations. These pilot projects are envisioned to be replicated in additional cities. Consultations with local government units are already on-going and they have indicated interest in having the said technologies applied in their constituencies.

3. Industry partners such as the Institute for Climate and Sustainable Cities (ICSC) and Electric Vehicle Association of the Philippines (eVAP) have been engaging in policy level interventions and contributing to the successful adoption of the Alternative Fuel Vehicle Incentives bill; lobbying and capacity development of policy makers, EV industry participants and the civil society for the widespread promotion and commercialization of low emitting vehicles. As a part of their ongoing initiatives, 15 e-jeepneys will be added to the fleet of already operational ones plying along Makati City. The DOTC has recently fast tracked the registration and approval of the additional fleet. The plan in the short to medium term is to replace diesel powered jeepneys with e-jeepneys along expanded routes in the city.

4. Private sector initiatives include the City Optimized Managed Electric Transport (COMET) Project by Global Electric Transportation Co. Ltd. (GET) which is scheduled to roll out a fleet of 50 fully electric city shuttles that will ply along dedicated routes in Metro Manila. Similarly, Green Frog Zero Emissions Transport (GFZET) operates the country's first hybrid diesel electric buses in Makati City. Currently, 6 buses are operational and the company plans to expand to three additional more routes. The buses are Euro IV compliant and claims to emit 80% less than a typical diesel bus.

The government is taking a lead role in the regulatory refinement geared towards stimulating the growth of an otherwise nascent alternative fuel vehicle market in the country and has decided to seek GEF's assistance to reinforce and replicate the baseline activities. The proposed GEF project will build on the abovementioned baseline projects as well as derive early lessons from the ongoing 'Market Transformation through the Introduction of EVs Project' implemented by the Department of Energy (DOE) and funded by Clean Technology Fund and Asian Development Bank. The project primarily supports the investment in three wheeled electric tricycles (e-trikes) and aims to replace 100,000 gasoline-fueled tricycles. The e-trikes project essentially focuses on technology demonstration targeting the 'last mile commuters'. The proposed GEF project shall not duplicate the on-going measures already covered by the DOE's e-trikes project but shall complement by supporting other modes such as four wheeled electric, hybrid and alternative fuel vehicles, buses and automated guideway transit (AGT) systems. Consultations between the DOE and DOTC (as the proposed implementing partner for the proposed GEF project) have been ongoing since early on to identify the most appropriate coordination mechanism, which will be elaborated during the project preparation stage.

The baseline projects lay groundwork for the proposed GEF project, which focuses on facilitating an enabling environment to push for the paradigm shift towards low carbon modes of urban transportation. In the absence of the GEF support, under the business as usual scenario, transport related GHG emissions are projected to rise sharply to over 80 MtCO₂e by 2030.⁷ On the contrary, in the alternative low carbon scenario, the GHG emission for road transport is envisioned to be approx. 60 MtCO₂e - the realization of

⁷ DOTC and World Bank analysis. This is more than 130% increase in transport related emission between 2007-2030 period.

which will be substantially supported by the proposed GEF project. Without the GEF intervention, the reduction in GHG emissions from the baseline is not likely to happen at the magnitude and speed required.

Proposed alternative scenario and incremental reasoning

The proposed project has been structured around the following three components anticipated to support the achievement of the project objective, i.e. to create an enabling environment for the commercialization of low carbon urban transport systems (e.g. electric, hybrid vehicles and AGT systems) in the Philippines. The proposed project targets mass public transport vehicles such as electric and hybrid buses, e-jeepneys, etc. It does not include support to private cars.

Component 1: Policy support for the promotion of low carbon modes of transport

The effective development and implementation of low carbon transport system relies on a strong policy-level support and guidance from the national government emphasizing the imperative of sustainable transport solutions. While the complex and distributed nature in which GHG emissions are generated makes transport a particularly difficult sector in which to dramatically reduce emissions, there are nevertheless, appropriate mix of strategic options that national policy makers can adopt to reduce the carbon footprint. The successful delivery of the outputs from the activities under this component will contribute to effective enforcement of policies and regulatory frameworks on low carbon modes of transport. In doing so, the component will address the planning and investment barriers discussed in the preceding section.

Indicative activities under this component include but not limited to (i) comprehensive assessment and planning to assist the adoption of clear national policy framework and regulations supportive of low carbon modes of transport; (ii) intensive update of the existing environmentally sustainable transport strategy with the aim to identify concrete entry points for low emissions urban transport policy interventions; and, (iii) formulation of guidelines for local governments on the approval of supportive infrastructure such as charging stations for electric vehicles, passenger stations and right of way for the AGT systems. It will be ensured that the guidelines are well informed by and aligned with the policies at the national level.

GEF supported incremental activities include (i) comprehensive assessment and finalization of low carbon transport master plan that will include feasibility assessments, elaboration of a supportive infrastructure roadmap, and estimation of investment needs⁸; (ii) in-depth analysis and recommendations on the design of low carbon vehicle owners and manufacturer guidelines; and, (iii) advocacy and promotional activities to secure timely approval and enforcement of the policy framework.

While the national government will be the primary lead responsible for the formulation and approval of supportive policy framework including the master plan, the successful implementation of the policies and translation to real action will depend on the uptake by the local governments. The local governments will complement the national government's effort through the formulation and enforcement of supportive city ordinances and local action plans to support the national policy targets.

Component 2: Awareness and institutional capacity development

At the heart of measures available to improve the quality and competitiveness of the urban transport system lies a focus on institutions and the character of relationship among various related agencies involved in urban transport. Fragmentation of responsibilities among multiple government agencies usually

⁸ This activity is also envisioned to address the remaining gaps in the national environmentally sustainable transport strategy and provide recommendations to better align with the broader urban development planning

has taken a toll on the management and quality of urban transport. Therefore, it is crucial to enhance their capacities for a better level of coordination. Moreover, fundamental realization of improved capacity of agencies to better plan, manage, operate and monitor performance of transport operations is equally imperative. The successful delivery of the outputs from the activities under this component will contribute to strengthening the institutional capacity, consequently resulting in low carbon transport plans and /or programs being adopted in at least two cities. As such, the component will address barriers pertaining to the lack of information, awareness and institutional capacity.

Indicative activities under this component include but not limited to (i) design of coordination framework to articulate common objectives and delineate roles and responsibilities among relevant agencies involved in low carbon urban transport planning and services; a mechanism will be established to institutionalize the coordination between the DOTC, DOE and other related agencies both at the national and subnational levels; (ii) conceptualization and design of the center of excellence platforms to support local capability and expertise for new technology applications and services. The strategy to ensure sustainability of centers of excellence after the completion of GEF project is grounded on the fact that the DOTC is fully committed to support the centers through the Special Vehicle Pollution Control Fund assistance. During the project duration technical assistance will be provided to the centers to identify viable business models and available sources of financing to sustain them in the longer term; (iii) undertaking capacity needs assessment to identify specific requirements on low carbon urban transport planning, decision making, management and financing opportunities; and, (iv) development of targeted communications approaches to garner support from urban decision makers and attract customers away from private automobiles to low carbon transport modes.

GEF incremental activities will include (i) development of modern planning tools and methodologies for efficient permitting and licensing processes for low carbon transport modes; (ii) design and delivery of trainings to government agencies with the aim to strengthen technical capacity for better policy and investment planning, implementation and evaluation of project progress; (iii) preparation of monitoring tools and training modules to strengthen the oversight capacity of transport authority in monitoring service quality of private operators; (iv) capacity development trainings to financial institutions, operators, manufactures to enhance the understanding on technology and market development opportunities; and, (v) conduct a review of successful application of low carbon transport systems that illustrate multiple benefits of, and international best practices on, such systems.

Component 3: Investment in low carbon transport systems in the country

This component responds to the underlying technology, market and investment barriers. The component will ensure commercial uptake of light-duty electric vehicles such as e-jeepneys and heavy duty vehicles such as electric and hybrid buses for mass public commute. It will not provide assistance to light-duty hybrid vehicles such as private hybrid cars. The successful delivery of the outputs from the activities under this component will contribute to increased private sector participation and investments in the widespread deployment and commercialization of low carbon transport systems such as electric and hybrid vehicles and AGT systems.

Indicative activities under this component include (i) undertaking a route rationalization and service planning exercise that focuses on assessments of the route structures and nature of demands. Such assessments will illustrate the value for route consolidation, adjustments and new special purpose routes that may be served by low carbon modes; (ii) conducting feasibility studies for AGT systems to identify suitable corridors and service areas; (iii) detailed analysis and design of full set of standard procedures for on-road and laboratory tests of new vehicle-fuel technologies. Where appropriate, the proposed project will encourage the adoption of internationally accepted standards. However, some national standards may need

to be developed to support indigenous vehicles, such as the four wheeled jeepneys and jitneys, three wheeled tricycles; and, (iv) introduction and operationalization of at least 15-20 low carbon transport modes such as hybrid buses, EVs and AGT systems. The AGT system is a mass transit system running on guide ways. It is one of the cost-effective and less intrusive mass transport solutions for countries like the Philippines (with indicative cost ranging from US\$ 0.40-0.50 million per kilometer). Since it operates on electricity, it offers a low carbon intensive solution in comparison to fossil fuel based transport systems. Hence, contributes to reduced GHG emissions by displacing diesel operated public transport modes such as city buses. The Department of Science and Technology is targeting the construction and commercial operation of at least 3-4 km of the AGT system from 2016 onwards. GEF support will not be sought for the construction and operation of the AGT systems but will focus on barrier removal activities.

GEF support will augment the baseline activities through (i) detailed planning and investigation of technologies, services and schedules that are most appropriate to serve specific identified routes and demands⁹; (ii) development of commercially viable business model to provide competitive infrastructure, components, vehicles, operation and maintenance related services; (iii) estimation of investment needs and identification and recommendation of best practices in financing strategies on low carbon transportation projects; (iv) feasibility assessment of EVs and smart grid as viable opportunities to support charging infrastructure; (v) installation and operationalization in at least 2 pilot cities of a support infrastructure system (e.g. integrated charging solutions for EVs), to augment and encourage efforts by the private sector. This will include publicly available charging stations powered by solar energy to ensure EVs are charged 100 percent on renewable energy and independent of grid electricity. The charging solutions may indicatively comprise of 175 – 200 kW fast charging solar arrays, the cost of which is anticipated to be in the approximate range of US\$ 500,000-700,000 (which will be determined during the detailed project development stage); and, (vi) conduct of strategic studies and provision of recommendations on developing EV charging protocols and standards that also take into considerations safety and power grid standards.

The three components are interlinked in a way such that component 1 lays out enabling policy framework that will pave way for successful commercial application of low carbon transport modes. By supporting organizational development, component 2 will contribute to the institutionalization of policy and regulatory frameworks established in component 1. Hence, components 1 and 2, collectively, will support continued and sustained investments in low carbon transport modes. What's more, the successful demonstration of projects in Component 3 will inform effective policy making in Component 1.

It is noteworthy that currently over 550 EVs, 8 hybrid buses and one AGT system exist for mass public transport across major cities in the Philippines. In the business as usual scenario without the GEF contribution, the government targets 100,000 EVs (primarily three wheeled e-tricycles and four wheeled e-jeepneys) by 2030 and one AGT demonstration system. Through the GEF support, it is envisioned that at least 20 EVs or hybrid buses will be deployed for mass transport by the end of the project period. Two additional AGT systems are anticipated to be at full commercial operation with higher passenger capacity and servicing expanded routes. It is anticipated that the project will stimulate the growth of EVs and hybrid vehicles by almost double than that of the baseline scenario. This is expected to result in an increase of approx. 1500 electric and hybrid vehicles for mass transit by 2030 across the country. The preliminarily estimates will be validated by the CEO endorsement request stage.

Global environmental benefits

With the proposed GEF intervention, the potential global environment benefit in terms of CO₂ emissions reduction from low carbon transport application is estimated to multiply. Interventions under the proposed

⁹ These studies and plans will finally feed into the decision to determine the location of stations, number of fleet, related supportive infrastructures, etc.

project are expected to influence the replication of low carbon urban transport modes. Accordingly, the PIF makes a conservative assumption (to be validated at the stage of project design and documentation) that approximately 204,300 tCO_{2e} in cumulative direct and post project emissions will be avoided over a 15 year lifetime of the projects. This translates to an indicative unit abatement cost of US\$ 12.9/tCO_{2e}. The magnitude of GHG emissions avoided was estimate based on the following data and assumptions: (a) 20 EV buses with useful life of 15 years each, as alternative to conventional diesel buses; (b) buses are assumed to operate daily for 20 trips per day and for 335 days per year; (c) average fuel mileage for a diesel bus is 2.782 km/lit; (d) specific energy usage for EV buses is 0.75 kWh/km. The estimate does not yet take into account the emissions reductions from the deployment of hybrid buses and AGT systems. Detailed emission reduction estimates will be carried out during the project preparation stage.

Innovativeness, Sustainability and Replication Potential:

The proposed project is envisioned to create an investment-friendly environment by institutionalizing a comprehensive approach of enabling policies, planning measures and strategic investment options to stimulate the quality and competitiveness of low carbon urban transport systems. By showcasing innovative business models, the project will demonstrate commercial viability of such investments. What's more, the project will encourage faster uptake of alternative transport fuel technologies by reinforcing the development and standardization of a range of protocols, safety standards and provision of supportive infrastructure. These are distinct features that have not yet been tried in earnest in the Philippines before.

Sustainability of project results will be ensured, by laying a foundation for strong policy level support from the national government. This combination of credible policy regime, enhanced institutional capacity - along with successful demonstrations through public private partnership models to provide infrastructure, components, vehicles and related services - will pave way for scaling up investments and further replicate the project results across more cities in the country. Beyond that, sustainability of project results will be ensured through DOTC's guarantee fund. Envisioned to be capitalized with approx. US\$ 12 million, the fund will be managed the Development Bank of the Philippines, as loan facility for drivers and transport operators for retrofitting, re-fleeting and increased use of EVs and hybrid vehicles in the mass transport system. The project will support the development of the fund's diversification strategy and mechanisms to leverage additional financing from public and private sources.

Replicability of the demonstrations will be stimulated through the documentation of the package of activities and inputs that went into each demonstration. The project will leverage additional investments in increased number of low carbon vehicles by enhancing private sector confidence through positive policy impacts and supporting a competitive business environment for the application of low carbon transport systems. A sustainability plan will be formulated during the project preparation stage to ensure that the barriers do not recur over time.

A.2. Stakeholders:

Stakeholder	Role in the Project Design & Preparation
1. Department of Transportation and Communications and its affiliated agencies and corporations	Lead partner responsible for development and detailed design of the project. Responsible for liaison with government agencies; project development management; and project development financial management.
2. Department of Energy	Coordination on the design of the project
3. Academe/NCTS	Provision of general guidance and advice on technology and policy studies
4. Selected Local Governments	Preparation to host the project activities
5. Department of Science and	Provision of information regarding the research, analysis, and advise on

Technology	the design of investments projects.
6. Private transport companies	Provide commitment for financing and detailed design of investment projects.
7. Civil Society Groups/NGOs	Policy advise and commitments on co-financing resources for policy advocacy
8. Multilateral partners	Coordination during project design and investment activities
9. Financial institutions	Participation in the formulation of financial strategies and barrier removal to increase investment in low carbon transport projects
10. National Economic and Development Authority, Climate Change Commission.	Guidance to place the proposed project within the context of national policy and planning regarding socio-economic, environmental, MDG and climate change mitigation goals.

A.3 Risk:

During project implementation, the risks that might prevent the project objectives from being achieved are listed as follows:

Risk	Mitigating Measure	Risk Rating
Market risks, low social acceptance and inadequate capacity of the local industry to meet the demand.	Promote technology know how and capacity development, information dissemination, awareness and sound demonstration projects to ensure well trained experts are available to provide market services while simultaneously reinforcing social acceptance and consumer confidence in low carbon transport modes. Assist in selecting the most appropriate technologies taking into consideration the socio-economic profiles and local market conditions.	High
Lack of interest from the private sector on low carbon investments in the transport sector Low level of awareness and appreciation of local chief executives on the benefits of vehicles using alternative transport fuels	The project will support a model in which the government provides an enabling environment to spur private investment and the private sector provides innovative approaches to catalyze capital for low carbon investments in the transport sector. The project will help prepare high quality assessments, feasibility studies, investment appraisals and business plans to facilitate decision making by financial institutions. Facilitate public private dialogue and engage the private sector early on to solicit their perspectives and needs for low carbon development.	Moderate Moderate
Inadequate human resources to successfully implement the project	Institutional capacity development will be prioritized The project will be implemented within the management structure of the DOTC which has a proven track record of successfully managing urban transport initiatives.	Moderate
Technology risk regarding quality, reliability, efficiency, and maintainability	Capacity development to apply stringent quality control and performance monitoring measures at all levels. Provision of technical and capacity development assistance to the local manufacturing	Low
Climate Change impacts low carbon transport systems	According to the first national communication of the Philippines, the adverse impacts of climate change are linked to high concentration of population, resources and infrastructure. Adequate emphasis will be placed to enhance the resilience of the low carbon transport infrastructure to extreme climate variability. Such thinking will be incorporated into all stages of project design and implementation. The project will work closely with	Moderate

	adaptation teams and experts in the Department of Environment and Natural Resources as well as the Climate Change Commission to help authorities identify such risks and integrate appropriate response measures in the proposed mitigation actions.	
Low level of commitment from relevant authorities in adopting/approving/enforcing the recommended policies. Passage of national level policies on alternative fuel vehicles may be hampered by changes in legislative priorities	The project will initially implement the policies and guidelines to the pilot cities to gauge their effectiveness. That will assist the relevant government authorities in the finalization, approval and effective enforcement. Besides, UNDP has a track record of successfully engaging with the authorities on climate change projects. The risk can be effectively mitigated through continued provision of the on-going assistance, technical backstopping and communication to encourage commitments from the authorities.	Moderate

The overall risk level is moderate.

A.4. Coordination: Outline the coordination with other relevant GEF financed and other initiatives:

The project development team will endeavor to establish and strengthen linkages with other agencies and actors that are currently planning or implementing relevant projects which will contribute to the overall outcome of the proposed GEF project. Some of such partners active in this area are the Department of Energy, World Bank, Asian Development Bank, GIZ, local private entrepreneurs, CSOs and NGOs, academe, etc. The project development team will identify the most relevant partners during the project preparation phase. During the PPG stage numerous stakeholders' consultation including the log frame analysis will be organized to discuss related issues and concerns and prepare comprehensive structures for project implementation and management. A detailed stakeholders' involvement plan will be designed too. This will ensure complementarity and build on best practices and lessons learned of the stakeholders. During the implementation stage, the coordination mechanism will be further established to ensure proper coordination and involvement of the baseline project proponents. A project steering committee will be formed and the Department of Transport and Communication will serve as a strategic focal point and lead the project. UNDP will continue to provide assurance and support services as per GEF's guidelines. The committee will meet biannually or often if required. UNDP, in cooperation with key government and private partners, will set the stage for sectoral and institutional coordination mechanisms and help define clear, appropriate and logical project design and management arrangements for the project.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 National Strategies and Plans or Reports and Assessments under Relevant Conventions

The proposed project is consistent with the priority identified in the GEF National Portfolio Formulation Exercise and is in line with the major national policies and programs and related issuances.

1. Republic Acts (RA) No. 9729 (Climate Change Act of 2009)
2. First National Communication of the Philippines recognizes the transport sector as the most significant source of GHG emissions with over 35% of the national total. The project is in line with the priorities called upon by the draft Second National Communication which stresses on stimulating greater private-led investments, aggressively promoting commercially viable market for sustainable low emitting modes of urban transport.
3. Clean Air Act of 1999, Biofuels Act of 2006 also highlight the significance of shift to low emitting transport modes in the country.

4. The proposed project is also aligned with the Philippine National Framework Strategy on Climate Change, the National Climate Change Action Plan and the Philippine Development Plan (2011-2016).
5. The National Framework Strategy on Climate Change (2010-2022) incorporates the National Environmentally Sustainable Transport (EST) Strategy for the Philippines and the National Implementation Plan (NIP) on Environment Improvement in the Transport Sector.

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

The proposed project and its strategies are consistent with the GEF-5 Climate Change Mitigation strategic objective 4 (CCM-4) on the promotion of energy efficient low carbon transport and urban systems and will contribute to the reduction of greenhouse gas emissions through the avoidance of CO₂ emissions by promoting the widespread commercialization of low carbon interventions in the transport sector.

B.3 The GEF Agency’s comparative advantage for implementing this project:

The project is in line with UNDP’s strategic objectives and fits into the Country Programme Action Plan, CPAP, where climate change mitigation is one of the priorities. UNDP links the proposed project effectively with other similar climate change projects and interventions consistent with UNDAF and CAP for the country’s economic development. Furthermore, the project fits neatly with the *Signature Programme (SP-2) Urban Infrastructure: Promoting low emission urban and transport infrastructure* of the UNDP GEF Energy, Infrastructure, Transport and Technology team.

UNDP Philippines is well-positioned to implement the proposed project given its long standing experience working closely at the national and local levels and coordinating partnerships across public and private sectors. It has a proven track record and comparative advantage of successfully assisting the government in implementing GEF Climate Change Mitigation (CCM) projects as indicated by the outstanding results of the previous UNDP-GEF CCM projects. A dedicated program officer will solely be responsible for project implementation oversight, quality assurance and reporting requirements. UNDP-Philippines will be backstopped by technical expertise available in the UNDP Asia-Pacific Regional Centre (APRC) in Bangkok, Thailand.


PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

NAME	POSITION	MINISTRY	DATE (MM/DD/YYYY)
Atty. Annaliza R. Teh	Undersecretary, Chief of Staff	DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES	10/31/2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator,		DATE	Project Contact		Email

Agency name	Signature		Person	Telephone	Address
Adriana Dinu UNDP – GEF Executive Coordinator and Director a.i.		March 18, 2014	Rakshya Thapa Regional Technical Advisor, EITT	+662304 9100 Ext 5038	rakshya.thapa@ undp.org