



# GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

For more information about GEF, visit [TheGEF.org](http://TheGEF.org)

## PART I: PROJECT INFORMATION

Project Title: Bhutan Sustainable Low-emission Urban Transport Systems			
Country(ies):	Bhutan	GEF Project ID: <sup>1</sup>	9367
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5563
Other Executing Partner(s):	Ministry of Information and Communication (MoIC)	Submission Date:	15 March 2018
GEF Focal Area (s):	Climate Change	Project Duration (Months)	36 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/> Corporate Program: SGP <input type="checkbox"/>		
Name of Parent Program	N/a	Agency Fee (\$)	250,774

### A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES<sup>2</sup>

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
CCM-2 Program 3	Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation  Financial mechanisms to support GHG reductions are demonstrated and operationalized	GEF TF	2,639,726	10,318,000
<b>Total project costs</b>			2,639,726	10,318,000

### B. PROJECT DESCRIPTION SUMMARY

<b>Project Objective:</b> to facilitate low-carbon transition in the Bhutan's urban transport sector by promoting wider uptake of low emission vehicles (LEVs), in particular electric vehicles (EVs), as the preferred fuel source for transport in Bhutan						
Project Components/Programs	Financing Type <sup>3</sup>	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
Component 1: Policy support for low-emission transport	TA	Required policy and regulatory environments are in place to support the promotion of low emissions transport systems	Regulations developed and promoted to enable operations of EVs and Electric vehicle supply equipment (EVSE)  Mid-term and long term target for EV and EVSE developed  Policy guidelines and regulations developed to address e-waste disposal	GEF TF	90,000	100,000

<sup>1</sup> Project ID number remains the same as the assigned PIF number.

<sup>2</sup> When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT programming directions](#).

<sup>3</sup> Financing type can be either investment or technical assistance.

			and management  Technical capacity of the relevant agencies and public bodies are enhanced on various aspects of EVs and EVSE			
Component 2: Awareness and capacity development	TA	Institutions and consumers are fully aware and knowledgeable on the EVs	Awareness campaign supported  Information Guide developed and technical training implemented on EVs  Effective and functional coordination mechanism established to promote EVs	GEF TF	110,000	100,000
Component 3: Investment in low-emission transport systems and support services	INV	Necessary financial support/incentive mechanisms are in place to increase investment in low emission transport systems and support services	Financial support mechanism for EVs established and operational  Charging infrastructure expanded through demonstrated viable business model to ensure sustainability	GEF TF	2,314,025	10,000,000
Subtotal					2,514,025	10,200,000
Project Management Cost (PMC) <sup>4</sup>				GEF TF	125,701	118,000
<b>Total project costs</b>					<b>2,639,726</b>	<b>10,318,000</b>

### C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount (\$)
Recipient Government	MOIC	In-kind	318,000
Recipient Government	MOIC	Grant	10,000,000
<b>Total Co-financing</b>			<b>10,318,000</b>

### D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing	Agency Fee <sup>a)</sup> (b) <sup>2</sup>	Total (c)=a+b

<sup>4</sup> For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

					(a)		
UNDP	GEF TF	Bhutan	Climate Change	N/a	2,639,726	250,774	2,890,500
<b>Total Grant Resources</b>					2,639,726	250,774	2,890,500

a ) Refer to the Fee Policy for GEF Partner Agencies

## E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>5</sup>

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)	Direct: 43,000 tons of CO <sub>2e</sub>  Consequential: 93,000 tons of CO <sub>2e</sub>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

## F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? NO

<sup>5</sup> Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

## PART II: PROJECT JUSTIFICATION

### A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF<sup>6</sup>

A.1. *Project Description*. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area<sup>7</sup> strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

GEF-Approved PIF	Project Document/CER	Rational for Change in PIF Outputs/Activities in the ProDoc
1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed;		
Reference to Bhutan's Second National Communication (SNC) to UNFCCC recognized that road transport is the largest GHG emitting sector, contributing 45% of the total GHG emission from energy related GHG emissions.	Additional references to Statistics (Fig. 2)	More detailed
Barrier analysis include: a) Policy, planning and institutional barriers b) Investment barrier: c) Awareness and Capacity barrier d) Market and technology barriers	Barriers are similar and specified as: a) Lack of enabling policy and regulatory framework b) Misperceptions and low level of technical knowledge among the various market/sector stakeholders; and c) High up-front costs and inadequate infrastructure d) Inadequate electric vehicle supply equipment (EVSE) (charging stations)	The analysis is based on stakeholder consultations and other assessments carried out during PPG; to understand and quantify the scale of the investment barrier and the appropriate level of additional financial incentives required to level playing field for EVs vehicles, the financial analysis has been undertaken in the course of project preparation phase. Main conclusions of this analysis are presented below, (see Annex X for full report). The focus of the analysis has been on a taxi sector as a targeted market segment for initial up-take of EVs:
2) the baseline scenario or any associated baseline projects		
<ul style="list-style-type: none"> <li>Sustainable Urban Transport Programme including the City Bus Access Project (MOIC)</li> <li>National Electric Vehicle Initiative</li> </ul>	Added: <ul style="list-style-type: none"> <li>Green Transport City Programme for Thimphu, MoIC under World Bank Support</li> </ul>	Updated

<sup>6</sup> For questions A.1 –A.7 in Part II, if there are no changes since PIF , no need to respond, please enter “NA” after the respective question.

<sup>7</sup> For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving..

GEF-Approved PIF	Project Document/CER	Rational for Change in PIF Outputs/Activities in the ProDoc
<p>(Gross National Happiness Commission)</p> <ul style="list-style-type: none"> <li>Low Emission Capacity Building Programme(MOIC and National Environment Commission)</li> <li>Planning and promotion programme on EVs (Private section such as Thunder Motors and Nissan Co)</li> </ul>	<ul style="list-style-type: none"> <li>NAMA for Enhancing the Urban Transport System in Bhutan</li> </ul>	
3) the proposed alternative scenario, GEF focal area <sup>8</sup> strategies, with a brief description of expected outcomes and components of the project		
The project will target mass and intermediate public transport services such as buses and taxi cabs, providing the necessary ecosystem for their promotion and widespread adoption by the end users. Through the proposed project, the Government aspires to champion and demonstrate the viability of LEVs in the public transport sector through “leading by doing” approach and as early adopters.	The project targets Bhutan’s taxi sector (intermediate public transport) as the primary market segment to enable and promote wide-scale deployment of electric vehicles, an eventual driving force for EV market transformation in Bhutan.	<p>Proposed alternative scenario, GEF focal area strategies are more focused based on stakeholder consultations and baseline context.</p> <p>The rationale and justification of the chosen segment are presented in the Section III (Strategy) of the project document.</p> <p>All project components at PIF stage are retained and seeks to put in place cornerstone policy instruments for LEV promotion, supported by technical, policy-related, educational, and financial measures to raise capacity, reduce investor risks and address the funding gap.</p>
<p>Component 1: Policy support for the promotion of low emissions modes of transport</p> <p>Component 2: Awareness and institutional capacity development</p> <p>Component 3: Investments in Low Emissions Transport Systems and Support</p>	No changes;.	The elements of intended outcomes elaborated at the PIF stage have been streamlined and reorganized for greater clarity and ease of orderly implementation.

<sup>8</sup> For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving..

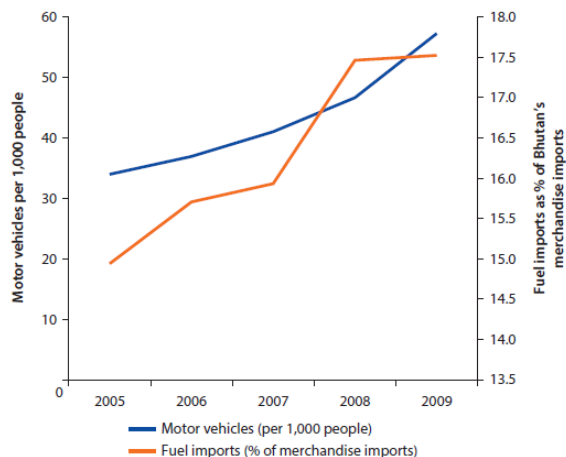
GEF-Approved PIF	Project Document/CER	Rational for Change in PIF Outputs/Activities in the ProDoc
Services		
4) <a href="#">incremental/additional cost reasoning</a> and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and <a href="#">co-financing</a> ;		
Cofinancing: 15,9 mln USD	Decreased to 10,3 mln USD	Confirmed total co-financing amounts have decreased as private co-financing can't be confirmed for competitive market-based approach to promoting LEVs and securing private sector co-financing commitment. However, public sector co-financing has been significantly increased with government committing substantially for expansion, supporting and maintaining EVSE, as well as provision of additional financial and fiscal incentives for EVs.
5) <a href="#">global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)</a> ;		
190,081 tCO <sub>2e</sub> (in cumulative direct and post project emissions will be avoided over a 15 year lifetime of the projects)	Direct emission savings of 43,000 tCO <sub>2</sub> and consequential CO <sub>2</sub> emission savings of 93,000 tCO <sub>2</sub> in bottom up approach and 410,000 tCO <sub>2</sub> in top down approach.	Overall in the range of 93,000 to 410,000 tCO <sub>2</sub> ; would be higher than PIF estimates if top down approach is adopted.
6) innovativeness, sustainability and potential for scaling up.		
<p>A more realistic estimate, indicates the number of EVs alone could be in the range of 500 and 1,500. The plan is to start with the replacement of 3,000 taxi fleet with IC engines to low emission vehicles. These numbers reflect taxis currently operating only in Thimphu Municipality and there exists a sizable potential to replicate throughout the country. This will be followed by a potential switch of the government fleet</p> <p>The project will leverage additional investments in increased number of low carbon vehicles by enhancing private sector confidence through positive policy impacts and supporting</p>	Introduction of 300 EVs every two years, overall, 1500 EVs could be introduced over a period of 10 years (representing a scaling-up factor of 5).	As the specific project aims at the introduction of EV vehicles with a primary focus on taxis, the maximum scaling-up potential has been defined as the total number of taxis operated in Bhutan (i.e. 4,256), and later by the total number of vehicles (i.e. 60,889). The actual scaling-up will depend on the development of the cost gap between fossil fuel and EV technology, the overall performance of EVs and the availability of government policies supporting EV acquisition. It was conservatively assumed that a possible replication potential of the project is in the same range as the project itself:

GEF-Approved PIF	Project Document/CER	Rational for Change in PIF Outputs/Activities in the ProDoc
a competitive business environment for the application of low carbon transport systems. These distinct features of the project are “first of its kind” and innovative for Bhutan.		

## 1) Global environmental problems, root causes and barriers

1. Bhutan is facing an alarming growth rate of private vehicles. Keeping aside the vehicle import restriction period from 2012 until July 2014, the numbers of light vehicles including taxies were increasing on a Compounded Annual Growth Rate (CAGR) of 11.5% per annum tripling from slightly less than 25,000 in 2000, to over 75,000 in 2015 (Figure 1)<sup>9</sup> and reaching up to 89,300 in August 2017.

FIGURE 1: MOTOR VEHICLE OWNERSHIP AND FUEL IMPORTS IN BHUTAN, 2005-2010



2. A direct consequence of traffic growth is the rapid increase in transport sector greenhouse gas (GHG) emissions, which are projected to more than double from 177,000 tCO<sub>2</sub> in 2005 to 376,000 tCO<sub>2</sub> in 2020 subsequently decreasing to 348,000 tCO<sub>2</sub> in 2040, based on assumption that the market for vehicles will become saturated as the need for transport services stabilizes (Figure 2). According to Bhutan's Second National Communication to UNFCCC (2011) and National GHG Inventory (2008), the energy sector (including transportation) is the second-highest contributor of GHG emissions after agriculture. The transport sub-sector emitted 118.11 Gg of CO<sub>2</sub>e, accounting for about 45% of all energy-related emissions and about 8% of the total GHG emissions<sup>10</sup> as shown in Table 1<sup>11</sup>. This represents a serious threat to Bhutan's commitment to remain carbon neutral unless innovative low emission transport systems are promoted to become the preferred choice for urban mobility.

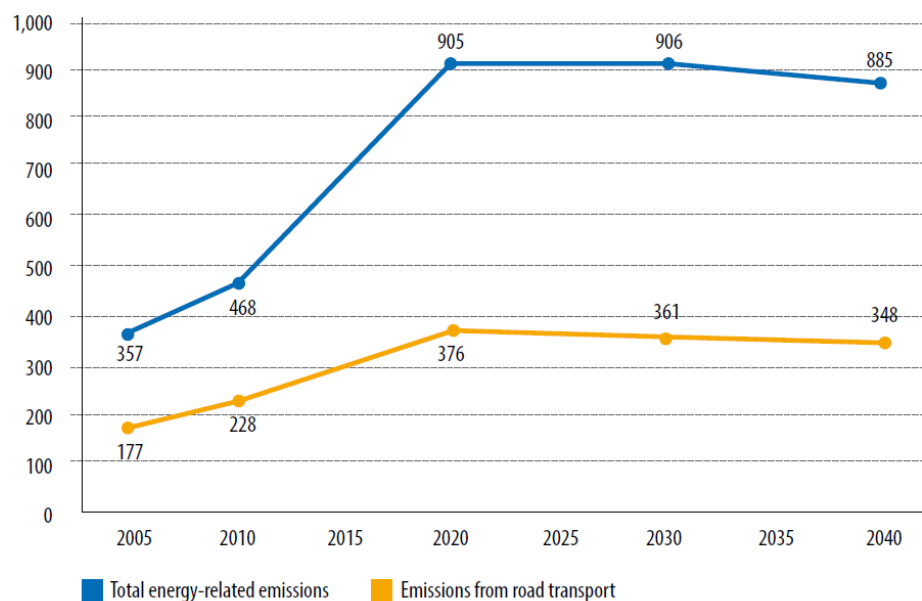
<sup>9</sup> Analysis based on the data from Annual Info-Comm and Transport Statistical Bulletin 2016, MOIC

<sup>10</sup> Second National Communication to UNFCCC, 2011, National Environment Commission

<sup>11</sup> Analysis based on data from Second National Communication to UNFCCC, 2011, National Environment Commission



**FIGURE 2: GHG EMISSIONS FROM ROAD TRANSPORT COMPARED TO TOTAL ENERGY RELATED EMISSIONS (KTCO<sub>2</sub>E), 2005-2040**



Source: UNDP (2016)<sup>12</sup>

**TABLE 1: GHG EMISSIONS FROM ENERGY RELATED ACTIVITIES**

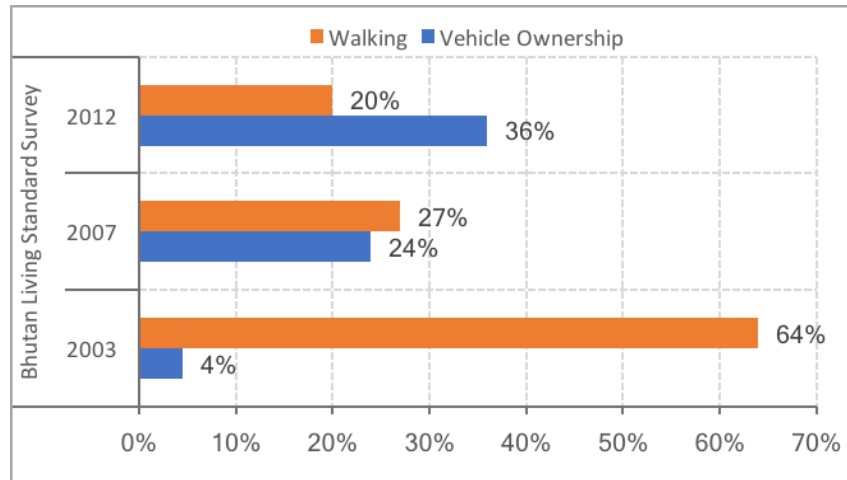
Sl No.	Particular	GHG Emission [Gg CO <sub>2</sub> e]	% Share
1	Energy Industries	0.7	0.26%
2	Manufacturing Industries & Construction	108.5	40.34%
3	<b>Transport</b>	<b>118.11</b>	<b>43.92%</b>
4	Other Sectors	41.64	15.48%
<b>Total</b>		<b>268.95</b>	

3. In the baseline scenario the trend in the private car ownership and car ridership is increasing. Each successive living standards survey conducted in 2003, 2007 and 2012 has shown an increasing trend toward private vehicle ownership and use, as shown in Figure 3<sup>13</sup>. In 2003, almost 64% of the people walked to the nearest post office or health centres, while only 4% of the households own a car. Over the years, the trend has been revised. In 2012, 36% of the households owned a car, whereas only 20% of the people walked to the regional headquarters or nearest service centres.

<sup>12</sup> UNDP, 2016: Bhutan low emission development strategy for the transport sector. UNDP, Bhutan

<sup>13</sup> Analysis based on data from Bhutan Living Standard Survey 2003, 2007 and 2012, National Statistics Bureau

FIGURE 3: TREND IN TRANSPORT ILLUSTRATED BY BHUTAN LIVING STANDARD SURVEY



4. Recognizing the urgency and scale of the problem, the RGoB aims for a technology leap and scale-up uptake of Low Emission Vehicles (LEVs), hybrid and/or electric vehicles, as a more sustainable alternative and preferred choice for urban mobility in Bhutan. Specifically, electric vehicles (EVs) were accorded the highest priority of the RGoB with an ambitious aspirational target to roll-out 3,000 electric vehicles by 2020. The project forms an integral part of a broader RGoB's efforts to significantly reduce fossil fuel import and its use to reduce GHG emissions in the Bhutan's transport sector in line with the objectives of the National Transport Policy and the Low-emission Development Strategy.
5. Leapfrogging from the predominant use of conventional internal combustion engine (ICE) vehicles to LEVs and in particular EVs, requires addressing a wide range of barriers, which can be grouped into the following three categories: a) lack of enabling policy and regulatory framework for LEVs; b) misperceptions and low level of technical knowledge among the various market/sector stakeholders; and c) high up-front costs and inadequate infrastructure. Each of these categories is discussed in detail below.
6. **a) Lack of enabling policy and regulatory framework:** In its recent Global EV Outlook 2017, the International Energy Agency (IEA) concludes that the global electric car market growth is still largely driven by policy support. Policy support mechanisms are indispensable to lower barriers to wider adoption of LEVs; they can be grouped into several categories: targets, mandates and regulations, financial incentives, and other instruments to increase the appeal of electric cars over competing alternatives and provide advantages in terms of reduced fees, privileged access and time savings to electric car drivers. These targeted policies should be developed at the municipal level to suite the unique, local mobility conditions of each urban area, and facilitated by supportive national LEV policy frameworks. In Bhutan, despite existence of high-level political commitment to LEV promotion, a comprehensive policy support package has not been explicitly covered under the National Transport Policy 2006. On-going revision of the National Transport Policy seeks to address this gap in order to level the playing field for LEVs in comparison with conventional ICE vehicles.
7. However, there is currently limited capacity both in terms of knowledge and technical expertise in the country and key RGoB transport agencies, as well as in city/municipal councils to design and implement supportive LEV policies. Policy makers lack the information on LEVs performance, technological development and results of relevant policy actions internationally. They are in need of assistance to develop and implement appropriate mix of enabling mechanisms and regulations including vehicle characteristics assessment, standards and requirements for charging infrastructure, network planning, evaluation and accounting of policies' effectiveness and impacts.

8. **b) Attitudes, misperceptions and low level of technical knowledge among the LEV market/sector stakeholders:** Consumers' perception in terms of LEV risks and established preferences towards ICE vehicles is also a key barrier. This is compounded by the dearth of visible proof on the roads which is key to stimulate awareness and information. Much of the general public is either unaware or are not clear on key aspects of low emission (carbon) transport options, particularly EVs. There is concern and lack of understanding among the public, for example, about health and safety issues from battery operated vehicles. Specifically, through stakeholder consultations and Gender analysis conducted in the course of PPG (See Annex G) a number of public concerns and misperceptions regarding operation and maintenance of EVs has been revealed, such as their limited mileage, unsuitability for Bhutan road conditions, complicated maintenance, under-developed technology, safety of the batteries and their disposal. Further, wider use of low carbon transport requires an improved understanding of operators/passengers needs and desires, as well as passengers' willingness to change travel behaviour.
9. Commercialization of LEVs in Bhutan is complicated as the capacity and infrastructure for service delivery models are not sufficiently established, even though a few assemblers and manufacturers of private vehicles have come forward as early movers in this sector. The insufficiency of local after sales services and product standards complicated further the situation. Though Bhutan has started witnessing an early inflow of low emission vehicles such as EVs and hybrids, the quality of products varies across dealers and manufacturers. So far, there are no basic minimum standards and protocols for dealers and operators on vehicle safety and reliability, efficiency, battery performance and service life, charging infrastructure, to safeguard consumers from low quality and unreliable products.
10. Lack of technology validation issues, inadequate support infrastructure such as integrated charging solutions, perceived range anxiety vis-à-vis the costs involved, and problems with temperatures variation could pose several limitations to LEV performance and charging. On the other hand, lower temperature at -10°C, the battery charging power decreases by 15% compared to standard 20°C temperature<sup>14</sup>. Lack of reliable and safe operation of vehicle while charging and improper management of battery waste could pose both environmental and safety risks<sup>15</sup>.
11. Weak coordination among different institutions: There is no explicit clarity on the institutional mandates when it comes to transport system in general and the promotion of LEVs in particular. While MoIC has overarching mandate for transport sector development, many other national and local agencies, such as the Road Safety and Transport Authority, Royal Monetary Authority, Traffic police, municipalities and many others have a critical role to play in LEV market promotion. Absence of effective coordinating mechanism among those agencies on the issues related to LEVs is an important barrier to establishing enabling policy and regulatory environment for this new market. It is, therefore, important to clarify the roles and responsibilities of concerned agencies on how to provide supportive policy signals and implement specific programs or projects that address low emission transportation and LEVs in particular.
12. **c) High up-front costs:** financial incentives directed at electric car customers and users are essential for reducing the purchase cost and total cost of ownership (TCO) gap between electric and conventional cars. Currently in Bhutan there are several policy instruments that can influence the purchase decision of final users: pure EVs benefit from exemptions of import duties, sales tax and 10% green tax. However, this package of financial incentives is still insufficient to make a decisive influence regarding EV purchases and the latter remains less competitive economically than conventional ICE vehicles.
13. To understand and quantify the scale of the investment barrier and the appropriate level of additional financial incentives required to level playing field for EVs vehicles, the financial analysis has been undertaken in the course

---

<sup>14</sup> Juuso Lindgren and Peter D. Lund, Effect of extreme temperatures on battery charging and performance of electric vehicles, 2016 (Department of Applied Physics, Aalto University of School of Science, Finland)

<sup>15</sup> Kjosovski, Kostikj and Kochov , Risks and safety issues related to use of Electric and Hybrid Vehicles, 2017 (University Mother Teresa in Skopje, Republic of Macedonia)

of project preparation phase. Main conclusions of this analysis are presented below, (see Annex X for full report). The focus of the analysis has been on a taxi sector as a targeted market segment for initial up-take of EVs: the rationale and justification of the chosen segment are presented in the Section III (Strategy) of the project document.

14. First, the financial analysis indicate that although retail prices of a new EV in Bhutan (taking into account available financial incentives<sup>16</sup>) are twice as high as the price of an analogous ICE vehicle, the total costs of ownership (TCO) of an EV compared to the TCO of its conventional (fossil fuel-based) analogue is lower (Table 3). It may be noted that purchase of a new EV is an attractive investment opportunity if comparison is made taking the full lifecycle costs and benefits into account.

**TABLE 2 TOTAL COSTS OF OWNERSHIP (TCO): ICE AND EV**

<b>New fossil fuel taxi</b>	<b>New EV taxi</b>
• CAPEX: 900,000	• CAPEX: 1,800,000
• OPEX (fuel): 275,000	• OPEX (electricity): 0
• O&M: 9,000 (1% CAPEX)	• O&M: 9,000 (0,5% CAPEX)
• Life-time: 10	• Life-time: 10
• Discount rate: 10%	• Discount rate: 10%
• Life-cycle cost: 2,700,000	• Life-cycle cost: 1,850,000

15. However, individual choices are being influenced by other short-term considerations, established preferences and convenience, and most importantly the limited availability of finance to afford the initial investment. The significant up-front cost of EV makes such investment not affordable for vast majority of potential consumers in Bhutan.
16. Specifically, through extensive consultation and interviews with potential EV buyers (taxi drivers) it has been established that the maximum amount of cash payment (equity) a buyer can provide up-front does not exceed 360,000 Nu (5,455 US\$), i.e. up to 20% of the EV retail price. The remaining funding gap, i.e. 80% of the CAPEX, has to be secured in the form of debt. However, current financial market regulation in Bhutan limits the total value of a loan that a commercial bank can provide to finance purchase of a vehicle to 30% of the CAPEX, i.e. 540,000 Nu (8,182 \$). This means that even if a potential buyer is willing to make a rational investment decision in favour of EV, there is a financing gap in the amount of 900,000 Nu (13,636 \$) or 50% of the CAPEX, which can't be covered through equity or debt and will have to be addressed through additional support mechanisms, such as concessional loan, grant financing and/or other financial incentives (Table 4).

**TABLE 3 BAU FINANCING FOR EVS**

	Nu	\$	%
CAPEX	1 800 000	27 273	100%
Equity available	360 000	5 455	20%
Loan maximum (30% - CAPEX)	540 000	8 182	30%
<b>Financing gap</b>	<b>900 000</b>	<b>13 636</b>	<b>50%</b>

17. Additionally, it is important to note that financial sector has insufficient knowledge about emerging low carbon emission transport technologies, such as EVs, and lack capacities, experience and positive track record with

<sup>16</sup> The price of the EVs varies strongly by type and make. As of 2017, there were 99 EVs in Bhutan with only few types and brands. Indian EVs, such as the Mahindra-Reva is a small car with limited range compared to the other EVs and therefore the demand for these models have been rather limited so far. Its price is around Nu. 8.3 lakh (\$12,700). The second vehicle is the Nissan Leaf with a cost of around Nu.18 lakh (\$27,500). According to the experience of the users in Bhutan, it can achieve up to 70 percent of the range as specified by the manufacturer. A new model of the Nissan Leaf is expected to be introduced to the market in 2018, with a reported range of 400 km. The other model, such as Tesla, is yet to enter the Bhutanese market due to its very high cost although it provides longer ranges compared to other EVs. The models to be supported and promoted by the project will be selected in the course of project implementation based on proposed technical specifications, as explained in Technical Annex B to UNDP-GEF Project Document.

evaluating such loans, hence a tendency to over-estimate the risks resulting in the higher costs of EV loans compared to the cost of finance for conventional ICC vehicles.

18. **Inadequate electric vehicle supply equipment (EVSE) (charging stations):** EVSE is one of the key elements for the successful dissemination of LEVs in Bhutan, as in any other country. IEA analysis looking at early EV market developments shows that the availability of chargers emerged as one of the key factors contributing to the market penetration of EVs. Availability of a sufficiently extended network of recharging stations is necessary to enable and incentivize users to switch to EVs and to reach a comparable level of ease of refuelling to that of ICE vehicles. Different models of EVs have different ranges from 100 km to above 300 km and new models can reach 350 to 400 km. Range of the EVs is expected to increase over time, however the theoretical range of EVs in real life is reduced due to factors such as geography, weather conditions and driving habits. Beside the spatial coverage of charging stations, the connectivity of different EV types and different types of charging station needs to be considered. There are different standards for the charging stations connectors, depending on the brand and the type of charging provided (i.e. slow and fast).
19. There are currently only five quick charging stations installed in four different areas in Bhutan, of which only three (two in the capital Thimphu and two in Paro including one at the airport) are fully operational and serve on average 100 EVs per month (cca 3 EVs per day). While the number of stations is appropriate for the current nascent stage of EV market, it is clearly not sufficient to support achievement of RGoB's ambitious EV deployment plans. The national policy framework is needed to provide investment and financial incentives for individuals, businesses and local authorities willing to invest in the installation of EVSE. For example, there is a need to simplify building code requirement and the adaptation of property and tenancy laws to integrate EVSE charging infrastructure in building and to simplify EVSE deployment.

## 2) Associated baseline projects

20. The project forms an integral part of a broader RGoB's efforts to reduce fossil fuel use and GHG emissions in the Bhutan's transport sector in line with the objectives of the National Transport Policy and the Low-emission Development Strategy. Specifically, under MOIC leadership the following initiatives are being pursued:
- ❖ **Green Transport City Programme for Thimphu, MoIC under World Bank Support** (for which the funding from the Green Climate Fund (GCF) is being requested in the amount of 1.5 mln US\$ for project preparation grant). The programme envisages the following activities: (a) Development of master plan for low emission transport in Thimphu, including public and private LEVs; (b) Technical preparations for Program investments including a BRT system, Bus Information System, e-ticketing technology, pedestrianization works, an upgraded city bus depot, an upgraded city bus terminal, non-motorized transport infrastructure, a signal control system, a parking management system, and an integrated traffic control centre; (c) Knowledge development and transfer activities to strengthen the institutions that manage transport in Bhutan. The key element of the proposed partnership is the need to ensure that support and strategic planning for low-emission public transport in Bhutan by the World bank (GCF) and UNDP (GEF) is well coordinated and complementary. Specifically, coordination is required on such issues as design and compatibility of EV charging infrastructure for vehicles and buses, as well as design of the public transport network for Thimphu and other areas so that buses and taxis do not compete but effectively complement each other and at the same time ensuring that sufficient priorities have been given to EV-based and non-motorized transport modes.
  - ❖ **NAMA for Enhancing the Urban Transport System in Bhutan:** Within the framework of UNDP-supported Low Emission Capacity Building (LECB) Programme, the Nationally Appropriate Mitigation Action (NAMA) to leverage financing for Enhancing the Urban Transport System in Bhutan has been developed which envisages, inter alia, the introduction of Intelligent Transport System (ITS) in public transport, such as cashless ticketing and real-time information system. The proposed UNDP-GEF project will coordinate efforts with planned ITS support measures, such as the development of web applications for taxi drivers and users to improve safety, comfort and quality of taxi services for end-users, in particular women.

### 3) Proposed alternative scenario, GEF focal area<sup>17</sup> strategies, brief description of expected outcomes and components of the project

21. The strategic objective of the project is to facilitate initial stage of low-carbon transition in the Bhutan's urban transport sector by promoting wider uptake of LEVs<sup>18</sup>, in particular the EVs since this is one of the priority interventions as per the Low emission development strategy, as the preferred fuel source for transport sector in Bhutan. The ambition and the expected scale of market transformation is to ensure that, by the end of the project, the share of EVs in the taxi fleet in the country has increased substantially from 1.6% up to 6.5% or in absolute numbers from 99 up to 399 vehicles. The project conforms to Program 3: Promote Integrated Low-Emission Urban Systems under the GEF focal area strategy of CC 2: Demonstrate Systemic Impacts of Mitigation Options
22. The project forms an integral part of a broader RGoB's efforts to significantly reduce fossil fuel import and its use to reduce GHG emissions in the Bhutan's transport sector in line with the objectives of the National Transport Policy and the Low-emission Development Strategy and based on the "Avoid-Shift-Improve (ASI)" framework. Under the ASI framework, RGoB collaborates with the World Bank on a larger "Green Transport City Program for Thimphu" initiative to support "Avoid-Shift" policies and investment to reduce the growth of motor vehicle use in Bhutan, specifically in the largest and most dynamic city, the capital Thimphu (Section IV for further details about the WB project)
  - "Avoid": focuses on reducing the demand for travel by promoting integrated planning and management of the urban environment (master plan for low emission transport in Thimphu);
  - "Shift": promotes switch from private motorized transport to a less carbon-intensive modes of transport, such as public transport (e.g. preparation of investment in bus-rapid transit system for Thimphu).
23. Realizing that the residual demand for public and private transportation will have to be met by individual motorized vehicles, the proposed UNDP-GEF project focuses on the third "Improve" (I) component of the ASI framework aiming at reducing energy and emission intensity of motorized transport by promoting the shift from traditional ICE vehicles to alternative low or zero carbon vehicles, such as EVs, while keeping the total number of vehicles on the roads at the same or even lower level than in the BAU.
24. Figure 4 presents ASI Framework for low-carbon transition of the Bhutan's transport sector and the role UNDP-GEF project is intended to play in its implementation.

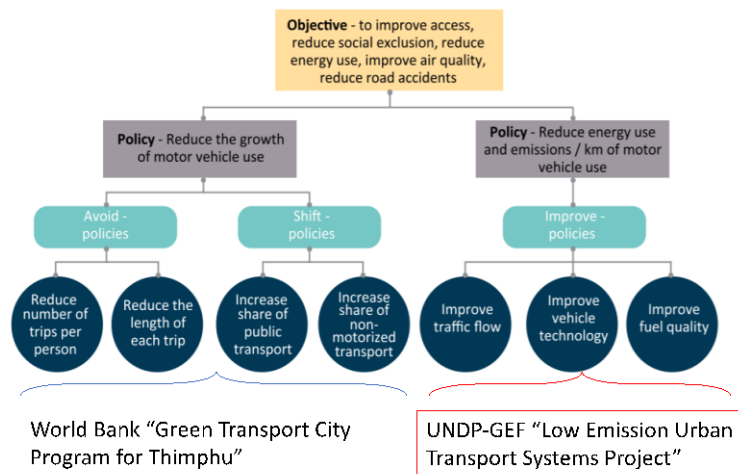
**FIGURE 4 ASI APPROACH TO LOW-CARBON TRANSPORT SECTOR DEVELOPMENT IN BHUTAN**

---

<sup>17</sup> For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving..

<sup>18</sup> LEVs include both EVs and hybrid vehicles, as well as other forms of e-mobility, e.g. e-motorbikes, e-cycles, and e-rickshaws





25. The UNDP-GEF project consists of three inter-linked components dealing with 1) policy derisking, 2) awareness raising and capacity building and, 3) investment support. The first component addresses policy barriers by supporting the development and implementation of enabling policy and regulatory framework for LEVs. The second focuses on barriers related to awareness and technical capacities of the various market stakeholders. The third component envisages the design and implementation of the financial support mechanism to address affordability barriers, as well as investment in the EVSE. These components retain all of the elements and intended outcomes elaborated at the PIF stage, but the elements have been streamlined and reorganized for greater clarity and ease of orderly implementation. Collectively, these components seek to put in place cornerstone policy instruments for LEV promotion, supported by technical, policy-related, educational, and financial measures to raise capacity, reduce investor risks and address the funding gap. The three components will involve various planned outputs and activities, all designed to remove the barriers enumerated above (please refer to Section IV of the UNDP-GEF Project Document for detailed description of project strategy and intended outcomes, outputs and activities).
26. 4) **Incremental reasoning and expected contributions from the baseline, the GEFTF and co-financing.**
27. Barriers, gaps and challenges to low-emission transport in Bhutan are presented in the Table 4, which also explains how those barriers will be addressed in the baseline and GEF alternative scenarios, and specifies the expected contribution of the project to baseline and its incremental reasoning.
28. Table 4 shows how the planned work addresses the barriers. Then in the following section, outputs and activities are presented in detail.
29. The project target Bhutan's taxi sector as the primary market segment to enable and promote wide-scale deployment of electric vehicles. The focus on taxi cabs as the primary target and eventual driving force for EV market transformation in Bhutan has been made based on the following considerations:
- *Higher potential for GHG emission reduction:* Even though taxis account for only 5% of the total vehicle fleet in Bhutan, their contribution to GHG emissions and fossil fuel use is 3 times higher, i.e. 15.53% of the fuel use/GHG emissions, due to higher travel intensity and higher annual mileage

- *Business case*: due to taxi's high mileage (cca 75,000 km/year), a switch to electric car use would make a stronger economic case and faster return on investment for taxi drivers due to higher level of cost savings from fossil fuel
  - *Visibility and Communication*: taxis offer high visibility with regard to awareness raising among the inhabitants of Bhutan and are effective and trusted source of information and knowledge about EVs operations and benefits among potential end-users
  - *Gender*: taxis are the main transport mode for Bhutanese women to access essential social services, such as health (See Figure 6). It is critical to ensure that this essential demand can be met in the most sustainable and low-carbon manner.
30. While the proposed project, due to its limited scope and budget, will target and directly support promotion of EV taxis (under Component 3), the goal in the long term is to incentivize EV uptake for other target groups (e.g. government and company fleets as well as private cars) through related policy work (Component 1) and capacity building (Component 2).
31. Component 1 ***“Policy support for low-emission transport”*** will address policy and regulatory barriers hampering growth of LEV market in Bhutan. It will put in place conducive policy and regulatory framework for LEVs which combines a range of fiscal and other economic incentives with enabling technical regulation. Specifically, the project will provide technical assistance to RGoB to identify, adopt and enforce a range of policy measures enabling operation of EVs, in particular E-taxis, develop roadmap for gradual phase-out of ICE vehicles, as well as regulation addressing environmental risks associated with EV operations and disposal. The scope of work under this Component will include both legal and technical support with drafting and implementing relevant policy documents, as well as capacity building and advisory support to relevant public agencies involved in policy design and implementation.
32. Component 2 ***“Awareness and capacity development”*** aims at addressing awareness, misperception and capacity gaps and constraints among wide range of transport market stakeholders. The project will conduct nation-wide awareness raising campaign targeting various categories of potential EV end-users (taxis, but also public at large), financial sector - about economic and other benefits of low-emission vehicles, as well as about new public policies and financial support mechanism to be developed under Component 1 and 3 respectively. It will develop and disseminate EV user information guide to clarify concerns regarding EVs (limited mileage, safety issue, gender-related concerns, batteries safe disposal and management, etc) and will promote sharing experience between existing and potential EV end-users, including women. This will form a basis to enhance awareness on customer behaviour, vehicle and battery performance, financial benefits, charging infrastructure and other support services. In order to strengthen institutional capacities, the project will support the establishment of coordination mechanism among public and donor agencies involved in low emission transport.
33. Component 3 ***“Investment in low-emission transport systems and support services”*** will address barriers related to affordability of and access to finance for LEVs, as well as investment in EVSE. It envisages partnership with the local financial institutions and regulator, design and implement an innovative financial support mechanism and financial product for EVs, including enabling revision of relevant banking and fiscal regulations, as well as capacity building for financial sector stakeholders. It will support expansion of the charging infrastructure network and establishment of a viable business model to ensure its sustainability, reliability and further growth.

#### **4) Incremental reasoning and expected contributions from the baseline, the GEFTF and co-financing.**

34. Barriers, gaps and challenges to low-emission transport in Bhutan are presented in the Table 4, which also explains how those barriers will be addressed in the baseline and GEF alternative scenarios, and specifies the expected contribution of the project to baseline and its incremental reasoning.

**TABLE 4 KEY PLANNED OUTPUTS AND ACTIVITIES TO ADDRESS BARRIERS BY THE PROPOSED UNDP-GEF PROJECT**



Barrier	Baseline	Alternative Scenario	Planned activities
Economic & financial	Lack of resources for the charging station network extension and maintenance.	<ul style="list-style-type: none"> <li>Charging network expansion is crucial to ensure the uptake of the EV in Bhutan. Even the existing infrastructure will have to be properly maintained to ensure quality and safety of the service to EV drivers. The proposed project's partners, government and private sector, will allocate sufficient resources for maintenance.</li> <li>Supporting models to mobilize resources (public and private) for expansion of the charging infrastructure will be identified.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 3.3.3 Procurement and installation of charging stations for EVs</li> <li>Activity 3.2.2 Identify and enable alternative sources of financial support to promote EV market development beyond project duration</li> </ul>
	Loss of taxi revenues due to recharging or problems during long distance journeys. Any stoppage time for the taxi drivers is seen as loss of business opportunities.	<ul style="list-style-type: none"> <li>Install fast chargers in Thimphu and at sufficiently small distances along main highways to minimize recharging time.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 3.3.3 Procurement and installation of charging stations for EVs</li> </ul>
	Initial investment cost for EVs is still too high. Existing financial incentives for supporting EV uptake are insufficient.	<ul style="list-style-type: none"> <li>The required level of financial incentives should be calculated carefully in order to understand its impact on the Total Cost of Ownership (i.e. the cost for purchasing, operating, and maintaining a vehicle over its lifetime).</li> </ul>	<ul style="list-style-type: none"> <li>Activity 3.1.1 Design of financial support mechanisms for EVs: National EV Discount Program for Taxi Drivers</li> </ul>
	State budget is in deficit and cannot be used to provide long-term incentives for EV uptake.	<ul style="list-style-type: none"> <li>Identification of a business model that can support EV purchase in the long term.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 3.2.2 Identify and enable alternative sources of financial support to promote EV market development beyond project duration</li> </ul>
Technical & Knowledge	Long recharging time limits attractiveness of EVs for consumers. Only those customers that can recharge the vehicle at home during night time, or at the workplace will be satisfied with slow chargers.	<ul style="list-style-type: none"> <li>Introduce fast chargers, see above.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 3.3.3 Procurement and installation of charging stations for EVs</li> </ul>
	Lack of experienced technicians to ensure maintenance of EVs and charging stations.	<ul style="list-style-type: none"> <li>Provision of capacity building and on-the-job training, ensuring sufficient mechanics have been trained to service all EVs in the country in a proper way.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 2.2.1 Development of EV user information guide and training package</li> </ul>
	Performance of the EV does not satisfy users (e.g. shorter ranges, shorter battery life than stated by manufacturer), given Bhutanese road conditions and ruggedness of the	<ul style="list-style-type: none"> <li>Only EVs with sufficiently high performance should be included in the programme to avoid dissemination of vehicles with insufficient performance that would impact negatively the consumers' attitude towards EVs.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 3.1.2 Preparing technical specifications and selection of qualified EV suppliers</li> </ul>

Barrier	Baseline	Alternative Scenario	Planned activities
	country. This has been one of the main issues with EV dissemination to date.		
	Proper handling and disposal of batteries is not guaranteed.	<ul style="list-style-type: none"> <li>To reduce potential future impacts of exhausted batteries the following measures should be taken: <ul style="list-style-type: none"> <li>Ensure training of relevant personnel in Bhutan, including south-south learning to share experiences among the countries</li> <li>Target vehicles that are sold with the option of battery takeback.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Activity 1.3.3 Supporting implementation of e-waste disposal and management regulation for EVs</li> </ul>
	Lack of awareness regarding EVs.	<ul style="list-style-type: none"> <li>Ensure dissemination of information among the public regarding environmental benefits of EVs, both at local and global level through media and social media campaigns.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 2.1.3 Implement nation-wide marketing and awareness campaign about EVs</li> </ul>
Political & institutional	Lack of continuous political support for EV dissemination over many years.	<ul style="list-style-type: none"> <li>It will be crucial to ensure sufficient political support in the country is provided and relevant institutional stakeholders are committed to supporting EV dissemination over many years.</li> </ul>	<ul style="list-style-type: none"> <li>Activity 1.2.2 Develop and adopt road-map and target for EV market development</li> </ul>
	Poor coordination and low level of commitment from relevant stakeholders.	<ul style="list-style-type: none"> <li>Key stakeholders in the RGoB will have to cooperate closely to ensure the successful implementation of the proposed project. Commitment over time is also another key element for success. Proposed mitigation measures are: <ul style="list-style-type: none"> <li>Ensure inclusion of main stakeholders in the design, implementation and supervision of the project</li> <li>Periodic inter-ministerial coordination to ensure alignment of priorities.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Activity 2.3.1 Strengthen cross-agency coordination mechanism</li> </ul>

35. Confirmed total co-financing amounts have decreased since what was included in the PIF, i.e. 10,3 mln USD compared to 15,9 mln USD. This is due to the fact that private co-financing can't be confirmed at the stage of CEO endorsement because the project will adopt competitive market-based approach to promoting LEVs and securing private sector co-financing commitment would compromise this approach. Furthermore, confirmed public sector co-financing has been significantly increased: Government committed substantial own resources in expansion, supporting and maintaining EVSE, as well as in provision of additional financial and fiscal incentives for EVs (See Table 5).

TABLE 5 CO-FINANCING

Co-financing source	Co-financier name	Co-financing type	Co-financing amount, US\$	Planned Activities/Outputs	Risks	Risk mitigation measures
National government	MoIC	in-kind	\$318 000	Project Management (staff, office, office expenses) and support to EVSE (grid connection, land allocation, etc)	Low Risk	The budget will be met from the Annual budget of the MoIC. If required supplementary

						<i>budget will be proposed</i>
<i>National government</i>	<i>MoIC</i>	<i>cash</i>	<i>\$10 000 000</i>	<i>Co-financing for charging stations, cost of O&amp;M for charging infrastructure, as well as cost of electricity for charging EVs, financial incentives for EV Discount Program (tax and import duties exemption)</i>	<i>Medium Risk</i>	<i>The Government will continue to allocate budget to meet the cost of O&amp;M of charging stations and allocate land for setting up charging stations</i>

36. As a result of EV Discount Program under Component 3 additional 6,7 mln USD will be leveraged from private sector in the form of equity from taxi drivers and commercial loans as explained in Tables 6 and 7. Therefore, cumulative expected co-financing by the project end will exceed the original target set forth at PIF.

**TABLE 6 FINANCING STRUCTURE FOR EV PURCHASE**

	Nu	%
CAPEX	1 800 000	100%
Equity (20%)	360 000	20%
Loan (60%)	1 080 000	60%
Discount (20%)	360 000	20%

**TABLE 7 COST OF PROPOSED FINANCIAL SUPPORT MECHANISM AND LEVERAGING RATIO**

	Discount per EV, \$	# of EVs	Total cost of EVs, \$	Leveraged co-financing, \$
Leveraging effect	5,538	300	8,181,818	6,646,152

## 5) Global Environmental Benefits

37. The UNDP Project Document elaborates on the global environmental benefits, including methodology, calculations and targets in Technical Annex B. Targets for global environmental benefits are provided in the Project Document Section VI, 'Project Results Framework'. See also the GEF CCM Tracking Tool (Annex D). At PIF approval, initial estimates of (combined direct and post project emissions) totaling 190,000 tCO<sub>2</sub> of cumulative GHG emissions reduction were targeted. At PPG stage, detailed analysis have been conducted and resulting direct and consequential emissions are higher under top down method as summarized in the Table 8 below.

**TABLE 8 AGGREGATED GHG EMISSION REDUCTIONS: DIRECT AND CONSEQUENTIAL**

<b>GHG Emission Savings (tCO<sub>2</sub>)*</b>	<b>2018-2020</b>	<b>2020-2030</b>
Direct	43,000	

Consequential (bottom-up)		93,000
Consequential (top-down)		410,000

*\*Estimates are rounded to tCO<sub>2</sub>e*

## 6) Innovativeness, sustainability and potential for scaling up

38. By addressing key risks and the underlying barriers that impede the development of the LEV sector in Bhutan, the project aims at creating conditions for sustainable LEV market growth. The key element of the Project's sustainability is its focus on the private sector as a driving force both on the supply and demand side of the market. However, taken into account the very nascent stage of LEV market in Bhutan, provisions of financial incentives through EV Discount Program, is envisaged to stimulate the demand in the initial market development phase. The need for continued provision of subsidies after 3 years of project duration will be assessed at mid-term and final project evaluation which will determine the need for and required scale of the continued financial support. Development of the global LEV market place, in particular in the neighbouring countries, India and China, will also have an impact on the prices, demand and general level of LEVs acceptance and awareness in Bhutan. Should there continue to be a need for additional public subsidies to stimulate greater LEV uptake, the project will identify and enable alternative sources of financial support to promote EV market development beyond project duration. This may include additional fiscal and financial incentives to market players (EV suppliers, banks or end-users), as well as request for international support, i.e. within the framework of parallel WB-GCF Green Transport City Programme.
39. As the specific project aims at the introduction of EV vehicles and a primary focus on taxis, the maximum scaling-up potential can be defined as the total number of taxis operated in Bhutan (i.e. 4,256), and later by the total number of vehicles (i.e. 60,889). The actual scaling-up will depend on the development of the cost gap between fossil fuel and EV technology, the overall performance of EVs and the availability of government policies supporting EV acquisition. It was conservatively assumed that a possible replication potential of the project is in the same range as the project itself: this would result in the introduction of 300 EVs every two years, overall, 1500 EVs could be introduced over a period of 10 years (representing a scaling-up factor of 5).

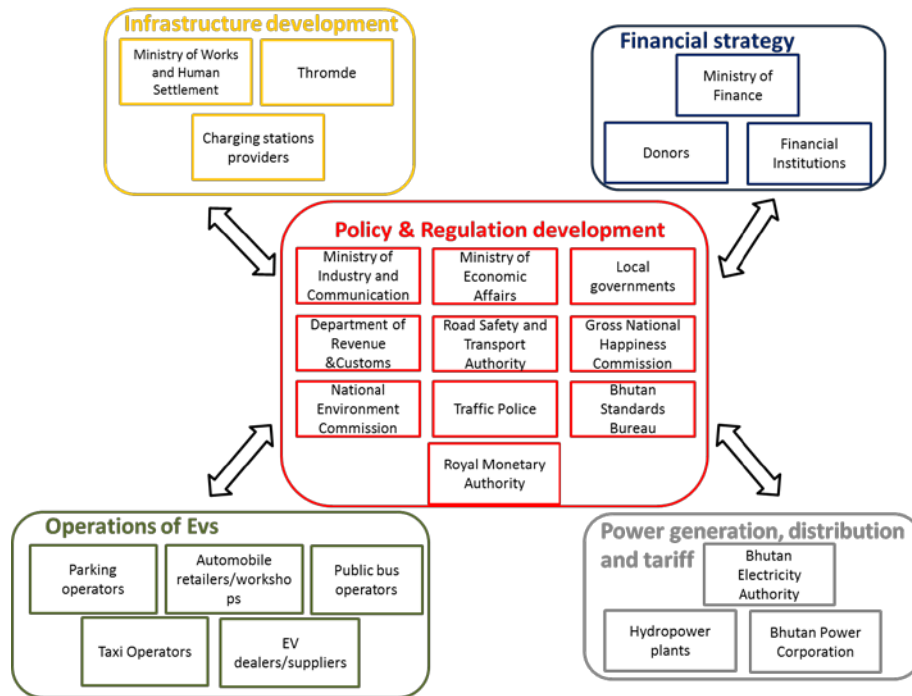
A.2. *Child Project?* If this is a child project under a program, describe how the components contribute to the overall program impact. N/a

A.3. Stakeholders. Identify key stakeholders and elaborate on how the key stakeholders engagement is incorporated in the preparation and implementation of the project. Do they include civil society organizations (yes X /no ☐)? and indigenous peoples (yes ☐ /no X)? <sup>19</sup>

40. Transforming the currently existing transport sector in Bhutan to a sustainable Low-emission Urban Transport System requires a good knowledge of the involved stakeholders and their needs. Finally, they have to change their behaviour and develop willingness to invest in and use new modes of transportation to achieve a transformational change in the entire transport sector. In the following section, a brief overview of relevant stakeholders is presented. Figure 5 summarizes the main stakeholders in Bhutan that are involved in transport sectors. The stakeholders are clustered in four groups, according to the role they play in this sector: Policy & regulation development; infrastructure development; financial strategy; power generation, distribution and tariff; and operations of EVs.

<sup>19</sup> As per the GEF-6 Corporate Results Framework in the GEF Programming Directions and GEF-6 Gender Core Indicators in the Gender Equality Action Plan, provide information on these specific indicators on stakeholders (including civil society organization and indigenous peoples) and gender.

**FIGURE 5 STAKEHOLDERS INVOLVED WITH LOW-CARBON TRANSPORT**



41. The main stakeholder for the implementation of the Project is the Policy and Planning Department of the Ministry of Information and Communication. It is the executing agency of the RGoB responsible for promoting the development of reliable and sustainable information, communications and transport networks and systems. The Ministry is responsible to enhance access to sustainable, green and inclusive public transport, which this project fits well within their purview and mandate of surface transport. Further information about and roles of the various stakeholders is presented in the Annex F to UNDP-GEF Project Document.

42. Indigenous people - There are no "indigenous people" as such in Bhutan, as defined by international conventions and protocols.

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men. In addition, 1) did the project conduct a gender analysis during project preparation (yes X /no ☐)?; 2) did the project incorporate a gender responsive project results framework, including sex-disaggregated indicators (yes X /no ☐)?; and 3) what is the share of women and men direct beneficiaries (women 50%, men 50%)? <sup>20</sup>

43. An efficient transport infrastructure is by far an important conduit to spurring the economic development of a city. Transport networks are considered important elements of a country's infrastructure and key to poverty reduction and promoting equality. Mobility is experienced differently by men and women due to gendered roles. Further economic, social and livelihood status greatly influence mobility of men and women. Literature indicate that mobility patterns of women are more complex, have inferior access to transportation and carry higher travel burden

<sup>20</sup> Same as footnote 8 above.

than men. Women not only contribute to the formal economy but provide fundamental services which are generally unrecognized and unpaid tasks such as care-giving and home-making. Given the opportunity in better health, education, employment, etc women contribute to the well-being of their communities and to the nation at large. To achieve balanced and sustainable development recognizing gender needs in transportation has become imperative.

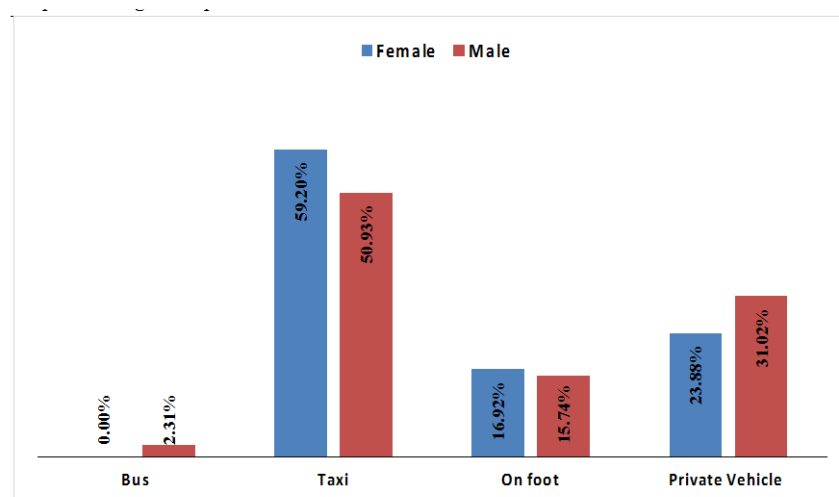
44. The Gender Analysis for the Low Emission Urban Transport Project was conducted to analyze gender needs in urban transportation to develop an action plan to ensure gender is adequately mainstreamed into the project. Key Findings from the assessment indicate:

- Mobility needs are higher for women in urban areas than men
- Taxis (34.5%) are more preferred compared to buses (18.3%) and other modes
- More women (38%) prefer taxis compared to men (31%)
- Women assumes higher share of travel burden compared to men
- Women have inferior access to transportation than men
- Use of public transport by women is highest for Going to Hospital as compared to other purposes
- Personal safety is of high concern while using urban transportation both for passengers and taxi drivers, especially female taxi drivers

45. Key recommendations included in the project Gender Action plan (Please refer to Annex G to UNDP-GEF Project Document for full details on conducted gender analysis and action plan) are as follows<sup>21</sup>:

- Ensure equal access of Female Taxi Drivers to EV Discount Program
- Ensure all female taxi drivers benefit and participate in the capacity building program offered by the project on EV maintenance and operations
- Development of Intelligent Transport System to improve comfort and safety of female taxi end-users
- Enhance Facilities of Taxi Stands
- Raise awareness and building capacity of relevant authorities on the important of gender mainstreaming in transport policies

**FIGURE 6 PREFERRED TRANSPORT MODE FOR MEN AND WOMEN IN BHUTAN**



Source: Gender Analysis

<sup>21</sup> At the Inception workshop, feasibility of implementing and attaining the proposed indicators will be further defined and agreed upon.

**A.5 Risk.** Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Project risks			
Description	Type	Impact & Probability	Mitigation Measures
Inadequate E-waste management & disposal of used batteries	Environmental	P = 3 I = 3	Enabling regulation on e-waste management and its enforcement will be proposed, as well feasibility study to explore opportunities for domestic re-use and recycling scheme and implementation of pilot project to demonstrate proposed feasible options for re-use and/or recycling
EV Technology failure	Operational	P = 3 I = 3	The project will introduce strict technical qualification criteria for qualified EV suppliers and will offer additional training to taxi drivers and technicians involved in O&M services
Low uptake of financial support mechanism	Market	P = 3 I = 3	The project proposes staged approach to EV Discount Program roll-out. After pilot first stage, evaluation will be conducted to assess its effectiveness and demand and corrective measures proposed in case demand is weak (i.e. stronger incentives will be proposed) or on the contrary if the program is over-subscribed the level of discount may be reduced.
Sustainability of financial support mechanism	Financial	P=3 I = 2	Project will work with RGoB to explore other alternative, domestic and international sources of financing to ensure sustainability of the EV financing program, but only after evaluation of the pilot and prove that such continuation is indeed needed. The project will develop an exit strategy for the incentive programme towards sustained financial mechanisms. It is also expected that with enforced regulatory regimes in future and as the sales of EV grows globally, price reductions and technological performance could create sustained demand with private sector participation without additional incentives.
Potential delays in implementation of the required policy and regulatory changes may jeopardize the effectiveness and impact of the EV Discount Program	Policy	P=2 I = 3	Firm commitment has been secured from the RGoB regarding feasibility of timely implementation of the required policy and regulatory reforms, in particular revision of financial regulations. This has also been confirmed through consultation with relevant authorities and inclusion of relevant provisions in the key national strategic and planning documents.

**A.6. Institutional Arrangement and Coordination.** Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

46. The project will be implemented in accordance with the National Implementation Modality (NIM) agreed between the Royal Government of Bhutan (RGoB) and UNDP. It implies that all management aspects of the project are the responsibility of the national authority. However, the national authority remains accountable to the UNDP Country Office (CO) for production of the outputs, achievement of objectives, use of resources provided by UNDP, and

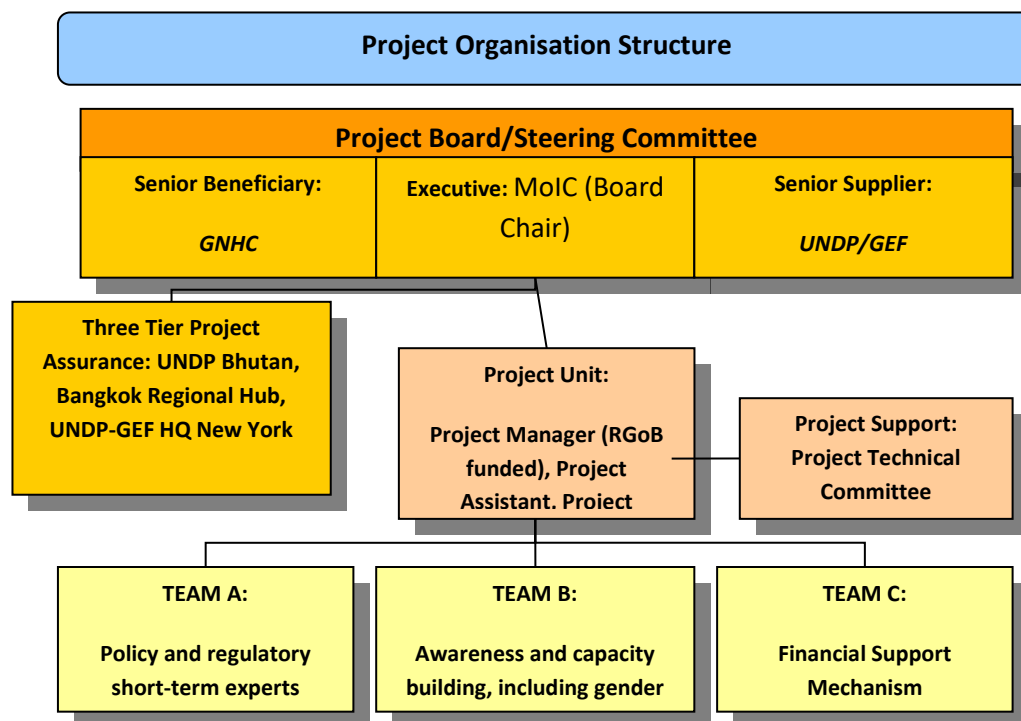


financial / technical progress reporting. UNDP CO in turn remains accountable for the use of resources to the UNDP Executive Board and the project donors.

47. The Implementing Partner for this project is MoIC. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The Implementing Partner is responsible for:

- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

48. The project organisation structure is as follows:



49. **Project Board:** The Project Board (also called Project Steering Committee) is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions, and addressing any project level grievances. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. The following are the proposed list of Project Board members and will be chaired by Honorable Secretary, MoIC:

- Gross National Happiness Commission
- Ministry of Finance
- Road Safety and Transport Authority
- National Environment Commission
- Thimphu Municipality
- Bhutan Power Corporation



- Ministry of Information and Communications.









50. **Executive:** The Executive is an individual who represents ownership of the project who will chair the Project Board. This role can be held by a representative from the Government Cooperating Agency or UNDP. The Executive is: Secretary, MoIC. The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and supplier.
51. **Senior Supplier:** The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is the GEF. Specific Responsibilities (as part of the above responsibilities for the Project Board)
- Make sure that progress towards the outputs remains consistent from the supplier perspective;
  - Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
  - Ensure that the supplier resources required for the project are made available;
  - Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes;
  - Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.
52. **Senior Beneficiary:** The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. The Senior Beneficiary is: GNHC.
53. The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people.
54. **Project Manager:** The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Implementing Partner appoints the Project Manager, who should be different from the Implementing Partner's representative in the Project Board.
55. **Project Assurance:** UNDP provides a three – tier supervision, oversight and quality assurance role – funded by the GEF agency fee – involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. This project oversight and quality assurance role is covered by the GEF Agency.

Additional Information not well elaborated at PIF Stage:

**A.7 Benefits.** Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

56. Bhutan, especially the capital Thimphu, is facing some of the typical problems associated with traffic growth, i.e. growing distances travelled, traffic congestion, local air pollution, negative impact on health, decreasing road safety, social exclusion and inefficient land use. Further, since the transport sector is entirely reliant on imported fossil fuel, the rapid increase of private internal combustion engine (ICE) vehicles results in increasing fossil fuel imports. The import of the petroleum products in particular diesel and petrol grew at about 9% from US\$ 10m (Nu. 721m) in 2002 to about US\$ 90m (Nu. 6 billion) in 2013<sup>22</sup> and US\$ 115m (Nu. 7.53 billion) in 2016. This exerts budgetary pressures on foreign exchange accounts and exposes the country to energy security risk.
57. Emissions of air pollutants are among the most pressing urban environmental challenges faced by Bhutan. For example, emissions for Particulate Matter (PM10) are rapidly increasing: 6-fold increase has been recorded between 2006 and 2011, with some values even overcoming 75 µg/m<sup>3</sup> threshold, i.e. the highest level allowed for sensitive hotspots, such as hospital or school areas. Even if PM10 are not only produced by diesel engine vehicles (other particulate producers are mainly building construction and wood fire cooking), the impact of road transport on these concentrations is likely a large contributor<sup>23</sup>.
58. The proposed project will help address the pressing social, economic and environmental problems associated with rapid traffic growth. It will also contribute to SDG achievement, as set out in Table 9.

**TABLE 9: CONTRIBUTION OF LOW-EMISSION VEHICLES TO SDGS**

SDG Indicator	Rationale
	Improve accessibility of essential public services for all, including most vulnerable population groups and women with creation of livelihood opportunities in the Low Emission transport sectors
	Reduction of harmful emissions at local level reducing associated health impacts (i.e. respiratory diseases, deaths) Noise reduction
	Improved comfort and safety for women, through mobile application to monitor fare overcharge and ensure safety for those travelling, especially during the night Facilitate access in the EV market providing training to women drivers
	Provision of a suitable model to support use of clean energy in the passenger transport subsector, switching from fossil fuel use
	Creation of new jobs in the EVs market Support innovation and industrial development Reduction of fossil fuels imports
	Improvement of air quality at urban level and availability of low-carbon transport modes
	Support Bhutan in entering a new market and to develop sufficient technological knowledge and experience in the country
	Reduction of GHG emission associated with fossil fuel use in transport sector

<sup>22</sup> Bhutan Energy Data Directory 2015, Department of Renewable Energy, MoEA

<sup>23</sup> ADB 2011. Capacity Buildings of the National Environmental Commission in Climate Change. Transport Sector Report.

**A.8 Knowledge Management.** Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

59. All components of the Project will contribute to generation and sharing of new knowledge, as specified in the table below. These items will form a knowledge platform for the Project and will be used to build the capacity of relevant stakeholders. Each knowledge product will be tailored to its target audience and appropriate communication channels will be identified. Further, results from the Project will be disseminated within and beyond the Project's intervention zone through existing information sharing networks and forums. The Project will identify and participate in, as relevant and appropriate, scientific, policy-based and/or other networks, which may benefit from the Project's lessons learned. The Project will identify, analyze and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this Project and other GEF-funded projects of a similar focus.

Component	Knowledge Product	Activity
Component 1	Policy and regulatory gap analysis for EVs	Activity 1.1.1
	Technical norms, standards, regulations and guidelines enabling operations of EVs and EVSE	Activity 1.1.3
	Policy guidelines and regulations for disposal and recycling of EV batteries	Activity 1.3.1
Component 2	EV user information guide and training package	Activity 2.2.1
	Awareness and outreach materials	Activity 2.1.3
Component 3	Design of financial support mechanisms for EVs: National EV Discount Program	Activity 3.1.1
	Evaluation and lessons learned from EV Discount Program	Activity 3.1.4

## **B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

**B.1 Consistency with National Priorities.** Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

60. *Bhutan's Vision 2020*, a 20-year strategy for national development, places transport and infrastructure development at the core of its strategy and, inter alia, highlights the need for development of a safe, reliable and comfortable system of public transport. Since then a *National Strategy and Action Plan for Low Carbon Development* has been prepared, which identifies significant additional GHG emission reduction potential in the road transport sector (i.e. by 15% by 2040 on top of forecasted decrease by 8% in the BAU).

61. *Bhutan National Transport Policy 2006* (currently being updated), *Draft National Transport Policy 2017* vision is to provide the entire population with a safe, reliable, affordable, convenient, cost-effective and environmentally friendly transport system. The policy supports the principles of inclusiveness, sustainability, sound asset management, effective governance and an emphasis on low carbon transport solutions such as Electric Vehicles (EVs).

62. The *Nationally Determined Contribution (NDC)* submitted in 2015 affirmed the Royal Government of Bhutan's (RGoB) target of remaining carbon neutral, which was pledged in 2009 at the 15th session of the Conference of the

Parties to UNFCCC. The NDC notes that the emissions from transport are showing a rapidly increasing trend and includes the promotion of low carbon transport system as a key mitigation measure. *Bhutan's First National Communication (2000) and Second National Communication (2011) to UNFCCC* both report significant contributions of the energy sector to national GHG emissions. Options for the transport sector proposed include promotion of alternative fuels, electric and hybrid technologies and mass transport options.

63. The 11<sup>th</sup> Five-Year Plan (2013-2018) includes “*Carbon neutral/green and climate resilient development*” as one of the 16 key results and the plan envisages introduction of eco-friendly, safe, reliable and affordable transport, as well as alternative modes of transport. Draft 12th Five-Year Plan (2019-2024) identifies promotion of EVs to address environmental issues and reduce dependency on fossil fuels as one of the key programmes envisaged for the transport sector and contributes to National Key Results Area 6 – Carbon Neutral, Climate and Disaster Resilient Development Enhanced.
64. In order to establish clean, safe and affordable and reliable mass transportation systems, *the Economic Development Policy (EDP) 2017* explicitly recommends introduction of electric/hybrid public transport system in major urban centres by 2017. It encourages to provide subsidy and incentives in the targeted intervention where economic viability is at stake due to low mass.
65. The draft “*Vehicles Emission Road Map*” under development proposes a comprehensive packages of policy measures to control vehicle emissions which Bhutan intends to implement until 2025 to maintain clean air and reduce transport CO2 emissions additionally by 25%, including specifically development of a low-carbon vehicle roadmap with clear incentive instruments and targets. RoadMap emphasizes the need for international climate finance to support its implementation and achievement of GHG emission reduction targets.

### **C. DESCRIBE THE BUDGETED M &E PLAN:**

66. The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.
67. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP and UNDP Evaluation Policy](#). The UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the [GEF M&E policy](#) and other relevant GEF policies<sup>24</sup>.
68. In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.<sup>25</sup>

### **M&E Oversight and monitoring responsibilities:**

<sup>24</sup> See [https://www.thegef.org/gef/policies\\_guidelines](https://www.thegef.org/gef/policies_guidelines)

<sup>25</sup> See [https://www.thegef.org/gef/gef\\_agencies](https://www.thegef.org/gef/gef_agencies)

69. Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.
70. The Project Manager will develop annual work plans based on the multi-year work plan included in Annex, including annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. ESMP, gender action plan, stakeholder engagement plan etc..) occur on a regular basis.
71. Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.
72. Project Implementing Partner: The Implementing Partner is responsible for providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used and generated by the project supports national systems.
73. UNDP Country Office: The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR, the *independent mid-term review* and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.
74. The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the [UNDP POPP](#). The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).
75. UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.



76. **Audit:** The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.<sup>26</sup> While the project audits will be conducted by the Royal Audit Authority in line with standard practice in Bhutan, these will be annual and must be consistent with UNDP audit requirements.

**Additional GEF monitoring and reporting requirements:**

77. Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:
- a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
  - b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
  - c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
  - d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
  - e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; SESP, Environmental and Social Management Plan and other safeguard requirements; project grievance mechanisms; the gender strategy; the knowledge management strategy, and other relevant strategies;
  - f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
  - g) Plan and schedule Project Board meetings and finalize the first year annual work plan.
78. The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.
79. GEF Project Implementation Report (PIR): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.
80. The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.
81. Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous

---

<sup>26</sup> See guidance here: <https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx>

information exchange between this project and other projects of similar focus in the same country, region and globally.

82. GEF Focal Area Tracking Tools: The following GEF Tracking Tool(s) will be used to monitor global environmental benefits: The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted as Annex to this project document – will be updated by the Project Manager/Team (not the evaluation consultants hired to undertake the MTR or the TE) (indicate other project partner, if agreed) and shared with the mid-term review consultants and terminal evaluation consultants before the required *review/evaluation* missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.
83. Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 2<sup>nd</sup> PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the [UNDP Evaluation Resource Center \(ERC\)](#). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.
84. Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the [UNDP Evaluation Resource Center](#). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publically available in English on the UNDP ERC.
85. The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.
86. Final Report: The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>27</sup> (US\$)		Time frame
		GEF grant	Co-financing	
<b>Inception Workshop</b>	UNDP Country Office	USD 3,000		Within two months of project document signature
<b>Inception Report</b>	Project Manager	None	None	Within two weeks of inception workshop
<b>Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP</b>	UNDP Country Office	None	None	Quarterly, annually
<b>Risk management</b>	Project Manager Country Office	None	None	Quarterly, annually
<b>Monitoring of indicators in project results framework</b>	Project Manager	Per year: USD 2,000		Annually before PIR
<b>GEF Project Implementation Report (PIR)</b>	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
<b>NIM Audit as per UNDP audit policies</b>	UNDP Country Office	Per year: USD 500		UNDP/RGoB projects are audited by Royal Audit Authority as per NEX manual between RGoB & UNDP
<b>Lessons learned and knowledge generation</b>	Project Manager			Annually
<b>Monitoring of environmental and social risks, and corresponding management plans as relevant</b>	Project Manager MOIC	2,000		On-going

<sup>27</sup> Excluding project team staff time and UNDP staff time and travel expenses.



GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>27</sup> (US\$)		Time frame
		GEF grant	Co-financing	
<b>Stakeholder Engagement Plan</b>	Project Manager MOIC			On-going
<b>Gender Action Plan</b>	Project Manager UNDP Country Office UNDP GEF team			On-going
<b>Addressing environmental and social grievances</b>	Project Manager UNDP Country Office			On-going
<b>Project Board meetings</b>	Project Board UNDP Country Office Project Manager MOIC	3,000		Twice per year
<b>Supervision missions</b>	UNDP Country Office	None <sup>28</sup>		Annually
<b>Oversight missions</b>	UNDP-GEF team	None <sup>28</sup>		Troubleshooting as needed
<b>GEF Secretariat learning missions/site visits</b>	UNDP Country Office and Project Manager and UNDP-GEF team	None		To be determined.
<b>Mid-term GEF Tracking Tool to be updated by</b>	Project Manager	None		Before mid-term review mission takes place.
<b>Independent Mid-term Review (MTR) and management response</b>	UNDP Country Office and Project team and UNDP-GEF team	USD 20,000		Between 2 <sup>nd</sup> and 3 <sup>rd</sup> PIR.
<b>Terminal GEF Tracking Tool to be updated by</b>	Project Manager	None		Before terminal evaluation


<sup>28</sup> The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>27</sup> (US\$)		Time frame
		GEF grant	Co-financing	
				mission takes place
<b>Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response</b>	UNDP Country Office and Project team and UNDP-GEF team	USD 20,000		At least three months before operational closure
<b>TOTAL indicative COST</b>		USD 55,500		
Excluding project team staff time, and UNDP staff and travel expenses				

### **PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)**

#### **A. GEF Agency(ies) certification**

**This request has been prepared in accordance with GEF policies<sup>29</sup> and procedures and meets the GEF criteria for CEO endorsement under GEF-6.**

<b>Agency Coordinator, Agency Name</b>	<b>Signature</b>	<b>Date (MM/dd/yyyy)</b>	<b>Project Contact Person</b>	<b>Telephone</b>	<b>Email Address</b>
Adriana Dinu Director, Sustainable Development (Environment) a.i.  Executive Coordinator, Global Environmental Finance		03/15/2018	Usha Rao RTA-EITT	+662-304- 9100 Ext. 5038	<a href="mailto:Usha.rao@undp.org">Usha.rao@undp.org</a>

<sup>29</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT  
GEF6 CEO Endorsement /Approval Template-August2016

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

This project will contribute to the following Sustainable Development Goal (s): SDG 11 and SDG 13					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document (CPD): Outcome 1 “Sustainable and green economic growth that is equitable, inclusive, climate and disaster resilient and promotes poverty reduction, and employment opportunities particularly for vulnerable groups enhanced” Relevant CPD Output 1.1 “Increased capacities for integrated natural resource management, climate change adaptation and mitigation capacities, and poverty-environment linkages”, Indicator “Number of ‘green’ industries, services and products promoted”					
This project will be linked to the following outputs of the (draft) UNDP Strategic Plan 2018-2021: Outcome 2 Accelerate structural transformations for sustainable development					
	Objective and Outcome Indicators	Baseline <sup>30</sup>	Mid-term Target <sup>31</sup>	End of Project Target	Assumptions <sup>32</sup>
<b>Project Objective:</b> <i>To facilitate the initial stage of low-carbon transition in the Bhutan’s urban transport systems as the preferred choice of mobility in Bhutan</i>	[GEF CCM Tracking tool] Lifetime direct GHG emissions avoided as a result of project-facilitated increase in LEVs	N/a	1,145 tCO2/year or 14,330 tCO2/ lifetime	3,440 tCO2/year or 43,000 tCO2/ lifetime	Please refer to Technical Annex B: Feasibility study for complete list of assumptions used in GHG emission reduction analysis
	[GEF CCM Tracking tool] Number of users of low emission vehicles (including female)	N/a	100,000 passengers per year for 100 EV taxis, including at least 50% (50,000) female	300,000 passengers per year for 300 EV taxis, including at least 50% (150,000) female	Modal share of taxi remains at the same level as in the baseline, e.g. 69% in Thimphu, as estimated by the Gender Assessment
	[GEF CCM Tracking tool] Volume of investment mobilized and leveraged by the project for low-emission vehicles, of which: - public (mln US\$)	N/a	Private: 2,180,000\$ (80% of 100 EVs) Public: 2,700,000 \$: (cca Nu.180.00 million - value of tax	Private: 6,545,000\$ (80% of 300 EVs) Public: 10,318,000\$: (Nu.540.00 million - value of tax	The commitment from Royal Government of Bhutan continues to promote EVs

<sup>30</sup> Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

<sup>31</sup> Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

<sup>32</sup> Risks must be outlined in the Feasibility section of this project document.

GEF6 CEO Endorsement /Approval Template-August2016

	- private (mln US\$)  [UNDP Strategic Plan 2018-2021, Output 2.5.1] “Amount of resources brokered by UNDP for investment in renewable energy and zero-carbon development”		incentives/import duty exemption for 100 EVs + at least 11 charging stations)	incentives/import duty exemption for 300 EVs + 45 charging stations)	
<b>Component/Outcome 1</b> <i>By the end of the project period required policy and regulatory environments are in place to support the promotion of low emissions transport systems</i>	Status of national targets for introduction of LEV	There are no officially approved target for EVs in Bhutan	National target for LEV proposed and adopted, including appropriate technical and financial justification	National target for LEV adopted	There is a potential for uptake of EVs due to clean hydro power generation
	Status of regulations enabling and incentivizing investment in LEV and support infrastructure	Package of fiscal incentive in place providing for exemption from VAT tax and import duties	At least 3 additional EV enabling regulations proposed	At least 3 additional EV enabling regulations proposed and adopted	The financial institutions support the proposed rules and regulations
	Status of regulations addressing e-waste disposal and management issues	No regulations	Regulations addressing e-waste disposal developed and proposed for adoption	Regulations addressing e-waste disposal adopted and piloted	The regulations are adopted and implemented by regulating agencies
	Number of public transport policy makers and transport staff and officials trained (including female)	N/a	100 (50 female)	100 (50 female)	There is enough interest among females to participate in the transport sector
<b>Component/ Outcome 2</b> <i>By the end of the project period institutions and consumers are fully aware and knowledgeable on the EVs</i>	Status of coordination mechanism among public and donor agencies involved in low emissions transport	No coordination mechanism in place	Coordination mechanism in place	Coordination mechanism in place	Commitment, ability and sufficient power of authority of the lead governmental agency, MOIC, to coordinate relevant transport sector stakeholders
	Share of taxi drivers willing to switch to EV	At least 25% of taxi drivers are willing to switch to EV car	At least 50% of taxi drivers are willing to switch to EV car	At least 75% of taxi drivers are willing to switch to EV car	Baseline assumption is based on Gender Assessment
	Number of taxi drivers (including	N/a	200 (and all current	1,000 (and all current	The training

	female) benefitting from training and information about technical, safety and financial aspects of LEV ownership		women drivers - 35 female)	women drivers - 35 female)	module are developed as per the requirement and taxi drivers are interested to avail the training program
<b>Component/ Outcome 3</b> <i>By the end of the project period necessary financial support/incentive mechanisms are in place to increase investment in low emission transport systems and support services</i>	Number of new EV purchases enabled by the project	N/a	100	300	Provided incentives and enabling policy and regulatory framework are adequate and sufficient to stimulate the switch to EVs
	[12th FYP] Number of electric vehicles registered				
	[CPD draft 2.3.3] Zero or low emissions vehicles uptake				
	Status of the financial support mechanism to promote LEV investment	N/a	Financial support mechanism piloted with GEF support	Financial support mechanism is operational on sustainable basis with the level of investment support reflecting changes in market development (gradual decrease)	The financial support mechanism is endorsed by regulatory authorities and it is attractive for taxi drivers to make a switch
	Leveraged investment in EV and support infrastructure enabled	N/a	Private: 2,180,000\$ (80% of 100 EVs) Public: 2,700,000 \$: (cca Nu.180.00 million - value of tax incentives/import duty exemption for 100 EVs + at least 11 charging stations)	Private: 6,545,000\$ (80% of 300 EVs) Public: 10,300,000\$: (Nu.540.00 million - value of tax incentives/import duty exemption for 300 EVs + 45 charging stations)	The taxi drivers are willing to meet the cost of EVs given its advantage over fossil based cars

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

**Responses to STAP Comments (8 May 2017)**

Comment	Response
1. Consider several transport options including e-motorbikes, e-cycles, and e-rickshaws. Giving the short distances involved, these are feasible options that can be implemented and that can help reduce greenhouse gas emissions, while also easing the challenge of traffic congestion and provide other developmental and social benefits.	The project has considered other low-emission vehicles (LEVs), including hybrid cars and electric buses during the feasibility study and proposes a range of comprehensive activities for the overall EV sector: Component 1 to develop regulations enabling operations of different kinds of electric vehicles; Component 2 to conduct nation-wide marketing and awareness campaign about e-mobility in general; Component 3 to support investment in electric vehicles supply equipment (EVSE) that would enable charging for the wide spectrum of EV models and types thus establishing conducive environment and infrastructure for e-mobility in Bhutan. Feasibility study (Technical Annex B to UNDP-GEF Project Document) conducted at PPG stage of the project assessed several low-carbon transport options and their feasibility in the context of Bhutan and considered E-taxis for the initial phase of conversion of fleets based on a number of factors (as elaborated in UNDP-GEF ProDoc, page 15), including the largest potential for GHG emission reduction compared to other transport segments and the need to ensure cost-effective of GEF investment. Decongestion will be addressed through regulations and limiting incentives for replacement fleets and further complemented by transport policy and a proposal of the WB to GCF. The project will also ensure that the additional EV taxis supported from the project will replace the existing taxi fleet to avoid adding to congestion issues.
2. Also, the options of walking and cycling infrastructure should be considered beyond Thimphu especially given the short distances involved. Taking action on improving this infrastructure would also provide feeders to connect with the main city bus lines	The need for walking and cycling infrastructure has been extensively discussed with the Government and other project stakeholders during PPG phase of the project. Through this consultation, it has been acknowledged that the design of and investment in this infrastructure should be as part of a broader work on developing a master plan for low emission transport and the investment program for its implementation. Recognizing that scale of required investment to develop such master plan and investment program is beyond the budget available through the GEF project, the Government of Bhutan decided and submitted through the World Bank a request for US\$ 1,500,000 from the Green Climate Fund (GCF) for the following activities: a) development of master plan for low emission transport in Thimphu and b) Technical preparations for Program investments including a BRT system, Bus Information System, e-ticketing technology, pedestrianization works, an upgraded city bus depot, an upgraded city bus terminal, <b>non-motorized transport (NMT) infrastructure</b> , a signal control system, a parking management system, and an integrated traffic control centre. Regarding NMT, the GCF project will identify and prepare conceptual design options for: (i) a North-South cycle way running the length of Thimphu's primary transport corridor (approximately 16-18 km); and (ii) new footpaths and proposals for enhancements to existing footpaths within Thimphu Thromde's geographical boundaries; (iii) new level crossings and enhancements to existing level crossings within Thimphu Thromde's geographical boundaries; (iv) enhancements to pedestrian safety related works throughout Thimphu Thromde's geographical boundaries. In view of this anticipated GCF-supported project and at the request of the Government, NMT-related activity has been removed from the scope of the proposed GEF project to avoid duplication.
3. While investment in EV taxis is good, it is	Project development team acknowledged that taxi-to-bus ratio in Bhutan is indeed high and there is a need to lower the ratio by promoting and

Comment	Response
<p>encouraging that the project also seeks to invest in EV buses. This will ensure that the project contributes to lowering the current taxi-to-bus ratio in Bhutan, which is not environmentally- or people-friendly at the moment. The investment in EV buses when implemented along with the other options suggested above, could help move transportation toward mass transit with added climate and social benefits.</p>	<p>improving the quality of bus services. However, the Low Emission Development Strategy highlights that the replacement of conventional buses with EVs alone won't solve the underlying problems associated with public transport such as traffic congestion and in providing safe and affordable public transport to larger population with lesser public buses currently operating in Thimphu. Therefore, with the GCF project, the Government plans to prepare a Program investments in improvement of bus transport system, including the design of a BRT system and procurement of EV buses for new BRT network. The GEF project does envisage some complementary activities which would benefit and enable operation of EV buses, such as training to drivers and technicians on EV maintenance and operations, as well as EVSE. Specifications for EVSE in particular include provisions that the infrastructure can be used both by individual EVs, as well as buses.</p> <p>Lastly, in order to ensure that the proposed project doesn't lead to increase in new taxi in Bhutan specific provisions were made in the eligibility requirements for National EV Discount Program that only taxi drivers whose vehicles are due to retire will be allowed to receive financial incentives. Through this measure, the project will ensure that new EV taxis replace existing fossil fuel-based ones and do not increase the total fleet of taxis in the country.</p>
<p>4. It is suggested that the emission reduction potential (avoided emissions expected) be recalculated using the GEF guidance document for transportation projects â€“ <a href="https://www.thegef.org/sites/default/files/publications/GEF_CalculatingGHGbenefits_webCD_1.pdf">https://www.thegef.org/sites/default/files/publications/GEF_CalculatingGHGbenefits_webCD_1.pdf</a></p>	<p>GHG emission reductions have been estimated as prescribed in the GEF “Manual for Calculating Greenhouse Gas Benefits of Global Environment Facility Transportation Projects” (GEF 2011). Additional to the GEF Manual, Clean Development Mechanism (CDM) methodologies have been reviewed for the determination of the emission reduction potential as the CDM framework is well-developed and provides internationally well recognized methodologies for the calculation of emission reductions from transport projects. Finally, default values from the Intergovernmental Panel on Climate Change (IPCC) have been applied where appropriate (see IPCC 2006). Full methodology and results of GHG emission reduction calculations are presented in the section 4 of the Feasibility study (Technical Annex B to UNDP-GEF Project Document) and summary of the results in the Project Document Section VI, ‘Project Results Framework’.</p>
<b>Canada’s Comments</b>	
<p>1. We share STAP’s concerns regarding how potential GHG emission reductions were calculated and this should be clarified in the final funding proposal.</p>	<p>See response to previous comment.</p> <p>Detailed step-by-step methodology and results of GHG emission reduction calculations are presented in the section 4 of the Feasibility study (Technical Annex B to UNDP-GEF Project Document) and summary of the results in the Project Document Section VI, ‘Project Results Framework’.</p>
<p>2. Additional information on why the project hybrid vehicles are included as an option to reduce GHG emissions when battery electric vehicles have been shown to be the more cost-effective option would be useful. Battery-operated bicycles, rickshaws and other smaller vehicles might also be viable.</p>	<p>We agree and this was confirmed by the feasibility study conducted at PPG stage that electric vehicles represent the most cost-effective option for Bhutan from a range of considered low emission vehicles and therefore only EVs will be promoted under the National EV Discount Program and will be eligible for incentive. The level of support/incentive will be based on performance and hence, would be lower for hybrids as compared to EVs. Thus, creates a clear preference with incentive mechanisms and regulations/standards and promotes best available options. However, as described earlier, the project will indirectly benefit other low emission vehicles (LEVs), such as hybrid vehicles, e.g. by establishing EVSE infrastructure.</p>
<p>3. The project suggests using GEF resources to invest in 20</p>	<p>Indeed, the initial proposal to use GEF funds to “demonstrate” EVs in Bhutan has been found not strategic and not sufficiently cost-effective.</p>



Comment	Response
electric vehicles as a demonstration. However, there are already electric vehicles being used, including for taxis, in Bhutan that could serve as a demonstration. Has offering incentives for taxi owners to change their old taxis into EVs been considered?	Instead, financial support mechanism in the form of <i>National EV Discount Program</i> has been designed through which incentives will be provided (up to 20% of the EV costs) to stimulate up-take of EVs. This will also enable project to reach higher targets and increase the current stock of EVs by a factor of 4 as opposed to small-scale investment in just 20 vehicles. The strategy to provide incentives, as suggested in this comment, has indeed proved to be more effective way to promote and scale-up investment in EVs.
<b>Germany's comments</b>	
Germany welcomes the proposed project proposal that aims at shaping the transport sector of Bhutan in a sustainable and climate friendly way. Germany suggests taking a closer look at the informal sector, mentioned as a key factor in urban transportation; however, challenges (and opportunities) are not clearly addressed throughout the proposal. Moreover, the private sector plays an important role and is expected to leverage significant co-financing. In this context, Germany recommends to further evaluate the risk of lacking interest and investment from the private sector as well as the possibility of using public private partnerships (PPP).	<p>The project will be inclusive and also formalize the taxis and regulate the sectors for optimal operations. This will be addressed by establishing strict eligibility criteria for taxi drivers for participation in the National EV Discount Program, which include, inter alia, the requirement that only registered and licenced taxi drivers with minimum 5 years of experience and positive track record will be eligible for the EV purchase discount. The project will also look into policy and regulatory framework to bring out reforms in the transport sector for effective and efficient public transport systems.</p> <p>With regard to public-private partnership, the project under Activity 3.3.2 will provide assistance to the Government to design contractual and financial agreements and select qualified private sector service provider to operate national EVSE infrastructure on a PPP basis.</p> <p>The project will work with the private sector in terms of service delivery through supply and O&amp;M of EV vehicles, and has potential to create job opportnuities in green sectors. In addition, the project will leverage co-financing from individual taxi drivers (up to 80% of the cost of the vehicle) as equity. This will demonstrate a very good model of PPP.</p>

## ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS<sup>33</sup>

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: <b>USD100,000</b>			
<i><b>Project Preparation Activities Implemented</b></i>	<i><b>GEF/LDCF/SCCF Amount (\$)</b></i>		
	<i><b>Budgeted Amount</b></i>	<i><b>Amount Spent as of Nov. 8, 2016</b></i>	<i><b>Amount Committed (but not yet spent)</b></i>
Activity 1 - Initiate Studies & Surveys	30,000	25,666	4,334
Activity 2 - Conduct Logical Framework Analysis Workshop	20,000	13,671	6,329
Activity 3 - Identification & Assessment of Demonstration Sites	10,000	10,000	0
Activity 4 - Detail Design of Project Components & Activities	15,000	15,000	0
Activity 5 - Conduct of Stakeholder & Project Partner Coordination Meetings	5,000	5,000	0
Activity 6 - Preparation of UNDP ProDoc and GEF CER	17,500	17,097	403
Activity 7 - Finalization of UNDP ProDoc and GEF CER	2,500	0	2,500
<b>Total</b>	<b>100,000</b>	<b>86,434</b>	<b>13,566</b>

<sup>33</sup> If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

**ANNEX D: CALENDAR OF EXPECTED REFLOWS** (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/a