



# GEF-7 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: GEFTF

## PART I: PROJECT INFORMATION

Project Title: Support the Shift to Electric Mobility in Togo			
Country(ies):	Togo	GEF Project ID:	10272
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01723
Project Executing Entity(s):	Ministry of Environment and Forestry Resources	Re-submission Date:	May 2021
GEF Focal Area (s):	Climate Change Mitigation	Expected Implementation Start:	October 2021
		Expected Completion Date:	September 2025
Name of Parent Program	Global Programme to Support Countries with the Shift to Electric Mobility	Parent Program ID:	10114

## A. FOCAL/NON-FOCAL AREA ELEMENTS

Programming Directions	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Confirmed Co-financing
CCM 1-2	Promote innovation and technology transfer for sustainable energy breakthroughs for electric drive technology and electric mobility	GEF TF	423,716	1,220,000
Total project costs			423,716	1,220,000

## B. PROJECT DESCRIPTION SUMMARY

**Project Objective: Mitigate GHG emissions by accelerating the introduction of electric mobility in Togo through the development of a policy framework, capacity building and demonstration of electric motorcycles to prepare for upscaling and replication.**

Project Components/ Programs	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
Component 1. Institutionalization of low-carbon electric mobility	TA	1. The government adopts a strategy for the promotion of low-carbon electric mobility by establishing a coordinated institutional framework.	1.1 An inter-sectorial electric mobility coordination body is established  1.2 A national strategy for electric mobility, including gender sensitive business development in the transport sector is developed and submitted for adoption.  1.3. Key stakeholders from public and private sector are trained in the Global Electric Mobility Programme activities (national and regional	GEFTF	82,000	165,000

Project Components/ Programs	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
			workshops, trainings and thematic working groups).			
Component 2. Short term barrier removal through low-carbon e-moto-taxi demonstration and charging development	TA INV	2. Demonstrations provide evidence of technical, financial and environmental sustainability to government and transport companies to plan for scale-up of low-carbon electric mobility.	2.1. A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration including a low-carbon charging scheme, and a data collection framework are developed along with the reporting and analytical framework.  2.2. Demonstration vehicles and charging equipment are procured, staff trained, the demonstration project is implemented, monitored and data are collected, analysed and disseminated.	GEFTF	150,116  TA 102,616 INV 47,500	245,000
Component 3. Preparing for scale-up and replication of low-carbon electric mobility	TA	3. Government creates conditions for removing existing barriers by drafting regulatory reforms and financial mechanisms for adoption of e-mobility in the country	3.1 Fiscal policies and regulatory schemes are developed to incentivize the uptake of electric mobility.  3.2: An e-mobility business roundtable including private sector and financial institutions is established to develop financial schemes and concepts for e-mobility upscaling	GEFTF	75,400	665,000
Component 4. Long-term environmental sustainability of low-carbon electric mobility	TA	4. Long term sustainability of low carbon electric mobility is ensured by government institutions	4.1. A study to integrate renewable power for electric vehicle recharging is carried out.  4.2 A scheme for collection, re-use, recycling and sound disposal of used electric vehicle batteries is developed and submitted for adoption.	GEFTF	50,900	35,000
Monitoring and Evaluation					30,300	-
Subtotal					388,716	1,110,000
Project Management Cost (PMC)				GEFTF	35,000	110,000
<b>Total project costs</b>					<b>423,716</b>	<b>1,220,000</b>

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: **Not applicable.**

## 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	Investment Mobilized	Amount (\$)
Recipient Country Gov.	Ministry of Environment and Forestry Resources	In-Kind	Recurrent expenditures	140,000
Recipient Country Gov.	Ministry of Mines and Energy	Public Investment	Investment mobilized	500,000
Recipient Country Gov.	Ministry of Mines and Energy	In-Kind	Recurrent expenditures	100,000
Recipient Country Gov.	Ministry of Infrastructure and Transport	Grant	Investment mobilized	300,000
Recipient Country Gov.	Ministry of Infrastructure and Transport	In-Kind	Recurrent expenditures	100,000
GEF Agency	UNEP	Grant	Investment mobilized	60,000
GEF Agency	UNEP	In-Kind	Recurrent expenditures	20,000
<b>Total Co-financing</b>				<b>1,220,000</b>

Describe how any “Investment Mobilized” was identified:

- UNEP is contributing with a grant of USD 60,000, which UNEP has mobilised through the European Commission funded Solutions Plus project (Grant Agreement number: 875041 — SOLUTIONSplus — H2020-LC-GV-2018-2019-2020/H2020-LC-GV-2019, started implementation January 2020). This grant is to build upon an existing project with EV demonstration activities, and to replicate lessons learnt from the SOLUTIONSplus demonstration projects. where businesses, local authorities, and public transport providers in other cities are invited to submit proposals to replicate the business models and demonstration efforts. The call for proposals will respect both local and EU legal requirements. The grant portion will be used for the procurement of charging equipment and for targeted support of local innovators to install and /or operate the equipment.
- The Investment Mobilized through Ministry of Mines and Energy is based on the Blitta solar photovoltaic power plant in the central region of Togo implemented by Ministry of Mines and Energy. It is estimated, that by 2030 about 2% of the power plants electricity output will be consumed by electric 2&3wheelers. Therefore, the investment mobilized is estimated at approximately 2% of the investment value of the Blitta power plant (USD 25,134,000) which equals about USD 500,000. There is a great potential for synergies between electric 2&3 wheelers and mini- and micro-grids used for electrification in rural area. E-mobility can contribute to solving the issue of low power demand in rural areas which can jeopardise the profitability and sustainability of rural electrification projects. Electrification of last-mile travel modes such as 2&3 wheelers could be a means of making mini-grid applications more profitable while providing a clean and relatively cheap fuel (when compared to gasoline used in conventional motorcycles) for local population. As part of the work under Output 4.1, the project will aim to make clear linkages between e-mobility and solar off-grid electricity solutions.
- The investment mobilized by Ministry of Transport is based on grants received through the World Bank projects specified in the co-financing letter. The World Bank project “Togo - Trade and Logistic Services Competitiveness Project” targets the professionalization of transport sector workers and the review and development of the regulatory framework of the transport sector. The World Bank “Infrastructure and Urban Development Project” targets 1.) the improvement of urban infrastructure; and 2.) institutional strengthening for improved urban planning and infrastructure development. The project aims at the joint implementation of capacity building activities, trainings and policy development, where applicable.

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

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b)	Total (c)=(a)+(b)
UNEP	GEF TF	Togo	Climate Change	CCM 1-2	423,716	38,134	461,850
<b>Total GEF Resources</b>					<b>423,716</b>	<b>38,134</b>	<b>461,850</b>

#### E. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? ☐ YES ☒ NO

If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund.

#### F. PROJECT'S TARGET CONTRIBUTIONS TO GEF 7 CORE INDICATORS

Update the relevant sub-indicator values for this project using the methodologies indicated in the Core Indicator Worksheet provided in Annex F and aggregating them in the table below. Progress in programming against these targets is updated at mid-term evaluation and at terminal evaluation. Achieved targets will be aggregated and reported any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Project Core Indicators		Expected at CEO Endorsement
6	<b>Greenhouse Gas Emissions Mitigated</b> (metric tons of CO <sub>2e</sub> )	Direct: 134,135 tCO <sub>2</sub> Indirect 312,272 tCO <sub>2</sub>
11	Number of <b>direct beneficiaries disaggregated by gender</b> as co-benefit of GEF investment	Women: 515 Men: 826 Total: 1,341

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

##### GHG emissions mitigated:

The Methodology for the estimation of GHG reductions and energy saving are illustrated in section “1.b.6) Global Environmental Benefits” and also in greater details in Annex M.

##### Direct Beneficiaries:

The number of direct beneficiaries is the combination of:

- The number of participants in workshops, trainings and events organized as part of the project is estimated to a total of 91 people. Of these 91 people, it is conservatively estimated that at least 15 women<sup>1</sup> will participate in meetings, trainings and events organized either as part of this project or through the Global Electric Mobility Programme (including the Africa Support and Investment Platform).
- Users of the demonstration vehicles: the number of unique passengers being transported by the demonstration electric vehicles (up to 25 e-mototaxis) throughout the project duration has been obtained based on assumptions on total lifecycle trips, average amount of passengers as well as assumptions on trips per unique passenger we estimate the demonstration beneficiaries to amount to 500 women (40%) and 750 men (60%)<sup>2</sup>.

<sup>1</sup> As explained in the section on Gender mainstreaming, the project has taken into consideration the very low ranking of Togo in terms of gender equality when setting its female target in the Direct Beneficiary Core Indicator for participants in project events, trainings or meetings, to avoid creating unrealistic and overambitious expectations.

<sup>2</sup> Based on punctual data on mode choice by gender published in “Gender and Transport in Less Developed Countries: A Background Paper in Preparation for CSD-9”, Paper commissioned by UNED Forum as input for the workshop "Gender Perspectives for Earth Summit 2002: Energy, Transport, Information for Decision-Making" Berlin, Germany, 10 - 12 January 2001.



## G. PROJECT TAXONOMY

Please update the table below for the taxonomic information provided at PIF stage. Use the GEF Taxonomy Worksheet provided in Annex G to find the most relevant keywords/topics/themes that best describe the project.

Level 1	Level 2	Level 3	Level 4
<b>Influencing models</b>	Transform policy and regulatory environments		
	Strengthen institutional capacity and decision-making		
	Demonstrate innovative approaches		
	Convene multi-stakeholder alliances		
	Deploy innovative financial instruments		
<b>Stakeholders</b>	Private Sector	Capital providers	
		Financial intermediaries and market facilitators	
		Large corporations	
		SMEs	
		Individuals/Entrepreneurs	
	Civil Society	Community Based Organization	
		Non-Governmental Organization	
		Academia	
	Type of Engagement	Information Dissemination	
		Consultation	
		Participation	
<b>Capacity, Knowledge and Research</b>	Capacity Development		
	Knowledge and Learning	Innovation	
		Knowledge Management	
		Innovation	
		Capacity Development	
		Learning	
<b>Gender Equality</b>	Gender Mainstreaming	Beneficiaries	
		Women groups	
		Sex-disaggregated indicators	
	Gender results areas	Access to benefits and services	
		Participation and leadership	
<b>Focal Areas/Theme</b>	Climate Change	Climate Change Mitigation	Sustainable Urban Systems and Transport
			Energy Efficiency
			Renewable Energy
			Technology Transfer
<b>Rio Markers</b>	Climate Change Mitigation 2		
	Climate Change Adaptation 0		

## **PART II: PROJECT JUSTIFICATION**

### ***1a. Changes in project design***

*Describe any changes in alignment with the project design with the original child project concept note (i.e. changes in component, outcome or output wording, changes in GEF funds allocation per component/outcome, changes in co-finance commitments and allocation per component/outcome, etc.).*

Compared to the initial concept, the Togo child project components have been reworded as follows:

<b>Component</b>	<b>Concept Note statement</b>	<b>CEO Endorsement Document statement</b>	<b>Explanations for the changes</b>
Component 1	Develop legal, regulatory and institutional framework to support electric mobility uptake in Togo	Institutionalization of low-carbon electric mobility	Harmonization of country child project component statements across the Global Electric Mobility Programme
Component 2	Demonstration of electric motorcycles and cars and establishment of measurement, re-reporting & verification (MRV) framework	Short term barrier removal through low-carbon e-mobility demonstrations	
Component 3	Preparation of scale-up and replication of electric mobility	Preparing for scale-up and replication of low-carbon electric mobility	
Component 4	Promotion of long-term sustainability of electric mobility	Long-term environmental sustainability of low-carbon electric mobility	

While the initial concept targeted the demonstration of electric cars and electric 2&3 wheelers, the final project focuses on the demonstration of up to 25 electric moto-taxis, alongside the required charging infrastructure, and including solar charging. The Technical Assistance needed to implement the project has been reinforced and additional partners have been included to manage the selection of the private sector stakeholders for the demonstration project and to support with procurement of the demo vehicles.

At the time of the PFD submission, the estimated co-finance was US\$ 1,496,000, including US\$ 374,000 of in-kind from the Ministry of Environment and Forestry Resources and US\$ 1,122,000 of public investment from the Ministry of Mines and Energy of Togo. While the total co-finance committed at CEO Endorsement is slightly lower than the total amount estimated at PFD, the project has managed to broaden the base of co-finance partners, as follows:

<b>Co-finance partner</b>	<b>Estimated co-finance contribution as per the PFD (US\$)</b>	<b>Committed co-finance at CEO Endorsement (US\$)</b>	<b>Explanation for the changes</b>
Ministry of Environment and Forestry Resources (recurrent expenditures)	374,000	140,000	The in-kind contribution from the Ministry of Environment is slightly lower, since it will receive support from other ministries in the execution of this project
Ministry of Mines and Energy (investment mobilized)	1,122,000	500,000	Calculations on investment mobilized through renewable power projects have been refined to a more realistic value.
Ministry of Mines and Energy (recurrent expenditures)	0	100,000	New co-finance committed
Ministry of Infrastructure and Transport (investment mobilized)	0	300,000	New co-finance committed
Ministry of Infrastructure and Transport (recurrent expenditures)	0	100,000	New co-finance committed
UNEP (investment mobilized)	0	60,000	New co-finance committed
UNEP (recurrent expenditures)	0	20,000	New co-finance committed
<b>Total</b>	<b>1,496,000</b>	<b>1,220,000</b>	

Given that Togo is a Least Developed Country (LDC) and that e-mobility is a very new (and therefore unknown) market in the country, it has been challenging to obtain additional co-financing commitments for the Togo e-mobility project at this stage. However, based on the discussions and consultations held during the project development phase, it is foreseen that the project will have opportunities to leverage additional co-finance during the implementation phase:

- As explained in Component 2 of the “3) Proposed Alternative Scenario” section further down, the Togo GEF project intends to support the procurement of up to 25 demonstration electric motorcycles, with the GEF funds only covering the incremental costs vis-à-vis ICE motorcycles. The rest of the cost is to be funded by a private sector partner, which will be selected as part of the Component 2 activities. This means a total of USD 25,000 (25 x USD 1,000) of additional cash co-finance will be raised once the private sector partner is selected.
- The project development team has also been in close contact with mobility service providers based in Togo, such as GOZEM and TaxieTogo. The latter is a subsidiary of Motorhino, which is assembling electric motorcycles in Denmark and China. Both companies have expressed keen interest in being part of the project, although they were not able to commit to co-finance contributions at this stage.
- In addition, as further explained in the CEO Endorsement document, GOZEM is partnering with a local bank (Coris Bank International) to offer preferential financing to individual mototaxi owners. This model can be potentially used to upscale e-motorcycle financing in Togo, which will be also tabled at the e-mobility business roundtables (Component 3).
- During bilateral discussions held with the West African Development Bank (BOAD) office in Lomé, they signaled their interest to support the financing of e-mobility up-scaling once the demonstration project (Component 2) will have proven the technical and economic viability of e-motorcycles in Togo.
- Furthermore, the project also intends to partner with the AfDB, which is the main financier of the CIZO rural electrification project (as mentioned further down in the CEO Endorsement Document). The CIZO project aims to promote large-scale electrification of rural Togo through a solar micro and mini-grid system. Component 4 of the GEF project also focuses on renewable energy power integration and aims at establishing links between solar off-grid power generation and rural electric mobility.
- Finally, the GEF project has also identified interest from UNTAPPED, a venture capital company based in San Francisco (with teams in East Africa, West Africa, the Caribbean and Europe), with regards to their intention to potentially provide lease financing for electric vehicles.

## ***1b. Project Description***

### **1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed**

#### Global environmental problem:

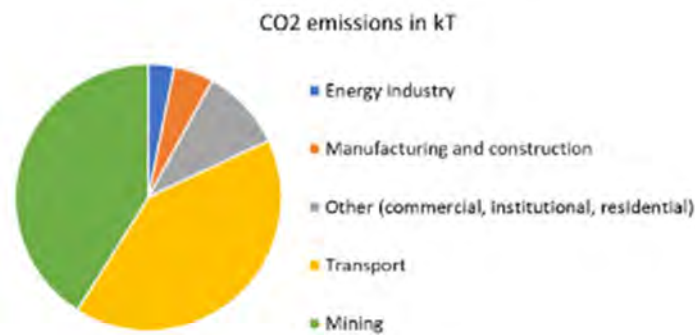
A global transition to low- and zero- emission mobility is essential to meet international climate commitments, including the Paris Climate Agreement. The transport sector is currently responsible for approximately one quarter of energy-related carbon dioxide emissions, this is expected to grow to one-third by 2050. In addition, the transport sector is a leading contributor to short-lived climate pollution, especially black carbon.

The global vehicle fleet is set to double by 2050, and almost all this growth will take place in low- and middle-income countries. By 2050 two out of three cars will be found in developing countries. This means that achieving global climate targets will require a shift to zero emissions mobility in all countries, including low- and middle-income ones.

In Togo, the transport sector accounts for more than 40% of energy use related emissions and is, besides mining, the single largest source of CO<sub>2</sub> emissions (Figure 1). Unlike mining, the transport sector is seeing high annual growth rates. Between 2005 and 2017, CO<sub>2</sub> emission from fuel combustion more than doubled<sup>3</sup>.

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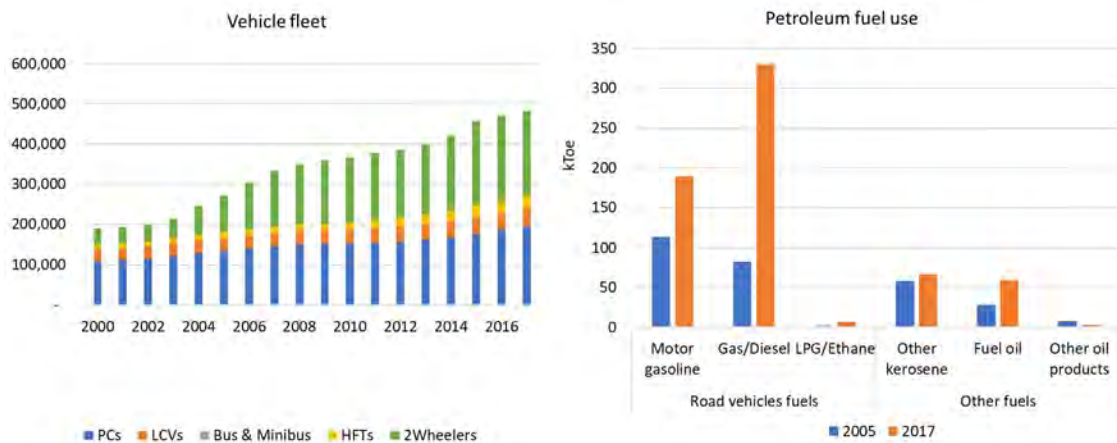
<sup>3</sup> IEA Fuel Combustion Highlights 2019, IEA 2019



**FIGURE 1 ENERGY USE RELATED CO2 EMISSIONS**  
(SOURCE: THIRD NATIONAL COMMUNICATION ON CLIMATE CHANGE 2016)

Between 2004 and 2017 the vehicle fleet in Togo almost tripled (Figure 2), with most of the growth coming from 2-wheelers. While there were around 40,000 motorcycles in Togo in 2000, this number increased five-fold to about 210,000 motorcycles in 2017, with most of these motorcycles being used as taxis. These motorcycles are very cheap and basic models being imported from either China or India, with only a few coming from Japan. Their technology is simple, based on engines with carburettors and no emission control. They thus are highly polluting and contribute to deterioration of air quality in urban areas in Togo. The fleet of private passenger cars also almost doubled over the observed 17 years. The strong growth of the motorcycle and passenger car fleet also reflects the lack of public transport alternatives to satisfy travel demand.

At the same time, the use of petroleum fuel grew significantly. Between 2005 and 2017, the consumption of motor gasoline almost doubled while the consumption of diesel grew by almost 250%.



**FIGURE 2 GROWTH OF THE VEHICLE FLEET AND PETROLEUM FUEL USE IN TOGO**  
(SOURCE: PROJET TRANSPORT DURABLE A FAIBLE EMISSION, GFEI 2019 AND IEA WEBSITE 2019)

With no refineries of its own, Togo is entirely reliant on imports to meet its refined petroleum product requirements. The quality of fuels has come under criticism in the last few years owing to the high level of sulphur and other additives that are not permitted in more developed parts of the world. Following the trends, the oil import bill is projected to continue its upward trajectory unless there is an intervention. Fuel prices at the pump are about USD 1.1 per liter for gasoline.

According to the World Bank Energy Support and Investment Project<sup>4</sup> installed capacity amounted to 205 MW of domestic power generation in 2016, of which 100 MW are based on the Contour Global Heavy Fuel Oil (HFO) power plant, 50 MW are based on diesel generation, 30 MW are based on hydro and 25 MW are based on open cycle gas turbine

<sup>4</sup> Togo Energy Support and Investment Project, Report No: PAD2304, World Bank 2017

generation (Communauté Électrique du Bénin, CEB). Interconnection capacity is about 95 MW for power import, which is mostly based on hydro generation. In 2015, 90 percent of Togo's electricity was imported from Nigeria and Ghana through CEB's interconnections, with the rest being supplied by Contour Global and other minor domestic sources. Since most of the imported electricity is based on hydro, the carbon footprint is estimated to be around below 0.2 kgCO<sub>2</sub>/kWh. Grid electricity in Togo has therefore a low carbon content, with immediate and substantive GHG emission reductions if used in electric vehicles. Electricity price is about USD 29Ct/kWh.

Without any intervention, transport energy demand and CO<sub>2</sub> emissions are projected to grow at rates observed over the past two decades. This growth in energy use and emission will go hand-in-hand with increased air pollution and expenditures on petroleum fuel import. The objective of this project is to support Togo with the introduction of electric vehicles in privately and publicly operated passenger transport fleets and to help decouple increasing transport demand from energy use and CO<sub>2</sub> emissions.

#### Root causes and barriers:

Although Togo's per capita GDP was only at USD 578 in 2016<sup>5</sup> (nominal), economic growth is averaging at about 5% p.a. over the past ten years, mostly driven by trade and services. The transport sector is a key enabler to sustained economic growth but lack of infrastructure, influx of large amounts of old and polluting vehicles and an underdeveloped public transport sector are hampering adequate movement of people and goods. Nonetheless, with increasing economic activity, transport demand is projected to grow, and energy use and emissions will grow accordingly, which has been identified to be a root cause.

Clearly, the low purchasing power in Togo is another root cause preventing market uptake of cleaner and more efficient vehicles (both new and used). The necessity for a large share of the population to live from hand to mouth with very little capacity to save money and little access to affordable finance to invest into income-generating assets is one of the reasons for the proliferation of very cheap and polluting vehicles with low technology standards and short lifetime. This is amplified by the lack of capacity to put in place strategies to enable the provision of clean and efficient public transport services. For example, SOTRAL, the state-owned bus operating company in Lomé, currently owns a fleet of about 90 12m city buses, but only a third are operational<sup>6</sup>. Although the service provided by public buses is very much appreciated by customers mostly due to the lower costs, it does cover only a few lines in Lomé and is thus not a means of satisfying transport demand.

The lack of funding for public transportation is a root-cause that leads to the proliferation of small and unregulated private transport operators. The presence of a multitude of private taxi and moto-taxi operators who either own their vehicle or who work as drivers for owners of small fleets of vehicles, render the public transportation system expensive (compared to disposable income), inefficient and insecure.

Barriers preventing the adoption of electric mobility in Togo can be summarized as the following: little awareness about electric mobility, insufficient institutional capacity and coordination, inadequate policy frameworks, absence of financial mechanisms and business models taking into account the local conditions to invest in electric mobility and undersupply of the market with electric vehicles.

Currently there is no experience in Togo with procurement, operation and maintenance of electric vehicles in fleets because the vehicles are not currently available in the Togolese market, and therefore the concept is yet to be proven. Nonetheless, the interest of taxi fleet operators to buy and use electric moto-taxis is high, based on the discussions held during the project development phase and the keen interest expressed by local partners such as Gozem, Motorhino/Taxietogo, and driver unions. Gozem, a ride-hailing service provider, is considering the use of electric vehicles as part of their existing fleet, while Taxietogo/Motorhino already has 5 electric motorcycles in use as part of its fleet in Lomé. Once proved technically, operationally and financially viable, financing institutions and private investors are ready to finance the purchase of electric motorcycles. It is the aim of this project to provide this evidence by demonstrating adequate electric motorcycles for use as moto-taxis in Togo.

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<sup>5</sup> Togo Infrastructure and Urban Development Project, Report No PAD2414, World Bank 2018

<sup>6</sup> <http://www.codatu.org/actualites/focus-bus-acquisitions-and-donations-the-sotral-experience-in-lome-togo/> accessed 2019

Several ministries and government agencies are involved in transport policymaking. These include the Ministry of Transport and Infrastructure, the Ministry of Mines and Energy, the Ministry of Environment and Forestry Resources, the Ministry of Economy and Finance, and the Ministry of Trade, Industry, Private Sector Development and Local Consumption and the Ministry of Urban Development and Housing. Coordination of government stakeholders with often contradicting objectives and limited knowledge about electric mobility is a serious barrier to the introduction of the technology.

Current policy frameworks do not cater for the adoption of electric vehicles. Vehicle importation duties are based on vehicle price and provide no incentive to choose more efficient technology. Togo so far has no age limit for the importation of vehicles, which leads to an influx of very old, cheap and polluting vehicles. Administrative processes for vehicle registration are not adapted for the registration of electric vehicles. The energy sector so far is not ready for independent power producers to feed in renewable electricity into the transmission and distribution grid. No technical regulation for EV charging exists neither are there policies in place which allow charging companies to offer their service.

There are no financial support mechanisms to incentivize investment in electric vehicles. The objective of targeted financing is to achieve annual, monthly or weekly total costs of ownership of an electric vehicle below a comparable conventional vehicle (depending on the type of vehicle, i.e. an electric bus in a public transport fleet, an electric car in a taxi fleet or an electric motorcycle owned by the motorcycle taxi driver) by stretching the payment of the higher upfront investment over longer re-payment and repaying the over higher investment costs through substantially lower operation and maintenance costs.

The absence of such financing mechanisms in combination with the relatively small market for electric vehicles provides little incentive for importers to offer electric vehicles in Togo. So far, only one importer is offering electric motorcycles in the Togolese market and no other EVs can be purchased newly. While the barrier for official car dealerships to sell new electric vehicles in developing countries is high, i.e. due to internal classification within manufactures to only sell products where the adequate operation can be guaranteed, spare parts can be provided and skills of the local workforce are sufficient to provide high-quality maintenance, there is no such barrier for the importation of electric motorcycles. The Danish/Togolese company Motorhino is starting to sell electric motorcycles in Togo, including the provision of aftermarket services and maintenance, with only a few e-motorcycles being sold so far (~ 5). It is the aim of the project to increase the offer for electric motorcycles in Togo, including the provision of spares and the ability to maintain these vehicles. The project in Togo will build on the experience gained in similar projects in Kenya, Uganda and Rwanda, where considerable potential for e-2&3wheeler import, assembly, manufacturing and operation is already existing.

## **2) Baseline scenario and any associated baseline projects**

### Baseline projection of the vehicle fleet growth

Based on historic growth rates, the vehicle fleet in Togo is estimated to grow from about half a million vehicles in 2017 (including light and heavy-duty vehicles and 2&3 wheelers) to more than 830,000 vehicles in 2030 and to more than 2.5 million vehicles in 2050. With no intervention to shift to cleaner and more efficient vehicles, this growth of the vehicle fleet will result in similar increases in transport energy use, CO<sub>2</sub> and air pollutant emissions, and will cause significant costs for the society stemming from fuel expenditures as well as health-related costs.

### Baseline projection of stock, sales, energy use and CO<sub>2</sub> emissions of the moto-taxi sector

In the absence of the provision of adequate public transportation, passenger travel is mostly provided through informal taxi operations. The by far largest share of transport services is covered through motorcycle taxis, which are called “zemdjan” in Togo. In 2017, it is estimated that more than 210,000 motorcycles were on the road. The moto-taxi sector is unregulated, and up to November 2019 drivers were not required to have a driving license. It is estimated that at least 70% of the “zemdjan” drivers did not pass any theoretical or practical exams. By the end of the year 2019, possession of a driving license became a requirement for moto-taxi drivers. Costs per trip average between EUR 0.30 and EUR 1.00, while the average daily turnover of moto-taxi drivers is estimated to be around EUR 8.00<sup>7</sup>. Providing taxi services is often

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<sup>7</sup> [https://www.rtbfb.be/info/monde/detail\\_motos-taxis-au-togo-la-survie-comme-moteur?id=10035487](https://www.rtbfb.be/info/monde/detail_motos-taxis-au-togo-la-survie-comme-moteur?id=10035487)



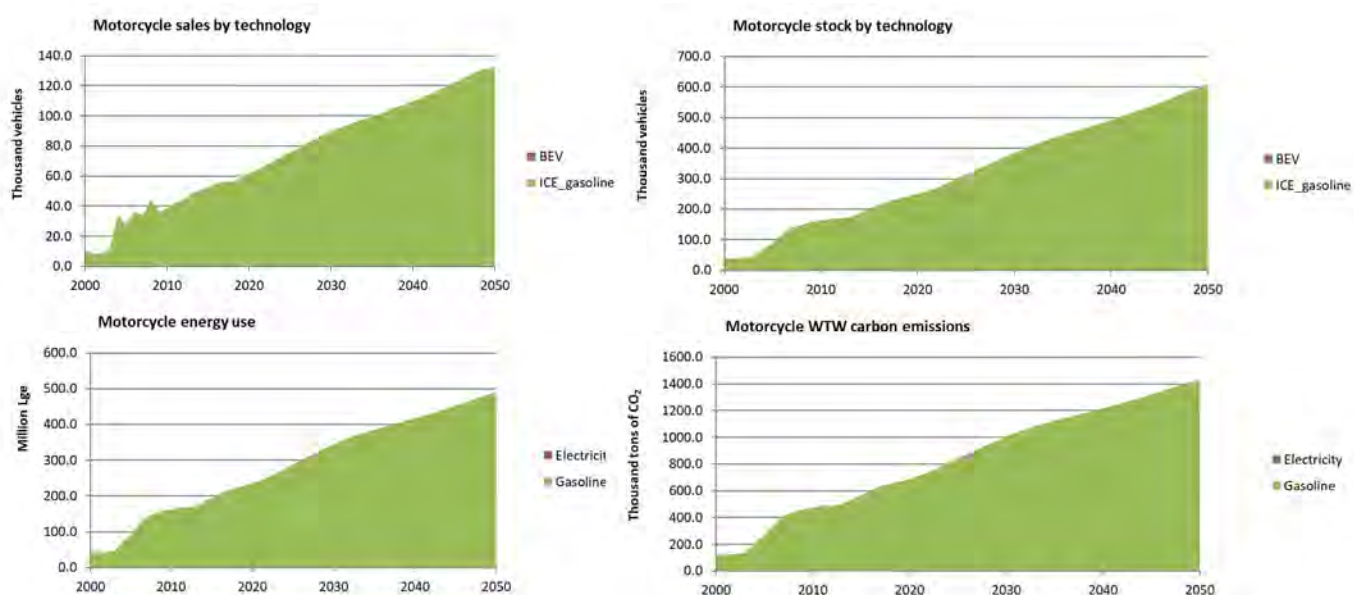
one of the few opportunities for otherwise unemployed youth to earn a living. In many other cases, working as a “zemdjan” driver provides a second income.

Moto-taxi drivers are estimated to drive between 80 km and 100km a day. Survey data from Kenya suggests the average fuel consumption of motorcycles is in the area of 4.0 L/100km. Given the high share of motorcycles on the entire vehicle fleet in Togo, it is estimated that in 2017, motorcycles were responsible for about a third of all transport-related CO<sub>2</sub> emissions. In the baseline scenario, it is projected that the motorcycle fleet in Togo will double in size from about 210,000 vehicles today<sup>8</sup> to about 400,000 in the next ten years, and to triple to about 600,000 in 2050. CO<sub>2</sub> emissions from motorcycles are estimated to grow by 45% until 2030 and to more than double by 2050. This growth of CO<sub>2</sub> emissions goes hand in hand with a growth in air pollutants, especially since pollutant emissions of new and used motorcycles in Togo are not regulated.

In 2011, Diaz Olvera et al<sup>9</sup> held a survey among 147 moto-taxi drivers in Lomé. A summary of the weekly income of drivers is shown in Table 1. According to the research, moto-taxi drivers were able to generate a daily income between USD 3 and USD 6.60 back in 2011 in Lomé. This data underlines the scarcity of capital to be invested in motorcycles, since the daily incomes suggest that this might be just enough to survive. Drivers report daily working hours of about 10h/d during about six days per week. As consequence, health issues such as back pain, vision problems, fatigue and respiratory problems, among others, have been reported. Some of these problems, in particular those related to air pollution, could be tackled by the broad introduction of electric motorcycles.

**TABLE 1 WEEKLY INCOME OF MOTO-TAXI DRIVERS IN LOME IN 2011**

	Revenue USD	Inputs USD	Rent paid to the vehicle owner USD	Weekly earning USD
Self employed	84	37		47
Work and pay	103	45	24	35
Renter	75	34	22	19



**FIGURE 3 MOTORCYCLE SALES, STOCK, ENERGY USE AND CO<sub>2</sub> EMISSIONS UNTIL 2050 UNDER THE BASELINE SCENARIO**

<sup>8</sup> Earning a living, but at what price? Being a motorcycle taxi driver in a Sub-Saharan African city, Diaz Olvera et al, Journal of Transport Geography 2015. This source cites values which estimate the amount of moto-taxis in Togo at 66,000 in 2006 and 90,000 in 2011. These values are somewhat in line with our projections based on new vehicle registration data from GFEI 2019.

<sup>9</sup> Ibid.

Many moto-taxi fleet operators exist in Togo but only a few such as the company GOZEM<sup>10</sup> and Taxietogo<sup>11</sup> are currently providing services using a mobility app.

GOZEM is operating vehicle fleets in Togo and Benin, with the plan to expand to other countries including Burkina Faso, Cameroon, Ivory Coast, Gabon, Mali and Senegal. The company is running a ride-hail application, which allows the customer to choose between moto-taxi, 3-wheeler, car and car with air conditioning and which provides functionality compared to UBER. While conventional moto-taxis would either wait for a customer or driving around, the app is targeting to maximize ridership. GOZEM drivers will need to acquire their own motorcycle and are charged a commission for using the app. In December 2020, GOZEM started a partnership with the local Coris Bank to provide access to loans at acceptable costs to the drivers to buy new motorcycles<sup>12</sup>. The partnership is part of “GOZEM Vehicle Financing Solutions”, which targets to make the moto-taxi loan market more transparent and therefore more reliable, with the effect of lower financing cost. Repayment of the loan is directly linked to the GOZEM electronic wallet of the driver and therefore provides evidence of the drivers’ performance and ability to pay back the loan to the bank.

Taxietogo provides a similar service compared to GOZEM but is a subsidiary of the Danish company Motorhino<sup>13</sup>, which is assembling own e-motorcycle model in China. Since July 2020, 5 electric motorcycles are running as part of the Motorhino / Taxietogo fleet in Lomé. According to personal talks, the company is currently using e-motorcycles with a range of 60km, which will be improved to 120 km with the new model which is expected to be operational first half of 2021. The business model of Taxietogo foresees that the e-motorcycle is provided by the company to the driver, who, through monthly payments, will acquire ownership of the motorcycle over the course of two years. The motorcycle is expected to cost between USD 2,500 and 3,200, depending on the size of the battery, a visualization of the proposed business model is provided in Figure 4.

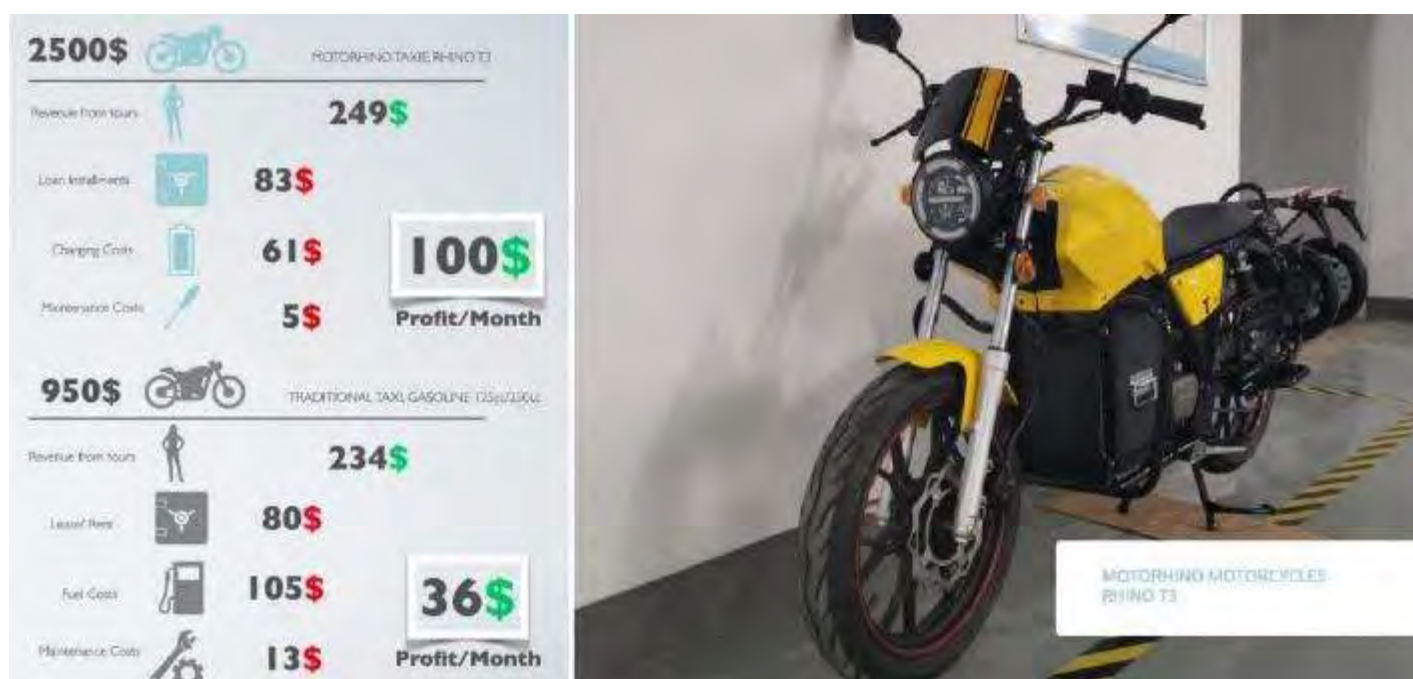


FIGURE 4 PROPOSED BUSINESS MODEL OF TAXIETOGO AND MOTORHINO T3  
(SOURCE: [HTTPS://MOTORHINO.DK/OM](https://motorhino.dk/om) )

The business model is still to be proven and both GOZEM and Taxietogo / Motorhino are good candidates to implement an extended e-mototaxi pilot, targeting different research and testing questions. Motorhino would be willing to provide

<sup>10</sup> <https://gozem.co/en/>

<sup>11</sup> <https://taxietogo.com/>

<sup>12</sup> <https://www.togofirst.com/fr/transport/0812-6942-partenariat-entre-gozem-et-coris-bank-pour-financer-l-acquisition-de-motos-taxis-au-profit-des-zemidjans>

<sup>13</sup> <https://motorhino.dk/about-us>



e-motorcycles to other fleet operators in the country. Both companies are interested in exploring the option of battery swapping, including the integration of solar charging.

#### Baseline projections of the public transportation sector in Lomé

Plans exist to strengthen the public transport sector in Lomé. An expansion of today's fleet of about 90 mostly old 12 meter city buses by another 90 new buses is currently being implemented. Contractual agreements to acquire these buses are already in place. Fuel quality in Togo prevents the operation of buses with emission standards higher than Euro III, which is why the new buses will comply with the Euro III emission standard. In the medium term, a bus fleet of about 300 buses is envisaged.

#### Current regulatory and fiscal frameworks for the transport sector

When importing a vehicle to Togo, about 11 different taxes, levies, and fees will be applied. An overview of these tax components is provided in Table 2. Almost all of the different taxes are based on the value of the vehicle as stated in the Bill of Lading. The two major components are the Customs Duties (20%) and the Value Added Tax (18%). For privately used vehicles without any exemption, the maximum tax value would account for about 47% (total minus BIC). Vehicles dedicated to the transport of passengers with less than 10 seats are taxed also at 20%. In this case, the total tax burden would amount for a maximum of 48%. Vehicles with more than 10 seats are taxed at 10%, total importation tax would amount to 38% in this case.

**TABLE 2 TAX SCHEME FOR VEHICLE IMPORTATION IN TOGO**

Name of the tax	Explication	Basis	Value in %	Max. tax in %
DD	Customs duties (Droits de douanes)	Value	0, 5, 10 or 20	20%
RS	Statistical Royalty (Redevance Statistique)	Value	1	1%
TPI	Infrastructure protection tax (Taxe de protection des infrastructures)	2000 CFA	Based on individual weight in tons	-
PCS	Community levy for Solidarity West African Economic and Monetary Union - UEMOA (Prélèvement communautaire de solidarité (UEMOA))	Value	1	1%
PC	Community levy for ECOWAS (Prélèvement communautaire (CEDEAO))	Value	1	1%
PNS	National Solidarity Levy (Prélèvement National de Solidarité)	Value	0.5	1%
ADA	Other Excise Taxes (Autres Droits d'Accises)	Val+DD+RS+ TPI+PCS+PC+PNS	5	5%
BIC	Levy for Industrial and Commercial Profit (Prélèvement pour Bénéfice Industriel et Commercial)	Val+DD+RS+ TPI+PCS+PC+PNS	1	1%
TVA	Value added tax (Taxe sur la Valeur Ajoutée)	Val+DD+RS+ TPI+PCS+PC+PNS	18	18%
RID	IT Fee (Redevance Informatique)	Value	0.75	1%
RI	IT fee for declaration (Redevance Informatique pour déclaration)	5000 FCFA	Flat rate	-
<b>Total maximal import duty as percentage share of vehicle price</b>				<b>48%</b>

The approval of vehicles take place in three steps<sup>14</sup>: 1.) Tax clearance; 2.) Technical approval and homologation; and 3.) Registration.

It is carried out as follows (copied from source):

1. The importer goes to the Single Window of Foreign Trade to initiate the reception of imported vehicles and pay taxes and customs duties;
2. After checking the import documents and paying the import taxes and customs duties, the customs send a certificate of conformity via the Customs Unit located on the campus of the Directorate of Road and Rail Transport (DTRF), to the head of the Directorate of Technical Control of Vehicles (DCTV). The customs cell on the DTRF campus was created to limit fraud;

<sup>14</sup> Vehicle Type-Approval and Road Worthiness Test in Togo, Road Transport Sector Reform in Togo  
The Competitiveness of Logistics Services Programme Financed by the World Bank, 2018

3. DCTV requests proof of payment of customs duties and vehicle insurance. The DCTV is linked to the insurance network (via the POOL of insurance companies) and has access to the customs software for the management of payment of duties (SYDONIA). The insurance pool is a centralized private insurance system set up to limit insurance fraud, such as the presentation of false insurance certificates: vehicle owners are thus insured by the insurance pool and not by a specific insurance company;
4. Approval is carried out by the DCTV controller (on the DTRF site) and includes a visual and administrative inspection of the vehicle (chassis number, power, steering position, etc.);
5. The roadworthiness test is then carried out by SOTOPLA-CEVA;
6. The vehicle is registered if the results of the roadworthiness test are in conformity.

Attempts have been made to regulate the moto-taxi sector. According to Diaz Olvera et al (D. Olvera et al, 2015): “Togo was one of the first countries to introduce specific regulations for commercial motorcycle transport. Since 1996 these have specified the authorizations that are necessary (in particular the license issued by the Ministry of Trade, third-party insurance, a vehicle registration certificate and a vehicle inspection certificate), and the operating conditions (the motorcycle must be painted yellow, be fitted with specific number plates, display an identification number, carry no more than a certain number of passengers, and helmet use is compulsory). However, as in most of the cities in Sub-Saharan Africa where there are motorcycle taxis, the local authorities are not able to enforce the regulations.” According to the research carried out by Olvera et al, almost none of the interviewed drivers have a driving license. It is also reported that only 1 out of 4 wear helmets regularly and that almost none of the passengers can wear a helmet because most often there is none. In terms of insurance it is reported that most often the motorcycles have a third party insurance during the first year since this is compulsory for vehicle registration, but afterward getting the vehicle insured is neglected.

#### Current regulatory and fiscal frameworks for the energy sector

So far, the electricity used in Togo has a low carbon footprint (~estimated at around 0.2 kgCO<sub>2</sub>/kWh) because the majority (90%) of the electricity used is based on hydro power imported from Nigeria. Domestic power generation capacity is quite dirty, with the majority being provided by Contour Global’s HFO power plant, and other petroleum fuel based power generation such as diesel gen sets and a gas power plant operated by CEB. The carbon footprint of the future power mix in Togo greatly depends on the success of the renewable power projects currently in the pipeline.

It is necessary to align expansion of renewable power generation with plans to introduce and upscale electric mobility. While the current project focuses on e-moto-taxis in Lomé, the policy measures proposed in the document will be effective nation-wide. In this regard, it needs to be noted that there is a great potential for synergies between electric 2&3 wheelers and mini- and micro-grids used for electrification in rural area. Since battery capacity for electric 2&3 wheelers is in the range of 2 to 6 kWh, such relatively small batteries could be easily charged using solar panels. For example, one solar panel with a name plate capacity of 200 W and cost of around 150 USD could charge a 2 kWh battery within a day. Applying, two panels per battery, a full charge could be achieved in below 6h. In addition, these batteries could then also play a role as local energy storage, for example to power lighting and other applications such as electronic devices. Since microgrids are often struggling with low power demand, electrification of local transportation could be a means of making mini-grid applications more profitable while providing a clean and relatively cheap fuel (when compared to gasoline used in conventional motorcycles) for local population. It is against this background that many institutions are now getting more and more interested in investigating the role of e-mobility and rural electrification

According to the report “Togo Energy Sector Policy Review”<sup>15</sup> the electricity subsector “is under the overall supervision of the Ministry of Mines and Energy (MME). The key public entities in Togo’s electricity sub-sector are: (i) **Compagnie d’Energie Electrique du Togo (CEET)** responsible for the transmission and distribution of electricity within Togo. While CEET also maintains some generation assets, it is largely a distribution company purchasing nearly all of its electricity from CEB and from Contour Global, an independent power producer; (ii) **ARSE**, the electricity sector regulatory entity set-up since 2000 within the MME; (iii) **the Communauté Electrique du Benin (CEB)**, a bi-national entity co-owned by Togo and Benin and set up in 1960 to develop power generation and transmission projects mutually benefitting the two countries. Since November 2010, Contour Global, an Independent Power Producer (IPP), commissioned 100MW of diesel units in the capital, Lomé. Togo is also a member of ECOWAS and WAEMU and is a participant in the West African Power Pool (WAPP) and the West African Gas Pipeline (WAGP) projects.”

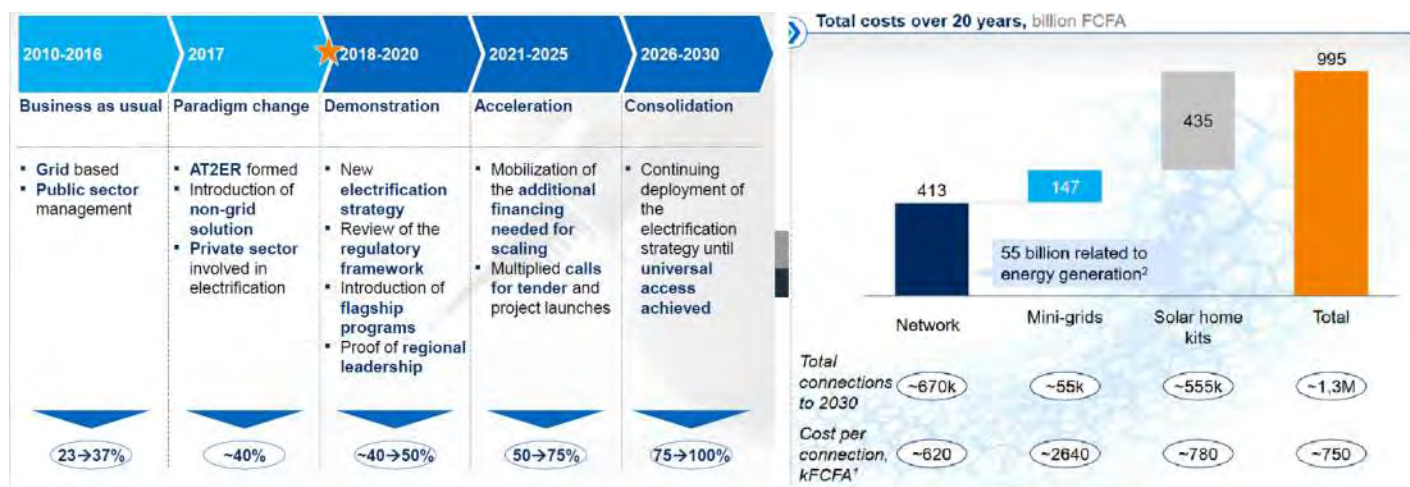
<sup>15</sup> Togo Energy Sector Policy Review - Review of the Electricity Sub-Sector, Report No: ACS499, AFTG2, World Bank, June 2013

In May 2016, the **Togolese Agency for Rural Electrification and Renewable Energies (AT2ER)** was created (presidential decree N ° 2016 - 064 / PR). AT2ER is a public institution, endowed with financial autonomy and is responsible for the implementation of the country's rural electrification policy, the promotion and development of renewable energies. AT2ER is responsible for accelerating rural electrification and increasing the share of renewable energies in Togo's energy mix and any intervention aimed at guaranteeing the supply of electricity to rural populations is carried out by the agency. All relevant ministries in Togo are part of the governing board of AT2ER.

The current rate of access to power is about 40% in Togo. Togo recently developed a strategy to provide access to power to all Togolese by 2030: **The Togo 2030 Electrification Strategy**. The strategy has been developed by the company Lighting Global and is based on three pillars: 1) Deployment of solar kits at the household level (up to 1000Wh daily consumption and up to 200W installed capacity); 2) Deployment of mini-grids (up to 8kWh daily consumption and up to 2000W installed capacity); and 3) Grid expansion. A combination of private sector investment mainly through public-private partnerships (PPPs) and targeted support sourced from development aid programmes and green funds will be used to finance the electrification process. It is estimated that the total cost to fully electrify the country by 2030 amounts to about 995 billion FCFA, which equals to about 1.7 billion USD (Figure 5).

The Togo 2030 Electrification Strategy distinguishes into 3 phases for installation of solar kits, mini-grids and grid expansion: demonstration phase (2018 -2020), acceleration phase (2021 – 2025) and consolidation phase (2026 – 2030), and lines detailed steps and milestones for the regulatory framework, financial needs and the need for technical assistance. For example, for the installation of solar kits, the strategy asks for tax exemption, the review of the regulatory framework (e.g. standards for importation of electrical equipment) and the creation of a national platform accessible to all operators that collect credit history. In addition, the strategy identifies the need for a 5% interest credit line as well as for guarantees and direct subsidies. Similarly, for the introduction of mini-grids the strategy asks for exemption from VAT and Customs duty on mini-grid components (e.g. inverters, batteries, plus photovoltaic panels – which are already exempt), technical assistance to finance a national study on consumers' readiness to pay, detailed pre-feasibility studies on mini-grid sites and their prioritization and a review of the regulatory framework. Similar to the financing of solar kits, concessional loans as well as direct subsidies to incentivize mini-grid deployment will be needed. For grid expansion, the strategy identifies the need to review and adjust the regulatory framework in particular for PPP and IPP frameworks, reservation and dispatch requirements, the scope of AT2ER/CEET. It furthermore names the demand for support for the structuring and launch of competitive independent power producer (IPP) calls for tender. In addition, technical studies for grid extension to new locations and grid densification in already connected locations are required. In total, about 208 MW of grid-connected power generation capacity is part of the grid expansion pillar to the Togo Electrification Strategy.

To date, IPPs are still not allowed to access the grid owned by CEET.



**FIGURE 5 TIMELINE AND COSTS FOR ELECTRIFICATION IN TOGO ACCORDING TO THE TOGO 2030 ELECTRIFICATION STRATEGY**

### Baseline investments

The World Bank is currently implementing an IDA credit of USD 30 million for an **Infrastructure and Urban Development Project**<sup>16</sup>. The project comprises two active components: 1.) Urban Infrastructure and Basic Services; 2.) Institutional Strengthening and Technical Assistance. The investment part of the project focuses on the construction and rehabilitation of road infrastructure, drainage as well as markets and water/power supply in selected areas in the City of Lomé, Kara and Dapaong. The technical assistance part focuses on capacity building and institutional strengthening to better manage urban growth and infrastructure development and includes the development of tools to regulate urban development. It is envisaged to link the capacity building activities and to evaluate whether provisions for the development of charging infrastructure can be included in the infrastructure investments.

In addition to this, the “**Togo - Trade and Logistic Services Competitiveness Project**”<sup>17</sup> implemented by the World Bank is supporting education and professionalization of professionals active in the transport sector, including review of the legal and regulatory system of the road transport sector. Togo receives funding amounting to USD 4 million. One of the activities is to improve the vehicle inspection system in Lomé. The project will explore synergies with regards to capacity building and training, regulatory improvements and the work on vehicle inspection. It will be evaluated during project implementation whether for example training programmes could be expanded to electric mobility.

For covering the growing energy needs in Togo, the **CIZO project** was launched by the President of the Republic on December 02, 2017 in Awagomé. The CIZO project aims at meeting up to 50 percent of the country’s energy needs by solar by 2030. This project led by AT2ER aims to electrify 100,000 Togolese rural households in three years and 300,000 households (equivalent to 1,500,000 inhabitants) in 5 years via domestic solar kits funded through a Pay-As-You-Go mode. The project also plans to equip 1,000 health centres and 3,000 small farms with individual solar or irrigation kits. The pilot phase has started with the operator BBOXX, whose mission is to deploy 10,000 solar kits. At the end of 2018, more than 8,000 households had access to electricity thanks to the solar kits installed by BBOXX.

The project will be rolled out in three phases over 12 years with a total cost of approximately US\$ 1.7 billion. Funding is expected to materialize through public-private partnerships (PPP) of which 18% will be financed by the government and the remainder by private investors. The African Development Bank (AfDB) has pledged to avail about US\$ 35 million to finance private investors.

The CIZO project revolves around five main components:

1. The establishment of a national Pay-as-you-Go (PayGo) platform for the management of solar kits;
2. The deployment of a national granular distribution network;
3. The creation of regional solar academies responsible for training and certifying local installers and technicians;
4. The establishment of subsidies for disadvantaged rural households, as well as the equipment of small farms and health centers and solar water pumps;
5. The establishment of a public fund to support distribution companies.

Although introduced in urban areas, electric 2&3 wheelers have a great potential to serve the mobility needs in rural parts of the country. The integration of mini and micro grids with e-mobility based on the use of electric 2&3wheelers can unlock various synergies, such as increased power demand and hence utilization rate and profitability of micro grid systems while providing a cheaper and clean fuel to mobility service operators. A study on the integration of renewable power in EV charging will be carried out as part of the project, not only focusing on aligning e-mobility scenarios, power demand and renewable power integration in the urbanized areas, but also expanding on the possible role of e-mobility and renewable power integration in rural areas.

According to a press release<sup>18</sup>, the **West African Development Bank (BOAD)** “has decided to release a 10.7 million euro envelope to support the development of a solar power plant in Togo. This park, with a capacity of 50 MW, will

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<sup>16</sup> Togo Infrastructure and Urban Development Project, Report No PAD2414, World Bank 2018

<sup>17</sup> Road Transport Sector Reform in Togo - The Competitiveness of Logistics Services Programme Financed by the World Bank, Report No: PAD1828, World Bank 2017

<sup>18</sup> <https://africa-energy-portal.org/news/togo-boad-finances-blittas-solar-power-plant-eu107-million>

provide electricity to about 30,000 households. [...] The project is being undertaken under a public-private partnership and will be under concession for 25 years. After this period, the infrastructure will revert to the Togolese State through the state-owned electricity company of Togo (Compagnie d'Énergie Electrique du Togo (CEET)). The overall cost of the plant is CFAF 20 billion. The rest of the funds will be sourced from the Abu Dhabi Fund for Development and other development partners.”

The **Togo Energy and Support Investment project implemented by World Bank**<sup>19</sup> has a total volume of USD 36 million. Of this amount, about USD 27 million will be directed towards investment into the rehabilitation of medium voltage and low voltage transmission and distribution systems in Lomé (IDA US\$15 million), the reinforcement of the Lomé medium voltage network (IDA US\$6 million equivalent) and network extension and new connections (US\$6 million equivalent). Technical Assistance with a volume of about 6.6 million USD will be used to support a power sector reform in Togo. The upgrading of power transport and distribution networks is essential for the up-scaling of e-mobility. Although electric 2&3 wheelers can be charged using off-grid or hybrid systems, e-mobility will add power demand and hence the necessity to generate and transmit power. A study focussing on the integration of e-mobility and renewable power generation in Togo will further investigate the role of grid upgrading on the future of e-mobility in Togo.

An overview of all baseline investments is provided in Table 3 below.

**TABLE 3 OVERVIEW OF BASELINE INVESTMENTS**

Sector	Financial institution	Time frame	Total FCFA, billion	Estimated USD	Projects financed
Transport	World Bank	2019 - 2024	-	30,000,000	Infrastructure and Urban Development Project (WB 2019 Report No: PAD2414) Urban Infrastructure and Basic Services; Institutional Strengthening and Technical Assistance
Energy	World Bank	2018 - ongoing	-	36,000,000	Togo Energy Support and Investment Project
Energy	BOAD	2020 - ongoing	-	12,000,000	Construction of the 50MW Blitta solar power plant
Energy	AFD	2013 - ongoing	20	34,000,000	Extension of Lomé's electricity grid (cofinanced with the EU, €30 M) Research to harness hydroelectric potential Technical assistance to CEET
Energy	EU	2015 - ongoing	20	34,000,000	Extension of Lomé's grid (€7.8 M) Review of the legal and regulatory framework of the energy sector Transborder electrification of rural communities in Southern Togo from Ghana (12 locations) and Benin (8 locations)
Energy	Exim India	2013 - ongoing	15	25,500,000	Electrification project for 150 rural locations (rural electrification phase 4)
Energy	World Bank	2009 - ongoing	46	78,200,000	Emergency power infrastructure upgrade project ~ CFA 26 bn (09-13) Project to improve operating performance in the sector and provide access to electricity in the Lomé region ~ CFA 20 bn (2017-)
Energy	CIZO	2017-2029	-	estimated cost: 1.7 billion	Funded through public-private partnership (PPP) of which 18% will be financed by the government and the remainder by private investors Used for introduction of solar kits and mini-grids to electrify 300,000 household
Energy	AfDB	2017-ongoing	-	35,000,000	AfDB credit line to finance private investors as part of Project CIZO

### 3) Proposed alternative scenario with a description of project components, outcomes, outputs, and deliverables

The objective of the electric mobility project is to lay the ground for the successful introduction of electric mobility in Togo. This comprises building the necessary administrative structures, the development of capacity among key decision-makers, and the provision of a coherent e-mobility strategy. As part of the project, an e-mobility coordination body comprising stakeholders from the Ministry of Environment and Forestry Resources, the Ministry of Transport and Infrastructure, the Ministry of Economy and Finance, the Ministry of Mines and Energy, the Ministry of Urban Development and Housing and the Ministry of Trade, Industry, Private Sector Development and Local Consumption will be established. The coordination body will ensure that all relevant stakeholders approach the introduction of e-mobility in a coordinated and cooperative manner and that the private sector will find a focal point, which can inform on e-mobility regulation and policy and support the local private sector with the set-up of e-mobility businesses. The development of

<sup>19</sup> Togo Energy Support and Investment Project, Report No: PAD2304, World Bank 201

the national e-mobility strategy will build on the analysis of the current policy framework for the transport and the energy sector and will be guided by the e-mobility coordination body. Policy gaps will be identified in order to propose adequate measures to fill these gaps and to incentivize the uptake of e-mobility. The strategy will also include work on aligning e-mobility scenarios with investments into power generation and will integrate results of the renewable power integration study developed under component 4. Electrification of passenger transport with the aim at reducing energy use, GHG, and air pollutant emission will be the overarching and common target guided by the e-mobility strategy and coordinated through e-mobility coordination body.

The project focuses on the introduction of electric motorcycles that are used as taxis, called moto-taxis. Electric motorcycles are a low-cost measure to mitigate CO<sub>2</sub> emissions, reduce energy use and associated costs and reduce air pollution and associated negative impact on health in Togo. Moto-taxis are responsible for about a third of Togo's transport energy use and emissions with a projection to significantly grow over the coming decades, hence the introduction of electric motorcycles holds a high potential for overall emission mitigation in Togo. Since already today the payback time to recover the additional investment for an electric motorcycle compared to a conventional motorcycle is significantly shorter than the lifetime of the vehicle, the project can trigger a complete shift to electric motorcycles in Togo.

The project will collaborate with a local private sector partners to implement the demonstration project. For the management of the electric motorcycle fleet, private sector stakeholders in the moto-taxi sector such as GOZEM or Taxietogo have already identified electrification as part of their business model. These companies are a local ride-hailing service providers that are considering the use of electric vehicles as part of their existing fleet (GOZEM) or purely focusing on the use of electric motorcycles (Taxietogo / Motorhino). To better define technical parameters and viable business models for e-motorcycle battery charging, a comparative feasibility analysis will be conducted to assess the feasibility of developing a battery swapping scheme including various mobility service providers in Togo / Lomé. Therefore, up to 25 electric motorcycles, eventually from different manufacturers, will be piloted with different power output, battery capacity, engine configurations, and charging options to define a comprehensive set of technical parameters, which satisfy the Togolese e-motorcycle market. Togolese petrol station operators (TOTAL and CAP) have already been identified as a potential host for charging and / or battery swapping stations.

At the same time, the project aims at developing an environment for long term development of the e-mobility market, focussing on electric 2&3 wheelers in the first place. Based on the demonstration project, policy reforms will be proposed and submitted for adoption to incentivize the uptake of electric mobility, primarily through waivers on import duties, revised regulations for EV import and registration, and a power market which is ready for the provision of EV charging services. It is part of the project to bring together local e-mobility entrepreneurs and financial institutions to identify financing needs and to develop initial e-mobility financing schemes. As part of an e-mobility business round table, innovative e-mobility business models will be discussed, whereby at least two of the most promising business models will be developed into concepts to seek for financing from local and international financiers. E-mobility business models to be discussed during the roundtables can include mobility services, charging services as well as the assembly and manufacturing of electric 2&3 wheelers, including retrofitting.

Finally, the project will investigate ways to ensure environmental sustainability of electric mobility in Togo, including 1) The development of an initial scheme to collect, re-use, and prepare for recycling of used e-mobility batteries; and 2) A strategy on how to integrate electric vehicle charging with the growing renewable power network, including through micro and mini-grid applications in Togo, and linking with the project CIZO. The latter will specifically investigate the possibilities of the use of electric motorcycles beyond urban areas, and explore synergies with the plans to increase the rate of electrification in the rural parts of Togo.

Table 4 below provides on overview about the contributions and responsibilities of the Ministry of Environment and Forestry Resources, the Ministry of Mines and Energy and Ministry of Infrastructure and Transport by component and output. While the Ministry of Environment and Forestry Resources has overall leadership as the Executing Agency of the project, including the management of funds, hiring of international and local experts disbursement of funds and reporting to UNEP, Table 4 designates roles with regards to content for each of the outputs.

**TABLE 4 OVERVIEW OF RESPONSIBILITIES BY MINISTRY**

Component	Output	Ministry of Environment and Forestry Resources	Ministry of Mines and Energy	Ministry of Infrastructure and Transport
<b>Component 1</b>	Output 1.1: An inter-sectorial electric mobility coordination body is established	<i>Chair the PSC, organize the meetings, provide meeting room</i>	<i>Member of the PSC, participate the meetings</i>	<i>Member of the PSC, participate the meetings</i>
	Output 1.2: A national strategy for electric mobility, including gender sensitive business development in the transport sector is developed and submitted for adoption.	Support the Ministry of Infrastructure and Transport in coordinating the strategy development, hire the expert, disburse funds, report to UNEP	Contribute with data, review the draft and final version, participate in meetings and workshops	Lead the strategy development, provide data, review the draft and final version, participate in meetings and workshops
	Output 1.3: Key stakeholders from public and private sector are trained in the Global Electric Mobility Programme activities (national and regional workshops, trainings and thematic working groups).	Select the participants (coordinated with the UNEP Sustainable Mobility Unit - SMU) and based on the inputs of other PSC members	Propose relevant staff to participate in training events	Propose relevant staff to participate in training events
<b>Component 2</b>	Output 2.1: A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration including a low-carbon charging scheme, and a data collection framework are developed along with the reporting and analytical framework.	Lead the study development, hire international and local expertise, disburse funds for experts, prepare the call for proposals for the e-moto and charging demo together with Sustainable Transport Africa (STA) and UNEP SMU, report to UNEP	Provide data for charging and power sector integration specific sections of the study, participate in meetings, review the draft study	Contribute to the terms of references for experts, lead content specific work, provide data, participate in meetings, review the draft study
	Output 2.2: Demonstration vehicles and charging equipment are procured, staff trained, the demonstration project is implemented, monitored and data are collected, analysed and disseminated.	Prepare procurement together with STA and UNEP SMU, oversee the demonstration, lead the development of the demo summary report hire international and local expertise, disburse funds for experts, report to UNEP	Support the demonstration implementation, support the charging site selection provide data for charging and power sector integration specific sections of the summary report, participate in meetings, review the draft demo summary	Contribute to the terms of references for experts, lead content specific work of the summary report, lead demonstration data analysis, provide data, participate in meetings, review the draft demo summary report
<b>Component 3</b>	Output 3.1: Fiscal policies and regulatory schemes are developed to incentivize the uptake of electric mobility.	Lead the overall task of policy development, hire international and local expertise, disburse funds for experts, coordinate with Ministries of PSC, report to UNEP	Lead the development of power sector regulation and technical standards for e-mobility, coordinate with Ministry of Economy and Finance on fiscal policies, provide data, participate in meetings, review the draft policies, provide political support for policy adoption	Lead the development of vehicle import regulation, lead the development of necessary amendments to vehicle registration, support the development of technical standards for e-mobility, coordinate with Ministry of Economy and Finance on fiscal policies, provide data, participate in meetings, review the draft policies, provide political support for policy adoption
	Output 3.2: An e-mobility business roundtable including private sector and financial institutions is established to develop financial schemes and concepts for e-mobility upscaling	Lead the overall organization of the business roundtable, organize meeting venue, coordinate with members of the PSC and in particular with Ministry of Trade, Industry, Private Sector Development and Local Consumption, hire international and local expertise, disburse funds for experts, coordinate, report to UNEP	Support Ministry of Environment and Forestry Resources with the organization of the business roundtable, participate in the roundtables, review the synthesis report	Support Ministry of Environment and Forestry Resources with the organization of the business roundtable, lead the outreach to private sector and finance, participate in the roundtables, review the synthesis report
<b>Component 4</b>	Output 4.1: A study to integrate renewable power for electric vehicle recharging is carried out.	Lead the overall study development, hire international expertise, disburse funds for expert, coordinate with Ministries of PSC, report to UNEP	Contribute to the terms of references for experts, lead content specific work of the renewable power integration study, provide data, participate in meetings, review the draft study, lead outreach to renewable power projects and in particular the Blitta project and the Project CIZO, lead outreach to AfDB and World Bank on renewable power and power	Support study development, provide transport sector data

			transmission and distribution projects	
	Output 4.2: A scheme for collection, re-use, recycling and sound disposal of used electric vehicle batteries is developed and submitted for adoption.	Lead the overall study development, lead the content specific work, support coordination with ECOWAS, provide political support to adopt legislation, hire international expertise, disburse funds for expert, coordinate with Ministries of PSC, report to UNEP	/	/

Each of the 3 Ministries listed above has appointed a dedicated Focal Point for this project, as stipulated in a memorandum prepared by the Ministry of Environment and Forestry Resources (refer to Annex K of the CEO Endorsement Document).

### **Component 1: Institutionalization of low-carbon electric mobility**

*Outcome 1: The government adopts a strategy for the promotion of low-carbon electric mobility by establishing a coordinated institutional framework.*

Component 1 primarily targets coordination, planning and capacity barriers as identified under the section on root causes and barriers. More specifically, component 1 addresses the alignment on interest of various ministries to improve public transportation, the uptake of clean and efficient vehicles, the creation of government revenues and the provision of electric energy.

An e-mobility coordination body comprising stakeholders from the Ministry of Environment and Forestry Resources, the Ministry of Mines and Energy, the Ministry of Transport and Infrastructure, the Ministry of Economy and Finance, the Ministry of Trade, Industry, Private Sector Development and Local Consumption, the Ministry of Urban Development and Housing and representatives from the city of Lomé will be established. This e-mobility coordination body will initially be based on the Project Steering Committee (PSC) and is expected to be transformed into a permanent body towards the end of year three (3) of the project.

The coordination body will be responsible to align interests of the various Ministries with respect to: 1) Meeting the needs of creating tax revenues with the objective to incentivize the e-mobility market; 2) Alignment of electrification targets and renewable power integration with e-mobility power demand projections; 3) Development of technical guidelines and standards aligned with the power-sector and transport sector regulation in Togo; and 4) Development of national e-mobility targets in coordination with local authorities such as the city of Lomé.

Under the guidance of the e-mobility coordination body and with support through the Global Electric Mobility Programme, its African Support and Investment Platform as well as local and international expertise, a gender sensitive national strategy for the introduction and up-scaling of e-mobility in Togo will be developed. For the 2&3 wheeler sector, the strategy can build on the targets set in this project, including the electrification of 1% of all newly registered motorcycles in 2025, increasing to 30% by 2030, 50 % by 2040 and finally 100% by 2050. The strategy will cover the potential electrification of all vehicle modes in Togo, albeit with an emphasis on electric motorcycles (including 3wheelers). The strategy will expand on the options to locally assemble / manufacture electric motorcycles, and what framework needs to be created for this. This is also to ensure that the transition comes with the required support from EV industry, notably with regards to spare parts.

Relevant stakeholders from the government, private sector, and academia will be trained on e-mobility through the events carried out under the Africa Support and Investment Platform. The schedule of the will training will follow a curriculum, starting with general aspects of electric mobility and will then gradually focus on detailed issues with regards to the introduction of electric moto-taxis as well as the various options of charging them.

### **Outputs:**

Output 1.1: An inter-sectorial electric mobility coordination body is established.



The coordination body includes stakeholders from all relevant ministries, and is co-chaired by the Ministry of Transport and Infrastructure, the Ministry of Mines and Energy and the Ministry of Environment and Forestry Resources. The coordination body will initially be formed by the Project Steering Committee. Towards the end of year 3 of the project execution, all necessary agreements to formalize the national e-mobility coordination body will be established and the set-up of this coordination body will be formally announced. The coordination body will also nominate an e-mobility coordinator located within a Ministry (yet to be defined).

The coordination body will ensure that policies developed under the various ministries are aligned. This includes for example plans, policies and regulations developed under Ministry of Mines and Energy with regards to supply of power, tariffication, the ability of independent power producers to sell electricity to the grids, which needs to be harmonized with power demand from e-mobility and the need to install charging infrastructure. It furthermore includes alignment of taxation, which is under the responsibility of the Ministry of Economy and Finance with the targets for e-mobility set in the strategy. Last but not least, regulation with regards to battery re-use, recycling and disposal needs to be aligned with these targets as well.

D 1.1.1 An inter-ministerial workshop to kick-off the project and to draft mandate and workplan of the Project Steering Committee is held and a workshop report is delivered.

D 1.1.2 Quarterly coordination body meetings are carried out and annual summary reports are issued.

D 1.1.3 Government notification to establish the national e-mobility coordination body as a strategic, national, multi-stakeholder steering committee on e-mobility received

D.1.1.4 Report compiling all the best practices and lessons learned based on studies / reports produced as part of the e-mobility project in Togo (to be shared with the Global E-mobility Programme)

Output 1.2 A national strategy for electric mobility, including gender sensitive business development in the transport sector is developed and submitted for adoption.

The national strategy will be the guiding document, which sets the targets and milestones. Gender aspects will be incorporated in data collection and analysis (for example through the reporting of female holders of driving licenses). The strategy will also contain a chapter focusing on gender inclusive business development, i.e. how women can be encouraged to play a more substantive role in the public transport sector value chain in Togo.

The different stakeholders involved in the project will also be meeting as part of the 3 ad-hoc Technical Working Groups (TWG) to discuss the preparation of the national e-mobility strategy: the TWG on e-mobility technology; the TWG on e-mobility business models and finance ; and the TWG on e-mobility policy. The 3 TWGs are further described in the section “6. Institutional Arrangements and Coordination” and also in Annex K of the CEO Endorsement document.

D 1.2.1 A workshop to discuss scope, objective and milestones of the national e-mobility strategy is held and a workshop report is delivered.

D 1.2.2 Transport and energy sector data including vehicle fleet and current policy frameworks is refined and gender aspects consolidated.

D 1.2.3 A national gender-sensitive e-mobility strategy outlining clear e-mobility market targets and identifying milestones and targets to close policy and funding gaps, is developed with input from all relevant stakeholders and circulated for review.

D 1.2.4 The final national gender-sensitive e-mobility strategy is presented in a workshop

D 1.2.5 Final national gender sensitive e-mobility strategy is submitted for adoption.

Output 1.3: Key stakeholders from public and private sector are trained in the Global Electric Mobility Programme activities (national and regional workshops and trainings).

Relevant stakeholders from government, private sector stakeholders, and academia participate in global events as agreed with the Project Management Unit. The participants will include decision-makers and/or operational staff as targeted by the platform events.

The training events will aim at 1.) developing a community of practice to exchange lessons learnt among all e-mobility projects in the region on demonstration project design and implementation, data collection and analysis, business model etc.; to 2.) train project stakeholders on technical, financial and operational aspects of e-mobility and in particular electric 2&3 wheelers and their charging infrastructure, and 3.) to prepare for scale-up and replication of the demonstration project through dedicated market place events bringing together project leads, electric vehicle suppliers and financiers. The training events will contribute to develop the capacity needed within the relevant Ministries, the City of Lomé, public and private sector transport operators, and the local power utility CET, among others yet to be identified, to implement the milestones and targets set in the national strategy.

D 1.3.1 Participation in three Africa Platform / Community of Practice events (+ 1 report for each event)

D 1.3.2 Participation in three electric mobility / electric 2&3 wheeler training events (+ 1 report for each event)

D 1.3.3 Participation in two financing / marketplace events (+ 1 report for each event)

D 1.3.4 Participation in one e-mobility replication event (+ 1 report for each event)

## **Component 2: Short term barrier removal through low-carbon e-moto-taxi demonstration and charging development**

*Outcome 2: Demonstrations provide evidence of technical, financial and environmental sustainability to government and transport companies to plan for scale-up of low-carbon electric mobility.*

Component 2 addresses awareness, capacity and technology barriers as identified under the section on root causes and barriers above. More specifically, the demonstration project will show the technical, operational and financial viability of electric mobility and therefore address concerns with regards to technologic maturity and costs of e-mobility.

This component will carry out a demonstration project piloting up to 25 electric moto-taxis as part of an existing commercial conventional moto-taxi fleet. The objective of this component is to develop and communicate a clear business case for the use of electric moto-taxis as part of moto-taxis fleets or individually owned by drivers. The e-moto-taxi demonstration project will provide the data and experience to plan for upscaling the electric vehicle market in Togo, focused on electric motorcycles but not limited to 2 wheelers, also addressing the introduction of other electric light duty vehicles such as electric 3 wheelers, which will be demonstrated in Sierra Leone as part of the GEF 7 Global Electric Mobility Programme at the same time. Building on similar projects in Kenya and Uganda, the demonstration project will provide information about:

- Suitable e-motorcycle technology with regards to vehicle type (e.g. scooter vs motorcycle, placing of the electric engine), engine power, battery range, charging system and patterns, durability, etc., based on requirements needed in the Togolese market
- Business model with regards to operation and maintenance costs of e-motorcycles in Togo
- Viable charging systems especially focusing at the advantages and disadvantages of battery swapping versus overnight charging
- The integration of renewable power in electric 2&3 wheeler charging systems

Togo is part of the replication component (work package 4 and 5, managed by UNEP) of the EC SOLUTIONSplus project. Under this component, experiences from EC SOLUTIONSplus demonstration projects will be replicated in up to 10 replication projects. Therefore, small grants will be tendered through a competitive process to local innovators to develop technical or business solutions for e-mobility applications. The call for proposals and the tendering process will follow procedures in line with Togolese and EU requirements. In case of the Togo e-mobility project, the small grant will be used to develop and operate an innovative charging system. Part of the grant can be used for procurement of equipment. The maximum grant amount equals EUR 50,000 (around USD 55,000 to 60,000).

Key aspects of the demonstration implementation are as follows:

- **Feasibility study & implementation plan:** A detailed feasibility study will be prepared to define technical, operational and financial aspects of the e-motorcycle demonstration. The feasibility study also contains comparative analysis to identify the ideal modality for e-motorcycle battery charging focusing at battery swapping versus overnight charging, and taking into account factors such as stability of the power supply and carbon

footprint of the power used for e-motorcycle charging. The feasibility analysis also investigates the need to partner with local enterprises to host the charging stations (for example at petrol stations). The implementation plan defines all roles and responsibilities during the implementation of the demonstration project. The implementation plan furthermore prepares the call for proposals for the e-motorcycle demonstration and the charging system operator.

- **Financing:** 1.) The GEF funding will finance the price differential between electric motorcycles and conventional motorcycles (for up to 25 units). Fleet operators interested in participating in the demonstration project can apply for the subsidy through a competitive process. The executing agency, with the support of the UNEP SM Unit the non-government, non-for-profit organization Sustainable Transport Africa<sup>20</sup>, will manage the selection and disbursement process. With the help of the GEF funding, the motorcycle fleet operator will be able to purchase e-motorcycles at the price of conventional ones. 2.) In addition to the above, UNEP will organize for a call of proposals for the small grant leveraged through EC SOLUTIONSplus to support the development and operation of e-motorcycle charging stations. The selection and disbursement process will be managed directly by UNEP SMU, with the support of Sustainable Transport Africa.
- **Procurement:** With the help of the financial support provided by the GEF and UNEP (through the SOLUTIONplus project), the taxi fleet and charging system operators will be able to purchase e-motorcycles and charging equipment. Spare parts for the demonstration motorcycles will be provided through the project. Through the support of the Global Electric Mobility Programme, the private sector partners will be supported in technical and operational questions to minimize the technological risks associated with a novel technology like electric motorcycles. The financing provided by the GEF to the motorcycle operator includes additional funds to cover the purchase of spare parts to be delivered with the demonstration motorcycles (as required). The funds targeted to cover incremental costs for up to 25 e-motorcycles as well as to support procurement, assembly and testing of charging equipment will be received by Ministry of Environment, and will be channeled to the identified private sector stakeholders through Sustainable Transport Africa<sup>21</sup>.
- **E-motorcycle fleet & charging system operation:** The demonstration project including electric motorcycles and battery charging / swapping will be running for at least 12 months. The taxi fleet operator/ride -hailing app provider, selected to collaborate under this project, will be required to have his own mobile phone-based data collection system that can be used to collect the data (data set collected to be defined in the feasibility study). The fleet operator will be responsible for providing technical support to his individual drivers. The charging system operator will monitor key data (data set collected to be defined in the feasibility study) of the charging station. Agreed datasets will be shared with the local and international partners responsible for analysis.
- **Demonstration analysis and dissemination:** All data collected will be shared with the partner responsible for data analysis and dissemination (preferably a local university). A comprehensive demonstration report investigating technical, operational and financial aspects will be developed. Based on the demonstration recommendations are developed covering 1.) technical specifications of e-motorcycles and charging equipment, 2.) providing insights for charging system operation and business models covering the different options with regards to battery swapping versus overnight charging to the extent these two operation models have been tested as part of the demonstration project.

## Outputs:

Output 2.1: A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration and charging, and a data collection framework are developed along with the reporting and analytical framework.

The development of the feasibility study will include international expertise on the design and implementation of e-motorcycle project. The International E-mobility Technology Expert will work together with a National E-mobility Technology Expert for e-mobility and the power sector. In addition, a local university will be included, which will accompany the data collection and analysis of the e-motorcycle demonstration project. One possible option could be the African School of Architecture and Urbanism (EAMAU) in Lomé, which with the support from CODATU<sup>22</sup> (Cooperation

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<sup>20</sup> <https://www.sustainabletransportafrica.org/>

<sup>21</sup> <https://www.sustainabletransportafrica.org/>

<sup>22</sup> <https://www.codatu.org/>

for urban mobility in the developing world, a French association with international vocation, member of the EC SOLUTIONSplus consortium), is providing the course “Sustainable transport and mobility in African cities”<sup>23</sup> since 2017.

Sustainable Transport Africa, with support from UNEP and in coordination with Ministry of Environment and Forestry Resources, the Ministry of Mines and Energy and the Ministry of Infrastructure will organize for the call for proposals for the selection of the candidates to receive financial support through the project.

D 2.1.1 Detailed terms of reference are developed to hire a team of experts (including an international e-mobility expert, a national e-mobility expert, Sustainable Transport Africa and a local university) to develop the feasibility study & implementation plan

D 2.1.2 The detailed feasibility study (including technical specifications) & implementation plan for the e-mobility and charging demonstration is developed

D 2.1.3 The feasibility study and implementation plan is presented during a workshop

D 2.1.4 Private sector partners to implement the demonstration project are selected through a competitive process led by Sustainable Transport Africa (report on the bidding and selection process issued)

Output 2.2: Demonstration vehicles and charging equipment are procured, the demonstration project is implemented, monitored and data are collected, analysed, and recommendations for technical specifications of the e-motorcycle and the charging equipment and operation are developed

The disbursement of the subsidies for the demonstration vehicles and the charging equipment will be through Sustainable Transport Africa, which receives the funds from the UNEP Sustainable Mobility Unit (SMU). The UNEP SMU will be responsible for the call for proposals, selection of the candidates and disbursement of the resources for the purchase of the charging equipment, which is funded through the EC SOLUTIONSplus project.

The demonstration project will run for at least 12 months. During and after the demonstration project, the demonstration vehicles and the charging equipment will be the property of the enterprises receiving the financial support. By participating in the call for proposals and receiving the subsidies, the selected companies bindingly agree that they will implement the demonstration project as outlined in the implementation plan and that they will take full responsibility for the operation and maintenance of the demo vehicles and equipment, including insurance. The demo operators will share all data as jointly defined in the implementation plan, and a comprehensive report containing technical, operational and financial data will be developed together with the international and local experts and the local university.

Based on the demonstration project, technical specifications including information on 1.) vehicle power, speed and range, 2.) battery capacity and technical specs, 3.) vehicle and drivetrain design; 4.) charging operation (overnight versus swapping) 5.) charging station design and options for standardisation ; 5.) vehicle operation and maintenance plans (among other information yet to be defined as part of the feasibility study and implementation plan) for e-mobility upscaling will developed. The information contained in the technical specifications will inform the work on regulations and standards carried out as part of component 3. The information will furthermore inform the development of the financing scheme carried out as part of component 3. The information on the technical design, operation and financial performance of the charging station(s) will also inform the study on renewable power integration (component 4), which will also cover the use of electric 2&3 wheelers in rural areas in combination with charging station coupled to minigrids.

D 2.2.1 Procurement and delivery in Togo of electric motorcycles, based on the initial specifications established in the feasibility study (D 2.1.2), with support of Sustainable Transport Africa and UNEP SMU

D 2.2.2 Procurement and delivery in Togo of charging equipment, based on specifications established in D 2.1.2, with support of Sustainable Transport Africa and UNEP SMU

D 2.2.3 Training of e-motorcycle drivers and charging equipment operators

D 2.2.4 Implementation of the demonstration project as detailed in the implementation plan and collection and analysis of data with the support of the local university (data set and analysis report issued)

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<sup>23</sup> <http://www.codatu.org/partenaire/eamau-ecole-africaine-des-metiers-de-larchitecture-et-de-lurbanisme/>

D 2.2.5 A technical report summarizing the results of the demonstration project is developed including recommendations for technical specifications for e-motorcycles and charging equipment and operation for upscaling

D 2.2.6 The results of the demonstration are presented in a workshop

### **Component 3: Preparing for scale-up and replication of low-carbon electric mobility**

*Outcome 3: Government creates conditions for removing existing barriers by drafting regulatory reforms and financial mechanisms for adoption of e-mobility in the country.*

Component 3 targets the removal of fiscal and regulatory barriers for the uptake of e-mobility in Togo. It furthermore addresses the absence of targeted financial products which prevent innovative e-mobility solutions from access to adequate financing in Togo. It will build on the results of the demonstration project under component 2.

This component focuses on developing the regulatory, fiscal and local policy framework to incentivize the large-scale introduction of electric mobility on Togo. While the focus is on the introduction of electric fleet vehicles such as e-motorcycles, it is not limited to these modes but will also develop measures applicable to the import and registration of energy-efficient and clean passenger cars and buses. It will build on the work carried out under the Global Fuel Economy Initiative (GFEI) project in Togo. It is preferential to develop technology-neutral policy measures, but specific incentives to bring forward the electrification of the transport sector are not excluded. This component will investigate the inclusion of measures to better prepare the Togolese power sector for independent power producers. Synergies with projects to advance the electrification of rural parts of Togo will be explored, in particular with Project CIZO, which is partially funded by the African Development Bank (AFDB).

As part of this component, e-mobility entrepreneurs and local and international financing institutions will be brought together as part of a private sector and financing round table for e-mobility projects to prepare the development of targeted financing for e-mobility investments such as fleet vehicles, charging station and EV assembly / manufacturing. Based on the input received through the round table discussions, concrete financing proposals will be developed for at least 2 business models (including mobility services, charging and assembly / manufacturing). The business roundtables will also be used to communicate the results of the demonstration project to entrepreneurs and financing institutions.

#### **Outputs:**

Output 3.1: Fiscal policies and regulatory schemes are developed to incentivize the uptake of electric mobility.

Based on the gaps identified in the national e-mobility strategy developed under component 1, and with the support of the Global Programme materials, at least three policy proposals are developed and submitted for adoption. These proposals include 1) A reform of vehicle import taxation and regulation (including registration) to incentivize the purchase and import of energy-efficient and clean vehicles e.g. containing clear regulations for the import of electric and incorporating a reasonable level of import tax waivers, and combined age and emission standard limits for the import of used vehicles and vehicles; 2) Regulation to allow the operation of EV charging stations as a service and to combine the use of grid and off-grid (renewable) electricity, seeking to support legislation on the integration of independent power producers in the Togolese power market

Key partners in the development of policy proposals will be the respective line ministries such as the Ministry of Transport and Infrastructure (vehicle registration), the Ministry of Mines and Energy (regulation of the power sector), the Ministry of Economy and Finance (taxation, with Togolese Revenue Authority as its public administrative establishment), and the Ministry of Trade, Industry, Private Sector Development and Local Consumption (import regulations). The PSC / national e-mobility coordination body will play a key role in involving relevant partners and ministries in the process of developing and reviewing the policy proposals. The development of policy proposals will be managed by the Chief Technical Advisor (CTA). International Policy, Business and Strategy expert will lead the technical development of the policy proposals with input from the line ministries and the CTA. The policy proposals will be reviewed by the PSC / national e-mobility coordination body with the participation of relevant non-PSC members.

- D 3.1.1 A draft proposal to reform vehicle import taxation and regulation is developed
- D 3.1.2 A draft proposal to reform vehicle registration is developed
- D 3.1.3 A draft proposal of power sector regulations is developed
- D 3.1.4 A package of policy proposals is circulated for review and presented at a workshop
- D 3.1.5 A consolidated package of policy proposals is presented is submitted for adoption.

Output 3.2: An e-mobility business roundtable including private sector and financial institutions is established to develop financial schemes and concepts for e-mobility upscaling

Based on the success of the demonstration project, and with the support of the Global Programme and the Africa Regional Support and Investment Platform (e.g. through the market place events) a private sector and finance roundtable for e-mobility upscaling including private sector stakeholders (such as mobility service providers, drivers association, e-vehicle assembler and/or manufacturers, EV charging service providers, mini-grid operators) and financial institutions interested in financing e-mobility projects including international development finance locally present in Togo (such as BOAD, Banque Ouest Africaine de Developpement, AfDB) and local banks (such as CORIS Bank) will be initiated. The participation of representatives of the Ministry of Agriculture as well as representatives of local freight service providers currently using motorcycles to transport agricultural goods from producers to markets will also be considered.

The objective of the roundtable, which will take place three times over the duration of the project, is to bring together entrepreneurs and financial institutions to discuss e-mobility business models and to evaluate options of developing targeted financial support for the upscaling of e-mobility in fleets, the development of EV charging services and for supporting local assembly and manufacturing of electric vehicles (including retrofitting). Therefore, private sector stakeholders will be asked to each present their business models for discussion at the round tables. As an example, these new business models could follow a scheme recently developed between GOZEM and CORIS Bank International, whereby the bank has access to GOZEM's digital mobility service application to monitor the individual moto-taxi drivers economic performance, which in turn enables the bank to issue financial products to the drivers at preferential conditions. The roundtable will culminate in a synthesis report summarizing the most promising business models. Together with the support of national and international expertise, initial drafts for targeted financial products to make these business models and opportunities viable will be developed. These draft proposals will be brought to the attention of the participating financial institutions for further development and adoption whenever possible. The synthesis report will be discussed and disseminated through a financing workshop. In addition, based on the discussed business opportunities and business models, this component aims at selecting the two most promising business models for further development into two concrete project concepts, which will be submitted to the targeted financing institution.

- D 3.2.1 Private sector e-mobility stakeholders and locally present international and national financing institutions interested in financing e-mobility upscaling projects in Togo are identified (detailed list with contact details issued)
- D 3.2.2 Three private sector and finance e-mobility roundtables are carried out (1 report issued per roundtable)
- D 3.2.3 A synthesis report outlining the needs for targeted finance and initial schemes for respective financing products and mechanisms is developed and presented during a workshop.
- D 3.2.4 Two e-mobility upscaling project concepts are prepared and submitted to the targeted financing institution

#### **Component 4: Long-term environmental sustainability of low-carbon electric mobility**

*Outcome 4: Long term sustainability of low carbon electric mobility is ensured by government institutions*

Component 4 addresses concerns with regards to environmental sustainability and adequate provision of clean power.

This component targets the development of initial strategies to ensure environmental sustainability of the introduction of electric mobility in Togo. It focuses on two main areas: 1) The collection, re-use, and preparation of used electric vehicle batteries; and 2) The integration of renewable power for charging electric vehicles.

As part of the Global Programme it is envisaged to closely collaborate with the Economic Community of West African States (ECOWAS) of which Togo is a part of, to develop initial regulation for collection of used EV batteries for re-use, recycling and safe disposal at the sub-regional level. It is therefore anticipated that the task to develop such an initial framework can be shared with Cote d'Ivoire and Sierra Leone, which both have developed country projects under the GEF 7 Global Electric Mobility Programme, and which have both outputs similar to output 4.2 of the Togo project.

With regards to renewable power integration, this component will investigate the opportunities of using solar power for 2&3 wheeler battery charging. This study is therefore closely linked to the feasibility study and implementation plan for the e-motorcycle demonstration developed under output 2.1. While the feasibility study is focusing on the integration of solar power in the charging demonstration from technical, operational and financial perspectives focussing on the micro perspective related to the specific demonstration charging system, this study is looking at the integration of renewable power from a national perspective, aligning power supply with e-mobility upscaling scenarios therefore also linking to the national strategy developed under output 1.2.

The study will focus on the potential integration of solar charging not only in urban or peri-urban environments, where access to grid electricity can be assumed, and the integration of solar power is flexible to cover only parts of the required electricity (subject to detailed analysis to determine the optimal share of solar power in order to minimize the cost of the system), but is also investigating the integration of electric 2&3 wheelers in rural areas in combination with minigrids.

This output therefore seeks for close collaboration with the CIZO project to investigate the impact of electric 2&3 wheelers on mini and micro grids power demand, utilization rates and potential new business models for mini and micro grid operators.

The lessons learnt from the e-motorcycle and charging demo in Lomé will provide very useful insights on e-motorcycle charging, and if possible battery swapping applications, which seem to be very suitable for use of e-motorcycles in rural areas. The UNEP Sustainable Mobility Unit (SMU) is currently implementing e-motorcycle demos in Kenya, with part of total demonstration fleet (50 e-motorcycles) being tested in Kisii County, Kenya, with the local partner Powerhive<sup>24</sup>, which is running minigrids and which wants to further explore the combination of e-mobility and decentralized rural power generation. From an operational and business perspective, minigrid operators are most likely ideal providers of battery swapping services since:

- Rural minigrids are often operated in remote areas with limited access to conventional transport fuels which can be an additional argument for electric 2&3 wheelers;
- Additional power demand from electrified 2&3 wheelers could add load to minigrids enhancing their utilization rates or increasing their scale both leading to enhanced profitability;
- Minigrid operators are generating power and hence battery swapping services can be provided without any additional margins on power purchase
- A “fleet” of swapping batteries can be used to balance the minigrid / provide additional services to the grid
- The batteries rented to the vehicle operators can be used to provide additional off-grid services;
- Electric motorcycles sold to the customer without battery are already cheaper than conventional motorcycles today.
- Based on a critical fleet of e-2&3wheelers, charged batteries rented to the EV operators could come at significantly lower costs compared to the equivalent of gasoline
- Battery swapping systems in remote areas are likely to be less prone to incompatibility issues which are to be expected in the early phase of battery swapping market uptake and are therefore an ideal place for testing purposes.

The renewable power integration study will investigate above mentioned points in more detail, also building on similar projects in Sierra Leone and Burundi, to better understand implications of early battery swapping schemes on interoperability. It will provide the information needed with regards to power demand and possible decentralised supply for the upscaling of the electric 2&3 wheeler market across Togo, including both urban and rural areas.

## Outputs:

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<sup>24</sup> <https://powerhive.com/>

Output 4.1: A study to integrate renewable power for electric vehicle recharging is carried out.

D 4.1.1 An International Charging & Renewable Energy integration and Battery expert is hired based on TORs including clear timelines and deliverables

D 4.1.2 A draft study to integrate renewable power for electric vehicle recharging with a focus on rural applications and mini-grid integration is developed, circulated for review and presented at a workshop

D 4.1.3 The study to integrate renewable power for electric vehicle recharging is finalized and disseminated to all local stakeholders and the Global Programme knowledge management focal point.

Output 4.2 A scheme for collection, re-use, recycling and sound disposal of used electric vehicle batteries is developed and submitted for adoption.

After reaching the end of their lifespan, EV batteries can be still reused in other less-demanding environments, for instance as stationary energy storage devices. In any case, initial regulation needs to be developed for the collection of EV batteries which are not suitable for use in transport applications anymore. Similarly, once second life of used EV batteries is depleted, the end-of-life batteries need to be collected for recycling and / or safe disposal. It is desirable to develop such regulation at the subregional level, in form of directives which can then be transformed in national law. It will be evaluated during project implementation to what extent similar outputs within the e-mobility projects in Sierra Leone and Cote d'Ivoire can be bundled to develop such initial regulation at the level of the ECOWAS.

D 4.2.1 Together with the GEF 7 E-Mobility projects in Sierra Leone and Cote d'Ivoire, a coordinated approach to develop battery second and end-of-life regulation at the level of the ECOWAS is evaluated

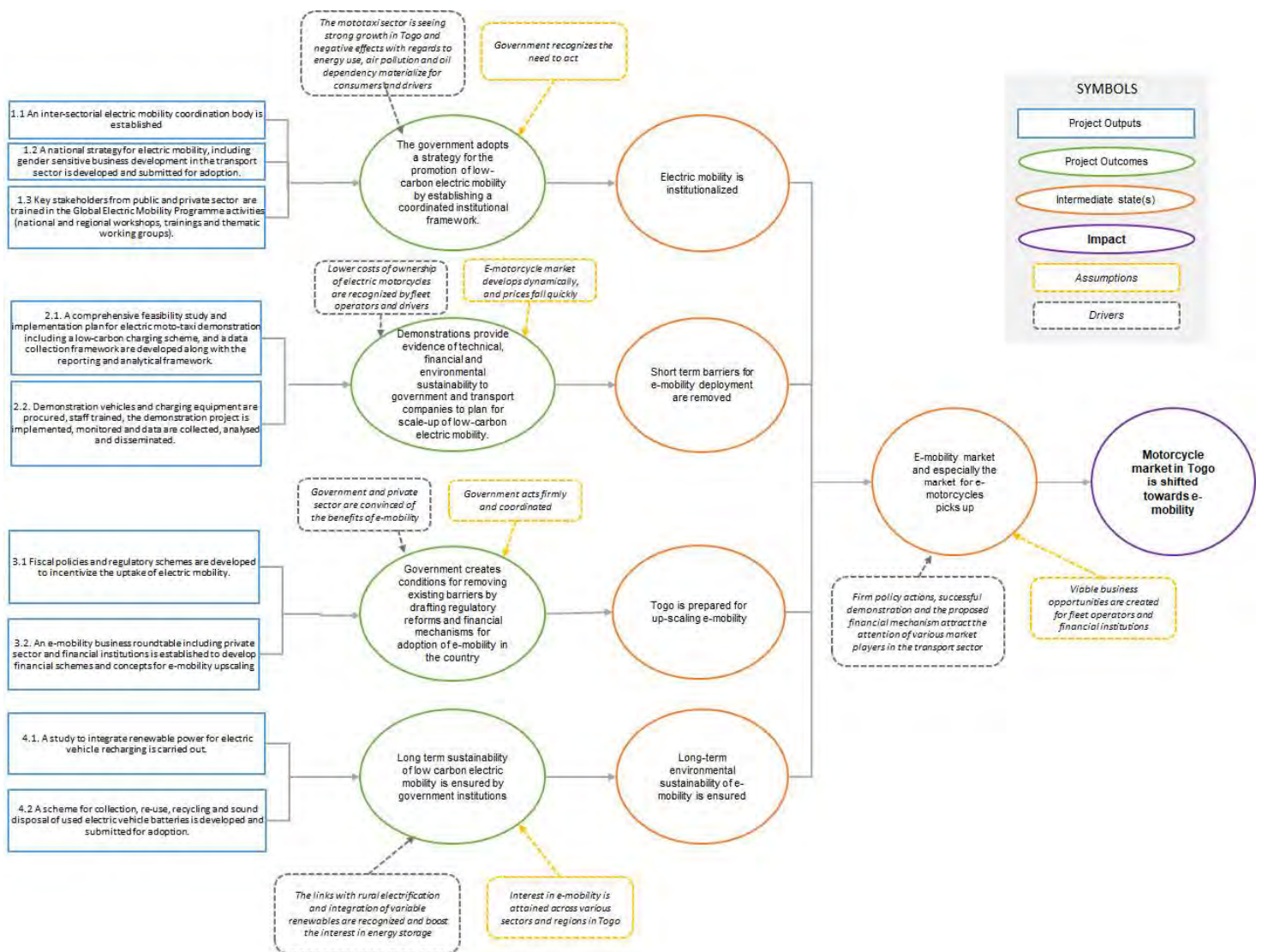
D 4.2.2 A draft scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries is developed, circulated for review, and presented at a workshop;

D 4.2.3 The scheme for reuse, and collection for recycling and sound disposal of used electric vehicle batteries is finalized and disseminated to all local stakeholders and the Global Programme knowledge management focal point.

## **Theory of Change**

Below is the overall project's Theory of Change (ToC). The ToC provides a visual representation of the project complete intervention logic. Through institutionalisation of e-mobility (e-mobility coordination body and strategy, outputs 1.1 and 1.2) and capacity building (output 1.3), in combination with on-the-ground experience with e-mobility through demonstration of electric moto-taxis (outputs 2.1 and 2.2), the basis will be laid for informed policy making (output 3.1) and the development of financial schemes and e-mobility concepts (output 3.2) to prepare for the upscaling of e-mobility in Togo. Preparing the long-term sustainability of e-mobility through the development of ways to integrate higher shares of renewable power for e-vehicle recharging and to line out possibilities to combine the use of electric 2&3 wheeler with off-grid charging solutions (output 4.1) and the development of an initial scheme for the collection of used EV batteries for re-use, recycling and safe disposal (output 4.2) ensure a holistic approach to introduce e-mobility in Togo.





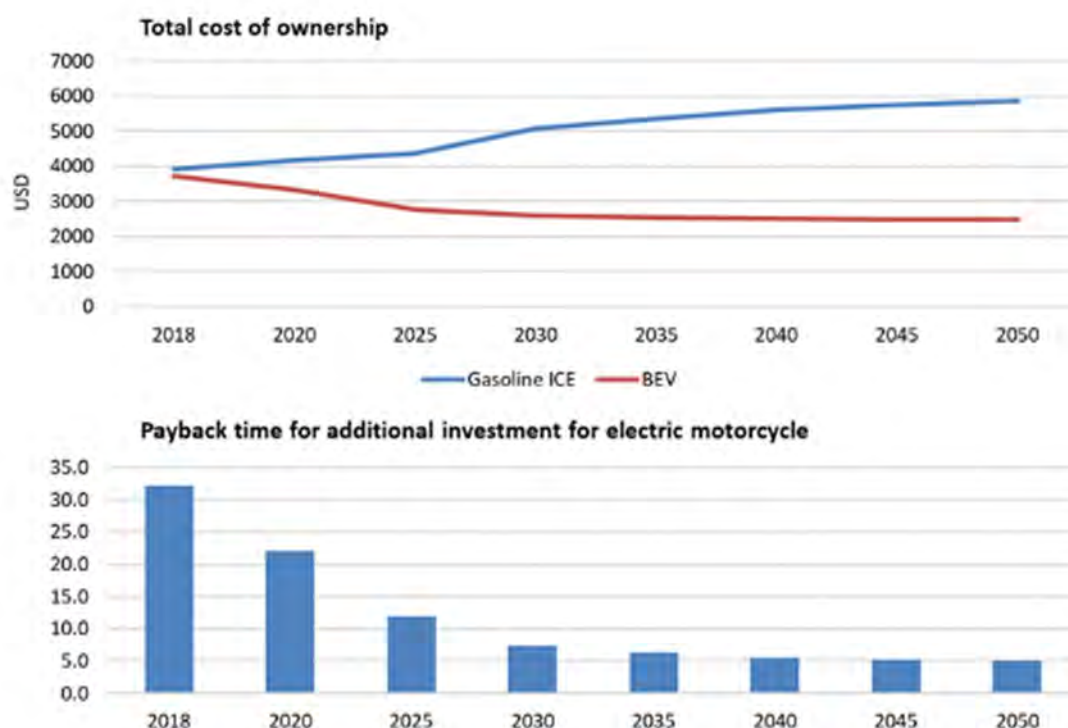
#### 4) Alignment with GEF Focal Area and/or Impact Program strategies

This Programme is aligned with Objective 1 of the Climate Change Focal Area to “Promote innovation and technology transfer for sustainable energy break-throughs”, through CCM 1-2 - Promote innovation and technology transfer for sustainable energy breakthroughs for electric drive technologies and electric mobility.

#### 5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEF, LDCF, SCCF, and co-financing

The GEF is covering incremental costs of barrier removal, in particular the costs of:

- Building capacity, raising awareness, identifying policy gaps;
- Developing strategies and studies to upscale the e-moto-taxi market in Togo;
- Developing technical specifications to buy the right e-moto-taxis;
- Develop a financing mechanism to overcome the higher upfront cost of e-moto-taxis;
- Developing the policy framework for the large-scale introduction of e-mobility, and in particular e-moto-taxis;
- Developing a strategy to integrate the use of renewable power for e-vehicle charging and;
- Developing an initial scheme for the re-use and collection of used EV batteries.



**FIGURE 6 TOTAL COST OF OWNERSHIP AND PAYBACK TIME OF ELECTRIC MOTORCYCLES COMPARED TO CONVENTIONAL MOTORCYCLES**

Already today, total costs of ownership for an electric motorcycle used as a taxi are lower compared to the conventional motorcycle and payback time for additional investment **without any tax benefits or financial instruments** is below 2 years<sup>25</sup>.

The GEF intervention is geared towards reducing payback time of electric motorcycles to below 6 months, by introducing preferential tax rates and a financial mechanism to provide loans to consumers for purchase of electric motorcycles at lower interest rates compared to the commercial rates of 25% and more, as well as longer pay-back times (e.g. 24 months instead of 12).

The intervention of the project will lead to a de-risking of investments, both for the financier to scale-up the market and for the consumer.

In addition, the project is supported by the global project. The global knowledge management component and the regional platform approach seek to bundle demand in the region and thus reduce the incremental costs (i.e. we are seeking a cost-effective way of minimizing the incremental costs):

- Generic tools are produced at global level, disseminated through regional support and investment platforms and adapted to the needs in the country at the country level – thus return on investment for development of tools and methodologies is maximized;
- Investment risk for demand side – bundling demand for e-vehicles for demonstration in a certain region can lead to lower vehicle prices;
- Technology risk for supply side – through adequate training of vehicle operators and exchange between numerous projects, the industry is less likely to face misuse of technology.

<sup>25</sup> Cost: EV USD 2,500 falling to USD 1,800 in 2025 and USD 1,600 in 2030 versus USD 800 for ICE; annual mileage 23,000km, depreciated over 3 years, financing including a 30% down payment, 20% interest rate and 12 months payback time for both EC and ICE. Annual mileage based on 80km per day for 6 days a week and 48 months a year, annual maintenance cost: EV USD 300, ICE USD 600.

Without the intervention of the GEF, local consumers will not be able to front the higher purchase price, which will ultimately stall the introduction of electric motorcycles in the country. This in turn will lead to the influx of cheaper and polluting conventional motorcycles into the market, which is growing at high annual rates.

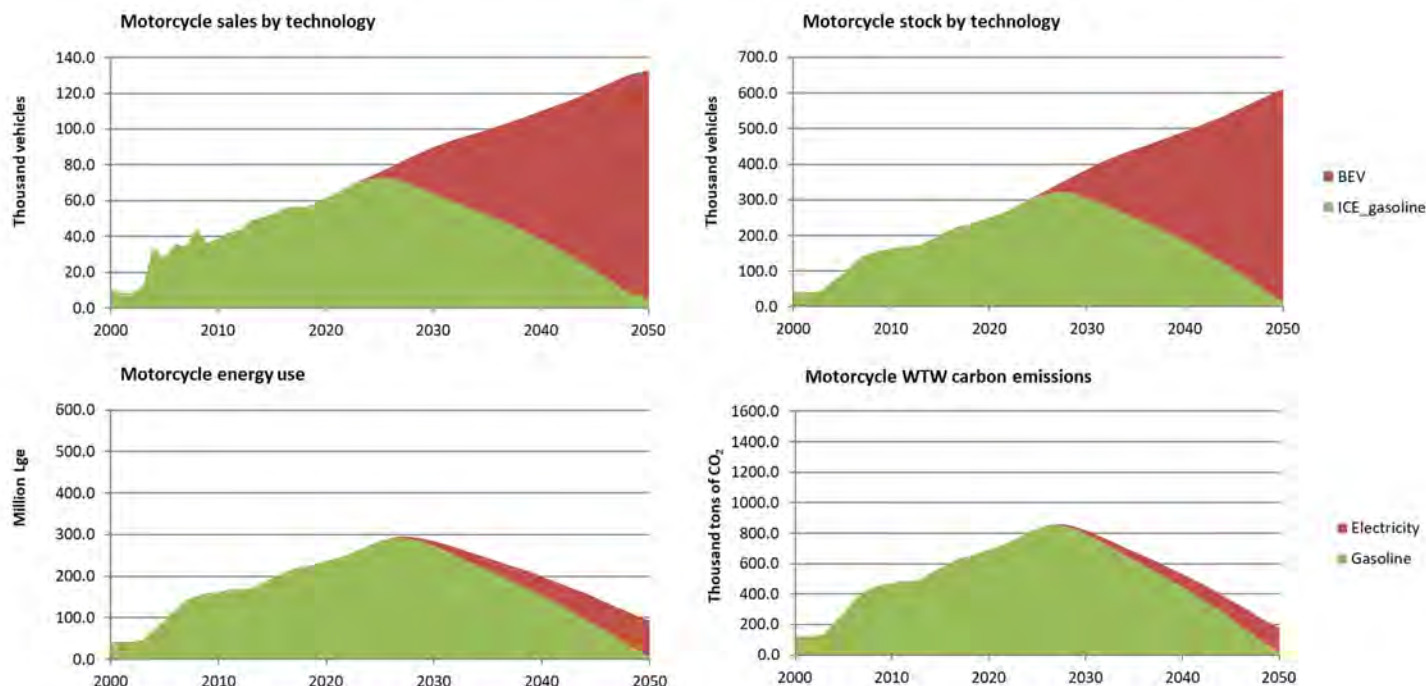
In addition to the above stated, UNEP as the Implementing Agency of the project has several advantages to cost-effectively implementing the project in Togo: 1.) UNEP is leading the Global E-Mobility Project, including the Africa Support and Investment Platform; 2.) Has a track record of project implementation in Togo; 3.) Has a track record of implementing e-mobility projects in low and middle-income countries around the world; and 4.) Has a broad network to industry, finance and academia partners on the topic of e-mobility.

## **6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)**

The projected CO<sub>2</sub> emissions reductions are purely based on the benefits which will stem from the introduction of electric moto-taxis in Togo. The reason for this is that most of the outputs of the project are geared towards the introduction and scale-up of the e-moto-taxi market. In addition to this, benefits from the introduction of electric buses as well as electric passenger cars are assumed to materialize in the future, as a result of the project interventions to incentivize the uptake for e-mobility in all transport sectors. Nonetheless, for the sake of simplicity and transparency, only direct and indirect emission reductions from e-moto-taxis are accounted for.

It is estimated that in 2017 motorcycles were responsible for about a third of all transport related CO<sub>2</sub> emissions. In the baseline scenario, it is projected that the motorcycle fleet in Togo will double in size from about 210,000 vehicles today to about 400,000 in the next ten years, and to triple to about 600,000 in 2050. CO<sub>2</sub> emissions from motorcycles are estimated to grow by 45% until 2030 and to more than double by 2050. This growth of CO<sub>2</sub> emissions goes hand in hand with a growth in air pollutants, especially since pollutant emissions of new and used motorcycles in Togo are not regulated.

Under the alternative scenario, total sales and stock of motorcycles in Togo are identical with the baseline scenario. It is assumed that the institutionalization of electric mobility, the short term barrier as well as the preparation for scale-up of the e-mobility market and in particular the development of a fiscal and regulatory framework as well as the introduction of a financial mechanism will trigger a substantial shift towards the use of electric motorcycles in Togo. It will lead to the sales of about 1,000 electric motorcycles by 2025, increasing to 30% of the market by 2030 and a complete switch to electric motorcycles by 2050. Projections of the motorcycle stock and sales, as well as energy use and emissions by technology are shown in Figure 7.



**FIGURE 7 MOTORCYCLE SALES, STOCK, ENERGY USE AND CARBON EMISSIONS UNDER THE ALTERNATIVE SCENARIO**

A top-down CO<sub>2</sub> mitigation projection carried out for this project to estimate potential CO<sub>2</sub> savings accruing from the demonstration and large scale market introduction of electric moto-taxis. Therefore, top-down emission reductions based on the national motorcycle market and following an ambitious e-motorcycle market penetration scenario are calculated. Based on the national top-down scenario, and following the technology share scenario for e-motorcycles on total new motorcycle registration as outlined above (e-motorcycles: 1% of all newly registered motorcycles in 2025, increasing to 30% by 2030, 50 % by 2040 and finally 100% by 2050), annual CO<sub>2</sub> emission savings account for: 12 ktCO<sub>2</sub> by 2025, 185 ktCO<sub>2</sub> by 2030 and 1,300 ktCO<sub>2</sub> by 2050. Cumulative CO<sub>2</sub> emissions savings reach 19 ktCO<sub>2</sub> by 2025, 500 ktCO<sub>2</sub> by 2030 and 15,000 ktCO<sub>2</sub> by 2050.

<b>Total topdown emission reduction potential 2021 to 2036, tCO<sub>2</sub></b>	<b>2,230,816</b>
Thereof	
Total direct emission mitigation from demonstration, tCO <sub>2</sub>	305
Total secondary direct emission mitigation, tCO <sub>2</sub>	133,831
Total indirect emission mitigation, tCO <sub>2</sub>	312,272
<b>Total project related emissions reductions, tCO<sub>2</sub></b>	<b>446,407</b>

Off this total emission reduction potential identified by the top-down analysis of the entire Togolese motorcycle sector until the year 2050, only a portion will be achieved through the interventions of the project. Direct emission reductions from demonstration account for approximately 305 tCO<sub>2</sub>. Total secondary direct and indirect emission reductions leveraged through upscaling and replication and the introduction of regulatory and fiscal policies account for approximately 446,000 tCO<sub>2</sub>, based on a Level I causality factor of 20%.

Total GHG emission reductions attributable to the project thus account for 446 ktCO<sub>2</sub> for the time frame 2021 to 2036.

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

### Innovativeness:

This project is innovative from various angles: 1.) It promotes a new and innovative clean and low carbon transport technology; 2.) It promotes the integration of low carbon power and energy storage; 3.) It promotes the deployment of innovative business models for e-moto-taxi operation and charging (e.g. battery swapping); 4.) It promotes innovative financing of electric vehicles by accessing climate change mitigation funding within the transport sector; and 5.) It promotes environmental sustainability by tackling the issue of collection of used EV batteries for re-use, recycling or safe disposal.

The use of e-motorcycles has the potential to couple the transport sector with the power sector in Togo. This is of particular interest since e-motorcycle batteries have a manageable capacity of about 3.5 to 5 kWh. These batteries can therefore be charged with solar kits or through mini-grid applications, which makes the technology a very good match with the objective to substantially increase the rate of electrification in Togo through the Project CIZO. Charging of e-motorcycle batteries using solar power can be very simple and cheap. Since the batteries need direct current (DC) and the solar panels produce DC power, there is no need for costly inverters. The controller to manage the quality of the power delivered to charge the batteries is a simple and cheap device. Hence the introduction of e-motorcycles can trigger developments whereby the e-motorcycle battery could also be used for other applications within an environment that is already suited to use DC power, as consequence of using solar kits for power generation promoted by Project CIZO. There is hence a great potential, which will need to be explored during project implementation for innovative application of the e-motorcycle power storage capacity.

The demonstration project implemented by private sector partner(s) and supported by the project eventually includes the introduction of a battery swapping system. This is a highly innovative business model, whereby the ownership of the battery is separated from the owner of the electric motorcycle. In doing so, the investment cost for the motorcycle is much reduced. It will be part of the project to introduce schemes to manage various risks such as 1.) the risk of the battery owner that the battery will be mis-used and charged without permission; 2.) the risk of the motorcycle owner that the battery swapping company defaults and the motorcycle without a battery cannot be operated; 3.) the still existing technology risk for both the vehicle operator and the battery swapping operator with regards to performance and lifetime of the battery and vehicle technology. Schemes to manage these risks will include technology as well as financial technological (e.g. insurance, guarantees, etc.) options, which will be developed as part of the project as well as the Global Programme Thematic Working groups on electric LDVs and Charging, Infrastructure, Batteries, and Renewable Power Integration.

#### Environmental Sustainability

The project has two outputs dedicated to environmental sustainability: 1.) The development of an initial scheme to collect used EV batteries for re-use, recycling and safe disposal; and 2.) The integration of renewable sources of power generation for charging electric vehicles in Togo.

Both outputs ensure that the issue of potentially hazardous waste is tackled right from the beginning of the introduction of EVs in Togo and that the long-term sustainability with regards to truly zero- or low-carbon transportation is planned.

#### Sustainability of market development after the project:

The project will be closely linked to the Africa Support and Investment Platform. Through this platform it is envisaged that the project leads to the un-locking of resources to fund a financial mechanism to upscale the market of electric moto-taxis in Togo. The Africa Support and Investment Platform will be operational beyond the lifetime of the Togo e-mobility project and is anticipated to be the leading marketplace in Africa where potential project concepts meet potential financiers and potential technology suppliers. It is hence anticipated that the GEF Togo E-Mobility project will lay the ground for a transformational shift towards electric mobility in Togo. This is based on the removal of market barriers outlined above, namely the built-up of capacity, the introduction of the technology to the Togolese market, the introduction of an adequate policy framework, and the provision of business models and financial schemes.

It is the aim of the project to create an understanding that the use of electric motorcycles as moto-taxis is the most economical option and that it will increase the revenue for drivers. Together with the adoption and deployment of an adequate financial mechanism, which provides access to low-interest loans (i.e. with interest rates below 10% and longer

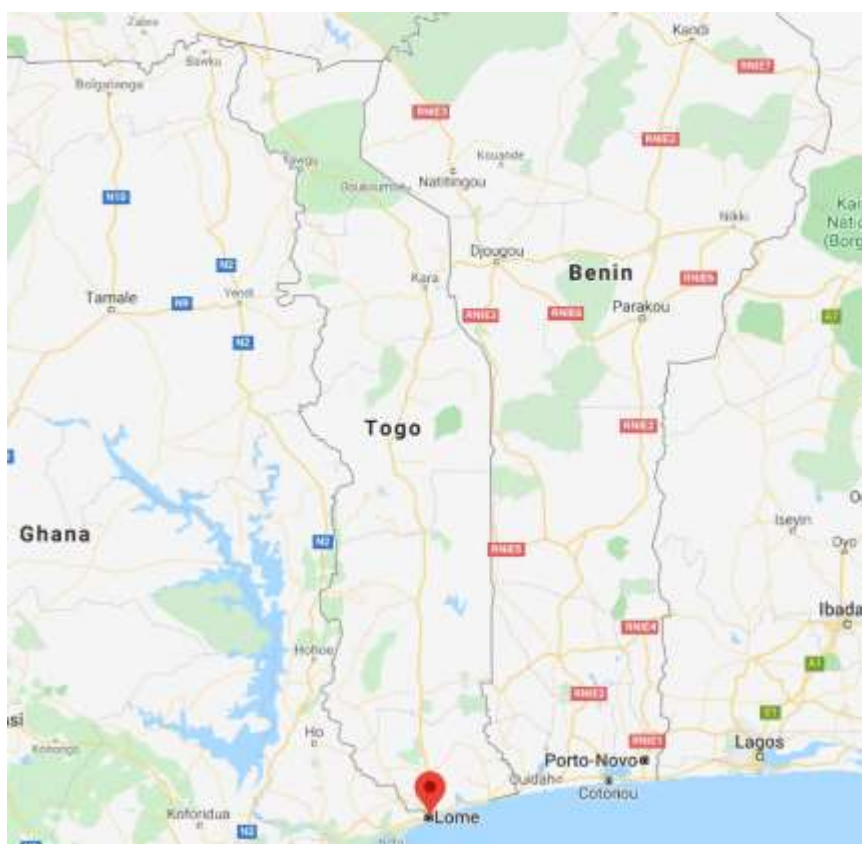


payback time of 12 or 18 months) to potential e-motorcycle fleets and individual drivers, the market will move by itself towards the large-scale adoption of e-motorcycles.

#### Potential for scaling-up:

Under a scenario whereby import duty for e-motorcycles would be reduced to half of the tax burden of conventional motorcycles (~48% based on price), adequate technology would be available at USD 1,500 before any taxes (compared to about USD 800 for a conventional motorcycle) and would have a life-time of 5 years, a financial mechanism to fund the introduction of 1,000 electric motorcycles in Togo would need to have funding of about 1.8 to 2 million USD (assuming down-payment of USD 300, 10% interest rate p.a. and a payback-time of 12 months). Under such a case and based on Togolese data for annual driving, fuel costs etc. the total cost of ownership over 5 years of the e-motorcycle would be about 40% lower compared to the conventional motorcycle, hence being a very good value proposition for the e-moto-taxi driver.

### ***1c. Project Map and Geo-Coordinates***



<b>Demonstration sites</b>	<b><i>Latitude</i></b>	<b><i>Longitude</i></b>
Lomé, Togo	6 130443	1.232279



### ***1d. Child Project***

The current project is hosted under the “Global Programme to Support Countries with the Shift to Electric Mobility”, led by UNEP.

The Global Programme is based on the following four components:

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

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

Global E-mobility Programme Monitoring Framework											
			Global level monitoring						Country level monitoring		
Objective level indicators											
Indicator A: Direct and Indirect Greenhouse Gas Emissions Mitigated (metric tons of CO2) mitigated											
Indicator B: Direct and Indirect enegy savings (MJ)											
Indicator C: Number of direct beneficiaries											
Component 1 Global thematic working groups and knowledge materials			Component 2 Support and Investment Platforms			Component 3 Country project implementation (Child Projects)			Component 4 Tracking progress, monitoring and dissemination		
Outcome 1 Knowledge products are generated to support policy making and investment decision-making through four global thematic working groups			Outcome 2 Conditions are created for market expansion and investment in electric mobility through support and investment platforms			Outcome 3 Conditions are created at country and city level for the introduction of electric mobility demonstration projects, and wider up take of electric mobility			Outcome 4 Projects and electric mobility markets are tracked, and key developments, best practices and other lessons learned are shared to promote wider uptake of electric mobility.		
Indicator 1.1 # of knowledge products developed by the four thematic working groups and used by the Support and Investment platforms in their training and outreach activities			Indicator 2.1 # of countries using services and knowledge products offered by the Support and Investment Platform			Indicator 3.1 # of countries with an improved institutional framework and a strategy to promote the uptake of low-carbon electric mobility			Indicator 4.1 # of countries generating and sharing best practices and other lessons learned on low-carbon electric mobility with the global programme		
Baseline: 0	Mid-point target: 10	End point target: at least 25	Baseline: 0	Mid-point target: At least 25% of the GEF-approved Country Child Projects	End-point target: At least 85% of the GEF-approved Country Child Projects	Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects	Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects
			Indicator 2.2 # of US\$ leveraged to scale-up low-carbon electric mobility through the support and investment platforms			Indicator 3.2 # of countries with nationally generated evidence of the technical, financial and/or environmental benefits of low-carbon electric mobility			Indicator 4.2 # of e-mobility knowledge products refined based on evidence coming from the country projects		
			Baseline: US\$ 0	Mid-point target: -	End point target: US\$ 140 million	Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects	Baseline: 0	Mid-point target: -	End point target: at least 8
			Indicator 2.3 # number of e-mobility scale-up and / or replication concepts facilitated as a result of the match-making			Indicator 3.3 # of countries that have improved preparedness to accelerate market transformation towards low-carbon electric mobility			Indicator 4.3 # of non-e-mobility programme countries committing to actively promote the uptake of low-carbon e-mobility		
			Baseline: 0	Mid-point target: 2	End point target: At least 10	Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects	Baseline: 0	Mid-point target: -	End point target: 10
			Indicator 2.4 # of financial institutions / development banks (national/regional) that have been engaged through the Global Programme and are actively supporting e-mobility projects			Indicator 3.4 # of countries with measures in place to ensure the long-term environmental sustainability of low-carbon electric mobility					
			Baseline: 4 (ADB, EBRD, DBSA, World Bank)	Mid-point target: -	End point target: 12 (+8)	Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects			

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

For this purpose and whenever applicable, the global level indicators highlighted in green are translated into a country-level indicator in the Project Results Framework located in Annex A of the present CEO Endorsement Document. During project implementation, the Ministry of Environment and Forestry Resources will be requested to report against the

indicators of the country Project Results Framework (Annex A) on an annual basis, during the PIR process, in addition to the usual GEF Core Indicators (mentioned at the top of the table above).

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



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

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

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

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

The national child projects will generate a learning curve on electric mobility that can be transferred to other countries within and outside of the region through the global programme. As a first contact point, the regional Support and Investment Platform will facilitate the flow of learnt lessons from child projects, such as: data and demonstration results, working business models, operational know-how, working financial instruments, and working policies and regulations.



At the global level, the scenarios proposed to share country knowledge and experiences on electric mobility are the thematic working groups, while at the regional level the countries will participate in the community of practice, the thematic regional groups, the marketplace, training and workshops.

## 2. Stakeholders

An overview of the key stakeholders to be involved in the project is provided in Table 55. Stakeholders are categorized into four groups: 1) Government, 2) Private sector, and 3) Finance and 4) Civil Society Organizations. Key government stakeholders include the Ministries, which will be part of the Project Steering Committee as well as a larger group of Ministries that will be part of the E-mobility coordination body. The ministries unified in the coordination body will have the political power to drive the necessary regulatory and fiscal reforms to incentivize the introduction of e-mobility and in particular electric moto-taxis in Togo.

Key private sector stakeholders include the mobility service app and taxi fleet provider GOZEM, the mobility service app and, taxi fleet operator and e-motorcycle manufacturer Taxietogo (Motorhino), and a few petrol stations operators (which are yet to be confirmed), which are potential hosts for e-motorcycle charging and/or battery swapping stations.

During the stakeholder consultation visit to Togo in November 2019, the West African Development (BOAD) expressed interest in financing e-mobility projects, especially once electric vehicles have been successfully demonstrated. BOAD also mentioned an interest in supporting work on business models and finance schemes. In addition, BOAD also expressed interest in participating in the Africa Support and Investment hub events.

To bring stakeholders together to support the project development process, the first stakeholder consultation workshop took place on 6 November 2019 in Lomé with a total of 34 participants including representatives from government, including the Ministry of Environment, Sustainable Development and Nature Protection, the Ministry of Transport and Infrastructure the Ministry of Trade, Industry, Private Sector Development and Local Consumption. The Lomé Municipal Bus Operating Company (SOTRAL), Togo Utility CEET, and Drivers Union were also represented. The potential benefits of the introduction of electric mobility in Togo were well recognised by all the participants. The different stakeholders also provided inputs into the existing initiatives ongoing in the country that would allow for synergies with the introduction of e-mobility in Togo.

The stakeholder validation workshop was held virtually on 4 March 2021 with a total of 18 participants including the representatives of the Ministry of Environment and Forestry Resources, the Department of Road and Rail Transport (Ministry of Transport and Infrastructure), the Ministry of Mines and Energy. Additional bilateral consultations were also undertaken with GOZEM and Taxietogo (Motorhino), the two mototaxis fleet operators. The different participants stressed the importance of the coordination between the three key ministries (i.e. Ministry of Environment and Forestry Resources; Ministry of Transport and Infrastructure; Ministry of Mines and Energy) to enhance the ownership the project. It was also suggested that national Togolese consultants / experts should be involved in the project's implementation to ensure sustainability of the results after project completion.

**TABLE 5 KEY STAKEHOLDERS AND ENGAGEMENT PLAN**

<b>Stakeholder main group</b>	<b>Stakeholder name</b>	<b>Existing activities with potential to be leveraged</b>	<b>Content engagement, contributions to the project (identified by Component)</b>
Government	MINISTERE DE L'ENVIRONNEMENT ET DES RESSOURCES FORESTIERES - Ministère de l'Environnement et des Ressources Forestières - Ministry of Environment and Forestry Resources	Implemented the Togo Cleaner Fuels and Vehicles project under the Global Fuel Economy Initiative, Executing Agency of a number of climate change related international donor projects, member of the Inter-ministerial Steering Committee of the World Bank Infrastructure and Urban Development Project	Executing Agency, Member of project steering committee, Member of e-mobility coordination body, co-finance partner.  Components 1-4, all outputs. Hosts PMU, receives project funding

<b>Stakeholder main group</b>	<b>Stakeholder name</b>	<b>Existing activities with potential to be leveraged</b>	<b>Content engagement, contributions to the project (identified by Component)</b>
Government	MINISTERE DES INFRASTRUCTURES ET DES TRANSPORTS - Ministry of Transport and Infrastructure	Member of the Inter-ministerial Steering Committee of the World Bank Infrastructure and Urban Development Project,  WB TA co-finance to policy development  Department of Road and Rail Transport (Direction Des Transports Routiers Et Ferroviaires)	Member of project steering committee, member of e-mobility coordination body, co-finance partner.  Components 1-3 Outputs: 1.1; 1.2; 1.3; 2.1; 2.2; 3.1; 3.2
Government	Department of Road and Rail Transport (Direction Des Transports Routiers Et Ferroviaires)	Under the Ministry of Transport and Infrastructure.  Responsible for testing and licensing all vehicles and drivers, and for traffic management Manages vehicle registration and licensing database	To provide technical inputs, data, and information on the current policy framework, especially with regards to vehicle registration and testing
Government	MINISTERE DES MINES ET DE L'ENERGIE - Ministry of Mines and Energy	Chairs the PSC of the World Bank Energy Sector Support and Investment Project  WB TA co-finance to policy development	Member of project steering committee, Member of e-mobility coordination body, co-finance partner.  Components 1-4 Outputs: 1.1; 1.2; 1.3; 2.1; 2.2; 3.2; 4.2
Government	MINISTERE DU COMMERCE, DE L'INDUSTRIE, DU DEVELOPPEMENT DU SECTEUR PRIVE ET DE LA PROMOTION DE LA CONSOMMATION LOCALE - Ministry of Trade, Industry, Private Sector Development and Local Consumption	Responsible for job creation and consumption	Member of e-mobility coordination body  Components 1 and 3 Outputs: 1.1; 1.2; 1.3; 3.2
Government	MINISTERE DE L'ECONOMIE DES FINANCES - Ministry of Economy and Finance	Member of the Inter-ministerial Steering Committee of the World Bank Infrastructure and Urban Development Project	Member of the PSC, member of e-mobility coordination body  Components 1 and 3 Outputs: 1.1; 1.2; 1.3; 3.1
Government	MINISTRE DE L'URBANISME, DE L'HABITAT ET DU CADRE DE VIE - Ministry of Urban Development and Housing	Implementing Agency for the World Bank Infrastructure and Urban Development Project  WB TA co-finance to policy development	Member of e-mobility coordination body  Components 1 and 3 Outputs: 1.1; 1.2; 1.3; 3.1
Government	Ministry of Social Action, Women Promotion and Literacy	Ministry in charge of gender mainstreaming and women empowerment.	Support the CTA in the preparing the Gender Representation Guidelines document and in implementing the Gender Action Plan

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
			Components 1 2 and 3 Outputs: 1.1; 1.2; 1.3; 2.2; 3.2
Academia	African School of Architecture and Urbanism (EAMAU)	With the support of CODATU (Cooperation for urban mobility in the developing world, French association with international vocation), EAMAU is offering the Master Studies “Sustainable Transport and Mobility in African Cities”	Support on data collection and analysis  Component 2, Outputs 2.1, 2.2 Component 4, Output 4.1
Private Sector	GOZEM	Currently has a basis of 4,000 drivers in Togo and Benin, and 600,000 subscribed clients <sup>26</sup> mototaxis. Provides app platform for moto-taxi ride hailing. Interested in operating charging / swapping stations. Has a cooperation with the local bank Coris for preferential moto taxi finance	Private sector stakeholder for e-moto-taxi demonstration project  Components 1 - 4 Outputs: 1.1; 1.2; 1.3; 2.1, 2.2, 3.1, 3.2, 4.2
Private Sector	Motorhino / Taxietogo	Taxietogo currently has a basis of 20 drivers in Togo. Provides app platform for moto-taxi ride hailing. Operates 5 electric motorcycles assembled by the mother company Motorhino. Interested in operating charging / swapping stations	Private sector stakeholder for e-moto-taxi demonstration project  Components 1 - 4 Outputs: 1.1; 1.2; 1.3; 2.1, 2.2, 3.1, 3.2, 4.2
Private Sector	Total	Expressed interest in hosting EV charging stations	Possible private sector stakeholder for the e-moto-taxi demonstration project,  Component 2 Output 2.1 and 2.2
Private Sector	CAP	Expressed interest in hosting EV charging stations	Possible private sector stakeholder for the e-moto-taxi demonstration project,  Component 2 Output 2.1 and 2.2
Finance	BANQUE OUEST-AFRICAINE DE DEVELOPPEMENT - West African Development Bank	Multilateral development bank with headquarters in Lomé	Possible finance partner to support the development of the financial mechanism for the introduction of e-moto-taxis in Togo  Component 3 Output 3.2
Private Sector	COMPAGNIE ELECTRIQUE ENERGETIQUE DU TOGO (CEET) - Togo Utility	Hosts the PIU of the World Bank Energy Sector Support and Investment Project	Knowledge partner for power sector regulation  Component 2-4 Output 2.1, 2.2, 3.1, 4.2
Civil society	UNION DES SYNDICATS DES CONDUCTEURS DU TOGO - Drivers Union Togo		Knowledge partner for e-moto-taxi operation  Component 1-3 Output 1.3, 2.1, 2.2, 3.2

<sup>26</sup> <https://www.jeuneafrique.com/mag/1094330/economie/vtc-qui-simposera-comme-le-uber-togolais/>

<b>Stakeholder main group</b>	<b>Stakeholder name</b>	<b>Existing activities with potential to be leveraged</b>	<b>Content engagement, contributions to the project (identified by Component)</b>
Finance	African Development Bank AfDB	Financier for the Project CIZO	Potential synergies to explore with renewable mini and micro grid solutions and e-mobility financing  Component 3-4 Output 3.2, 4.2
Finance	Agence Francaise de Development (AFD)	Financier of a solar lighting project in Togo	Potential synergies to explore with renewable power street lighting project  Component 3-4 Output 3.2, 4.2
Finance	Coris Bank International Togo	Financing partner of GOZEM for moto-taxi loans	Potential local financing partner  Component 3 Output 3.2
GEF Agency	UNEP Climate Mitigation Unit	Implementing Agency of the Togo project and Lead Implementing Agency of the Global E-mobility Programme.	Overall project oversight Financial and substantive reporting Disbursement of funds
International Organization	UNEP Sustainable Mobility Unit (SMU)	Lead Executing Agency of the Global E-mobility project. Technical support unit involved in more than 40 e-mobility projects in low and middle income countries	Co-financing partner implementing funds from the EC SOLUTIONSplus project to provide seed funding to local innovators, UNEP SMU is providing targeted technical support to Components 1, 2, 3 & 4
NGO	Sustainable Transport Africa	Supported the implementation of e-mobility and clean vehicles and fuels project in Africa	STA is supporting the competitive process to identify the private sector partners for the demo project(s) and supports the procurement of demo vehicles.
Government	Economic Community of West African States (ECOWAS)	Supranational body with the mandate to develop directives, e.g. on environmental regulation in West Africa. ECOWAS with the support of UNEP SMU has recently approved regulation which obliges the sales of fuel with no more than 50 ppm sulphur in ECOWAS countries from 2022 onwards.	ECOWAS is potentially providing support to component 4
Government	SOTRAL	Public Bus operator in Lomé	SOTRAL will be involved in the discussion with regards to e-mobility strategy, component 1.

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

Various means for project stakeholder inclusion exist. Relevant government stakeholders / ministries will be engaged through the PSC and the national e-mobility coordination body meetings. Furthermore, government partners will participate in the training events of the Global Programme.

The project envisages the establishment of 3 thematic working groups, which will be supervised by the project steering committee. These three thematic working groups (TWGs) are:

1. TWG on e-mobility technology – private sector partners for demo implementation, including vehicle and charging operators, the local university, representatives from operational level of the Ministry of Transport and Infrastructure and the Ministry of Mines and Energy will be members;
2. TWG on e-mobility business models and finance – private sector partners, international and local financial institutions (e.g. BOAD, Coris Bank, AfDB) will be part of the TWG to support the development and improvement of business models, the development of an initial concept for a financial mechanism and to select business models presented in Output 3.2 for finance concept development;
3. TWG on e-mobility policy – the ministries which are part of the e-mobility coordination body will (Ministry of Environment and Forestry, Ministry of Infrastructure and Transport, Ministry of Mines and Energy, Ministry of Economy and Finance, under the leadership of the Ministry of Environment and Forestry Resources work on the policy proposals to reform the regulatory and fiscal scheme for importation and registration of electric vehicles in order to incentivize the uptake of e-mobility whilst not compromising the overall tax revenue of the Republic of Togo.

The main objective of the TWGs is to coordinate the processes of providing input (data, background information, legislative texts etc.) to the various activities (such as the development of the strategy, the feasibility study and implementation plan for the demo projects, the technical summary reports, the policy proposals, including transport, energy and fiscal, as well as the environmental sustainability studies on batteries and renewable power integration), and to organize the respective review processes. The TWGs will meet at least 3 times per year, virtually or in person. Organization of the TWGs lies with the PMU.

Finally, select what role civil society will play in the project:

- ☒ Consulted only;  
☐ Member of Advisory Body; contractor;  
☐ Co-financier;  
☐ Member of project steering committee or equivalent decision-making body;  
☐ Executor or co-executor;  
☐ Other (Please explain)

### ***3. Gender Equality and Women's Empowerment***

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

- ☒ Yes  
☐ No

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

- ☐ closing gender gaps in access to and control over natural resources;  
☒ improving women's participation and decision making; and or  
☐ generating socio-economic benefits or services for women.

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

- ☒ Yes  
☐ No

#### **Gender analysis:**

Togo is one of the countries with a very young population, the average age is around 19.4 years. Large differences between women and men with respect to access to education and employment can be observed in Togo. According to UNFPA,

literacy is very different between women and men of different age groups. While about 90% of males aged 15 to 24 can read, this holds true for only 77% of young women. While most women and men went to primary school, differences in education are significant for secondary and tertiary education. More than 50% of men visited a secondary school, this is true for only 28% of women. When it comes to tertiary education, women are much less represented, accounting for only 40% of the percentage share of male persons benefitting from tertiary education. This imbalance is then reflected in rates of unemployment among women. Rates are on average at least 20% higher than for men. In addition, the share of vulnerably employed persons (People who are 'own-account' and 'contributing family' workers are classified as vulnerably employed by the ILO). Total fertility is still very high. In 2017, each woman in Togo gave birth to about 4.3 children.

The Gender Development Index is 0.822, which places Togo in group 5; group 5 comprises countries with low equality in Human Development Index achievements between women and men (absolute deviation from gender parity of more than 10 percent). The Gender Inequality Index is 0.573, which ranks Togo 145th of 162 countries (for 27 of the 189 countries the Gender Inequality Index has not been determined). In the Global Gender Gap Report 2020, the Global Gender Gap Index is 0.615, which ranks Togo 140th of 153 countries for which the Global Gender Gap Index has been determined.<sup>27</sup> Based on this, the project has taken into consideration the low ranking of Togo in terms of gender equality, when setting its gender mainstreaming targets in the Gender Action Plan and in the Direct Beneficiary Core Indicator, to avoid creating unrealistic and overambitious expectations.

Since moto-taxis are among the cheapest option to travel in Togo, women are using moto-taxis very frequently. It is believed that more than 50% of the passengers using moto-taxis in Togo are women. In their 2012 publication "Motorbike taxis in the "transport crisis" of West and Central African cities"<sup>28</sup>, Diaz et al classify the users of 2&3 wheelers in West Africa in the following categories: 1.) exclusive users (70% of users) belong to households that own a motorized two-wheeler which is available to them permanently; 2.) related users (10%) also belong to the households that own a motorized two-wheeler, but either it is not available to them at all or it is available only occasionally, and 3.) deprived users (20 %) belong to households without a motorized two-wheeler and their only access to one is via their personal or occupational contacts. They conclude that "Related users and deprived users constitute a population which includes more women, which has a lower level of education and includes fewer employed persons than the exclusive users. Their access to a motorized two-wheeler is limited, but it nevertheless allows them to travel more than residents with no access to one at all, e.g. 70% more than public transport users. They are more frequent passengers on two-wheelers, even though they drive for 40% (in the case of related users) and 30 % (in the case of deprived users) of their trips. For them, the motorized two-wheeler is a mode they use when the opportunity presents itself, particularly for social trips."

Research shows that women are in general more vulnerable to bad air quality than men. Therefore, shifting the large fleet of cheap and polluting conventional motorcycles to clean and efficient electric motorcycles is a means to improve the health situation of women in Togo. This is especially true for women selling goods on the road-side, who are nowadays very much affected by exhaust fumes of smoking and oil-burning moto-taxis.

Improving the quality of the service of moto-taxis, for example through the use of an app, which also provides the ability to rate the trip, can improve the safety of women. In addition, since the price of the trip is not a matter of negotiations, additional sources of inequalities can be prevented. Needs of women will be taken into account when it comes to the design of technical specifications for the electric motorcycles to upscale the market. This can include for example handle-bars which provide the option to hold on to the motorcycle without touching the driver.

Improving access to finance for women can also be addressed as part of the project activities. Since the project aims at developing a financial mechanism for the purchase of electric motorcycles for use as moto-taxi, a component might address the use of e-motorcycles in businesses of women for women. This could be particularly interesting for the rural areas of Togo where electric motorcycles could be used for the transport of agricultural and other goods to and from markets. It can be part of the design of such a financial mechanism to set aside a portion of the funds for women's cooperatives in the rural parts of Togo.

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<sup>27</sup> Human Development Report 2020

<sup>28</sup> Motorbike taxis in the "transport crisis" of West and Central African cities, EchoGéo, 2012, <http://journals.openedition.org/echogeo/13080>

Last but not least, the work on the “National strategy for electric mobility and integrated public transportation in Togo” will collect and analyse gender -specific indicators on the use of public transportation in Togo, with a focus on the capital Lomé. This shall include gendered estimates on vehicle ridership for various modes such as moto-taxis, taxis, public buses, and private vehicles. The gendered data will help to design a strategy for electric mobility and integrated public transportation in Togo, which caters to the needs of women.

#### Gender Action Plan:

The Chief Technical Advisor (CTA) will be responsible for implementing and monitoring the Gender Action Plan. The concrete activities and means of verification to achieve the above, as well as responsible parties of the Gender Action Plan, are summarized in the following table:

<b>Project Components / Outputs</b>	<b>Objectives</b>	<b>Activities</b>	<b>Target<sup>29</sup> / Means of Verification</b>	<b>Responsibility</b>
<b>Overall Project Management</b>	Promote women representation in participatory and decision-making processes and empowerment of women	Prepare a 2-pager guideline on gender representation document for all participatory and decision-making bodies and capacity building measures of the project. The guidelines provide measures to ensure a balanced representation of women in these bodies. The guidelines are prepared in collaboration with the Ministry of Social Action, Women Promotion and Literacy and are disseminated to the members organizations of the project steering committee / inter-sectorial e-mobility coordination body.	Gender Representation Guidelines document drafted and issued by the end of Month 3	CTA with support from the Ministry of Social Action, Women Promotion and Literacy
	Monitor women’s participation in project meetings, trainings, and workshops	Develop an attendance sheet template to collect gender-disaggregated participants data, to be used in all project meetings events.	Attendance sheet template prepared and made ready for use by the end of Month 2	CTA
	Mainstream gender into progress reporting	Report on the project’s gender mainstreaming activities in each progress and Project Implementation (PIR) report.	2 reports per year (1 progress report and 1 PIR)	PMU
<b>Component 1 Output 1.1</b>	Ensure women’s representation in project bodies	Based on the Gender Representation Guidelines, encourage member entities of the national coordination body to appoint women as their representatives.	The national coordination body has appointed at least 1 female member (gender-disaggregated attendance sheets)	PMU
<b>Component 1 Output 1.2</b>	Ensure that the national strategy for electric mobility mainstreams gender aspects	The national strategy to promote low-carbon e-mobility in Togo will include a gender analysis and action plan to mainstream gender perspectives from the onset of the development process. Gender-related action items will be included in the draft national e-mobility strategy.	1 <sup>st</sup> draft of gender-sensitive national strategy (deliverable 1.2.4) prepared by Month 16. Final gender-sensitive national strategy (deliverable 1.2.5) prepared by Month 24.	PMU together with the International Policy, Business and Strategy expert
<b>Component 1 Output 1.3</b>	Encourage female participation in	Based on the Gender Representation Guidelines, participation of women in regional/international events, meetings	In total, at least 15 of the participants attending the different project	PMU / CTA

<sup>29</sup> As explained in the Gender analysis above, the project has taken into consideration the very low ranking of Togo in terms of gender equality when setting its gender mainstreaming targets in the Gender Action Plan, to avoid creating unrealistic and overambitious expectations

	regional / international events	and trainings will be promoted actively. The agencies or institutions that will be invited to participate will be encouraged to nominate women to participate in the events.	consultation meetings / workshops / events organized as part of the project are women. (gender disaggregated attendance sheets)	
<b>Component 2 Output 2.2</b>	Assess the ratio of women using the demonstration assets (e-moto-taxis)	As part of the monitoring and data collection under Output 2.2, the project will also monitor the use of the demonstration e-moto-taxis by gender.	The final report on the demonstration results (deliverable 2.2.4) includes the statistics on the use of the e-moto-taxis, disaggregated by gender – by Month 27.	PMU together with the International / National E-Mobility Technology experts and the Local university
<b>Component 3 Output 3.2</b>	Encourage female participation in the business roundtables	Based on the Gender Representation Guidelines, participation of women in the 4 business roundtables will be promoted actively. The agencies or institutions that will be invited to participate will be encouraged to nominate women to participate in the events.	At least 10% of participants attending the roundtables are women. (gender disaggregated attendance sheets)	PMU / CTA
<b>All Components</b>	Promote women participation in project consultation meetings / workshops.	The participation of women will be encouraged in all project consultation meetings and workshops outlined in the Workplan (refer Annex L for more details)	In total, at least 15 of the participants attending the different project consultation meetings / workshops / events organized as part of the project are women. (gender disaggregated attendance sheets)	PMU / CTA

#### 4. Private Sector Engagement

Private sector involvement plays a crucial role in the Togo e-mobility project. First and foremost, private sector will implement the demonstration fleet of up to 25 electric motorcycles. Similarly, private sector will demonstrate the charging operations. Private sector will be addressed during the e-mobility roundtable (Component 3) seeking to developed financing concepts for the most promising business models (including assembly and manufacturing)

Last but not least, the project also aims at developing a strategy to link renewable power generation with e-mobility (Component 4). This can be particularly interesting in combination with the project CIZO, which aims at increasing the rate of electrification through the deployment of solar micro and mini-grid solutions, which will be developed and operated by private sector. The use of electric motorcycles might open a new dimension to these projects and might add a new stream of revenues linked to the use of solar power and battery storage.

More specifically, a number of private sector partners have already been identified to play a role in the Togo E-Mobility Project:

- GOZEM, mobility service provider
- Motorhino / Taxietogo, e-motorcycle manufacturer and mobility service provider
- Total, fuel retailer, potentially hosting e-mototaxi charging / battery swapping stations
- Cap, fuel retailer, potentially hosting e-mototaxi charging / battery swapping stations
- Coris Bank International Togo, local commercial bank



In addition to this, a number of private sector partners involved in the Global Programme and / or the EC SOLUTIONSplus project could be interested in supporting activities in Togo:

- Opibus, EV manufacturing, assembling, retrofitting enterprise
- TAILG, e-motorcycle manufacturer
- FIER e-mobility research and business developing company

## 5. Risks

<b>Risk description</b>	<b>Main categories</b>	<b>Risk level rating</b>	<b>Risk Mitigation Strategy and Safeguards</b>	<b>By Whom / When?</b>
The growing demand from electric vehicles destabilizes the power supply	Technical / Economic	Moderate	Introduction of e-mobility in Togo starts with electric motorcycles, which have a moderate power consumption and scale-up of e-motorcycle market strategy will align with expansion of renewable power generation capacity outlined in the Togo 2030 Electrification Strategy	Ministry of Mines and Energy, Compagnie Electrique Energetique du Togo (CEET) - Togo Utility Years 1-4
Leadership change: change in leadership and priorities in the government	Political / Institutional	Low	Togo has re-elected the President in February 2020, who will be in power for a term of 5 years and a new government has been appointed in October 2020.	Electric mobility coordination body, Government of Togo Years 1-4
Conflicting interests making it impossible to find consensus or required compromises that render the strategy and action plan too vague.	Political / Institutional	Moderate	The inter-sectorial electric mobility coordination body brings together all relevant ministries on a regular basis to discuss the e-mobility project and align interests. The project is lead by Ministry of Environment and Forestry Resources with support from Ministry of Mines and Energy and Ministry of Infrastructure and Transport which are all aligned with their wish to introduce and scale up e-mobility in Togo.	Electric mobility coordination body, Government of Togo Years 1-4
Private sector partners do not have the capacity to implement the demonstration project	Capacity	Low	The identified private sector partners are present in multiple countries in West Africa and Europe and have shown capacity to manage motorcycle fleets and e-motorcycle manufacturing.	Private sector partners, UNEP SMU and the Africa Support and Investment Platform of the Global E-Mobility Programme Years 1 to 3
Lack of availability of spare parts for e-motorcycles	Technical	Low	It is the aim of the project to increase the offer for electric motorcycles in Togo, including the provision of spares and the ability to maintain these vehicles. The project in Togo will build on the experience gained in similar projects in Kenya, Uganda and Rwanda, where considerable potential for e-motorcycle and e-3wheeler import, assembly, manufacturing and operation is already existing.	Private sector fleet operators, e-motorcycle manufacturers, UNEP SMU and the Africa Support and Investment Platform Years 3 to 4
Higher upfront cost of electric vehicles may pose a barrier to implementation and scale up of activities	Economic	Moderate	The project aims at the development of a financial scheme to lower the burden of higher upfront costs and to make the lower total cost of ownership accessible to e-motorcycle operators.	Private sector stakeholders, UNEP SMU and the Africa Support and Investment Platform Years 2 to 4
Objection or low commitment from industry and lack of interest or participation from market players/private sector.	Political / Economic	Moderate	The Global Programme works together with motorcycle manufacturers to create an understanding of the market size and requirements of electric motorcycles in Africa.	UNEP SMU and the Africa Support and Investment, private sector stakeholders, years 1 to 4

Insufficient and incomparable systems for tracking results	Capacity / Technical	Low	The project is part of a Global Programme which has tracking systems in place and which provides technical support to build the necessary capacity in the country.	CTA, UNEPP SMU and the Africa Support and Investment Platform, years 1-4
Time lag of results: Major results of the project may not be seen before the end of the project period.	Political	Substantial	The by far highest share of the GHG and energy use reductions will materialize after the project time-frame based on the policies, business models and financial mechanisms developed/introduced.	Electric mobility coordination body, year 4 and post-project
Lack of linkages with available funding/financing for EVs fleets.	Financial	Low	Multilateral financing institutions and development banks are closely involved through the Global Programme or stated already interest in engaging with-mobility in Togo, such as e.g. the West African Development Bank (BOAD).	Electric mobility coordination body in consultation with the financial sector, Africa Support and Investment Platform, years 2 to 4
Inadequacy of the exit strategy and lack of ownership of the program after the end of the GEF funded activities and inability to source resources to continue the program's activities in the medium/long term	Political / Financial	Low	The project addresses upscaling and replication through introduction of business roundtable events which are envisaged to lead to the development of an initial proposal for a financing scheme which will be brought to the attention of financier of through the Africa Support and Investment Platform led by UNEP SMU. The project furthermore envisages the submission of two concepts for e-mobility upscaling to financial institutions.	Electric mobility coordination body, Government of Togo, financial institutions, Africa Support and Investment, years 3-4.
Higher electricity use might lead to higher emissions, e.g. from HFO powerplants	Environmental	Low	The carbon footprint of the power mix in Togo is already very low and investment pipelines exist to expand the integration of additional renewable power generation capacity	Ministry of Mines and Energy, Compagnie Electrique Energetique du Togo (CEET) - Togo Utility, years 1-4
Materials from EVs (e.g. from batteries) might generate environmental pollution	Environmental	Substantial	Recycling and tracking of these materials will be integrated into the scheme to be developed as part of Output 4.2.	Ministry of Environment and Forestry Resources, UNEP SMU with ECOWAS, years 3-4

## **Climate Risk Screening**

*(i) How will the project's objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately?*

Togo is located in West Africa on the Atlantic coast of the Gulf of Guinea. Togo's climate varies from tropical to savanna. Average rainfall varies between 800 and 1,400 mm, with an average temperature of 27°C to 28°C. Southern Togo is humid and the northern part of the country has higher temperature fluctuations. Analysis of climate change for Togo foresees accelerated coastal erosion (50km of coastline subject to erosion), deforestation, increased storms, and lower average annual rainfall. The average temperature is expected to increase by 0.5 to 1.0 degree Celsius over the next 30 years with increased incidences of extreme weather events including droughts and flash floods. Regional and seasonal precipitation patterns are expected to change rapidly. Climate risk assessment for Togo in the context of the electric mobility project is as follows:

### **1. Hazards**

According to UNFCCC (2015), from 1961 to 2012 a marked rise in temperatures was observed, as well as a drop in precipitation and the number of rainy days. In the past two decades, strong floods have affected nearly one-third of the population in Togo. Between 1925 and 1992, Togo endured 60 flood events that caused major damage to infrastructure, as well as significant loss of life, according to the World Bank. The following flooding events have accelerated erosion and deteriorated the health of the arable land resources At the same time, droughts are happening more frequently.

## 2. Vulnerability and exposure

Based on the above analysis, and according to the World Bank<sup>30</sup>, Togo's key vulnerabilities to climate change are directly related to the changes in temperature and precipitation:

- “Between 1925 and 1992, Togo endured 60 flood events that caused major damage to infrastructure, as well as significant loss of life. The successive flooding has leached essential nutrients from topsoils, accelerated erosion, and degraded the quality of the arable land.
- Drought events occur most frequently in the Kara and Savannah regions, where each year temperatures reach above 40°C. Over the past 60 years, Togo has experienced three major droughts (between 1942-1943, 1976-1977, and 1982-1983) leading to severe famines.”<sup>31</sup>

In the context of the project, the primary risks stem from changes in precipitation, leading to extremely high rainfall and droughts. Both have a moderate to low potential to affect the project's outcomes and outputs. Heavy rainfalls can lead to flooding and landslides, damaging electric vehicle charging infrastructure, power grid infrastructure, and general road infrastructure. Due to more frequent flooding events an increasing number of power supply outages can be anticipated which can affect the economic viability of charging infrastructure. Increased temperatures pose a risk of damaging the equipment and can affect vehicle performance.

## 3. Measures to manage the risk:

The main climate change risks in Togo are<sup>32</sup> (1) flooding risks for charging infrastructure due to increased frequency and intensity of heavy rainfall events, (2) impacts of violent winds on charging infrastructure and demonstration vehicles, and (3) impacts of rising temperature and heat waves on charging infrastructure and vehicles and battery performance.

It is envisaged that flood, storm, and heat risks will not have major impacts on the project's activities as long as mitigation measures are in place for siting of charging infrastructure and selection of appropriate technologies (vehicles, batteries, and charging equipment). Mitigation measures will be incorporated in the project design when (a) selecting the location for charging stations, and (b) selecting the charging equipment, based on the climate risks identified above. Furthermore, pilot drivers and operators will be trained as part of the driving safety protocol on safe usage of electric vehicles and charging equipment.

*(ii) Has the sensitivity to climate change, and its impacts, been assessed?*

The flooding and wind risks will be taken into consideration to prevent potential damages when choosing the location for the pilot infrastructure from flooding and extreme winds. Addressing the heat risks should be addressed by selecting adequate heat-resistant technologies.

*(iii) Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?*

The overall goal of the project is on building climate resilience by reducing the country's dependence on fossil fuel imports through the uptake of electric vehicles. Thus, the project is directly contributing to the overall climate resilience of Togo.

*(iv) What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?*

Technical capacity to address climate risk needs to include the knowledge to assess flooding history of certain locations where charging infrastructure is planned to be installed. The technical design of the solar panel and vehicle charging

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<sup>30</sup> <https://climateknowledgeportal.worldbank.org/country/togo/vulnerability>.

<sup>31</sup> Ibid Ibid

<sup>32</sup> Climate Change Risk Profile: West Africa (USAID, 2018)

installations will need to be in accordance with the latest building codes, to ensure resilience to extreme weather events (primarily extreme wind speeds, see discussion above). Regulations for charging stations will also need to be in accordance with such codes.

Institutional capacity should be able to receive detailed information about the reliability of power supply for selected EV charger locations. Operators of and institutions operating the vehicle charging installations will need the capacity to understand how to operate the systems during and after extreme weather events, especially in the event of power disruptions.

### **Covid-19 risk analysis**

The COVID-19 pandemic has the potential to affect the project in the following ways:

#### **Challenges and risks**

*Reduced motor-taxi operations.* The responses to COVID-19, ranging from social distancing, teleworking to lockdowns have significant demand and supply implications for transport services in Togo. Firstly, users will have to change their mobility needs to reduce their footprints or to save money due to reduced income. Secondly, moto-taxi drivers and operators could suffer reduced profits, and hence adopting new technologies such as electric vehicles might not be their priority. This would have a negative impact on the delivery of the project's outputs, potentially hampering the wider adoption of electric moto-taxis in Lomé.

*Lockdowns and movement restrictions.* Mobility restrictions and the need for social distancing would make it difficult to hold physical events that have traditionally benefited from physical meetings, such as workshops, meetings, training, and consultations.

*Changes in government priorities.* With the national focus on addressing the pandemic and its impact on the national economy, commitment to electric mobility might be impacted. Financial incentives such as favourable import taxes or exemptions for EVs and charging equipment might not gain enough political support.

#### **Mitigation measures**

*Reduced taxi and minibus operations:* If the pandemic continues to hamper the implementation of the project activities with lockdowns and travel restrictions, especially Component 2 which is planned to take place in 2021 and 2022, the PMU will re-evaluate the project work plan to reschedule field activities. Additional health and safety protocols for the drivers will need to be put in place to minimize the risks of spread. Where possible, the capacity development components of the project, also in collaboration with the Ministry of Transport and Infrastructure, could be used to support the development of pandemic response protocols/roadmaps for transport operators.

*Lockdowns and movement restrictions:* In the event of travel and mobility restrictions due to official social distancing measures, events will be rescheduled or held online.

*Changes in government priorities:* Project activities requiring the government's endorsement of laws and decrees are to take place primarily for the project's second and third year. If the pandemic continues to require the attention of decision-makers, such project activities will be rescheduled for the project's third year.

#### **Opportunities**

*Increased awareness about urban air quality:* Since the project makes direct contributions to improving urban air quality through a reduction of air pollutants from internal combustion engine cars on urban roads, the project can build on this growing global movement towards cleaner urban air. It should be ensured that this leads to not only better awareness among the public and decision-makers but also to concrete actions.

*Budget savings from virtual meetings:* It is envisaged that many of the project's events would have to be held virtually. Budget savings made from the unused traveling and venue costs could be reallocated to more substantive activities, which would be decided depending on project needs.

## **6. Institutional Arrangement and Coordination**

### Institutional arrangements:

This project is funded by the GEF and co-financed by: Ministry of Environment and Forestry Resources; Ministry of Infrastructure and Transport; Ministry of Mines and Energy and UNEP. UNEP, through its Climate Mitigation Unit, will be acting as the GEF Implementing Agency. The Ministry of Environment and Forestry Resources will be the Executing Agency.

In addition, the project will be executed with the support of Ministry of Mines and Energy and Ministry of Infrastructure and Transport, which roles and responsibilities are detailed in a dedicated Table in Annex K.

The main project bodies are the following:

A **Project Steering Committee (PSC)** will be established to provide overall guidance and oversee the progress and performance of the project as well as to enhance and optimize the coordination and contribution with various project partners. The PSC will be chaired by the National Project Director (NPD) and will convene 3 or 4 times per year. The Steering Committee will initially include: Ministry of Environment, and Forestry Resources; Ministry of Infrastructure and Transport; Ministry of Mines and Energy, UNEP, Ministry of Economy and Finance, Ministry of Urban Development and Housing and the Ministry of Trade, Industry, Private Sector Development and Local Consumption. Additional stakeholders will be invited as required and including SOTRAL, CEET, the Municipality of Lomé, representative of the mototaxi driver's union, among other yet to be identified. The national e-mobility coordination body, which will remain operational beyond the implementation time of the project, will be established on the basis of the PSC in Year 3 of the project implementation period.

A **Project Management Unit (PMU)** will be established within the Ministry of Environment and Forestry Resources to manage day-to-day operation of the project. The PMU will be headed by the National Project Director (NPD) and will include the Chief Technical Advisor (CTA). The Ministry of Mines and Energy and the Ministry of Infrastructure and Transport will support the Ministry of Environment and Forestry Resources with the execution of the project.

The Ministry of Environment and Forestry Resources as well as the Togo GEF OFP have requested for the UNEP Sustainable Mobility Unit (SMU) (which is also the Lead Executing Agency of the Global E-mobility child project) to provide **targeted technical support**<sup>33</sup> to the project across all 4 components (see GEF Operational Focal Point letter in Annex N-2). Particularly, the UNEP SMU will use the services of Sustainable Transport Africa (STA) to transfer the funds associated with work on output 2.1 and 2.2. STA will support the implementation of the demonstration project, and will carry out tasks such as organizing the call for proposals to identify private sector partners for the demonstration project and disbursing the e-motorcycle subsidy. STA will work closely with the UNEP SMU and the Ministry of Environment and Forestry Resources on all procurement aspects related to component 2. A detailed budget for the UNEP SMU and STA targeted technical support is provided in Annex K.

Ad-hoc **Technical Working Groups (TWG)** will be formed to facilitate the implementation of the project components. The TWG will meet regularly during project implementation to work inter alia on the following topics:

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<sup>33</sup> The UNEP SMU does not intend to hire a consultant to provide the targeted technical support requested by Togo, but rather it will draw upon time and travel of its team members, which have broad bandwidth of competencies and expertise on various aspects of e-mobility, from national strategy development, policy development, feasibility assessment, demonstrations, renewable energy integration, to battery life cycle management, etc. Indeed, no single consultant has the expertise to cover all these areas of work alone. In addition, the SMU team members that will be supporting this project will work together with the Ministry of Environment and Forestry Resources (the Executing Agency) to help build their capacity, in particular with regards to the procurement of EV and spare parts.

1. TWG on e-mobility technology – private sector partners for demo implementation, including vehicle and charging operators, the local university, representatives from operational level of the Ministry of Transport and Infrastructure and the Ministry of Mines and Energy will be members;
2. TWG on e-mobility business models and finance – private sector partners, international and local financial institutions (e.g. BOAD, Coris Bank, AfDB) will be part of the TWG to support the development and improvement of business models, the development of an initial concept for a financial mechanism and to select business models presented in Output 3.2 for finance concept development;
3. TWG on e-mobility policy – the ministries which are part of the e-mobility coordination body will (Ministry of Environment and Forestry Resources, Ministry of Infrastructure and Transport, Ministry of Mines and Energy, Ministry of Economy and Finance, under the leadership of the Ministry of Environment and Forestry Resources work on the policy proposals to reform the regulatory and fiscal scheme for importation and registration of electric vehicles in order to incentivize the uptake of e-mobility whilst not compromising the overall tax revenue of the Republic of Togo.

Below is an organigram of the project's implementation arrangements:

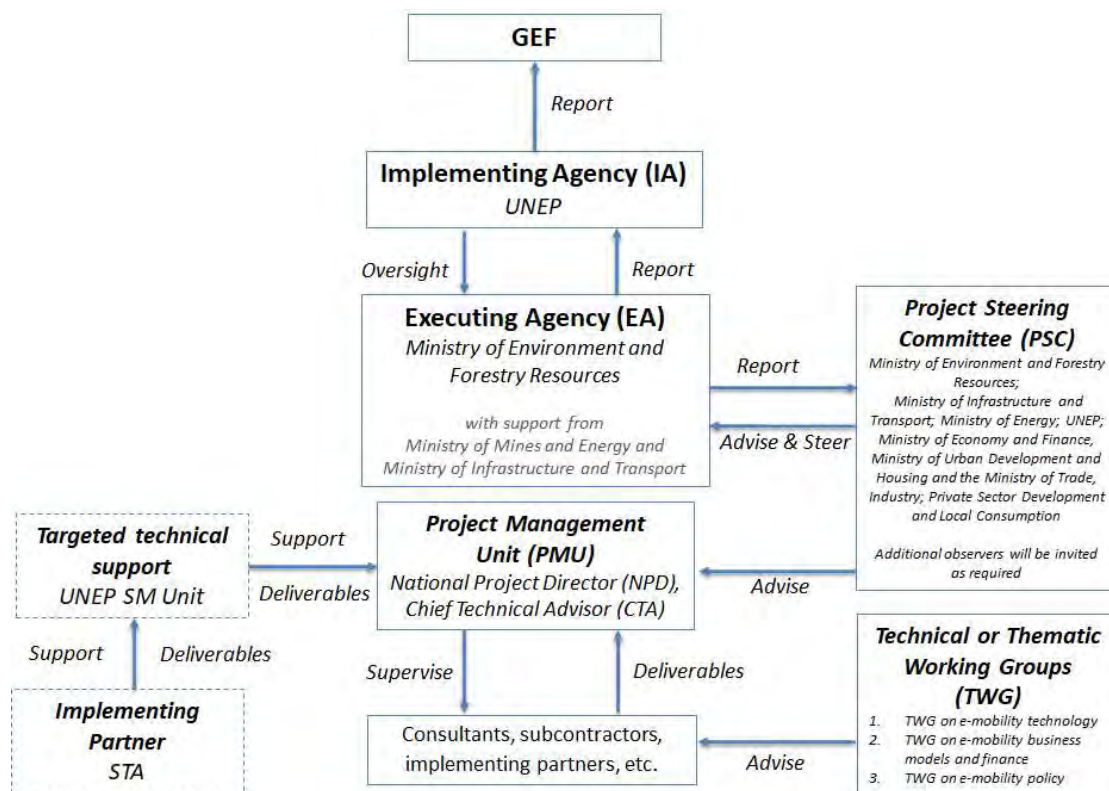


FIGURE 8 PROJECT IMPLEMENTATION STRUCTURE

- Coordination with other initiatives:

The project will coordinate with:

1. The World Bank Infrastructure and Urban Development Project<sup>34</sup>
2. The World Bank Togo - Trade and Logistic Services Competitiveness Project<sup>35</sup>
3. The Project CIZO to increase the access to clean power in Togo;
4. The Cleaner Vehicles and Fuels in Togo project under the Global Fuel Economy Initiative (GFEI);

<sup>34</sup> Togo Infrastructure and Urban Development Project, Report No PAD2414, World Bank 2018

<sup>35</sup> Road Transport Sector Reform in Togo - The Competitiveness of Logistics Services Programme Financed by the World Bank, Report No: PAD1828, World Bank 2017

5. The AFD funded Solar Road Lightning Project.
6. CODATU activities

As outlined in the co-finance letter provided by Ministry of Infrastructure and Transport, the GEF project foresees close collaboration with the two World Bank projects, both in terms of capacity building and technical assistance for policy development (component 1, output 1.3 and component 3, output 3.1).

Collaboration with project CIZO would cover several areas, including coordination, technology, business models and finance. The GEF project will reach out to private sector stakeholders once project starts implementation to inform them about the objectives of the project and to seek for collaboration, especially for output 4.2, but also to participate in the discussion organized by the e-mobility business roundtables (output 3.2).

The data collected and analysed as part of the GFEI project will mark the starting point for further analysis, which is part of the e-mobility strategy development under output 1.2.

CODATU is active in Togo and has been supporting the Master Programme “Transport and Sustainable Mobility in African cities” in partnership with EAMAU (African Crafts School of Architecture and Urbanism) and CNAM for several years now. This university programme would be well positioned to support with local data collection (component 2, output 2.1 and 2.2) and analysis and could also help with linking to other local transport professionals and experts.

## ***7. Consistency with National Priorities***

### Nationally Determined Contributions (NDC):

#### Unconditional Mitigation Contribution:

Under the business-as-usual (BAU) scenario (accounting for the implementation of already programmed measures), the overall reduction rate in 2030 would be 11.14% compared with Togo’s total 2030 emissions based on the baseline year (2010). This reduction in emissions is attributed to the implementation of sectoral work.

#### Conditional Mitigation Contribution

The conditional target for additional GHG emissions reduction, according to the most ambitious scenario, is estimated at 20% compared to the dynamic BAU. The conditional target for the total reduction would therefore be 31.14% in 2030, compared to the projections if no measures were to be applied.

#### GHG mitigation measures and options

Togo’s GHG mitigation measures focus on three priority sectors: energy; agriculture; and land use, land use change and forestry). In the energy sector, Togo pertains to the promotion of households to use biomass and solar electricity. In terms of road transport, the planned actions aim to reduce the consumption of fossil fuels in Togo by 20% over the course of the period under review by improving the road system, promoting the use of public transport, reducing the average age of imported vehicles (to 5-7 years) and promoting active modes of transport (bicycles, walking, bike paths).

#### Current transport and energy-related policies and strategies:

1. The Declaration of General Governmental Policy on the Restructuring of the Transport Sector of 29 May 1996 made operational in 2013 through the definition of the National Strategy for the Development of Transport in Togo.  
Action to be taken: Revision of current national transport policy; adoption and application of the measures within the national strategy, especially the sections limiting the age and setting standards for the quality of imported used vehicles
2. The Togo 2030 Electrification Strategy

### UNDAF

The GEF project contributes to the following objectives defined in the strategic UNDAF document 2019 to 2023:

- Increase employment and entrepreneurship among young people and women to benefit from decent employment opportunities in the agriculture, industry and service sectors, in particular outcome ii - the strengthening of technical and operational capacities of groups of economic interest for the development of value chains in the fields of agriculture, industry and services;
- Increase the resilience of the population of the areas vulnerable to climate change and disaster risks by promoting equitable access to a decent living environment and to natural resources and sustainable energy, in particular outcome ii - promote increased access for households in rural areas and peri-urban areas with renewable energies and alternative technologies to improve their well-being.

### Sustainable Development Goals



The project contributes to SDG:

Goal	Goals and targets
SDG 3 – Ensure healthy lives and promote well-being for all at all ages	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
SDG 11 – Make cities and human settlements inclusive, safe, resilient and sustainable	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
SDG 13 – Take urgent action to combat climate change and its impacts	13.2 Integrate climate change measures into national policies, strategies and planning

The project is aligned with the focus areas identified in the “Country programme document for Togo (2019-2023)”, which are: (a) enhancing governance to improve citizen participation;(b) promoting inclusive growth and access to basic services; and(c) strengthening sustainable natural resource management and resilience to climate change.



## 8. Knowledge Management

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

The Togo project is part of the Global Programme on Electric Mobility. It will actively participate in the Global Programme’s global and regional activities through its Component 1, for example by participating and contributing to the knowledge exchange in the Africa Regional Support and Investment Platforms, which will be hosted by UNEP, and the relevant global working groups, as well as by providing insights and knowledge.

All the knowledge products and lessons learned will be shared at three levels – at the country level (through the inter-sectorial electric mobility coordination body), in the Global Thematic Working Groups of the Global e-mobility Programme and in the Africa Regional Support and Investment Platform.

On the global level, results and knowledge products of the Togo project will be made accessible through the Global E-Mobility Programme Online Toolbox. The Global Programme website will showcase the Togo project and report on progress. The Global Programme will also disseminate results of the Togo project through social media, whenever relevant.

Since UNEP is hosting the Africa Support and Investment Platform, close linkages will be made between this project and the Regional Support and Investment Platform. Also, through that platform, the Togo project will benefit from lessons learnt and experience gained from other GEF-funded projects in the region, such as the GEF E-Mobility Projects in Côte d'Ivoire, Sierra Leone, Burundi, Seychelles, South Africa and Madagascar.

The Ministry of Environment and Forestry Resources will be responsible for knowledge management as part of their duties as the GEF Executing Agency. The Ministry of Environment and Forestry Resources and the Chief Technical Advisor (CTA) will ensure that all knowledge products developed under the project will be shared with the Global Programme and in particular the IEA (for the global data repository) and UNEP (for dissemination through the Africa Support and Investment Platform).

The deliverables and approaches of the project’s knowledge management activities will contribute to the successful implementation of the project as well as the sustainability and scaling up of the project impact. The tools developed, best practices collected and knowledge generated by the project will continue to be available to countries and cities even after the project as UNEP will continue supporting the African Regional Support and Investment Platform so that these can continue to take the lead in supporting a shift to electric mobility in their respective regions.

Numerous parts of the Togo project are contributing to the generation of knowledge and the gathering of data, which will then be used to develop studies, policy proposals, business models, and financing schemes. The respective deliverables are:

Outputs	Knowledge products produced by the project (deliverables)	Indicative timeline	Indicative Budget (US\$)
<b>Component 1</b>			
Output 1.1	D 1.1.4 Report compiling all the best practices and lessons learned based on studies / reports produced as part of the e-mobility project in Togo (to be shared with the Global E-mobility Programme)	Month 42	≈3,000
Output 1.2	D 1.2.2 Transport and energy sector data including vehicle fleet and current policy frameworks is refined and gender aspects consolidated.	Month 9	≈15,000
	D 1.2.3 A national gender sensitive e-mobility strategy outlining clear e-mobility market targets and identifying milestones and targets to close policy and funding gaps, is developed with input from all relevant stakeholders and circulated for review.	Month 18	
	D 1.2.4 The final national gender-sensitive e-mobility strategy is presented in a workshop	Month 19	

Component 2			
Output 2.1	D 2.1.2 The detailed feasibility study (including technical specifications) & implementation plan for the e-mobility and charging demonstration is developed and presented during a workshop	Month 7	≈16,000
Output 2.2.	D 2.2.4 Implementation of the demonstration project as detailed in the implementation plan and collection and analysis of data with the support of the local university (data set and analysis report issued)	Month 25	≈17,000
	D 2.2.5 A technical report summarizing the results of the demonstration project is developed including recommendations for technical specifications for e-motorcycles and charging equipment and operation for upscaling	Month 28	
Component 3			
Output 3.1	D 3.1.1 A draft proposal to reform vehicle import taxation and regulation is developed	Month 22	≈15,000
	D 3.1.2 A draft proposal to reform vehicle registration is developed	Month 22	
	D 3.1.3 A draft proposal of power sector regulations is developed	Month 22	
	D 3.1.5 A consolidated package of policy proposals is presented at a workshop and submitted for adoption.	Month 36	
Output 3.2	D 3.2.3 A synthesis report outlining the needs for targeted finance and initial schemes for respective financing products and mechanisms is developed and presented during a workshop.	Month 29	≈15,000
	D 3.2.4 Two e-mobility upscaling project concepts are prepared and submitted to the targeted financing institution	Month 36	
Component 4			
Output 4.1	D 4.1.2 A draft study to integrate renewable power for electric vehicle recharging with a focus on rural applications and minigrid integration is developed, circulated for review and presented at a workshop	Month 27	≈10,000
	D 4.1.3 The study to integrate renewable power for electric vehicle recharging is finalized and disseminated to all local stakeholders and the Global Programme knowledge management focal point.	Month 34	
Output 4.2	D 4.2.1 A draft scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries is developed, circulated for review, and presented at a workshop	Month 12	≈9,000
	D 4.2.2 A draft scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries is developed, circulated for review, and presented at a workshop	Month 27	
	D 4.2.3 The scheme for reuse, and collection for recycling and sound disposal of used electric vehicle batteries is finalized and disseminated to all local stakeholders and the Global Programme knowledge management focal point.	Month 34	

The total budget for knowledge generation and management is estimated to be approximately USD 100,000.

## 9. Monitoring and Evaluation

Monitoring and Evaluation (M&E) activities and related costs are presented in the costed M&E Plan (Annex J) and are fully integrated in the overall project budget.

The project will comply with UNEP standard monitoring, reporting and evaluation procedures. Reporting requirements and templates are an integral part of the legal instrument to be signed by the Executing Agency and the Implementing Agency

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Annex A includes SMART indicators for each expected outcome as well as end-of-project targets. These indicators along with the key deliverables and benchmarks included in Annex L will be the main tools for assessing

project implementation progress and whether project results are being achieved. The means of verification to track the indicators are summarized in Annex A.

The M&E plan will be reviewed and revised as necessary during the project Inception Workshop (IW) to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. General project monitoring is the responsibility of the Project Management Unit (PMU) but other project partners could have responsibilities in collecting specific information to track the indicators. It is the responsibility of the Chief Technical Advisor to inform UNEP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The project Steering Committee (PSC) will receive periodic reports on progress and will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E Plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility of the UNEP Task Manager. The UNEP Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The UNEP Task Manager will develop a project Supervision Plan at the inception of the project, which will be communicated to the Project Management Unit and the project partners during the Inception Workshop. The emphasis of the Task Manager's supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring.

Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by the Project Management Unit, the project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The PIR will be completed by the Chief Technical Advisor and ratings will be provided by UNEP's Task Manager. The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. UNEP's Task Manager will have the responsibility of verifying the PIR and submitting it to the GEF. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

Since this is a Medium-Size Project (MSP) of less than 4 years of duration, no Mid-Term Evaluation (MTE) will be undertaken. However, if the project is rated as being at risk or if deemed needed by the Task Manager, he/she may decide to conduct an optional Mid-Term Review (MTR). This review will include all parameters recommended by the GEF Evaluation Office for Terminal Evaluations (TE) and will verify information gathered through the GEF tracking tools, as relevant. The review will be carried out using a participatory approach whereby parties that may benefit or be affected by the project will be consulted. Such parties were identified during the stakeholder analysis (see section 2 above). Members of the project Steering Committee could be interviewed as part of the MTR process and the Chief Technical Advisor will develop a management response to the review recommendations along with an implementation plan. Results of the MTR will be presented to the Project Steering Committee. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented.

In-line with the with UNEP Evaluation Policy and the GEF Evaluation requirements, the project will be subject to an independent Terminal Evaluation. The Evaluation Office will be responsible for the Terminal Evaluation (TE) and will liaise with the project manager throughout the process.

The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation will be charged against the project evaluation budget. The TE will typically be initiated after the project's operational completion. If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office to feed into the submission of the follow-on proposal.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The final determination of project ratings will be made by the Evaluation Office when the report is finalised.

The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the project manager is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalisation of the Recommendations Implementation Plan..

The GEF Core Indicator Worksheet is attached as Annex F. It will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above, the optional MTR and TE will verify the information of the tracking tool.

The direct costs of reviews and evaluations will be charged against the project evaluation budget. A summary of M&E activities envisaged is provided in Annex J. The GEF contribution for this project's M&E activities is US\$ 30,300.

## **10. Benefits**

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

In conjunction with the substantial CO<sub>2</sub> emission reductions, a significant reduction of the emissions of air pollutants such as NO<sub>x</sub>, SO<sub>x</sub>, PM and CO will be achieved in urban areas, as electric vehicles will not generate any such pollutant emissions locally. Thus, the project will also contribute to improved urban air quality, better human health and reduced related deaths in Togo.

In addition, the project will contribute to significant cost reductions resulting from reduced expenditures on fuel imports. Therefore, the project is also expected to improve energy security within Togo, since the share of local energy resources used in the transport sector will grow and dependency on imported fuels will decrease. Since petroleum fuel price volatility is partly buffered through taxation in Togo, the project also reduces the volatility in tax income.

This project will focus on batteries used for electric vehicles, including issues with respect to the re-use, recycling and safe disposal of used EV batteries under Component 4. Thus, the project not only looks into the mitigation of GHG and air pollutant emissions but also anticipates emerging environmental issues stemming from a large-scale market introduction of electric vehicles and seeks to develop strategies and policies to mitigate the associated risks.

This project will carry out study on the options to link-up with better integration of variable renewable power in grids for electric vehicle recharging. To that end, the project may result in additional GHG emissions reduction stemming from the possible enabling role of electric mobility for the up-scaled integration of variable renewable power.

Currently, electric vehicles numbers are still modest, and, with the exception of China, are concentrated in OECD countries. However, there is significant demand from other countries to start introducing electric mobility and be part of the global introduction and shift to electric mobility. Given the environmental and economic benefits, there is a large potential to bring EVs to all markets around the world. In terms of economic benefits, the introduction of electric vehicles in Togo also opens a pathway to increased industrialization, since the lower complexity of EVs might provide the leeway to locate vehicle manufacturing and assembling to parts of the world where this has not occurred to date. As such the growth in electric vehicles is predicted to be a major driver for the creation of "green jobs". Early involvement of developing countries in the electrification of the global vehicle fleet will facilitate these countries to develop manufacturing and assembling opportunities.

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

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

**This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO endorsement under GEF-7.**

<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>
Kelly West, Senior Programme Manager & Global Environment Facility Coordinator Corporate Services Division UNEP			Julien Lheureux Task Manager Climate Change Mitigation Unit UNEP	+254 20 762 5452	<a href="mailto:julien.lheureux@un.org">julien.lheureux@un.org</a>

## **PART IV: ANNEXES**

The CEO Endorsement Document annexes may be found in the following pages.



## ANNEX A: PROJECT RESULTS FRAMEWORK

Project Objective	Objective level Indicators	Baseline	Mid-Point Target (if applicable)	End of project Target	Means of Verification	Assumptions & Risks	UN Environment MTS reference
Mitigate GHG emissions by accelerating the introduction of electric mobility in Togo through the development of a policy framework, capacity building and demonstration of electric motorcycles to prepare for upscaling and replication.	Indicator A: Direct and Indirect Greenhouse Gas Emissions Mitigated (metric tons of CO2e) over the period 2021-2036	Baseline A: 0	Mid-point target A: N/A	End-of-project Target A: Direct: 134,135 tCO2 Indirect: 312,272 tCO2 (by year 2036)	Calculation based on UNEP Emob calculator (SMU)	Assumption: Adoption of policies and introduction of financial mechanism by the Government of Togo  - Objection or low commitment from industry and lack of interest or participation from market players/private sector. - Higher upfront cost of electric vehicles may pose a barrier to implementation and scale up of activities - Leadership change: change in leadership and priorities in the government - Time lag of results: Major results of the project may not be seen before the end of the project period.	UNEP MTS 2018-2021  Climate Change Objective: Countries increasingly transition to low-emission economic development and enhance their adaptation and resilience to climate change
	Indicator B: Number of direct beneficiaries of the project, disaggregated by gender	Baseline B: 0	Mid-point target B: N/A	End-of-project target B: Women: 515 Men: 824 Total: 1,341	- Attendance sheets from the child project and the Global Electric Mobility Programme - Monitoring (the number of unique passengers served by the demonstration vehicles)		
Project Outcomes	Outcome level Indicators	Baseline	Mid-Point Target (if applicable)	End of project Target	Means of Verification	Assumptions & Risks	MTS Expected Accomplishment
Outcome 1: The government adopts a strategy for the promotion of low-carbon electric mobility by establishing a coordinated institutional framework.	Indicator 1.1: A national inter-sectorial coordination body to support and promote the uptake of low-carbon e-mobility in Togo is established, formalized and operational	Baseline 1.1: No	Mid-point target 1.1: The national coordination body is established and includes all key institutions. It has formulated shared goals and defined roles & responsibilities of all members.	End-of-project target 1.1: Yes - The coordination body remains operational and has agreed on post-project plan to promote e-mobility. - The national coordination body has at least 1 female member.	- Review of the body's activities (meeting summary reports) - Reports of the coordination body's quarterly meetings - Gender-disaggregated participation lists - Written agreement of cooperation - Written post-project action plan	Assumption: There is a political climate to expand ongoing national initiatives for the increase of energy efficiency in transport to e-mobility.  - Objection / low commitment from industry & lack of interest / participation from market players/private sector. - Leadership change: change in leadership and priorities in the government	Expected Accomplishment (b): Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies
	Indicator 1.2: The government of Togo endorses a gender sensitive national strategy to promote low-carbon electric mobility	Baseline 1.2: No	Mid-point target 1.2: The respective Ministries are discussing the draft strategy.	End-of-project target 1.2: Yes	- Public announcements by the government and/or respective Ministries - Public availability of the strategy - The strategy contains a chapter / section on gender mainstreaming - Government gazette and other publications	Assumption: There is a political climate to expand ongoing national initiatives for the increase of energy efficiency in transport to e-mobility.  - Conflicting interests making it impossible to find consensus or required compromises that render the strategy and action plan too vague. - Objection / low commitment from industry & lack of interest / participation from market players/private sector. - Leadership change: change in leadership and priorities in the government	
	Indicator 1.3: # of reports on best practices and lessons learned on low carbon electric mobility shared with the global e-mobility programme	Baseline 1.3: 0	Mid-point target 1.3: n.a.	End-of-project target 1.3: 1	- Lessons learned and best practices report produced by the CTA and the national coordination body (deliverable 1.1.5)	Assumption: The project properly disseminates and communicates the results of the demo project and the findings / reports / studies from the other components  - Time lag of results: Major results of the project may not be seen before the end of the project period.	
Outcome 2: Demonstrations provide evidence of technical, financial and environmental sustainability to government and transport companies to plan for scale-up of low-carbon electric mobility.	Indicator 2.1: # of transport companies making investments in e-motorcycles based on the evidence generated through the demonstration project	Baseline 2.1: 0	Mid-point target 2.1: The demonstration e-motorcycles have been procured and a monitoring plan for the collection of data is established	End-of-project target 2.1: At least 1 transport company	- Expression of Interest or Letter of Intent signed by the transport company / mobility provider / investor.	Assumption: The project properly disseminates and communicates the results of the demo project  - Lack of linkages with available funding/financing for EVs fleets. - Private sector partners do not have the capacity to implement the demonstration project - Low commitment from industry & lack of interest from market players/private sector. - Higher upfront cost of EVs may be a barrier to implementation / scale up of activities - Inadequacy of the exit strategy & lack of ownership after the end of the GEF funded activities and inability to source resources to continue the program's activities in the medium/long term	Expected Accomplishment (b): Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies
Outcome 3: Government creates conditions for removing existing barriers by drafting regulatory reforms and financial mechanisms for adoption of e-mobility in the country.	Indicator 3.1: # of policies to incentivize the uptake of electric mobility submitted for adoption by the government	Baseline 3.1: 0	Mid-point target 3.1: 3 draft policies	End-of-project target 3.1: 3 policies submitted for adoption	- Government gazette and other publications - Policy package document including: + A reform on vehicle import taxation and regulation + A reform on vehicle registration + A reform of power sector regulations	Assumption: There is a political climate to expand ongoing national initiatives for the increase of energy efficiency in transport to e-mobility.  - Conflicting interests making it impossible to find consensus or required compromises that render the strategy and action plan too vague. - Objection / low commitment from industry & lack of interest / participation from market players/private sector. - Leadership change: change in leadership and priorities in the government	Expected Accomplishment (b): Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies
	Indicator 3.2: # of financing concepts for e-mobility replication and / or upscaling in Togo submitted to financial institutions for approval	Baseline 3.2: 0	Mid-point target 3.2: N/A	End-of-project target 3.2: 2 e-mobility concepts submitted for approval	- E-mobility concept notes - Acknowledgment of submission from the financial institution	Assumption: The project properly disseminates and communicates the results of the demo project  - Lack of linkages with available funding/financing for EVs fleets. - Objection or low commitment from industry and lack of interest or participation from market players/private sector.	
Outcome 4: Long term sustainability of low carbon electric mobility is ensured by government institutions	Indicator 4.1: The study on e-mobility and renewable power integration in Togo is approved by the e-mobility coordination body members, including the Ministry of Energy	Baseline 4.1: No	Mid-point target 4.1: N/A	End-of-project target 4.1: Yes	- Government gazette and other publications - Study report on integration of renewable power for electric vehicle recharging - Minutes of the coordination body meeting approving the report	Assumption: There is a favourable political climate to expand ongoing national initiatives for the increase of renewable energy production and linking it with the transport sector.  - The growing demand from electric vehicles destabilizes the power supply - Conflicting interests making it impossible to find consensus or required compromises that render the study and action plan too vague.	Expected Accomplishment (b): Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies
	Indicator 4.2: An initial scheme for re-use, recycling and sound disposal of used electric vehicle batteries is endorsed by the Ministry of Environment	Baseline 4.2: No	Mid-point target 4.2: N/A	End-of-project target 4.2: Yes	- Government gazette and other publications - Scheme for re-use, recycling and sound disposal of used batteries document	Assumption: The Ministry of Environment and the government mobilize the resources to take up the recommendations of the scheme and coordinate with ECOWAS  - Interest by e-waste collection companies to collect and treat of used EV batteries - Sufficient capacity in the waste management sector to enable the re-use of used batteries - Materials from EVs (e.g. from batteries) might generate environmental pollution	



## **ANNEX B: RESPONSE TO PROJECT REVIEWS**

Please refer to the separate pdf files which include all responses to the GEF's reviews:

Annex B.1 – Responses to GEF Sec reviews (on the PFD)

Annex B.2 – Responses to GEF Sec reviews (on the PFD addendum)

Annex B.3 – Responses to STAP comments

Annex B.4 – Responses to Council comments

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

GEF Secretariat Review for Program Framework Document (PFD) entry – GEF - 7

### **Basic Information**

**GEF ID**

10114

**Countries**

Global (Uzbekistan, Antigua and Barbuda, Armenia, Burundi, Chile, Costa Rica, Cote d'Ivoire, India, Jamaica, Madagascar, Maldives, Peru, Seychelles, Sierra Leone, St. Lucia, Togo, Ukraine)

**Project Title**

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

**GEF Agency(ies)**

UNEP, EBRD, ADB, UNDP

**Agency ID**

UNEP: 01679, EBRD: TBD, ADB: TBD, UNDP: TBD

**GEF Focal Area(s)**

Climate Change

**Program Manager**

Filippo Berardi

# PIF

Part I – Project Informatic

## Focal area elements

1. Is the project/program aligned with the relevant GEF focal area elements in Table A, as defined by the GEF 7 Programming Directions?

Secretariat Comment at PIF/Work Program Inclusion

04/25/2019

Comment cleared.

04/17/2019

1. Program Commitment Deadline should be December 14, 2020.

Oct 2018

Yes, the project is aligned with GEF-7 Objective 1 "promote innovation and tech transfer for sustainable energy breakthrough", entry point 2 "electric drive technologies and electric mobility".

Agency Response

April 2019 Agency Response

We have made this change as requested.

## Indicative project/program description summary

### 2. Are the components in Table B and as described in the PIF sound, appropriate, and sufficiently clear to achieve the project/program objectives and the core indicators?

#### Secretariat Comment at PIF/Work Program Inclusion

04/25/2019

All comments cleared.

04/17/2019

#### Country Selection

1. The resubmitted PFD now includes a mix of 16 countries, and the Program expects to add additional countries that would altogether encompass a balanced mix of regions and size of economies. Comment cleared.
2. Additional information on child project selection criteria has been added. We note that instead of “low- and middle-income countries” the criteria should be “GEF recipient countries,” as level of income is not the only factor of eligibility for a STAR allocation at the GEF. Please change accordingly.
3. Information on the baseline conditions and incremental reasoning for each participating country has been added. Comment cleared.
4. Comment cleared.

#### Regional Hubs

5. There has been a reduction in GEF resources dedicated to the regional hubs from the climate change global/regional set-aside; however, we note that in the current program design, it is not clear if/that each child project will contribute to the Program’s components. This is particularly relevant for components other than 3 (which will be funded with, and implemented in, country child projects). In order to show a more integrated global program, we ask that the agency re-arrange a certain amount of resources from Component 3 to the other components (especially relevant for component 2 and 4, and possibly relevant for component 1), corresponding to the level of resources expected to enable the active participation of countries in the regional and global events, as well as to carry out the necessary monitoring and evaluation at the country project level. This will also clarify the fact that not all of the child projects will be “investment”, but instead a mix of “technical assistance” and “investment”.

#### Level of funding requested

6. The amount of funding requested for the PIF is \$1.5 million, which is within the \$2.5 million limit for the PIF. The amount of funding requested for the PIF is \$1.5 million, which is within the \$2.5 million limit for the PIF.

6. The amount requested from the global/regional set aside has been reduced to \$3,545,225, including PPG and fees. Comment cleared.

7. Comment not cleared. See note under 5 above. The link between the national STAR allocation and the PFD needs to be strengthened. In particular, as discussed previously, some of the resources from the child projects should be directed towards the other components to show how the child projects will contribute to/participate in the global activities. This will present a more integrated program. This should be clear in the budget or be explained clearly in the relevant section(s) of the PFD.

**Other matters.**

8. Comment cleared.

9. Comment cleared.

10. Agency has explained that PMC is a combination of 10% for MSPs and 5% for FP at the child project level. Comment cleared.

**Additional comments:**

11. In the description of the project, it is mentioned that the program will be submitted in two phases. This is statement repeated in the description of Component 3. We ask that this be rephrased as to avoid the phase I/phase II language and indicate instead that this program is presently structured with 16 countries and it may be expanded at a later stage to include a second group of countries that have expressed interest. Although a second stage may be desirable, a "second stage" commitment is not appropriate for inclusion in the PFD document.

12. A clear and concise summary of the Global Child Project should be included as a separate item from the description of the program. Although it is explained in various sections where it overlaps with the program itself, it needs to be shown that Global Child and Program are two different things. Right now, there is a description of the Program Components, and of the country based national child projects, but there is no separate description/summary of the Global Child Project.

**Oct 2018**

**Country selection:**

1. As discussed over the phone, it is the Secretariat's view that the current country selection would not be adequate to deliver the expected level of global environmental benefits that a global program like this should be set to achieve. We ask the Agency to resubmit the Global Framework Document with a revised selection of countries, in line with the level of ambition sought, and which could justify the need for -and scale of- a global umbrella program.

2. Please provide language outlining the methodology or rationale used to select the participating countries, and what would be considered, as a minimum, the number, size and geographical distribution of the participating countries that would justify the existence, scope and size of the proposed global component.

3. We would expect such selection to also reflect on country and regional circumstances: some countries may have other energy policy/market issues (e.g. energy access or energy efficiency) that would appear more pressing than establishing an EV policy infrastructure/market. Please provide, for each country selected, a brief justification of why using CCM STAR allocation for EVs would represent the best use of such resources for that specific country in terms of prospects/likelihood of generating quantifiable GEBs.

4. We welcome an update from the time of the first submission regarding the second round of countries expected to receive LoEs for Spring 2019, as mentioned in the Introduction section of *Part II: programmatic justification*.

#### **Regional hubs.**

5. Current country selection does not include key countries that would be key for inclusion in the regional hubs. With the current country selection, regional hubs do not appear to be justifiable. This is an area where we would expect to see significant reduction in budgeted GEF resources.

#### **Level of funding requested.**

6. The amount of programmatic funds requested from global/regional programming resources appears to be very high considering the amount of STAR resources used at country level, which would not justify such a big umbrella budget for the global child project. We consider that a much-reduced ratio of global resources versus country STAR allocation is needed.

7. In addition, and related to the previous point, we need to see a clear and significant budget line from STAR allocations of each participating country to be contributed upward to the global program to co-finance the global component. This would be a good indicator of country-buy-in and country interest in the result of/support from the global component.

#### **Other matters.**

8. While a component of the program is global, as there will be country child projects, we would like to see those

8. While a component of the program is global, as there will be country child projects, we would like to see those countries listed under Program Identification.

9. Table B would benefit from inclusion of numbering of components and program outcomes, for ease of referencing.

10. PMC should appear in the dedicated budget line. In addition, as a reminder, PMC should be 5% of the subtotal for a full-size project.

## **Agency Response**

### Response 1:

We agree with the Secretariat's comment. The ambition is to develop a transformative programme to support low and middle-income countries with starting a switch to electric mobility. We received a wide interest from countries to join this new Global Programme. This revised submission includes the 16 countries, representing a mix of middle-income countries, SIDs and LDC's (Antigua and Barbuda, Armenia, Burundi, Chile, Costa Rica, India, Ivory Coast, Madagascar, Maldives, Peru, Seychelles, Sierra Leone, St. Lucia, Togo, and Ukraine). We have included a selection of regional leaders and smaller countries as well, since they will be targeting different technologies from the larger countries. In this way the programme will tackle a wider range of electric mobility technologies for market transformation.

The overall of the programme submission is reaching around USD 26,427,216 million, together with co-financing of USD 384,488,591. We believe the number of countries, the expected impact of 53,409 million tCO<sub>2</sub>, and the STAR allocation and co-financing warrant a global programme with requested global set aside, which will not only focus on coordination but also on knowledge generation, policy adoption and investments.

### Response 2:

We have identified the following criteria:

- Countries from each region, with a minimum of 10 countries in total.
- Regional leaders to which other countries will be looking to for experiences.
- Countries covering demand for a selection of the main e-mobility technologies including buses; cars and 2 and 3 wheelers.
- A mix of GEF IA's involved in the programme to bring a full complement of expertise and including development banks for their



A mix of SDFs is involved in the programme to bring a full complement of expertise and including development banks for their capacity to leverage investment.

We have set criteria for individual countries to join the programme to ensure involvement and impact below and countries need to fulfil each category listed below together with examples of how they can do this:

**Country commitment to e-mobility market transformation (for example):**

- Policy documents showing country priorities in e-mobility (such as NDC or national transport policy, etc...);
- Existing e-mobility policies or incentives already in place or under development;
- Ambition to link public transport and e-mobility
- Early moves by the market in the country with evidence of technology and infrastructure investments;

**Emissions reduction potential (for example):**

- High share of energy related emissions from the transport sector
- Private and public vehicle fleet with a strong growth rate
- High share of renewables in the power mix and/ or ambitious plans for the introduction of renewables in the future. Including the need to show functioning integration of renewables.
- Cities in the country facing heavy air pollution problems
- High urbanization rate

**Cost effectiveness (for example):**

- Electrification of the targeted vehicle mode is cost efficient
- High fuel prices and high vulnerability to price volatility
- Business opportunities in the country with evidence of strong private and public sector interest

Response 3:

The transport sector is contributing more than one quarter of all energy related greenhouse gas emissions globally. This is set to grow to one-third by 2050, growing faster than any other sector. The Paris Climate Agreement, and global warming scenarios of 2C or 1.5C, need a massive global switch to electric mobility. According to IPCC Special Report on Mitigating Global Warming to 1.5 C, of 8 October 2018; *“High growth rates are now appearing in electric vehicles, electric bikes and electric transit, which would need to displace fossil-fuel powered passenger vehicles by 2035-2050 to remain in line with 1.5C consistent pathway”*.

Since almost all (95%+) of the growth in the global vehicle fleet will take place in low and middle-income countries, these need to start getting familiar with electric mobility, build capacity, raise awareness, prepare captured fleets (e.g. buses, taxis etc.) now and these countries need to introduce policies and standards now to ensure the right incentives and policies are in place to divert their growing vehicles fleets to electric mobility.

We agree where energy policy or other enabling conditions will prohibit transport electric mobility market transformation it does not make sense to have an electric mobility project in this country. However there are many less obvious examples of how we can expect electric mobility technology to grow around the world. In short it means that's it can make as much sense to work in SIDs and LDC as it does in a large middle-income country to reduce emissions cost effectively. For example, in the Seychelles the child project will see the complete phase out of internal combustion engine vehicles and a complete phase in of electric vehicles in the island of La Digue. Another example is that 2 and 3 wheelers already have a 1.5 year pay-back period and it is therefore a good place to start electric mobility transformation in a countries where demand for this mode exists.

The massive growth of cities in LDCs and SIDs least developed countries, particularly in cities in Africa and Asia. Governments are realizing with this rapid urban growth they need to rapidly improve their transport systems and many are looking at how to make improvements to avoid crippling congestion and in the near future. Added to this, developing countries cities tend to have some of the worst air quality in the world, affecting the health of urban populations and this is massive burden on their development. Electric buses are expected to become cost competitive with internal combustion engine alternatives by 2025, so it makes a lot of sense to be working with SIDs and LDC's to support them with policy making and technical assistance, so they can get policies in place and make the right procurement decisions for their fleets, which will be in service for the next 20 years. Without GEF interventions there is likely to be a massive increase in diesel buses and lock-in to a less optimal technology for 20 years or more. All of this to say that it is not so straight forward to rank electric mobility against country development needs. Instead what we propose is to explain why electric mobility makes sense in the context of each country.

- Chile
- Chile is the leading country with respect to electric mobility in the region, the city of Santiago de Chile piloted electric buses and will

introduce 200 electric buses to the Transantiago BRT early next year;

- Chile has a clean electricity mix averaging at about 0.45kgCO<sub>2</sub>/kWh, which results in immediate emission reductions from EV use.
- Centro Mario Molina is the leading non-for-profit organization when it comes to transport in the region and they will play a crucial role in the programme (i.e. managing and hosting the Latin America Regional hub, sending experts to the thematic platforms, providing expertise among country request worldwide)
- Maldives
  - Male and Hulhumale, the target islands for this project in the Maldives have combined generating capacity of 90MW, of which only 1.5 MW is solar PV; the rest coming from diesel generation. The country has a planned investment with the World Bank for new generating capacity of 20-40 MW of solar power. This would bring these 2 islands renewable energy ratio to 45% at the up estimate.
  - The transport sector alone accounts for 31% of overall energy consumption in the Maldives, and it is expected to reach 900,000 of tCO<sub>2</sub> by 2020 according to the ADB.
  - In the Malé region, air pollution is becoming a serious concern. According to statistics published by the Health Protection Agency the incidence of respiratory diseases has aggravated over the years and is one of the leading causes of death in Maldives.
  - The Government of Maldives sees the transport sector as a significant source of pollution and would like to have a more comprehensive transport strategy, including electric mobility to tackle the problem.
- Antigua and Barbuda
  - The transport sector accounted for around 30% (USD \$49 million) of these total fuel imports, and power generation is highly dependent on diesel generators resulting consumer costs of USD 0.40/ kWh.
  - Antigua and Barbuda's Renewable Energy Act setting a renewable energy target of 50MW by 2030. This target is re-enforced by an NDC commitment, to help reduce these costs and their dependence on imported fossil fuels. This would make for over 30% of the grid capacity (currently 108MW), nearly 30% renewable.
  - The proposed project aims to demonstrate electric mobility and renewable power integration to reduce energy use and emissions and to increase extreme weather resilience.
- India
  - India's renewable energy generation capacity is about 20% of total installed capacity in the country. The government has set a renewables energy expansion target of 175 GW by 2022. This would take the country from the country's grid emission factor from 0.825 tCO<sub>2</sub>/MWh in 2016 to 0.684 tCO<sub>2</sub>/MWh by 2030 (assuming 40% of the country's generating capacity is from renewables).
  - India is the fourth biggest vehicle producer worldwide.
  - Numerous local car manufacturers have announced the production of electric vehicles.
  - India has a very strong growth in the vehicle fleet which is degrading air quality especially in cities.

...and has a very strong growth in the vehicle fleet, mainly registering an quality, especially in cities.

- India is discussing electric mobility targets of about 15% EVs in the next five years and 30% by 2030 (sales share), as a solution to deteriorating air quality.
- This creates conducive conditions for market transformation to electric vehicles in the country.
- Madagascar
  - The country aims to reduce its GHG emissions by 14% by 2030 compared to a Business as Usual (BAU) scenario, in its NDC.
  - Madagascar has clean electricity power mix with more than 50% of the power coming from renewable sources and hydro (0.464 kgCO<sub>2</sub>/kWh), and it is promoting renewable energy. Many new sites are under prefeasibility assessment, while a solar park of 20 megawatts electric output was commissioned in 2018.
  - The share of transport related emissions on energy emissions was 33.10% in 2011 and is the fastest growing source of emissions.
  - Madagascar wants to replicate the experience of Mauritius in attracting cleaner and more fuel economy vehicles through policy and taxation, including electric vehicles.
- Burundi
  - Burundi has a very clean electricity mix. About 80% of the power is generated based on renewable resources.
  - Over 60% of emissions in the country currently comes from vehicles.
  - Car ownership is growing fast as the population recovers from war. In 2007, the number of vehicles per 1,000 people was one of the lowest in the world – at 6 vehicles per 1,000 people. Between 2005 and 2016 the vehicle fleet doubled and these growth rates are continuing.
  - All fuel requirements are imported into Burundi, and the Government recognises that this import dependence places their economy at risk to oil prices shocks.
- Seychelles
  - The total power generation capacity in Seychelles is 93MW. 2.5% of this comes from renewable energy sources.
  - The country's 2010 Energy Policy sets renewable energy consumption targets at 5% by 2020 and 15% by 2030, and already the government has begun investment of USD 45 M in 11MW of wind and solar energy generation.
  - The Government of Seychelles also recognizes that reducing dependence on fossil fuels for the transport sector through low carbon transport strategies is not only desirable to reduce air pollution and GHG emissions, but also sustainable.
  - La Digue Island has been selected for the demonstration project as it provides the possibility to make a completely transformation to electric mobility during the project, together with a shift to renewable energy generation.
- Sierra Leone

- The Government of Sierra Leone recognizes that the high level of dependence of imported fossil fuel poses a challenge to their economy and emissions reduction targets.
- The country currently has 100MW of installed generating capacity, 50% of which is renewable. The government has plans to expand their hydro capacity by 143 MW by 2022.
- Power generation and transport are the biggest source of GHG emissions in the country. Moving to electric mobility will help the country meet its NDC target to be carbon neutral by 2050.
- the total energy-related CO2 emissions increased from 20 MtCO2Eq in 2005 to 28 MtCO2Eq in 2013 representing an almost 50% growth. This jump in emissions was attributed to increase in fuel consumption in mining and transportation alone.
- Air quality is very poor in Freetown, much of the pollution coming from the old vehicle fleet and much of this from 2 and 3 wheelers, creating another reason for the government to promote the electrification of 2 and 3 wheelers.
- St. Lucia
  - Although St Lucia power grid is almost entirely fossil fuel based, the country has significant planned investments for renewable power generation. This is also expected to bring down electricity prices.
  - In its Nationally Determined Contribution, the Government has set an ambitious goal (UNFCCC, 2015) to reduce GHG emissions by 16% by 2025 and 23% by 2030.
  - The transport sector is the second major source of GHG emissions in Saint Lucia and is expected to increase as motorization continues to rise (OCADE, 2018), and the fleets are old.
  - This creates the conditions for the country to be able to promote electric mobility.
- Jamaica
  - Jamaica's Nationally Determined Contribution (NDC) commits to emission reductions of 10% of BAU by 2030.
  - Power generation in Jamaica is dependent on the operation of diesel generators (11% renewables in its energy mix)
  - Jamaica's National Energy Policy 2009-2030 lays out aggressive targets for a 30 percent renewable energy share and a 50 percent reduction in energy intensity by 2030.
  - The transport sector is the second major source of GHG emissions and is expected to increase as motorization continues to rise, indicated by the doubling of the vehicle fleet between 2014 and 2017.
  - Jamaica's high dependence on fossil fuels in the transport sector has a significant impact on the levels of emissions, air pollution and hence public health.
  - Jamaica is embarking on a National Electric Mobility Programme with the support of the private and public sector, including integrated

renewable energy with financing through the Inter-American Development Bank.

- Ukraine
- The government of Ukraine aims to transform the on-road transportation sector through electric mobility. In its Strategy 2030 the target is for a >50 per cent share of electric vehicles as part of vehicle sales and 100 per cent electric vehicles for public transport. In addition, there are targets for local manufacturing and production of electric vehicles.
- In late 2017, the Ukrainian Parliament adopted a provisional exemption on value-added tax and excise tax for all electric vehicles for 2018 – which it is now working to extend through 2019.
- Ukraine also has the additional advantage for vehicle electrification due to its electricity grid. Ukraine's electricity grid currently provides power at 287 gCO<sub>2</sub>eq/kwh with a large share of nuclear, hydro and some coal.
- Ivory Coast
- The country is an important supplier of energy to the region due to the oil and gas reserves and the excess electricity it generates. It values highly the foreign revenue it generates from these exports.
- 31% of Ivory Coast's generating capacity comes from renewable sources, and to minimize consumption of its own fossil fuel resources, the government has set a target to increase this to 42% by 2030.
- Côte d'Ivoire is experiencing rapid motorization spurred by high rates of urbanization and economic growth (GDP growth rate of 8.2% in 2016).
- Like many African countries, Côte d'Ivoire faces serious air pollution problems linked to poor vehicle standards and use of high sulphur fuels.
- The government has already begun to reduce the age of vehicle imports and is promoting energy efficient vehicles. They now wish to extend their policies to benefit from the advantages of electric mobility.
- Armenia
- The country wants to capitalize on its renewable energy potential (solar and hydropower) and increase energy security. 40% of its power is generated from renewable sources.
- Armenia is already offering tax exemptions for electric vehicles and the country has around 5,000 registered electric vehicles.
- Imports of electric cars to Armenia have increased 5-fold since 2016 and the government is considering customs and fiscal incentives for EVs for 2019-2030. In addition, Armenia plans to manufacture and assemble EV's locally.
- Armenia now needs to plan and execute charging and grid infrastructure to meet expected growth in demand for power from electric vehicles.
- Togo
- Togo depends on fossil fuel imports for thermal power generation.

- 30% of Togo's generating capacity comes from renewables, and they have 50MW of planned renewable energy generating capacity investments over the life of the project.
- Togo is entirely reliant on imports to meet its petroleum products requirements, and the vehicle fleet is growing at 11% annually.
- Transport remains the largest and fastest growing contributor to energy related GHG emissions in Togo.
- 96% of the total vehicle fleet is composed of light duty vehicles, of which 65% are motorcycles (2-wheelers), and the average age of vehicles is 13 year. The project will thus focus on the uptake of electric light duty vehicles and motorcycles,
- Peru
- The transport sector is the highest energy consumer, accounting for 45,2% of national energy consumption, and the vehicle fleet is growing 9.5% annually.
- The transport sector has been addressed in Peru's NDC and includes one measure on electric transport, which aims to have 5% of the national vehicle fleet (heavy and light duty) electric by 2030.
- Peru is very much interested in electrifying public transport (buses and 3wheeler taxis) and Quito is one of the signatories of the C40 Clean Bus Declaration Act and has developed an Electric Land Transport NAMA (funded by the GEF).
- Peru has a low carbon power mix, more than 50% of the electricity is generated using renewable sources.
- Costa Rica
- Costa Rica has a clean power grid, so switching to electric mobility will contribute significantly to the country's emissions reduction targets.
- 54% of greenhouse gas (GHG) emissions by the energy sector are due to the national vehicle fleet.
- The country has a public health crisis, attributed to particulate matter in the air, and road transport is the largest contributor of air pollutants.
- An ageing public transport mobilizes more than three-quarters of passengers in the Great Metropolitan Area of San Jose, and this creates an opportunity for modernisation with electric buses.

#### Response 4:

Agreed. Done.

#### Response 5:



Response 5:

We have renamed the regional hubs 'support and investment platforms'. We feel these platforms are a vital part of the programme for delivery and scale up. Given the major tasks of the platforms in supporting the country projects and scale up. The platforms will also be co-financed by the EU and regional development banks and they will provide technical and investment support to the country projects through:

- Technical support – to support the development and implementation of the GEF & Solutions Plus country and city projects;
- Networks & communities of practice – the build networks and communities of practice to promote electric mobility and share experiences
- Investment marketplace – to bring together at (sub) regional level demand from countries & cities, with suppliers and financiers
- Training and capacity building, including a helpdesk – to organise training sessions, around specific technologies at (sub)regional level
- Information dissemination from global working groups – to disseminate the knowledge and tools developed by the four thematic global working groups to the city and country projects in the region
- Replication – to promote replication of lessons learned in the GEF and Solutions Plus projects to other countries and cities in the region to promote wider impacts of the GEF and EC programs

The Platforms would also support projects under the GEF Sustainable Cities Impact Programme and the EC Solutions Plus country and city projects. The EC Solutions Plus will bring co-finance to the platforms. By combining these activities of the GEF and the EC Solutions Plus programs, a more efficient and effective delivery of both programs can be achieved.

Response 6:

-

Noted, we have reduced the amount.

Response 7:

-

The STAR funded country projects all have allocations in their STAR budget to support the global components of the Programme. The country projects will pay for travel and accommodation related costs of the child project countries to participate in the relevant events, trainings, meetings, etc.

Response 8:

-

Noted and incorporated in the PFD

Response 9:

Noted, and incorporated in the PFD

Response 10:

The PMC line in the portal does an automatic calculation for the PMC of 5% for an FSP, however the child projects in the programme are a mix of MSPs and FSPs. We have followed the GEF rule for PMC costs, up to 5% for FSPs and up to 10% for MSPs and therefore this will not be 5% across the whole programme, hence the difference in the total amount and the need to have a line that is not the PMC line in the portal to cater for this.

**Agency Responses to additional comments April 2019**

**Country Selection**

2. Reference to low- and middle-income countries have been removed where they refer to the alternative section

**Regional Hubs**

5. Table B now shows indicative STAR allocations from national child projects allowing them to the global programme. This is also summarised in component 3 under the Global Child Project.

**Level of funding requested**

7. Indicative STAR allocations have been added to table B under components 1,2 & 4 to reflect country participation in the thematic working groups, regional events and monitoring and Knowledge management activities. Reference to this has also been made in component 2.

**Additional comments:**

11. Reference to a 2<sup>nd</sup> phase has been removed from the document.

12. the global child project has been summarised in component 3.

## Co-financing

**3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized?**

Secretariat Comment at PIF/Work Program Inclusion

**04/26/2019. All comments cleared.**

04/25/2019

Mostly cleared. We just note one last example of in-kind cofinancing that is categorized as "investment mobilized" :

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CSO	Turin Polytechnic University	In-kind	Investment mobilized	700,000
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**04/17/2019**

1. Thank you for providing additional details. Please address additional comments below on the Co-Financing table:

- Please make sure that each row is self-explanatory given the constraints of the portal table. For example, for each Ministry, please specify the country.

- In addition, we note that there are a few in-kind amounts that have been deemed investment mobilized, when they should be typically classified as "recurrent expenditures". (We counted 7 such examples). Please check and address accordingly. In-kind is defined as

"Contributions in the form of goods or services other than money, including but not limited to salaries and wages, office space, and utilities".

- Further, where co-financing is provided by a GEF Agency that is not the implementing Agency of the project, please use "Donor Agency" rather than "GEF Agency" in the co-financing table. For private sector co-financing, please use "private sector" rather than "beneficiaries" in the "source" column. Please consider consolidating the UN Environment amounts that are of the same type of co-financing for additional simplicity. For further details, please refer to the Co-Financing Guidelines

([http://www.thegef.org/sites/default/files/documents/Cofinancing\\_Guidelines.pdf](http://www.thegef.org/sites/default/files/documents/Cofinancing_Guidelines.pdf)).

2. The 250M loan from ADB will support the Government of India's National Electric Mobility Mission Plan 2020. Comment cleared.

3. Comment cleared for now. We hope to see additional participation from other regional development banks at the time of child project endorsements.

4. Please refer to the additional comments from GEFSEC related to co-financing/ private sector engagement which have been included in the "private sector engagement" section, below in this document.

5. Comment cleared.

## **Oct 2018**

1. There is a significant amount of resources that is expected to be contributed by different actors as "in-kind". More clarity is needed on the composition of the amounts listed as in-kind, and about the assumptions at the basis such aggregate amounts (e.g. \$4.4 million in-kind from the Government of Maldives or \$6.2 million from EVI stakeholders).

2. We note a 250M loan expected from the ADB but there is no information on this operation in the body of the document. Could you please clarify what this refers to?

3. Related to the previous point, please specify how other IFIs listed as Agencies or stakeholders for this proposal intend to co-finance the proposed activities, through lending or other financing operations.

4. We note that there does not appear to be a significant expected contribution from the EV equipment or technology manufacturers (EV automakers, producers of batteries or charging technologies, etc). We consider that the program needs to be considerably strengthened in this regard, and that a clear financial participation from the industrial partners would be needed, both in terms of financial strength of the program and in terms of appropriation of results from the private sector and ultimate program sustainability. Please provide comments on regarding the status of conversations with the private sector on this point.

regarding the status of commitments from the private sector on this point.

5. Madagascar appears to be missing from the table C. Please include it.

## Agency Response

### Response 1:

We have tried to provide more clarity on this on each of the child project templates and more details will be provided at CEO endorsement submission.

EVI stakeholders will contribute to organizing GEF7 Global Electric Programme meetings back-to-back with the EVI, contribute to the Thematic Platforms, and participate as experts in regional meetings and training organized by the Regional Hubs.

### Response 2:

2. We note a 250M loan expected from the ADB but there is no information on this operation in the body of the document. Could you please clarify what this refers to?

ADB loan to EESL – “Scaling Up Demand Side Energy Efficiency Project” – guaranteed by the Government of India – is expected to be effective in the first quarter of 2020. The anticipated outcome of the loan project will be “increased electricity end-use efficiency in the project areas and project’s impact of expanded market for energy efficiency, aligned with the National Mission on Enhanced Energy Efficiency (NMEEE)”. The project, with anticipated financing of \$ 500 million from ADB and additional funds raised by EESL (expected match), aims to address a number of sub-sectors in EE markets. Those relevant to this PFD and the GEF project in particular, include: i) smart meters and other intelligent energy management elements (“smart grid”) in eligible states, ii) e-mobility with electric vehicles in eligible states, with roll out of 10,000 e-vehicles. These elements of the ADB loan support the aspirations of GOI’s National Electric Mobility Mission Plan 2020, which aspires to have 30% EVs (up to 500,000) introduced into the market by 2030. EESL figures prominently in the implementation of this strategy, particularly for demand aggregation. In parallel with the ADB and EESL investment, a network of charging stations will be set up by National Thermal Power Corporation Ltd. (NTPC) and Power Grid Corporation of India Ltd. (PGCIL) in Delhi National Capital Region

### Response 3:

-

3. Related to the previous point, please specify how other IFIs listed as Agencies or stakeholders for this proposal intend to co-finance the proposed activities, through lending or other financing operations.

ADB’s Technical Assistance on “Sustainable Transport for All” will cover 18 countries and 23 cities (see table below). While the aim is the

ADB's technical assistance on sustainable transportation will cover technical and policy issues (see table below). While the aim is to assist countries and cities with the enabling framework for the transition to electric mobility, it will also contribute to longer term development of ADB's pipeline of "bankable" projects. The nature of the projects will vary according to different priorities in ADB's energy, urban and transport sectors; and focus on different aspects of transit-oriented development and mobility. For example, i) additional TA is being considered to pilot charging infrastructure and power supply strategies related to grid impact in 4 of the cities; ii) loans are being discussed with some Central Asian countries with respect to solarization of battery technologies; in Indonesia for electrification of shuttle buses; in China for zero emissions trolley buses and smart grid integration, iii) potential PPPs in such areas as ride-sharing services or fleet management; and/or iv) other significant investments are ongoing or will be packaged to address multi-modal, mass transit issues in key cities and corridors in the region.

Country	Cities
Georgia	Tbilis
Armenia	Yerevan
Azerbaijan	Baku
Sri Lanka	Colombo
Kyrgyzstan	Bishek
Tajikistan	Dushanbe
Lao PDR	Vientiane
Fiji	Suva
Malaysia	Penang and Melaka
Thailand	Phuket, Krabi and Langkawi
Bangladesh	Dhaka
India	Mumbai and Visakhapatnum
Indonesia	Makassar
Viet Nam	Hai Phong and Da Nang
Myanmar	Yangon
Nepal	Kathmandu
Pakistan	Sialkot

Philippines	Davao
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- Development banks will co-finance the operation of the support and investment platforms:
  - o ADB – Support for E-mobility investments in Asia and the Pacific (co-finance of USD 2,000,000)
  
- Development banks are envisaged to take over a major part in sustaining the Support and Investment Platforms beyond the project lifetime of the GEF 7 programme as a main institution for knowledge exchange and policy best practice development for the e-Mobility in low- and middle-income countries in Africa, Asia and the Pacific, Latin America and Europe.
  
- There is much interest of development banks to follow up EV demonstration projects funded as part of the national child projects under the GEF 7 Electric Mobility Programme and to provide funding for E-Mobility scale up. The India project has co-finance from ADB for USD 250 million to catalyze the shift to electric mobility for government fleets. We will try to generate more interest during the development phase.

#### Response 4:

- 
- So far, private sector funding plays a substantial role in some the country projects, mainly through co-funding provided by utilities investing in recharging infrastructure or fleet operators investing in EVs as part of the projects. This will be further sought and increased during the development phase.
- EV and EVSE manufacturers will play a significantly larger role in the Global Programme. IEA and UN Environment are currently underway to build a consortium of EVs, charging equipment and battery manufacturers to support the global programme.
- We envisage the support from EVs, charging and battery manufacturers to be mostly in-kind at the beginning of the programme, shifting to substantial in-country investments over the time of the project. Industry will play a major role from the beginning on in:
  - o Providing expertise in the thematic platforms;
  - o Participating in conferences, meetings and trainings carried out by the Regional Hubs;
  - o Supporting demonstration projects in national e-mobility child projects.



- IEA and EVI have long-standing industry partnerships with all major car-manufacturers and many EVSE and battery OEMs and they have been constantly briefed and informed about this global programme.
- UN Environment has MoUs with BYD (major supplier of electric buses) and TailG (major supplier of electric motorcycles and bikes) and will bring to bear these partnerships to the benefit of the global programme.

More details on this have been included in the private sector engagement section of the PFD.

Response 5:

Noted, done.

**April 2019 Agency Response**

1 - each co-financing line is now self-explanatory in the portal.

- co-financing references with in-kind and investment mobilised have been corrected.
- donor agency has been used instead of GEF agency where the agency is not a co-implementor.
- UN Environment co-financing has not been consolidated since we need to keep track of these amounts.

**26.4.2109 Agency Response**

This correction has been made in table C on co-financing for Turin University.

**GEF Resource Availability**

**4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):**

**Secretariat Comment at PIF/Work Program Inclusion**

**04/26/2019. All comments cleared.**

**04/25/2019**

A revised LOE from Ukraine has been submitted; however, there is a slight typo in the total Fee amount which says 50,000 instead of 148,264. Please submit a 04/25/2019 A revised LOE from Ukraine has been submitted; however, there is a slight typo in the total Fee amount which says 50,000 instead of 148,264. Please submit a corrected letter. corrected letter.

**04/17/2019**

1. Comment cleared.

2. Comment cleared.

3. Comment cleared.

4. We note that the Ukraine LoE indicates a total of \$1,800,000 in STAR resources, however the fee amount listed of \$171,000 is higher than the 9% required as per GEF policy. Please request an updated LoE with the appropriate level of fees (if the OFP would like to keep the total STAR amount as \$1,800,000, then the grant amount should be increased to \$1,601,376.15 and the fees reduced to \$148,623.85).

**Oct 2018**

1. Please explain the rationale of having the India program split between two implementing agencies.

2. Amount requested for Madagascar is very low and for the moment we have not received a concept note for this child project, so it is not possible to assess the scope of the project and associated GEF resources.

3. Same comment as above for Burundi.

**Agency Response**

### Response 1:

- ADB and UN Environment partnership is a powerful combination of elements. Both GEF Agencies believe it important to collaborate and complement each other's comparative advantage in order to maximize delivery of benefits to countries and to the GEF. This model is building on a successful cooperation on a GEF-6 project currently being implemented in India on "Creating and sustaining markets for energy efficiency" (GEF ID 9258).
- UN Environment brings technical expertise and knowledge in EV segment as well as global network and convening power. ADB brings expertise in energy sector financing, procurement processes, financial management systems, and relationships / linkages to other financing institutions. This strategic co-operation is essential to accelerate the introduction of electric mobility. In addition, the cooperation between ADB and UN Environment is governed by an overarching Memorandum of Understanding signed by the leadership of both organizations; and subject to letters of agreement on specific project collaborations.
- With inclusion of the ADB baseline co-financing, the project has potential to achieve significant GEBs, allowing the project to expand its impact.
- Concessional lending is seen as a crucial element to upscale EV demonstration projects and to make EVs a fully "bankable" product, which ADB is well positioned to do in India, and other countries in Asia and the Pacific.

### Response 2:

Noted, we have now a child project for Madagascar.

### Response 3:

Noted, we have now a child project for Burundi.

### **April 2019 Agency Response**

4. we are requesting a revised letter from the OFP in Ukraine, reflecting the correct numbers and we will include EBRD as a co-implementing agency of this project.

## **26.4.2019 Agency Response**

A revised letter of endorsement for Ukraine has been uploaded, correcting the math error.

## **The STAR allocation?**

Secretariat Comment at PIF/Work Program Inclusion this is ok.

## **Agency Response**

## **The focal area allocation?**

Secretariat Comment at PIF/Work Program Inclusion

04/17/2019

1. comment cleared.

Oct 2018

1. We note that for Maldives the requested STAR amount is higher than its CCM allocation. Maldives' STAR allocation is fully flexible, but the LOE does not indicate use of flexibility and identify from which focal areas the project would draw from.

## **Agency Response**

The LOE from Maldives has been amended.

**The LDCF under the principle of equitable access**

Secretariat Comment at PIF/Work Program Inclusion n/a

Agency Response

**The SCCF (Adaptation or Technology Transfer)?**

Secretariat Comment at PIF/Work Program Inclusion n/a

Agency Response

**Focal area set-aside?**

Secretariat Comment at PIF/Work Program Inclusion yes, this project is requesting funds from the set-aside.

Agency Response

**Impact Program Incentive?**

Secretariat Comment at PIF/Work Program Inclusion n/a

## Agency Response

### Project Preparation Grant

5. Is PPG requested in Table E within the allowable cap? Has an exception (e.g. for regional projects) been sufficiently substantiated? (not applicable to PFD)

Secretariat Comment at PIF/Work Program Inclusion

04/17/2019

LoEs include information on resources to be used for PPGs per child project. Comment cleared.

Oct 2018

n/a - no PPG requested.

**Agency Response** There was no place in the PDF template to request PPG resources, but there is in the child project template and we will request PPG for the development of the CEO endorsement for the global programme.

### Core indicators

6. Are the identified core indicators in Table F calculated using the methodology included in the correspondent Guidelines? (GEF/C.54/11/Rev.01)

Secretariat Comment at PIF/Work Program Inclusion

04/20/2019

04/23/2019

**All comments cleared.**

**04/26/2019**

please note this comment was not actioned upon: please let us know if it is a problem with the portal, of just an omission:

Finally, please note that there is an incorrect entry under sub indicator 6.1 for anticipated year, but that sub-indicator is not being applied in this program. Please remove entry if possible.

**All other comments cleared.**

**04/25/2019**

According to the language in this section, it says that no direct emissions are expected from the global child project (which is ok with us) but the table shows 6,800 tons as direct for the global project (need to make sure this is consistent).

In addition, the GHG table has some addition errors. We note that the total direct should be 36,578,385 given the numbers in the table. This would mean the total expected GHG reduction would be 70,296,594. Please correct table and entries throughout the PFD.

The estimate for expected beneficiaries under Core Indicator 11 has not yet been added to the PFD. Comment not cleared.

Finally, please note that there is an incorrect entry under sub indicator 6.1 for anticipated year, but that sub-indicator is not being applied in this program. Please remove entry if possible.

**04/17/2019**

We would like to explore the possibility of reporting on GEBs for the global child project in terms of indirect GHG emission reductions related to the investment and support platforms.

Also, an estimate for the expected number of beneficiaries should be provided. This can be further refined at the child project level upon endorsement.

## **Agency Response**

### **April 2019 Agency Response**

7.5 million tonnes of CO<sub>2</sub> emissions reductions has now been included in the Global Child project. These equal the expected indirect emissions reductions coming from the EC Solutions plus, which has not been included in any of the child projects.



10% of the listed target cities of the GEF child projects have been estimated as beneficiaries in the following ways: (1) cleaner air; (2) quieter transport; (3) reduced costs (for motorbikes). The World Bank national gender split for the GEF child projects has then been applied to these city estimates giving the estimated target beneficiaries of men and women. This figure will be refined during project development.

#### **26.4.2019 Agency Response**

6,800 tco<sub>2</sub> has been removed from the table.

We have made corrections in the GHG table, but with different totals to the ones quoted above.

Core indicator 11 beneficiary numbers have now been added to Annex B

Sub indicator 6.1: The portal does not allow us to delete this entry. We have raised this as a technical problem with GEF policy unit through our registry.

#### **Project/Program taxonomy**

#### **7. Is the project/ program properly tagged with the appropriate keywords as requested in Table G?**

##### **Secretariat Comment at PIF/Work Program Inclusion**

04/25/2019

Comment cleared.

**04/17/2019**

Rio Markers have been properly selected.

Please remove selection of "Access to benefits and services" in the taxonomy list, as that refers to ecosystem services.

**Oct 2018**

Please select: Climate Finance (Rio Markers): Climate Change Mitigation 2

### **Agency Response**

Noted and done.

### **April 2019 Agency Response**

Access to benefits and services has been removed from the Taxonomy list.

### **art II – Project Justification**

**1. Has the project/program described the global environmental / adaptation problems, including the root causes and barriers that need to be addressed?**

Secretariat Comment at PIF/Work Program Inclusion

OK.

### **Agency Response**

**2. Is the baseline scenario or any associated baseline projects appropriately described?**

Secretariat Comment at PIF/Work Program Inclusion

OK.

### **Agency Response**

### 3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program?

Secretariat Comment at PIF/Work Program Inclusion

04/29/2019

All comments cleared.

04/26/2019

Some minor amendment requests remain open:

6. Can the sentence be expanded like the other aims in the list instead of using the verbatim suggestion?

10. comment mostly cleared. An additional editing suggestion: please delete the wording "Countries under Component 3 of the PFD, ..." and begin that same sentence directly with "The National Child Projects will set aside USD..."

11. Comment cleared.

04/25/2019

Most comments cleared. Please see below for some minor outstanding comments:

4. Comment cleared.

5. Comment cleared.

6. Can the sentence be expanded like the other aims in the list instead of using the verbatim suggestion?

7. Comment cleared.

8. Comment cleared.

9. Comment cleared.

10. For additional clarity, we suggest in Component 3 in Table B that you remove the <(Child Projects)> as we now have child project resources distributed in the other components.

In addition, under the description of Component 3, we suggest you move the Table 2 title to right above the table; remove the paragraph that begins "An initial indication of country interest..." as well as the text immediately below the Table title, from "The Global Child Project..." to "...These are explained in detail elsewhere."; and finally move the text from "The global child project will assemble experiences and best practices..." to "...and collecting country assessment data on their electric mobility targets." to below the paragraph that begins with "Direct country support for child projects is included in the budgets...."

11. Thank you for revising the table. Please add an objective for India which is missing; and please correct the Peru description which mentions Quito as one of the signatories of the C40 Clean Bus Declaration Act, but Quito is in Ecuador not Peru.

Also in the child project annex, please check the figure for GEF grant under Maldives, which should be 1,826,339.

**04/17/2019**

1. OK, this was included in the PFD. Comment cleared.

2. This was solved. Comment cleared.

3. The amount was reduced from 750k to 500k, and additional explanation included in the PFD on the use of such proceeds. Comment cleared.

4. Details on the sustainability of the website were provided in the PFD. Comment is not yet cleared.

With regards to the sentence: “the materials will continue to be available to the public, but the distinction between this project and the IEA’s own programmes will be lost.” all materials developed with GEF support will need to remain clearly marked as such, even if hosted on the IEA website.

Please include language to this effect in the description of Component 4, when the website and knowledge products are described.

**Additional comments:**

5. Please re-label the paragraphs related to the program components so that they are clearly distinguishable from the other sections of part II. As is, it is difficult to follow as both sections and components are numbered with numbers. Under the heading “Description of the Program’s Components and its expected outcomes” it is advisable to use letters for the sub-paras describing the four components, instead of numbers 1 to 4 (or just keep the heading as Component X without a need to number them).

6. Under the description of the programme, the listed aims currently include raise awareness, de-risk investment, provide policy packages and support, ensure integration of renewable energy sources and integrate gender issues into electric mobility. We would suggest adding an aim related to recycling and sustainability of materials, which was covered in the description.

7. When making reference to the latter group of countries expected to be included in the program at a later stage, please refrain from using the phrase “a second phase” as this can be misrepresentative. Please instead indicate that “additional countries are expected to join the program, including: etc.

8. We appreciate the efforts to coordinate with the European Commission Solutions Plus Programme and to take advantage of this coordination to reach even more countries and complement resources; however, we note that there may be a little too much information in the PFD than necessary, which could misrepresent the role and incremental reasoning of the GEF in this program. For example, we do not believe Table 1 is necessary to include as it is an internal coordination matter. The same could be said by the detailed explanations of the EC Solutions co-financing in each component.

9. Under the description of Component 2 – Support and investment platforms, please provide additional justification for choosing these three platforms and in particular why ADB, Centro Molina and UNEP were selected (what specifically do they bring to the program in these

regions?).

10. As mentioned above (program description section), description of the global child project to the same level of detail as the country child project is missing. It should be clear that the program is separate from the global child project. In addition, per the comment about ensuring the country child projects are presented in a more integrated way, please provide a short description under components 1, 2 and 4 (according to how child project resources were redistributed to these components in Table B) on the child project activities that relate to those components.

11. In the table including the descriptions of the country child projects, please make sure that each project summary is country-specific (this is the case for most of them, but in some cases, they are using the same text across countries).

Oct 2018

1. Please clarify how the proposed project relates to the existing EV Initiative, and what the respective boundaries and any funding interactions between the two will be. Funds from this program should be kept separately and not be used to support EVI budget lines or expenditures.

2. Please also note that Madagascar and Burundi are missing from the table listing countries under component 3 (table with PIF titles and objectives).

3. In addition, the cost estimate for component 4 appears to be very high. Please provide additional information/breakdown for component 4. It should be clear that duplications with the EVI are avoided and possibilities to leverage existing communication (and tracking) platforms enhanced as much as possible. Events could be for instance held in the context of exiting industry conferences, without the need to create other platforms (referring to the output: “Global conferences are held”).

4. With regards to the website and other communication or networking platforms, please provide details on the medium to long term sustainability plan after the end of the program's timeline.

## Agency Response

Response 1:

- The IEA is hosting the secretariat of EVI, an initiative launched under the Clean Energy Ministerial
- No GEF funds will be used to fund EVI activities, IEA will create a separate account identification for the GEF project and only project related activities will be charged to this account identification

- EVI will contribute in-kind to the GEF / Electric Mobility Programme, for example through meetings/conferences back-to-back with already planned EVI events
- Some of the EVI member country experts will participate in the Thematic Platforms and will receive funding for their travel expenses from the Global Programme, however their expert contribution will be pro-bono.

Response 2:

- OK, done.

Response 3:

- Noted, amount reduced. Global conference will be held back to back with other relevant events to bring down costs.

Response 4:

The IEA will set up a web site for the project where materials coming from the project, especially training and promotional materials will be available. During the project these materials will be kept distinct from the EVI and signified as being supported by the GEF. As the project closes these materials will remain on the IEA website, but they will be relocated with the IEA's own core programmes. The materials will continue to be available to the public, but the distinction between this project and the IEA's own programmes will be lost. UN Environment will also have the project materials in their website on mobility and will keep this after project completion.

Regarding the *support and investment platforms*, these will be housed associated with or within the lending operations of the ADB, and the Mario Molina Centre in Chile. They will receive materials from the project as these are developed and contribute their own material from their TA programmes. The aim for the development banks and the Mario Molina Centre is to build capacity among their own staff and clients and e-mobility and catalyse an investment portfolio and a community of practice. ADB and the Mario Molina Centre will maintain these materials on their website while investment in e-mobility remains a line of investment for them (in the case of the banks). Other partners who may also maintain a website for a support and investment platform include: Clean Air Asia, Sustainable Transport Africa, CEDARE, etc.

**April 2019 Agency responses**

5. Reference to continued support of the GEF materials on the IEA/ UN Environment website has been made in component 4.

6. An aim on recycling and sustainable use of materials under project description has been added.
7. Reference to 2<sup>nd</sup> phase has been removed from the programme
8. Reference to EC Solutions plus have been reduced in the alternative section
9. Justification for regional leads of the support and investment platforms have been included in component 2.
10. the Global Child project has been summarised in Component 2 in the table with the National Child Projects and a summary has been provided before the table, at the beginning of the component and in table B, how the National Child Projects will use their funding to participate in the Global Programme.
11. Each National Child Project now has its own project summary, and they are now different from each other.

#### **26.4.2019 Agency Response**

All of these editorial changes have now been made in the revised PFD. This includes the additional comment from today the 26 April on component 3.

#### **4. Is the project/program aligned with focal area and/or Impact Program strategies?**

**Secretariat Comment at PIF/Work Program Inclusion**

04/25/2019



Comment cleared

04/17/2019

Under this section, the PFD could also make reference to how this program will enhance private sector engagement and support countries in “piloting priority technology projects to foster innovation and investment” per COP guidance.

## Agency Response

### 5. Is the incremental / additional cost reasoning properly described as per the Guidelines provided in GEF/C.31/12?

#### Secretariat Comment at PIF/Work Program Inclusion

04/29/2019

All comments cleared.

04/26/2019

Minor note: title of section "5. Incremental / Additional..." should be underlined, consistently with the other sections.

All other comments cleared.

04/25/2019

1. Comment not cleared yet. The reference to China was removed but the list was not rephrased.

2. Comment cleared.

#### 04/17/2019

1. Thank you for the additional reasoning provided. While the bulleted list under the first paragraph makes some good points, we believe they could be rephrased more sensitively. Please rewrite this section without making reference to specific countries (i.e. China) and in a way that more generally discusses how this program represents the comparative advantage of the GEF as for example a key driver for innovation in developing countries through grant funds that can help pilot or demonstrate new technologies and business models that could be scaled up in the future by other resources, including concessional and private finance. This section could be further strengthened by elaborating on

for example the expected contributions from the knowledge and lessons learned that will be developed, connecting the private sector to emerging markets, and the institutional strengthening of national/local governments for creating the enabling environment to accelerate the introduction of electric mobility.

2. Comment not yet cleared. All points related to sustainability listed in the Agency Response should be duly incorporated in the text as relevant in this section and under sustainability in Section 7.

## **Oct 2018**

1. This section should explain why GEF resources are incremental and additional to those already available to address the general problems as outlined in the previous sections. This section should be strengthened and should highlight why there are no other resources available to do the activities proposed and why there is a need for a global program (including the global, regional and national aspects of it) such as this. Please rewrite this section to answer this key question.

2. More generally, please provide an overview of the sustainability and exit strategy for the program. It should be outlined how the participation, including through co-financing, of the private sector is encouraged and stimulated. This is a key element of the sustainability strategy, as private sector should be taking over once the program reaches the end of its lifetime and funding.

## **Agency Response**

### Response 1:

Done, please refer to this section in the PFD

### Response 2:

- Development banks have been included in the Global Programme since they will have interest in generating credit lines for countries to invest in electric mobility in the public and private sector once the preconditions are achieved to do so;
- Development banks already showed strong signals in providing follow-up funding, projects in India, and potentially in other countries will be designed in a way that demonstration projects funded by the GEF will be followed by significant upscaling transforming entire fleets to electric vehicles;
- Electric vehicle manufacturers involved in the programme will see the benefits of transferring lessons learnt from South to South and will provide more competitive offers, e.g. for electric buses, as they see the market becoming substantially bigger;

- As outlined above, the knowledge management will be sustained by IEA and UNEP beyond the lifetime of the project;
- The *support and investment platforms* will not only integrate countries participating in the GEF 7 Global Electric Mobility Programme but will address all countries in their respective region to participate in the knowledge exchange. The *support and investment platforms* will be sustained beyond the lifetime of the project (mainly by the developing banks and the regional knowledge partners);
- Once EV and EVSE manufacturers see the benefits of the global programme they will also participate to sustain these *support and investment platforms*;
- The national GEF 7 Electric Mobility Child Projects will generate follow-up projects and investments funded by development banks, commercial banks and other funds such as the GCF.

#### **April 2019 Agency Response**

1. Reference to specific countries has been removed in this section.
2. the sustainability text from the review sheet has now been included in the PFD under section 7 for sustainability.

#### **26.4.2019 Agency Response**

The list has now been removed and more general sentence has been added to the paragraph above, and the title of section 5 has now been underlined.

**6. Are the project's/program's indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

OK.

## Agency Response

### 7. Is there potential for innovation, sustainability and scaling up in this project?

#### Secretariat Comment at PIF/Work Program Inclusion

04/26/2019

All comments cleared.

04/25/2019

Comment cleared. Please note slight typo, Figure 7 EV Market Transition in Low- and Middle Income Countries is referred to in the text at Figure 6 immediately above.

04/17/2019

Not yet cleared. All points related to sustainability listed in the Agency Response to box 5 above should be duly incorporated in the text of the relevant section on sustainability (Section 7).

Oct 2018

Yes, the potential is clear. But, as mentioned above, a much clearer description of the mid/long term sustainability plan and scale up strategy, including the exit strategy and linkages with funding/financial sources, should be provided.

## Agency Response

# EV market transition in low and middle income countries



	Regulation	Stimulation	Adaptation
Policy	<ul style="list-style-type: none"> <li>Regulatory</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory</li> <li>Fiscal</li> <li>Local</li> </ul>	<ul style="list-style-type: none"> <li>Fiscal (ensure tax revenues)</li> <li>Regulatory (internalize technologic progress)</li> </ul>
Finance	<b>Grants</b> <ul style="list-style-type: none"> <li>GEF</li> <li>GCF</li> <li>Foundations</li> </ul>	<b>Concessional loans</b> <ul style="list-style-type: none"> <li>GEF</li> <li>GCF</li> <li>Development banks</li> </ul>	<b>Commercial products</b> <ul style="list-style-type: none"> <li>Commercial banks</li> </ul>
Market	<b>Technology de-risking</b> <ul style="list-style-type: none"> <li>Awareness raising</li> <li>Capacity building</li> <li>On-the-ground experience</li> <li>Development of business models and finance schemes</li> </ul>	<b>Business case</b> <ul style="list-style-type: none"> <li>Proof of business models and finance schemes</li> <li>Build-up of infrastructure</li> <li>Change management</li> </ul>	<b>Bankable product</b> <ul style="list-style-type: none"> <li>Self sustained electric mobility market</li> </ul>
Technology	<b>Technology development</b> <ul style="list-style-type: none"> <li>Interoperability</li> <li>Battery technology and costs</li> <li>Charging equipment and costs</li> </ul>	<b>Production scale-up</b> <ul style="list-style-type: none"> <li>Development of local manufacturing and assembly</li> <li>Scale-up of production capacity</li> </ul>	<b>Economies of scale</b> <ul style="list-style-type: none"> <li>Electric vehicles have sufficiently low payback times to be fully competitive with conventional vehicles</li> </ul>
	<b>Fleet vehicles</b>		<b>Individual Mobility</b>

· The GEF 7 Electric Mobility Programme is the first step out of a three-step approach (as in the above picture):

o Step 1:

§ Demonstrate the technology on the ground and develop the policy framework for EV market integration;

§ Build capacity on how to integrate, operate and maintain EVs in transport fleets;

§ Raise awareness;

§ Learn about charging and grid integration issues and the link to renewable power;

§ Develop finance schemes and business models including spreading the higher upfront investment over longer times and multiple partners;

partners,

è Reduce the investment risk (DEMONSTRATION)

o Step 2:

§ Attract concessionary funding to build on the demonstration project and scale-up to large pilot projects;

§ Show the economic viability and long-term feasibility with commercial size pilot projects (e.g. the electrification of 10% to 20% of a cities bus fleet);

§ Solve charging and grid integration issues and start integrating renewable power;

§ Thoroughly test the business models and finance schemes and further develop them to raise the interest of commercial banks;

è Enable scale-up (SCALE-UP)

o Step 3:

§ Build on the large-scale pilot projects (based on concessionary ways of funding) and develop fully bankable projects using usual ways of financing;

è A sustainable EV market is achieved (MAINSTREAM)

This project will end during the scale-up phase is finished, aiming to have removed the barriers and set the right enabling environment for scaling-up proven approaches with identified investments.

April 2019 Agency Response

The GEF 7 Electric Mobility Programme is the first step out of a three-step approach (as in the above picture):

o Step 1:

§ Demonstrate the technology on the ground and develop the policy framework for EV market integration;

§ Build capacity on how to integrate, operate and maintain EVs in transport fleets;

§ Raise awareness;

§ Learn about charging and grid integration issues and the link to renewable power;

§ Develop finance schemes and business models including spreading the higher upfront investment over longer times and multiple partners;

è Reduce the investment risk (DEMONSTRATION)

è REDUCE THE INVESTMENT RISK (DEMONSTRATION)

o Step 2:

§ Attract concessionary funding to build on the demonstration project and scale-up to large pilot projects;

§ Show the economic viability and long-term feasibility with commercial size pilot projects (e.g. the electrification of 10% to 20% of a cities bus fleet);

§ Solve charging and grid integration issues and start integrating renewable power;

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o Step 3:

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è A sustainable EV market is achieved (MAINSTREAM)

This project will end during the scale-up phase is finished, aiming to have removed the barriers and set the right enabling environment for scaling-up proven approaches with identified investments.

#### **26.4.2019 Agency Response**

The reference to Figure 7 has been corrected.

#### **Project/Program Map and Coordinates**

**Is there a preliminary geo-reference to the project's/program's intended location?**

**Secretariat Comment at PIF/Work Program Inclusion**



04/17/2018

Coordinates were provided. Comment is cleared.

Oct 2018

No. While a component of the program is global, as there will be country child projects, we would like to see those listed.

#### **Agency Response**

Noted, done.

#### **Stakeholders**

**Does the PIF/PFD include indicative information on Stakeholders engagement to date? If not, is the justification provided appropriate? Does the PIF/PFD include information about the proposed means of future engagement?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

04/25/2019

Comments cleared.

04/17/2019

Please describe the civil society stakeholders that will be engaged in program preparation and their respective roles and means of engagement (similar to the paragraph on the private sector).

In the table provided, we note that there are quite a number of “knowledge partners” which may not fully encompass the expected role and means of engagement for those stakeholders, particularly with regards to private sector stakeholders. Please consider removing the middle column with “description of who they are,” as stakeholder categories already describe the type of stakeholder, and instead using the space to describe the respective roles and means of engagement (this could also be done by groups of stakeholders, to avoid repetition).

Oct 2018

Ok. Please note private sector comments below.

#### **Agency Response**

See below.

### **Gender Equality and Women's Empowerment**

**Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

04/26/2019: All cleared.

Per our comments above, please provide an estimate on core indicator 11 disaggregated by gender.

#### **Agency Response**

### **Private Sector Engagement**

**Is the case made for private sector engagement consistent with the proposed approach?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

04/26/2019

04/26/ 2019

Comment cleared.

04/25/2019

Thank you for the additional language provided throughout.

With respect to the table under "Working with private sector" heading in the proposed alternative scenario section (after the EC and GEF map), please specify link between each of the examples provided and countries included in the program, either this round or expected expansion (for example, Ampersand says it works in Rwanda and this program is not supporting Rwanda; SE Asian countries are expected when the program is expanded, etc.).

**04/17/2019**

1, 2, 3: Not yet cleared. As also mentioned above (Part II, section 3, question 4) the private sector engagement, in terms of both rationale and modalities, needs to be strengthened throughout the document. There are some elements in the answer to this comments that have not yet been incorporated in the PFD. Also, it should be made even clearer that private sector engagement is both an objective, as well as a key element for the success, of this program. We believe that a key strength of this program is that it will create new markets for these technologies in developing countries.

To make sure this is properly reflected throughout the PFD, we suggest that each key section discusses how the private sector will be engaged, what the private sector brings to the program, and what the program brings to the private sector as relevant. For example, a section could be added under the Description of the programme, after the section Linkage with the EC Solutions Plus Programme. In addition, a short description could be added in each component description (or emphasized where it already exists). This can also be front and center when the description of the global child project is added as well.

Further, in the Private Sector Engagement section, please add information about how financiers and service businesses (private companies other than manufactures such as for example, battery rental companies) may be engaged by the program.

**Oct 2018**

1. We consider private sector engagement to be key both in terms of providing inputs to the expert groups in the thematic platforms, as well as contributing financially to the activities of the program. Private sector co-financing should be significantly scaled up.

2. The private sector is a key beneficiary of the program as they will be the key supply side actor of the new EV markets. It will therefore be important to outline how the program outputs are designed -and its components can be implemented- in a way to be as useful as possible to the private sector. Please provide an overview of the engagement process and progress to date to ensure private sector participation and financial contribution.

3. Funding for infrastructure and scaling up: there is no mention of commercial financial institutions/investors in the program outline. What is the engagement plan for the private sector and how would success be measured in this area?

## Agency Response

### Response 1:

- Private sector will be a key player both in the thematic platforms as well as in the support and investment platforms;
- Private sector plays a key role in co-financing the national child projects but further engagement will be sought during the development phase;
- So far, private sector co-finances the global programme through in-kind contributions: participating in thematic platforms, trainings, conferences etc.
- We are reaching out to the private sector to build a global programme consortium
- Initially, private sector will not directly fund the global programme. With successful implementation of the child projects, EV and EVSE manufacturers will play a role in sustaining the programme beyond its lifetime.
- Both IEA and UN Environment have a long-standing history in private sector involvement:
  - o IEA brings its Mobility Model Partners containing more than 25 companies from the vehicle manufacturing, energy, utility, battery manufacturing sector to the GEF programme
  - o UN Environment brings leading bus and engine manufacturers from the Climate in Clean Air Coalition Sootfree Bus partnership to the GEF Programme
  - o UN Environment brings BYD and TailG to the programme (UNEP has MoUs with)
- Private sector co-finance has been increased in this re-submission.

### Response 2:

- Programme outputs are designed in a way to reduce investment risk for electric mobility:
  - o Address regulatory, fiscal and other policy related prerequisites to introduce electric mobility in low and middle-income countries
  - o Build capacity in integrating, operating and maintaining electric vehicles
  - o Raise awareness

#### o RAISE AWARENESS

##### o Demonstrate electric vehicles

- Programme outputs are designed to lay the grounds for profitable deployment of electric vehicles and to address larger scale concessionary funding to upscale the demonstration projects:

##### o Finance schemes will be developed

##### o Business models will be developed

- In essence, the programme aims at developing the market for successful EV introduction

- Private sector is involved in:

##### o Designing the demonstration projects: Industry partners will play a key role to properly define vehicle and charging specs

##### o Designing the finance schemes and business models: Industry partners will play a key role in providing competitive offers for upscaling (e.g. to a tender of 100 electric buses)

##### o Knowledge partners such as Centro Mario Molina are already involved in large-scale electric bus projects in Santiago de Chile (bringing 200 e-buses on the road by beginning next year)

##### o Private sector will be strongly involved in the thematic working groups to e.g. define EV standards and the support and investment platforms

##### o China already signalled strong interest in using part of their GEF STAR allocation for South-South cooperation within their GEF 7 national E-mobility essentially for market development

#### Response 3:

- The business case for funding of EV infrastructure through commercial banks will need to be developed. GEF funds are necessary to start this process. Development banks engagement for follow-up upscaling projects, which precedes the commercial banking/investment phase are well integrated in the programme.

- As outlined under point 7 above, the GEF programme is the first step in a three-step process

#### **April 2019 Agency Response**

**1,2,3** Private sector is now included in the objective of the PFD and the alternative section and in the global child project.

## 26.4.2019 Agency Response

The table on working with the private sector has been revised.

## Risks

**Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design?**

Secretariat Comment at PIF/Work Program Inclusion

04/17/2019

Additional details about the missing risks were included. Comment is cleared.

Oct 2018

Please include the following risks and provide explanation of the relative mitigation measures for the following risks:

1. Lack of interest or participation from market players/private sector.
2. Lack of linkages with available funding/financing for EVs fleets.
3. Inadequacy of the exit strategy and lack of ownership of the program after the end of the GEF funded activities and inability to source resources to continue the program's activities in the medium/long term (including knowledge platforms and hubs).

## Agency Response

Done, they have been included in the PFD.

## Coordination

**Is the institutional arrangement for project/program coordination including management, monitoring and evaluation outlined?  
Is there a description of possible coordination with relevant GEF-financed projects/programs and other bilateral/multilateral initiatives in the project/program area?**

**Secretariat Comment at PIF/Work Program Inclusion**

04/25/2019

Comment cleared

**04/17/2019**

Not cleared yet. As noted above, information provided in the review sheet, highlighting the rationale of the selection of the three leading agencies which will host the support platforms, should be included in the relevant section of the PFD (under component 2).

**Oct 2018**

It should be explained what the rationale is behind the selection of the lead agency for each regional component, and how this program fits within their institutional priorities, strategies, expertise and prospective project pipelines.

#### **Agency Response**

The programme structure has been revised somewhat now, and is no longer defined strictly by continent (Europe, Asia, Africa etc). Instead the support and investment platforms are designed around the interests of the host agency and countries.

The ADB Sustainable Transport Initiative (STI) guides its support to the transport sector throughout Asia and the Pacific, and identifies four opportunities to enhance its lending operations: i) Urban transport, ii) Addressing climate change in transport, iii) Cross-border transport and logistics, and iv) Road safety and social sustainability. Within this framework, ADB currently supports \$ 2- 3 billion of investments in transit-oriented development, non-motorized transport, integrated urban transport and land use planning, demand management, policies, regulations and standards, among others. ADB's Energy Policy provides complementary support through its focus on energy security, and facilitating the transition to a low carbon economy for its development member countries (DMCs).



Under ADB's STI there are several ongoing programs and projects, principal among which is the "Sustainable Transport for All" technical assistance. As electric mobility is a relatively new area for ADB as well as its DMCs, this TA helps support countries at the policy and the strategy formulation level. It recognizes that cities are the main drivers of e-mobility. One of the objectives of the TA is to assist cities in the development of roadmap which allows them to shift gradually from fossil fuels to electric vehicles in the most cost-effective way possible. Much of the work under the TA provides countries and cities with a range of technically and financially feasible options. There are three main thrusts to the work: i) concentration on high distance vehicles, on cities and on large fleets, ii) optimize charging infrastructure, battery usage and greening of the grid, and iii) develop appropriate incentive structures, include financial and nonfinancial incentives as well as a creative packaging of incentives.

ADB's proposed regional support investment platform also aims to:

- i. I.. gather and curate technical and financial data by country / city / mode of transport (e.g. For rickshaws - grid factor, diesel usage, electricity usage, electricity tariff, CAPEX diesel, CAPEX Li-ion, Maintenance cost per annum diesel, Maintenance cost per annum electric, annual mileage, battery charger cost, battery life, CAPEX battery, Government subsidy, number of rickshaws, lifetime of rickshaw,
- ii. II. provide additional capacity development and technical assistance and guidance for countries to address barriers to widespread adoption of EVs, including policies, regulatory and investment barriers
- iii. III. establish a number of demonstration pilot projects, for example on charging infrastructure, battery technology, fleet management, introduction of commercial EVs. Some projects are currently being considered
- iv. IV. create an EV Fund, which would co-finance EV projects of cities which have transformational impact potential.

UN Environment is the leading organisation supporting African countries with the introduction of clean and low carbon mobility. UN Environment has supported close to 30 African countries with developing national programs and policies for the introduction of cleaner vehicles. Currently UN Environment is supporting 10 countries develop national programs and policies to promote electric light duty vehicles (Ghana, Kenya, Uganda, Rwanda, Mozambique, Ethiopia, Mauritius, Cote d'Ivoire, Nigeria). Most of these projects are focusing on developing standards and fiscal reforms to reduce taxation for electric cars. UN Environment is also supporting five countries with the introduction of electric motor cycles (Rwanda, Kenya, Uganda, Ethiopia, Morocco). And UN Environment is supporting eight African cities with the introduction of electric busses (Accra, Abidjan, Dakar, Lagos, Abuja, Dar es Salaam, Nairobi, Johannesburg). For all these programs UN Environment has signed agreements with the national governments. UN Environment has a long-standing cooperation with leading sustainable mobility organisations in Africa, both NGOs and knowledge organisations such as universities. Through its work over the past decade UN Environment has an excellent network in Africa with government representatives of all African countries and also experts, private sector and civil society organisations. UN Environment has therefore the technical expertise and regional presence to run the African support and investment platform and is already in discussions to bring the African Development Bank to join the bring the financial power

and expertise to the platform.

The Molina Center Chile is the leading non-governmental clean mobility organisation in South America. They are a research and policy development center. The Center has worked, at national level, with 12 national Governments in the region to support cleaner and more efficient fuels and/or vehicles programs. The Center has also developed harmonized vehicles emissions standards for the region. The Center is part of a public-private consortium to introduce electric mobility in Chile. They played a key role in the introduction of electric busses in Santiago, which by the end of 2019 will be the second largest urban electric bus fleet in the world. They are supporting similar programs in Montevideo and San Jose. The Center has had a strategic partnership with UN Environment for more a decade and is partnering in clean mobility activities with leading agencies including the United nations, World Bank, the International Council for Clean Transportation (ICCT) and others.

Centro Mario Molina in Chile has therefore the technical expertise and regional presence to run the Latin America support and investment platform and will seek to cooperate with the Interamerican Development Bank and the World Bank to bring the financial power and expertise to the platform.

#### **April 2019 Agency Response**

The rational for the 3 regional leads has been included in component 2.

#### **Consistency with National Priorities**

**Has the project/program cited alignment with any of the recipient country's national strategies and plans or reports and assessments under relevant conventions?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

04/26/2019

Comment cleared.

04/25/2019

We note a slight typo in the table under Uzbekistan—there seems to be text missing. Please check.

04/17/2019

Thank you for providing the very detailed chart including each countries' relevant policies and contributions under the Paris Agreement.

Oct 2018

n/a (to be verified at child project analysis stage)

#### Agency Response

25.4.2019 Agency Response

Typo corrected.

#### Knowledge Management

Is the proposed “knowledge management (KM) approach” in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project's/program's overall impact and sustainability?

Secretariat Comment at PIF/Work Program Inclusion

04/25/2019

Comment closed

**04/17/2019**

There are seven elements that are recommended in a knowledge management approach as best practices: 1) Overview of existing lessons and best practice that inform project concept; 2) Plans to learn from relevant projects, programs, initiatives & evaluations; 3) Proposed processes to capture, assess and document info, lessons, best practice & expertise generated during implementation (at both program and child project levels if a PFD); 4) Proposed tools and methods for knowledge exchange, learning & collaboration (at both program and child project levels if a PFD); 5) Proposed knowledge outputs to be produced and shared with stakeholders (at both program and child project levels if a PFD); 6) Discussion on how knowledge and learning will contribute to overall project/program impact and sustainability and 7) Plans for strategic communications. This section includes a good discussion on most of these. We urge the agency to consider these elements more thoroughly in the development of the program and to include an overview on how existing lessons and best practices has informed the program concept to strengthen this section.

#### **Agency Response**

##### **April 2019 Agency Response**

The knowledge management section has been updated to reflect the guidance given above.

#### **art III – Country Endorsements**

**Has the project/program been endorsed by the country's GEF Operational Focal Point and has the name and position been checked against the GEF data base?**

**Secretariat Comment at PIF/Work Program Inclusion**

**04/26/2019**

comment cleared.

04/25/2019

The LOE for Uzbekistan currently shows funding from climate change and biodiversity, but the project is programming only under climate change. Please submit a new LOE with the full amount from climate change.

04/17/2019

The LOE for India was provided. Comment is cleared.

Oct 2018

The LOE is missing for one of the countries included in the PFD (India).

### **Agency Response**

The India LoE is included

### **25.4.2019 Agency Response**

A new letter from Uzbekistan has been included in the resubmission.

03 May 2019 Agency Response

The uploaded email review comments have been addressed.

**EFSEC DECISION**

## RECOMMENDATION

Is the PIF/PFD recommended for technical clearance? Is the PPG (if requested) being recommended for clearance?

Secretariat Comment at PIF/Work Program Inclusion

## ADDITIONAL COMMENTS

Additional recommendations to be considered by Agency at the time of CEO endorsement/approval.

Secretariat Comment at PIF/Work Program Inclusion

/iew Dates

	PIF Review	Agency Response
First Review	10/25/2018	
Additional Review (as necessary)	4/17/2019	
Additional Review (as necessary)	4/25/2019	
Additional Review (as necessary)	4/26/2019	
Additional Review (as necessary)	4/29/2019	



[Home RoadMap](#)

# Global Programme to Support Countries with the Shift to Electric Mobility - Addendum

**Review PIF and Make a recommendation**

## Basic project information

**GEF ID**

10544

**Countries**

Global (Bangladesh, Ecuador, Sri Lanka, Albania, Grenada, Indonesia, Jordan, Philippines, South Africa, Tunisia)

**Project Name**

Global Programme to Support Countries with the Shift to Electric Mobility - Addendum

**Agencies**

UNEP, ADB, UNDP, EBRD, UNIDO, DBSA

**Date received by PM**



3/23/2020

**Review completed by PM**

**Program Manager**

Filippo Berardi

**Focal Area**

Climate Change

**Project Type**

PFD

## PIF

### Part I – Project Information

#### Focal area elements

1. Is the project/program aligned with the relevant GEF focal area elements in Table A, as defined by the GEF 7 Programming Directions?

#### Secretariat Comment at PIF/Work Program Inclusion

FB: 3/28:

**This item is cleared.**

Yes, this Addendum to the Global e-Mobility Program is well aligned with CCM-1-2.

## Agency Response

Indicative project/program description summary

2. Are the components in Table B and as described in the PIF sound, appropriate, and sufficiently clear to achieve the project/program objectives and the core indicators?

## Secretariat Comment at PIF/Work Program Inclusion

FB: 09/04/20:

**This item is cleared.**

The outputs have been included and the minor adjustments make sense.

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FB: 3/28:

Yes, Components listed in Table B are exactly the same as per the previously approved PFD, and are considered adequate to reach the Programs's objectives and core indicators. Please address the following comment:

- Please include the list of Program Outputs, under each relevant Component's Outcomes, as it was done in the first iteration of the Program's PFD.

## Agency Response

09/04/2020

The Programme Outputs have been included under Components 1, 2 and 4, as done in the 1<sup>st</sup> iteration of the PFD.

Two minor adjustments to the outputs wording have been made to reflect the use of the additional funds being requested from the global-regional set aside. These changes are an additional global thematic working group (output 1.1.1) and an additional regional support and investment platform (output 2.1.1). There additional agreed activities are reflected in the global child project concept note.

**Co-financing**

**3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

FB: 15/04/20:

**This item is cleared.**

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FB: 09/04/20:

-- Indonesia: thank you for the additional details. Please include the additional details provided in this review sheet in the section of the PFD labeled "**Describe how any "Investment Mobilized" was identified**". Also, since these are amounts part of the budget of several Ministries, please list such amounts in Table C as "**Public Investment - Investment Mobilized**", rather than recurrent expenditures.

-- **Philippines:** thank you for the additional details which were also included in the PFD. No more comments.

-- **South Africa:** thank you for the additional details which were also included in the PFD. No more comments.

-- With respect to the co-financing for newly included countries: Ecuador: no comments. Bangladesh: no comments. Sri Lanka: no comments.

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FB: 3/28:

With regards to Table C, please address the following comments:

1. Indonesia: we noted a large amount of resources (\$14mil) which are listed as in-kind contribution from different ministries / local governments. Considering the significant amount, we are requesting more details on what will in-kind / recurrent expenditures will consist of to be able to reach such amounts. Please provide additional details.

2. Philippines: We note a grant of \$15mil from the private sector, and then an equity investment from the private sector. Could you please provide more details on these amounts and their expected sources?

3. South Africa: we note only an in-kind contribution from DBSA of \$600k. In our previous discussion with DBSA, we were informed that DBSA would earmark USD 100 mil as co-financing for the GEF grant. Please clarify why that is not listed here.

## Agency Response

**15/04/2020**

### Responses to 09/04/2020 GEF comments:

-- **Indonesia:** the additional details have been included in the PFD Addendum and the co-finance categories have been edited as requested.

**09/04/2020**

#### 1. Indonesia:

The ENTREV project is building on and supporting the implementation of the “Presidential Regulation no 55/2019 on Acceleration of electric vehicle implementation”, as issued by the Indonesian government in 2019. The three line-ministries involved in the implementation of this regulation each have annual state budgets allocated from 2020-2025 for activities related to EV implementation support ranging from 750 k\$ to 1,000 k\$ annually. Planned activities include such as:

- Ministry of Energy and Mineral Resources (MEMR): study on fuel economy of EVs, energy and safety standard for EVs, monitoring of charging stations, raw material mining for EVs battery
- Ministry of Industry: study on supply chain readiness, awareness, piloting EV manufacturing.
- Ministry of Transport, Jakarta and Bali Government: purchasing EVs for government official vehicles as demonstration, constructing charging stations for demonstration.

All these activities are considered to be essential support to the execution of the ENTREV project. The combination of budgets allocated in the three ministries and local governments for activities in relation to the implementation of the Presidential Decree on EVs explains the in-kind co-financing budget indicated for the ENTREV project.

#### 2. Philippines:

In addition to leveraging public co-financing, the GEF grant is expected to leverage private sector co-financing via development and deployment of viable business models, such as public-private-partnerships (PPPs), for provision of infrastructure, components, e-vehicles and related services.

When establishing business models for technology demonstrations, the share of private sector financing, incl. direct/grant investment (e.g. investment into transition from internal combustion engine fleets to e-vehicle-fleets) and equity investment (e.g. provision of land for placement of e-charging stations and/or renewable energy) will be defined to establish sustainable business operation. Business models for technology demonstrations will be implemented in 4-5 municipalities, estimating the

private sector co-financing to approx. 10 million USD. Additional private sector co-financing is expected to be leveraged via scale-up investments as a result of improved policy/regulatory regime, enhanced institutional capacity and successful technology demonstrations, estimating the additional private sector co-financing volume to approx. 7 million USD.

Preliminary identified sources of private sector co-financing include:

1. Privately owned utility companies such as i) Manila Electric Company (Meralco) which is the largest private sector electric distribution utility company in the Philippines covering 36 cities and 75 municipalities. Meralco is currently setting up investments into charging stations for electric vehicles (EVs); ii) Unioil Petroleum Philippines Inc. that is currently setting up electric EV charging stations with an estimated budget of 600,000 USD. The company is going to expand its stations in the Philippines and include further charging points in new locations.
2. Privately owned transport companies such as i) Bonifacio Transport Cooperation that is planning investment to transit from internal combustion engine fleet to e-bus-fleet servicing one of the business districts of Manila; ii) Grab, a ride-hailing company operating in the Philippines that is planning to expand its business with electric vehicle services should the necessary infrastructure would be deployed.
3. Local EV industry that currently accounts 20 e-vehicle manufactures, 11 parts and components manufactures, and 18 importers, dealers and service providers. Electric Vehicles of all types (e-jeep, e-quad, golf carts, e-bike, e-trike, e-bus) are estimated to be manufactured locally from 69,145 units in 2017 with an average growth rate annually of approximately 11-13%.
4. Business and Industry Associations such as Electric Vehicle Association of the Philippines (EVAP) that have over 500 industry members active within the e-vehicle supply chain and facilitate knowledge sharing in support of e-vehicle market scale up in the Philippines.

In line with the GEF co-financing policy, private sector financing will be solidified during the PPG phase via further consultations and analysis of which private players best align with project objectives and/or via competitive procurement processes for establishment of business models during the project implementation.

### **3. South Africa:**

The co-financing contributions from DBSA have been revised reflect a total of USD 80,400,000 which is made of the following:

- USD 600,000 in-kind; attributed to resources and expertise that will be contributed by DBSA to the project.
- USD 9,800,000 investment mobilised from renewable energy that is financed by the DBSA under the renewable energy independent power producer programme which will be attributed to charging of electric buses both at demonstration and upscaling phases of the project.
- USD 70,000,000 which is earmarked by DBSA as loans that will be blended with resources from Green Climate Fund for procuring and operationalisation of about 200 electric buses in the three beneficiary cities during upscaling of the project

### **GEF Resource Availability**

**4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):**

### **Secretariat Comment at PIF/Work Program Inclusion**

FB: 09/04/20:

**This item is cleared, with the following comments noted below.**

All LOEs have been received and uploaded on the portal. The following comments are recorded in the review sheet, but do not need actions from the Agency:

1. Albania and Jordan have incorrect amounts, but as described below these can be adjusted downwards to match the correct amount without the need to request an amendment.
2. The Bangladesh LOE has a typo on project amount: the number listed is missing two numbers: 1,788,9, instead of 1788,991. Considering that the total project amount listed is 2M and that the amount for the PPG is specified, we can infer that the project amount was intended to be 1,788,991. No action needed.
3. The LOE from the Philippines is not dated. However, the current OFP, which signed the letter, has been in this role since 2009, so there is no doubt that the letter is signed by the designated OFP.

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FB: 3/28:

A complete set of comment to this section will only be provided once the submissions are complete (i.e. including Bangladesh, and Philippines LOE). As initial feedback, please note the following comments:

1. Albania and Jordan LOE report amounts (fees+total) that are not in line with GEF fee policies. However, since these amounts were corrected to the right fee levels (9%) in the PFD, we can accept them and no change is required.

## **Agency Response**

**15/04/2020**

**Responses to 09/04/2020 GEF comments:**

We take good note of these remarks on the LoEs and of the fact that no further action is required.

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**09/04/2020**

1. We take good note of your comment. We will keep then the letters of endorsement for Albania and Jordan as they are.

**The STAR allocation?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 15/04/20:

**This item is cleared.**

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FB: 04/09/20:

The requested amounts for each country's STAR allocation is available.

**Comments related to specific child projects:**

**Additional countries included after the first round of revision:**

2. **Ecuador:** Component 1 seems to fall short of what would be expected by a GEF intervention. GEF investments should be going further than coordinating actors at national level. As a bare minimum, the GEF intervention should conduct policy review/analysis and support drafting of an integrated policy framework to support the introduction/scale up of EV and charging stations, up to the point where such policy framework is considered by the relevant decision making bodies for adoption. We encourage the Agency to consider a more explicit inclusion of policy/regulation drafting and possibly adoption.

3. **General Comment:** The comment above for Ecuador, applies to other child projects too (such as the Tunisia and Jordan, which were revised by UNIDO). considering the general nature of this point, which relates to all child projects' Component 1, we would request the Lead Agency to ensure that each one of the Child project is developed with this consideration in mind, and that this is reflected to in the individual CEO ERs as they come in after the detailed child project development stage/PPG stage. We ask the Lead Agency to acknowledge this point, which will be checked at the CEO ERs stage, and should apply for all those child projects where an adequate integrated policy framework is not yet in place.

7 Countries included in original submission:

- Albania: No action is needed from the Agency, but GEFSEC is recording the following information in the review sheet, to be used as guidance in the development of the CEO ER for the Albania child project. The LOE for Albania includes language that would suggest (partial) self execution of the project by the Implementing Agency (UNIDO) (see below).

I am pleased to endorse the preparation of the above project proposal with the support of the GEF Agency (ies) listed below. If approved, the proposal will be prepared, implemented and supported in execution by UNIDO. I request the GEF Agency (ies) to provide a copy of the project document before it is submitted to the GEF Secretariat for CEO endorsement/approval.

The total financing (from GEFTE, LDCE, SCCF) being requested for this project is US\$ 889,666, inclusive of project preparation grant (PPG), if any, and Agency fees for project cycle management services and execution support associated with the total GEF grant. The financing requested for Albania is detailed in the table below.

In this respect, as the agency knows, the implementation and execution roles on GEF projects are meant to be separate per policy and guideline. The GEFSEC will analyze any requests for dual role playing by an agency at the time of CEO endorsement and only approve those cases that it deems warranted on an “exceptional” basis. We strongly encourage the agency to look at third party options as a preferred way forward. We also strongly encourage the agency to discuss any and all options for execution that do not include the government with the GEFSEC early in the PPG phase. The technical clearance of this PIF in no way endorses any alternative execution arrangement.

- Grenada: OK

- Indonesia: thank you for the detailed response. OK

- Jordan: modifications are accepted. OK

- Philippines: OK

- South Africa: thank you for the additional clarifications. OK

- Tunisia: OK



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FB: 3/28:

This item will be closed once the full submission of the LOEs and Child projects is completed.

In addition, please consider the following **comments related to specific child projects**:

1. Please update Child projects concept notes, including the global child project, to reflect the new countries included after the initial submission of this PFD Addendum.

**Albania:**

1. The link between tourism and e-mobility needs to be further explained/strengthened. Why tourism and not logistics or public transport in general? Add a sentence in the "project description" describing the root-problem along the lines of what described in the theory of change table ("*Albanian cities are facing a surge of fossil fuel emissions from increased tourism related transportation*").

2. Also, the Agency may want to add mention of the benefits that EVs could bring for tourism -a key industry for Albania- in terms of less particulate emissions (PM).

**Grenada**

1. In "baseline investment" the second investment listed in the table refers to the sustainable energy facility for the eastern Caribbean. The GCF tranche in this initiative represents only a portion of the overall investment, which includes also funds from the GEF, IDB, DFiD, and JICA. Please reflect this in the table in the Grenada Child Project. (Please see Table 1 on pag 6 of the GCF FP for more details: <https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp020-idb-dominica-grenada-saint-kitts-and-nevis-saint-lucia-and-saint-vincent-and.pdf>)

2. The description of the components does not help understanding which sector of electric mobility will this project support. To the extent to which this information is available, please specify which applications (public transport, logistics, company or govt fleet, etc) will be given priority.

**Indonesia**

1. Under the "baseline" section, there is the following statement: "Despite the grid emission factor of 0.877 ton CO2/MWh, use of electricity supply from existing grid for EV charging results in less emission in comparison to conventional vehicles that burn petrol/diesel (MEMR, Jan 2019)." This is a very important passage, and it would be good to briefly explain why in the text so that the reader does not have to consult the reference. Also, please note that in the South Africa child project the opposite argument is made repeatedly. See comments under South Africa, here below.

**Jordan:**

1. Component 1 seems to fall short of what would be expected by a GEF intervention. GEF investments should be going further than just establishing an interministerial coordination platform, and to conduct policy review/analysis. We encourage the Agency to consider a more explicit inclusion of policy/regulation drafting and possibly adoption.
2. Please provide brief explanation of why GGGI has been selected as executing agency and how they are planning to work with the local Govt agencies and ministries involved in the project implementation.
3. With respect to component 2, please clarify what is to be intended as "e-HOVs". HOV generally refers to the occupancy rate of a vehicle, and not to a specific type of vehicle, so this may be confusing for readers. Is this is meant to refer to buses, please specify so.
4. Still on component 2: there seems to be some disconnect between the barriers identified (e.g. "no vehicle emission standards" and "import taxes on new vehicles prohibitive") and the solution proposed (creation of an investment vehicle). Please adjust component to ensure there is a logical causal link between root-causes, activities planned and expected outcomes.

**Philippines:**

1. First paragraph: "With the Philippines growing steadily....". This is vague. Does it refer to the population? GDP? Transport usage? Please revise and clarify.
2. This sentence is confused, please revise:

According to the ADB report "Pathways to low-carbon development for The Philippines" The Philippines has per capita greenhouse gas emissions that are far below the world average. However, emissions are growing at an increasing rate, with 4% annual growth between 2006 and 2012. More than half of 2012 emissions were from the energy and transport sectors, and the energy sector has been the main source of emissions growth. Much of this rise is driven by a fall in the renewable share of primary energy from 55% in 1990 to 38% in 2013, as well as accelerating growth in energy consumption in buildings and transport sector. The largest share of energy consumption is transportation (ca. 37%), with road transport responsible for 80% of the energy consumption.

3. "Project Overview and Approach" section: this section lacks the overview of the projects' components and key expected outputs by component. Please add.
4. Stakeholders table, pag 59 onwards: The table, for some of the stakeholders, such as for instance IFC, it is not clear what role they will be playing specifically with regards to this project. While their overall role is explained, there are no details on how and why they are to be considered stakeholders in this specific project. Please provide additional info.

### South Africa:

1. PPG grant is above the cap. Either provide justification including break down of costs (GEFSEC will reserve the right to approve or not the exception to the policy).
2. The co-financing from DBSA is missing. According to discussions with DBSA, there should be investment mobilized from DBSA of approximately USD 100million in loans to leverage the GEF resources.
3. With regards to this sentence on page 68:

This intended change in carbon intensity of grid electricity is essential for any electric mobility project in South Africa, since the carbon intensity of today's grid power leads to increased GHG emissions from an electric vehicle compared to a conventional one. In 2015, the transport sector accounted for about 13% of energy related CO<sub>2</sub> emissions, with road transport being responsible for more than 90% of all transport emissions (Figure 2).

It is generally recognized that even in high carbon intensity grid countries, EV are more efficient than ICE in terms of emissions per kilometers. Please include a reference/additional info for this sentence or remove it.

Along the same lines goes the following statement:

Since South Africa has one of the highest grid electricity carbon footprint worldwide, in the near future significant CO<sub>2</sub> emission reductions can only be achieved if the carbon footprint of the electricity used to charge the buses is at least 30% lower than the average grid. This is why the demonstration projects will seek for ways to use lower carbon footprint electricity for example based on agreements with renewable power producers to buy their electricity either for direct use to charge the e-buses, or by off-setting emissions elsewhere in the grid.

Please confirm if there is available literature that has established that ICEs have less emissions than EVs powered with SA grid electricity?

Please note that the Indonesian child project makes for the opposite argument, stating that even in high carbon emission factor countries EV still make sense in terms of emission reductions, both immediately due to economies of scale and higher efficiency of electric drive, as well as “future-proofing” of future RE addition to the grid that will be able to be capitalized by existing EVs.

### Tunisia:

1. Component 1: While policy analysis/review is key for a successful project, the key outcome of the GEF intervention should be policy reforms adoption, so at least the output should include policy formulation for possible adoption by the competent decision making bodies. If the outcome is "enhanced enabling environment", then the intervention cannot stop at the policy analysis and recommendation, but it has to result in policy drafting and adoption.

## Agency Response

**15/04/2020**

### Responses to 09/04/2020 GEF comments:

#### Additional countries included after the first round of revision:

**2. Ecuador:** the section on Ecuador's incremental reasoning and results framework has been updated, with the description of Component 1 rewritten and Component 3 updated to include the integrated policy framework. Please note that the e-mobility policy development activities/outputs of the Ecuador child project will be included under Component 3 – not Component 1.

**3. General comment:** we take good note of your comment on the integrated policy framework and will convey this requirement to all e-mobility Implementing Agencies (ADB, UNDP, UNIDO, DBSA) to be taken into account during the development of the CEO Endorsement requests. However (as mentioned above for the case of Ecuador, for example), please note that the policy related activities/outputs do not necessary fall under Component 1 in the different country child projects – it sometimes also falls under the other components.

#### 7 Countries included in original submission:

**- Albania:** we take good note of your comments on the execution arrangements and will convey these to UNIDO.

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**09/04/2020**

1. Child project concept notes have been updated to address GEF Sec comments. Three (3) new country child projects are being submitted alongside this reply sheet: Bangladesh (UNDP), Ecuador (UNEP) and Sri Lanka (UNEP). These have also been reflected in the global child project concept note.

**Albania:**

1. A sentence has been added in the "project description" section to describe the link between tourism and e-mobility.
2. The benefits of EVs for tourism in terms of reduced particulate emissions (PM) has been included in the Albania concept note.

**Grenada:**

1. This correction was introduced in the revised document.
2. Text has been added to section 2d) to clarify the focus of the demonstrations. The demonstrations will focus on government fleets. Grenada is at a very early stage of the technology adoption, so demonstrations will focus on government fleets to build the awareness and capacity of public decision-makers on the economic, environmental and social viability of electric vehicles. By demonstrating this viability, the pilots will facilitate de-risking of future technology adoption in the public transport and private sectors.

**Indonesia:**

1. In preparation for the development and issuance of the “Presidential Regulation no 55/2019 on Acceleration of electric vehicle implementation” in Indonesia, the Ministry of Energy and Mineral Resources (MEMR) conducted elaborate analysis on the impact of EVs in GHG emission reduction in Indonesia. Please find also below a presentation by MEMR to the president and other ministries in the preparations for the Decree.

### Electric Vehicle (EV) vs. Internal Combustion Engine (ICE)



Electric car



Car engine



Hybrid Cars

Mileage	9.66 Km / kWh	9.35 Km / liter	19.13 Km / liter
Energy Consumption	.103 kWh / km	0.106 liters / km	0.05 liters / km
Energy Costs	155.34 USD / km	791.18 USD / km	386.80 USD / km

#### ENERGY EFFICIENCY ELECTRIC CARS:

Electric cars are much more efficient than conventional cars that use fuel oil (BBM). The cost savings of electric cars to reach 50% (Balltbang EMR)

Electric car a distance of 100KM require power 20 kWh, equivalent to Rp. 32.000, -

Conventional fuel car a distance of 100KM requires 10 liters or equivalent to Rp. 85.000, - (Balltbang EMR)



## Potential Energy Savings and CO2 Emissions Reduction

The use EV	Total Car	Energy savings per year (GWh)		Emission Reduction (Million Tons of CO2)	
		Gasoline car to EV	Diesel car to EV	Gasoline car to EV	Diesel car to EV
Replacement Car EV 0.5%	17,630	166.28	153.29	0.0063	0.0044
Replacement Car EV 1%	36,269	332.56	306.58	0.0126	0.0087
Replacement Car EV 2%	70,619	666.11	613.17	0.0252	0.0176
Replacement Car EV 2.5%	88,148	831.38	766.47	0.0316	0.0218
Replacement Car EV 5%	176,296	1,662.77	1,532.94	0.0629	0.0437
Replacement Car EV 10%	362,593	3,325.53	3,065.87	0.1259	0.0873
Replacement Car EV 20%	706,186	6,651.07	6,131.74	0.2517	0.1746
Replacement Car EV 50%	1,762,963	16,627.67	15,329.36	0.6294	0.4366
Replacement Car EV 60%	2,116,656	19,963.21	18,396.22	0.7552	0.5239
Replacement Car EV 70%	2,468,148	23,278.74	21,461.09	0.8811	0.6112
EV Car Replacement 100%	3,626,926	33,266.36	30,668.70	1.2687	0.8731

Key:

- Jamali system emission factor 0.877 Tonnes CO2 / MWh
- 0.261 Gasoline Emission Factor Tonnes CO2 / MWh
- Factors diesel Emission 0.268 Tonnes CO2 / MWh

As shown in MEMR's analysis above, despite the grid emission factor of 0.877 ton CO2/MWh, use of electricity supply from existing grid for EV charging results in less emission in comparison to conventional vehicles that burn petrol/diesel (MEMR, Jan 2019). This is due to two main reasons. When compared to ICE vehicles, EVs consume significantly less energy per km. Consequently, even with high carbon power, the resulting annual emission levels attributed to EVs are lower. Using the emissions factor of the Java-Bali grid, an electric vehicle would save about 0.4 tons of CO2 per year compared to a conventional gasoline car. Secondly, Indonesia currently has a significant surplus electricity generation capacity. This implies that the introduction of electric vehicles will not constrain the prevailing electricity

generation capacity in the near term also considering that charging of electric vehicles may take place at times of low load (e.g. night time). It will continue to be important to decarbonize future electricity production and consider future EV deployment in power development planning.

Please also see the responses to South Africa project comments below.

#### **Jordan:**

1. Component 1 of the Jordan concept note has been strengthened with a more explicit inclusion of policy drafting.
2. Further explanations have been provided in Annex B as to why GGGI is foreseen to act as the Executing Agency, based on their past collaboration experience on transport-related projects with the Ministry of Environment and Ministry of Transport. Please also refer to the footnote on GGGI under Component 1.
3. The type of vehicles referred to as HOVs has been clarified in the concept note. These are mini-vans and “jitneys” with an average 12-person capacity.
4. Please refer to the Summary of GEF incremental intervention table, which describes the baseline and the component activities. In Component 2, the baseline describes the current situation wherein the use of jitneys and mini vans service is increasing, and buses are deemed as inappropriate for the narrow and hilly landscape in Amman and broader Jordan by the Ministry of Transport. Therefore, in order to electrify a public transportation fleet, Component 2 will focus on the high occupancy transit vehicles (mini vans and jitneys) that are currently in use, and therefore locally appropriate. The second major barrier to electric transportation is inconsistent financial support. Short-term tax relief (described in the country context section) indicates that Jordanians are very sensitive to tax incentives. As such, the investment facility provides both concessional lending to assist in the upfront investment, and also tax incentives (i.e. by covering these costs from within the investment facility). Finally, lack of e-charging infrastructure was repeatedly mentioned in the early stakeholder consultations. Component 2 addresses this need by assisting in investment costs to implement e-chargers beyond Amman. It follows that Component 2 focuses its investment strategically: financial support is targeted at locally appropriate technologies (mini vans and jitneys); upfront costs and tax incentives for vehicle conversions and purchases, and in needed infrastructure

#### **Philippines:**

1. The sentence has been clarified in the first paragraph: “*With the Philippines economy growing steadily [...]*”
2. The sentence has been revised.
3. Components and relevant outputs has been outlined in the “Project Overview and Approach” section.
4. The role of stakeholders has been explained in more detail in the table

#### **South Africa:**



1. The PPG amount requested for South Africa has been reduced to US\$ 150,000 in the updated concept note. DBSA will also work with the South Africa GEF OFP to obtain an update letter of endorsement.

2. The investment mobilized by DBSA have been revised and is now made of the following:

- USD 9,800,000 investment mobilised from renewable energy that is financed by the DBSA under the renewable energy independent power producer programme which will be attributed to charging of electric buses both at demonstration and upscaling phases of the project.
- USD 70,000,000 which is earmarked by DBSA as loans that will be blended with resources from Green Climate Fund for procuring and operationalisation of about 200 electric buses in the three beneficiary cities during upscaling of the project

3. The statement has been removed.

Although both the South African as well as the Indonesian grid would qualify as high carbon intensive, there are significant differences between the two countries. While South Africa has a carbon intensity of about 1kg CO<sub>2</sub> per kWh grid electricity, the Indonesian grid power has a carbon content of about 870 g CO<sub>2</sub> per kWh. While in South Africa electric vehicles would generate more emissions than conventional vehicles without efforts on renewable energy integration, in Indonesia electric vehicles would emit less CO<sub>2</sub> than conventional vehicles.

The breakeven point for EVs to emit less GHG emission than conventional vehicles is around 900 g CO<sub>2</sub> per kWh grid electricity. This breakeven point is depending on many more country specific parameters such as fuel economy of the baseline vehicles, carbon intensity of the conventional fuels [which for example, contain biofuels in the case of Indonesia (leading to a lower carbon footprint) and fuels from coal-to-liquid processes in South Africa (leading to a higher carbon footprint)] and general traffic and climate conditions.

Recognizing that additional renewable energy needs to be included in South Africa to reduce emissions with the introduction of electric vehicles, the South African project aims at including a 30% renewable energy share in the electricity mix used for charging the demonstration buses. As shown in Figure 1 of the South Africa concept note, under all scenarios (IRP2 to IRP4) tested in the South African Integrated Resources Plan (2018), the share of coal in the power mix will be reduced by approximately 50% (from currently 81% of the total electricity production to around 40%) by 2040. The reduction in coal-based power production will be replaced almost entirely by renewable energies (wind, solar PV, CSP and hydro). This gradual increase in the share of renewable power generation in the South Africa's energy mix will therefore contribute to the reduced CO<sub>2</sub> emissions stemming from the electric vehicles – and this was also considered when estimating the GHG emission reductions for the South Africa e-mobility proposal. Please also refer to our responses to comment No. 3 in the section 6. of the review sheet dedicated to “contributions to global environmental benefits” further down.

Please also see analysis from EU JRC on EV emission mitigation within various EU grids (Electricity carbon intensity in European Member States: Impacts on GHG emissions of electric vehicles, Alberto Moro, Laura Lonza European Commission, Joint Research Centre (JRC), Via Enrico Fermi 2749, 21027 Ispra (VA), Italy, <https://www.sciencedirect.com/science/article/pii/S1361920916307933> ). Data from Cyprus and Malta, which respectively have similar grid emission factors to Indonesia and South Africa, respectively, show the impact of the grid emission difference on GHG emission savings from EVs.

Table 2

Carbon intensities of electricity for EU Member States.

Country	CI of gross electricity production (combustion only)	CI of gross electricity production (with upstream)	CI of net electricity production (with upstream emissions)	CI of electricity traded (with upstream)	CI of electricity supplied (with upstream)	Variation of CI after trade	CI of electricity consumed at HV (with upstream)	CI of electricity consumed at MV (with upstream)	CI of electricity consumed at LV (combustion only)	CI of electricity consumed at LV (with upstream)
	[g/kWh]	[g/kWh]	[g/kWh]	[g/kWh]	[g/kWh]	[%]	[g/kWh]	[g/kWh]	[g/kWh]	[g/kWh]
Austria	133	151	156	170	315	85%	322	325	305	334
Belgium	188	224	233	239	257	8%	261	262	224	267
Bulgaria	507	532	585	601	589	-2%	618	628	636	669
Croatia	231	273	282	285	465	63%	487	494	463	524
Cyprus	646	737	773	773	773	0%	787	792	710	810
Czech Republic	518	545	587	596	640	7%	657	663	643	685
Denmark	316	368	386	386	356	-8%	364	367	328	377
Estonia	1020	1022	1152	1152	840	-27%	878	891	931	944
Finland	171	200	209	209	204	-2%	207	207	181	211
France	66	88	92	93	97	4%	100	101	80	105
Germany	485	534	567	574	588	2%	599	602	558	615
Greece	655	695	755	757	712	-6%	732	739	723	767
Hungary	310	340	368	368	369	0%	383	388	365	407
Ireland	459	533	555	568	570	0%	588	594	530	617
Italy	358	427	444	448	402	-10%	413	417	362	431
Latvia	134	173	185	185	1075	482%	1110	1122	1140	1168
Lithuania	204	246	262	315	358	14%	370	374	331	390
Luxembourg	236	283	283	585	505	-14%	508	509	467	513
Malta	731	831	868	868	910	5%	954	970	908	1032
Netherlands	479	559	582	582	547	-6%	555	558	494	509
Poland	770	847	929	934	911	-3%	937	946	890	980
Portugal	295	346	355	365	357	-2%	372	378	340	400
Romania	356	379	413	416	425	2%	449	457	460	492
Slovakia	173	199	211	215	407	90%	412	414	383	420
Slovenia	315	329	351	361	302	-16%	309	312	291	321
Spain	248	295	305	312	309	-1%	321	325	287	341
Sweden	16	24	25	25	44	74%	45	46	36	47
United Kingdom	469	555	584	591	576	-3%	593	599	526	623
EU 28 average	340	387	407	413	417	1%	428	432	393	447

Note: The measuring unit of the graphic sign [g/kWh] is to be intended as [grams of CO<sub>2</sub>eq/kWh].

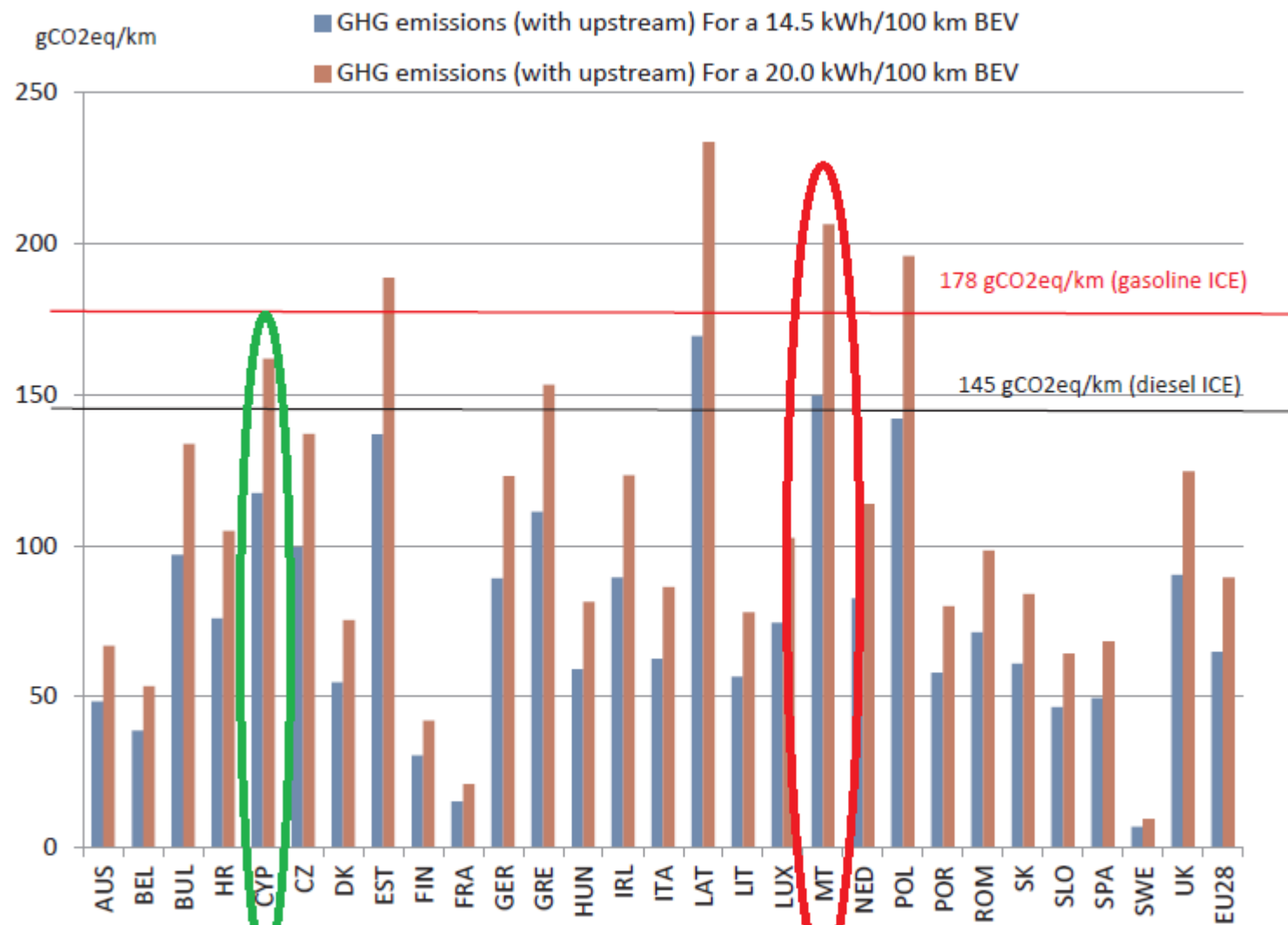


Fig. 3. GHG emissions due to the use of electric vehicles in the European Union.

In any case, both the Indonesia as well as the South Africa Child Project take into account the further integration of renewable power for EV charging to generate substantial GHG emission reductions.

**Tunisia:**

1. The outputs under Component 1 have been re-worded in the updated concept note to consider policy drafting for adoption.

**The focal area allocation?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 04/09/20

**This item is cleared.**

Requested Focal Area amounts are available for the countries included in this addendum.

Sri Lanka, Grenada, Philippines, Jordan and Tunisia are requesting slightly above their CCM focal area allocations and would thus require use of marginal adjustment.

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FB: 3/28:

This item will be closed once the full submission of the LOEs and Child projects is completed.

**Agency Response**

**15/04/2020**

**Responses to 09/04/2020 GEF comments:**

We take good note of your observation on Sri Lanka, Grenada, Philippines, Jordan and Tunisia.

**The LDCF under the principle of equitable access**

**Secretariat Comment at PIF/Work Program Inclusion** n/a

**Agency Response**

The SCCF (Adaptation or Technology Transfer)?

**Secretariat Comment at PIF/Work Program Inclusion** n/a

**Agency Response**

Focal area set-aside?

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28/20

**This item is cleared.**

The funds requested under the CCM global set aside are available.

**Agency Response**

Impact Program Incentive?

**Secretariat Comment at PIF/Work Program Inclusion** N/A

**Agency Response**

Project Preparation Grant

**5. Is PPG requested in Table E within the allowable cap? Has an exception (e.g. for regional projects) been sufficiently substantiated? (not applicable to PFD)**

**Secretariat Comment at PIF/Work Program Inclusion**

FB 04/09/20:

**This item is cleared.**

The PPG for South Africa has been adjusted and is now within the allowable cap.

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FB: 3/28

South Africa: the PPG request is above the allowable cap, and no justification was provided for such requested amount. Please revise amount in project documents (including Chile Project Concept) to meet the GEF PPG cap policy, or provide explanation for the additional funds requested, including a full break down of expected use of funds.

**Agency Response**

09/04/2020

The PPG amount requested for South Africa has been reduced to US\$ 150,000 in the updated concept note.

**Core indicators**

**6. Are the identified core indicators in Table F calculated using the methodology included in the correspondent Guidelines? (GEF/C.54/11/Rev.01)**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 04/09/20:

**This item is cleared.**

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FB: 3/28:

1. Anticipated start year of accounting is listed as 2038. Please correct.

2. The "duration of accounting" field is blank, please fill in.

### **Agency Response**

**09/04/2020**

1. We have corrected this to reflect the anticipated start year of accounting for GHG emission reductions and energy savings for the 2<sup>nd</sup> phase countries: 2022.
2. The duration of accounting has now been completed: 15 years.

### **Project/Program taxonomy**

**7. Is the project/ program properly tagged with the appropriate keywords as requested in Table G?**

### **Secretariat Comment at PIF/Work Program Inclusion**

FB: 15/04/20:

**This item is cleared.**

---

FB: 04/10/2020

Additional comment before clearing:

1. Please remove "access to benefits and services", which is intended to be mostly a biodiversity focal area key word and therefore not relevant in the context of this submission.
2. list of Executing Partners under "Part I: Program Information": please add "National Governments/Government Agencies"

---

FB: 3/28: yes.

this item is cleared.

## Agency Response

**15/04/2020**

### Responses to 10/04/2020 GEF comments:

1. "Access to benefits and services" has been removed from the taxonomy list.
2. "National Governments / Government Agencies" has been added to the list of Executing Partners in Part I of the PFD Addendum.

## Part II – Project Justification

1. Has the project/program described the global environmental / adaptation problems, including the root causes and barriers that need to be addressed?

## Secretariat Comment at PIF/Work Program Inclusion

FB: 15/04/20:

**This item is cleared.**

---

FB: 04/09/20:

1. OK

2.a: the text: "In December 2019 the Council approved two Medium Sized electric mobility projects, in Belarus and Mauritius," is incorrect (Mauritius is full size, and Belarus is MSP so it is not included in the Work Program that goes to Council).



Suggest rephrasing as: " [...]. Since the approval of the first phase of the Program, two additional GEF projects focusing on e-mobility were submitted to the GEF Secretariat, one in Mauritius and one in Belarus. These projects will be closely linked to the Global Program. [...]"

2.b: OK

3. Noted. OK

4. OK

5. As an additional comment, please correct the number of new countries in the bullet list in Program Justification section and in Global Child Project. It should say 10 instead of 7.

This second phase will add the following activities to the approved first phase of the Global Electric Mobility Programme.

- In Component 1 - Global Working Groups: an additional working group will be added on electric 2 & 3 wheelers; and second-generation trolley buses will be included in the scope of the HDV (Heavy Duty Vehicles) Working Group.
- In Component 2 - Regional Support and Investment Platforms: an additional Support and Investment Platform will be added for Central and Eastern Europe, West Asia and the Middle East, and additional support will be added to existing platforms.
- In Component 3 - country projects: additional 7 national Child Projects will be added to the programme.
- In Component 4 - tracking progress, monitoring and dissemination: extra activities will be included to support a larger global programme, collect and report data and improve visibility.

---

FB: 3/28:

Yes, this was done and cleared in the context of the original submission. Additional country-specific explanations are provided in the newly submitted child project concepts. However, the following comments need to be addressed by the Agency regarding this addendum:

1. in the "addendum context" paragraph, there is mention of a second call for proposal. This is incorrect as no call for proposal was held. Please revise language to reflect that the addendum rests on the fact that a number of additional countries came forward and expressed their interest to join the program with their available CCM STAR resources, after it first got approved in June 2019. There was no competitive process to allocate non-STAR additional resources.

2. The Addendum context section would benefit from additional information. We suggest:

2.a: including after the existing language the content of the first three paragraphs of the Global Child Project concept, which explain well the context, the existing program and the new countries being added.

2.b: also including the second-to-last paragraph of the global child project, under the heading of : "*Describe the project's incremental reasoning for GEF financing under the program, including the results framework and components.*", as it states the following:

""This phase 2 will add the following activities to the approved phase 1 Global Electric Mobility Programme.

----- In Component 1 – Global Working Groups – an additional working group will be added on electric 2 & 3 wheelers; and second-generation trolley buses will be included in the scope of the HDV (Heavy Duty Vehicles) Working Group.

---- In Component 2 – Regional Support and Investment Platforms – an additional Support and Investment Platform will be added for Central and Eastern Europe, West Asia and the Middle East, and additional support will be added to existing platforms.

---- In Component 3 – country projects – additional 7 national Child Projects will be added to the programme.

---- In Component 4 – tracking progress, monitoring and dissemination – extra activities will be included to support a larger global programme, collect and report data and improve visibility. ""

3. in case this addendum already takes into account any of the Council Member's comments to the first iteration of the Program approved in June 2019, we suggest stating so in either the text of the "Addendum context" section or in a footnote. Please refer to the compilation of Council comments available here: [https://www.thegef.org/sites/default/files/work-program-documents/GEF\\_C.56\\_compilation\\_council\\_comments\\_2.pdf](https://www.thegef.org/sites/default/files/work-program-documents/GEF_C.56_compilation_council_comments_2.pdf)

4. "New Countries and New Regions" section: we suggest consolidating the language included in the next section (2. "Contribution of the new Child Projects to the Program's objective and results") to this table, for each one of the new child projects. We would only have one table, which would list the following sections: i. title, ii. Objective, iii. GEF grant, iv Co-financing, v. Child project's contribution to the program's objectives. Then the "2. Contribution of the new Child Projects to the Program's objective and results" section below could be deleted.

## Agency Response

**15/04/2020**

**Responses to 09/04/2020 GEF comments:**

- 2a. The text has been re-phrased in the PFD addendum, as suggested .
  - 5. The number of new countries has been corrected in the bullet point.
- 

**09/04/2020**

- 1. The wording regarding the additional countries joining the programme has now been corrected in the “addendum context” paragraph.
- 2. The requested additional text has been included in the “addendum context” section.
- 3. We have reviewed the Council Member comments. We will share these with all the agencies for them to take them into account for the detailed development of the project proposals, since they are more relevant during that phase of project development.
- 4. The sections have been consolidated into one single table, as requested.

**2. Is the baseline scenario or any associated baseline projects appropriately described?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

**Agency Response**

**3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

**Agency Response**

**4. Is the project/program aligned with focal area and/or Impact Program strategies?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

**Agency Response**

**5. Is the incremental / additional cost reasoning properly described as per the Guidelines provided in GEF/C.31/12?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

## Agency Response

6. Are the project's/program's indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits?

## Secretariat Comment at PIF/Work Program Inclusion

FB 04/09/20:

**This item is cleared.**

1. OK
2. OK
3. Noted, thanks. OK
4. Noted, OK.

---

FB: 3/28:

with respect to the "Revised Program Targets" section:

1. It is unclear which "Table E" is being referred to in this section.
2. Please provide calculation sheet for the initial estimate of emission reductions.
3. Expected emission reductions for (i) Grenada appear very very small and (ii) for South Africa are also very small, considering the amount of GEF and co-financing. Please double-check and provide justification.
4. Estimated ex-ante emission reductions are significantly more costly on a ton/dollar basis than in the first round. First round was about \$0.9/ton direct emission reduction, whereas in the addendum is \$5.5/ton of direct emission reductions). Even considering also the indirect emission reductions. Please elaborate on underlying reasons for this difference.

## Agency Response

**09/04/2020**

1. Table E was referring to the Program's Target Contribution to GEF-7 Core Indicators table of the Word template for PFDs. This reference has been removed in the portal.

2. GHG emission reductions' calculations sheets for all 10 child projects have been uploaded on the portal in a zip file.

3. Responses to comments on Grenada and South Africa GHG emission reductions:

**(i) Grenada:** The CO2 emission reductions for Grenada have been revised upwards, including an increased causality factor now accounting for 100% for secondary direct emission reductions. Nonetheless, it needs to be kept in mind that Grenada has a population of only about 100,000 inhabitants and a total light duty vehicle fleet of only about 33,000 vehicles. This by default reduces the GHG mitigation potential of small countries such as Grenada compared to countries with significantly larger populations, which in turn means that efficiency of GHG emission is lower than in larger countries.

**(ii) South Africa:** The GHG mitigation estimates for South Africa have been revised upwards, now also taking into account secondary direct and indirect emission reductions stemming from policy development, capacity building & awareness rising and knowledge sharing in the light duty vehicle sector. Many of the policy related outputs under component 3 of the Child Project (e.g. fiscal reforms for the importation of EVs and EV supply equipment and EV parts) are targeting all electric vehicles in South Africa and not only public transport buses. These policies will hence have a significant effect on the uptake of the entire EV market in South Africa. GHG emission reductions related to the introduction of electric vehicles can be attributed to: 1.) The much higher energy efficiency of electric vehicles; 2.) The increasing share of renewable power in the South Africa electricity mix (compared to 2020 a 35% reduction of carbon footprint of electricity is anticipated for the year 2030 and a 50% reduction for the year 2040); and 3.) The reduced use of petroleum fuels, which are particularly carbon intense in South Africa. In 2018, about 30% of liquid fuels used in South Africa still were produced by Sasol based on Coal-To-Liquids (CTL) technologies.

4. There are several reasons for this difference. First and foremost, the first round of submission included India, a country with a population of 1.3 billion people and a passenger car fleet of 26 million vehicles. In addition, the India project comes with a loan of the ADB of USD 250 million, thus leading to a very large direct and indirect emission reduction potential. In addition to this, the GHG mitigation estimates for Togo and Madagascar were erroneous during submission of the Child Project concepts (these will be corrected during the CEO Endorsement submission). Excluding the India project, and revising the Togo and Madagascar emission reductions lead to an average per ton cost of CO2 emission reductions of about 3.4 USD for the first round of submission. After the revision of the South Africa mitigation potential, which has significant impact on the total GHG emission reductions of the second round, the average cost effectiveness of total direct emission reductions (including direct and secondary direct) of the 2<sup>nd</sup> round countries drop to USD 3.3 per ton CO2. Taking into account indirect emission reductions, the average cost effectiveness for the 2<sup>nd</sup> round countries drop to USD 0.7 per ton of CO2.

**7. Is there potential for innovation, sustainability and scaling up in this project?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

**PROJECT MAP AND COORDINATES (adding info here as "Program Map" box has a technical problem and does not save)**

FB: 3/28:

1. The submission includes a program map. However, the Agency should consider making the project in Mauritius more visible on the map as it cannot be seen.

**Agency Response**

09/04/2020

1. The map has been updated to include the 3 new countries (Bangladesh, Ecuador and Sri Lanka). Mauritius (stand-alone project) has also been made more visible on the map.

**Project/Program Map and Coordinates**

**Is there a preliminary geo-reference to the project's/program's intended location?**

**Secretariat Comment at PIF/Work Program Inclusion**

**Agency Response**

**Stakeholders**

**Does the PIF/PFD include indicative information on Stakeholders engagement to date? If not, is the justification provided appropriate? Does the PIF/PFD include information about the proposed means of future engagement?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

In addition, information on new stakeholders were added.

**Agency Response**

**Gender Equality and Women's Empowerment**

**Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

**Agency Response**

**Private Sector Engagement**

**Is the case made for private sector engagement consistent with the proposed approach?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28: yes.



**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

## **Agency Response**

### **Risks**

**Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design?**

## **Secretariat Comment at PIF/Work Program Inclusion**

FB: 04/10/2020:

**This item is cleared.**

This is consistent with the previously approved PFD for which this addendum is being presented.

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FB: 3/28:

This is consistent with the previously approved PFD for which this addendum is being presented.

### Environmental and Social risk screening:

*As per the Guidelines on the GEF Policy on Environmental and Social Safeguards, the Secretariat, in its review, assesses the availability and completeness of the provided indicative information on environmental and social risks and potential impacts associated with the project or program, including associated documents (if any) and response measures to address identified risks and impacts.” (see GEF ESS Guidelines, para 12). Elements that should be provided in the submission for the inclusions of new child projects under the program include:*

- 1. The overall project/ program risk classification in case it has changed from the approved PFD;*

2. *Relevant types and levels of risks and potential impacts; and if needed:*

2.a. *Preliminary measures to address identified risks and potential impacts, if available, and*

2.b. *Any supporting documents such as screening report or preliminary Env. and Social Risks Impact Assessment report.*

The documents uploaded in the document section appear to be incomplete:

1. The file labelled "[GEF7 E-mobility\\_GlobalProgrammeUNEP Environmental, Social and Economic Review Note \(ESERN\)](#)" include a set of countries ([South Africa, Togo, Swaziland, Sudan, Burundi, India, Maldives, Colombia, Antigua and Barbuda, Chile, Peru, Moldova, Belarus.](#)) that is not consistent with the list of countries covered by this Addendum. Please revise the report to cover the correct countries.
2. The additional file uploaded, only covers Grenada.
3. Please provide additional information to address the requirements of the GEF ESS Guidelines as outlines above.
4. Please note that, With regards to climate risks to the Program, additional analysis is expected to be conducted during the development of all child projects, and the relevant findings to be incorporated in the CEO endorsement requests documentation.

## **Agency Response**

**09/04/2020**

1. This file was mistakenly uploaded on the portal. It has now been removed. A separate Environmental and Social Safeguard screening has been uploaded on the portal for the global child project.
2. The Environmental and Social Safeguard screenings for the all 10 country child projects and for the global child project have now been uploaded on the portal in a zip file.
3. Refer to our response to comment No. 2.
4. Comment taken. Climate risks to the programme will be assessed during the detailed development phase of the child projects. This requirement will be conveyed to all GEF agencies.

## **Coordination**

**Is the institutional arrangement for project/program coordination including management, monitoring and evaluation outlined? Is there a description of possible coordination with relevant GEF-financed projects/programs and other bilateral/multilateral initiatives in the project/program area?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 04/09/20:

**This item is cleared.**

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FB: 3/28:

This is consistent with the previously approved PFD for which this addendum is being presented. In addition, new organizations now part of the program, including as Implementing Agencies, have been included in the program organization and governance structure.

Comment: Please include the GEFSEC in the Program Steering Committee.

**Agency Response**

09/04/2020

The GEF Sec has now been included in the Program Steering Committee in the updated oganigramme.

**Consistency with National Priorities**

**Has the project/program cited alignment with any of the recipient country's national strategies and plans or reports and assessments under relevant conventions?**

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 15/04/20:

**This item is cleared.**

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FB: 040920:

This section is generally weak, and would benefit from strengthening. The information/analysis presented is quite generic.

1. Information was added for the three additional countries included. However, the description of the consistency with national priorities / NDCs for Bangladesh seems to have been misplaced. Please revise the corresponding box with relevant information.
2. Philippines does have an iNDC -although not very detailed, it does mention transport- which could be mentioned, in addition to the NDC being developed.

---

FB: 3/28: yes

Information on Child Projects' alignment with national priorities was provided. However, the clearance of this item is pending on the inclusion of the additional child projects to complete the Addendum package (i.e. Bangladesh).

## **Agency Response**

**15/04/2020**

### **Responses to 09/04/2020 GEF comments:**

The section on consistency with national priorities has been strengthened, as requested.

1. The description of consistency with national priorities / NDCs has been included for Bangladesh.
  2. A reference to Philippines's INDC has been added.
-

**09/04/2020**

Alignment with national priorities of the additional child projects (Bangladesh, Ecuador and Sri Lanka) have been included in section 7. of the PFD Addendum.

#### **Knowledge Management**

**Is the proposed “knowledge management (KM) approach” in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project’s/program’s overall impact and sustainability?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

FB: 04/09/20:

**This item is cleared.**

---

FB: 3/28: yes.

This is consistent with the previously approved PFD for which this addendum is being presented.

However, please add a paragraph in this section of the PFD Addendum document indicating the scope of the new EBRD platform, and making a reference to the Global Child Project's concept for more detailed information on the new EBRD Inv&Support platform. The first paragraph under the heading "*Component 2*" on page 8 of the global child project could be cut and pasted here to give the general context.

#### **Agency Response**

**09/04/2020**

Comment taken. An additional paragraph has been added regarding the EBRD platform in the Knowledge Management section of the addendum.

### **Part III – Country Endorsements**

**Has the project/program been endorsed by the country's GEF Operational Focal Point and has the name and position been checked against the GEF data base?**

#### **Secretariat Comment at PIF/Work Program Inclusion**

FB: 04/09/20:

**This item is cleared.**

All LOEs provided have been endorsed by the correct GEF OFP.

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FB: 3/28

All LOEs provided have been endorsed by the correct GEF OFP.

However, not all LOEs have been submitted yet, so this item remains open and the Agency is requested to complete the submission asap.

#### **Agency Response**

**09/04/2020**

The missing LoE for Philippines has now been included in the submission. In addition, the LoEs for the 3 new child projects (Bangladesh, Ecuador and Sri Lanka) have been included in the re-submission.

**Termsheet, reflow table and agency capacity in NGI Projects**

**Does the project provide sufficient detail in Annex A (indicative termsheet) to take a decision on the following selection criteria: co-financing ratios, financial terms and conditions, and financial additionality? If not, please provide comments. Does the project provide a detailed reflow table in Annex B to assess the project capacity of**

generating reflows? If not, please provide comments. After reading the questionnaire in Annex C, is the Partner Agency eligible to administer concessional finance? If not, please provide comments.

**Secretariat Comment at PIF/Work Program Inclusion**

N/A

**Agency Response**

**GEFSEC DECISION**

**RECOMMENDATION**

Is the PIF/PFD recommended for technical clearance? Is the PPG (if requested) being recommended for clearance?

**Secretariat Comment at PIF/Work Program Inclusion**

FB: 15/04/20:

**The PFD Addendum is recommended for technical clearance.**

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FB: 041020:

Not yet, the agency is requested to consider the comments provided above and resubmit an amended version.

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FB: 3/28:

Not yet, the agency is requested to consider the comments provided above and resubmit an amended version.

Please also submit a version in track changes to facilitate cross checking of revised sections.

## ADDITIONAL COMMENTS

**Additional recommendations to be considered by Agency at the time of CEO endorsement/approval.**

### **Secretariat Comment at PIF/Work Program Inclusion**

FB: 3/28 and 4/10

1. Agency is requested to adequately screen the Program for climate risks and to adequately identify risks - and factor in any mitigation measure - into the Program and child projects' design, as presented at CEO endorsement request stage for each of the child projects.
2. General Comment on each Child Project's Component 1 (Policy Framework and Institutionalization of e-mobility): As noted in relation to several of the Child Project concept notes, in such instances Component 1 seems to have fallen short of what is to be expected by a GEF intervention. When it comes to policy frameworks and enabling environments, GEF investments should be going further than just coordinating actors/stakeholders at national level. As a bare minimum, the GEF intervention should conduct policy review/analysis and support drafting of an integrated policy framework to support the introduction/scale up of EV and charging stations, up to the point where such policy framework is considered by the relevant decision making bodies for adoption. As much as possible, policy adoption should follow, although we recognize that this is can be outside the control of the GEF Agency (i.e. this is an expected impact, rather than a project output or outcome). The Lead Agency is kindly requested to ensure that each one of the Child project is developed with this consideration in mind, and that this is reflected to in the individual CEO ERs as they come in after the detailed child project development stage/PPG stage. We ask the Lead Agency to acknowledge this point, which will be checked at the CEO ERs stage, and should apply for all those child projects where an adequate integrated policy framework is not yet in place.
3. With respect to the Albania child project: as the agency knows, the implementation and execution roles on GEF projects are meant to be separate per policy and guideline. The GEFSEC will analyze any requests for dual role playing by an agency at the time of CEO endorsement and only approve those cases that it deems warranted on an “exceptional” basis. We strongly encourage the agency to look at third party options as a preferred way forward. We also strongly encourage the agency to discuss any and all options for execution that do not include the government with the GEFSEC early in the PPG phase. The technical clearance of this PIF in no way endorses any alternative execution arrangement.

### **Review Dates**

**PIF Review**

**Agency Response**



	PIF Review	Agency Response
<b>First Review</b>		
<b>Additional Review (as necessary)</b>		
<b>Additional Review (as necessary)</b>		
<b>Additional Review (as necessary)</b>		
<b>Additional Review (as necessary)</b>		

#### PIF Recommendation to CEO

#### Brief reasoning for recommendations to CEO for PIF Approval

**Global, Bangladesh, Ecuador, Sri Lanka, Albania, Grenada, Indonesia, Philippines, Jordan, South Africa, Tunisia.** *Global Programme to Support Countries with the Shift to Electric Mobility – Addendum* (GEF ID 10544); Agency: UNEP, ADB, UNDP, EBRD, UNIDO, DBSA; GEF Project Financing: \$20,118,605; Co-financing: \$218,792,961. The Global Programme was originally approved by the 56th Council in June 2019. This supplemental PFD is requesting approval of additional 10 Country Child Projects, bringing the total number of participating countries from 17 to 27. The GEF Project Financing being requested is \$20,118,605, bringing the total GEF resources under this Programme to \$50,137,922. The total co-financing expected for the PFD Addendum is \$218,792,961, which brings the total co-financing of the Programme to \$651,881,552. The addendum reflects the increase in GEF-7 resources to be programmed and reports on the incremental information (financial and core indicator targets) relevant for the new participating countries. Additional resources are also being requested for the Global Child project. The Programme’s design and component structure on this Addendum are consistent with the original PFD and the objective remains to “support countries to design and implement electric mobility programs as part of an overall shift to sustainable, low carbon transport sector.”

The PFD Addendum will add the following activities to the originally approved PFD structure: (i) In Component 1 - *Global Working Groups*: an additional Working Group will be added on electric 2 & 3 wheelers; and second-generation trolley buses will be included in the scope of the Heavy Duty Vehicles (HDV) Working Group. (ii) In Component 2 - *Regional Support and Investment Platforms*, an additional Support and Investment Platform will be added for Central and Eastern

Europe, West Asia and the Middle East, and additional support will be added to existing platforms. (iii) In Component 3 - *Country Projects*, 10 additional national Child Projects will be added to the Program. (iv) In Component 4 - *Tracking progress, monitoring and dissemination*, extra activities will be included to support a larger Global Program, collect and report data and improve visibility. The proposed PFD Addendum is expected to increase the Programme's core indicator targets for (i) Greenhouse Gas Emissions Mitigated (Direct: 5,778,832 tCO<sub>2</sub>eq and Indirect: 23,939,270 tCO<sub>2</sub>eq), and (ii) positively impact an additional 392,284 direct beneficiaries. Cumulatively, the total GHG Emissions Mitigated for the overall Global Programme including all 27 countries is estimated to be: Direct: 39,640,417 tCO<sub>2</sub>eq and Indirect: 57,657,479 tCO<sub>2</sub>eq. The cumulative number of direct beneficiaries is estimated at 710,514 people.

UNEP replies to STAP screening:

Part I: Project Information	
GEF ID	10114
Project Title	Global Program to Assist Countries with Shift to Electric Mobility
Date of Screening	27-May-19
STAP member Screener	Saleem H. Ali
STAP secretariat screener	Sunday Leonard
STAP Overall Assessment	Concur

STAP comments	UNEP replies
<p>The e-mobility program has been developed based on a set of 17 child projects, as well as synergies with the EC Solutions Plus program. Partnership with the International Energy Agency gives the proposal a high level of rigor in terms of metrics of energy costing and efficiency measurement criteria. The proposal is also supported by relevant studies from applicable development agencies. The public-private partnership aspect of the project is convincing and likely to deliver the overall desired impact - if well- implemented.</p> <p><u>Comment 1:</u> Key barriers to the scaling of e-mobility have been recognized in the child projects. However, there are also some system factors around e-mobility that deserve attention, and which should be highlighted as barriers to upscaling. The material needs of e-mobility infrastructure in terms of the availability of battery storage technology, and the link between the price of key metal components needs to be specified more clearly. The project has set up a “batteries working group” to assure a reliable supply of batteries through recycling and criticality assessments, but how such a working group would ensure supply is not clearly articulated. The proposal notes a connection with the Global Battery Alliance of the World Economic Forum which will help to avoid redundancies and build a wide private sector alliance. The project proponents should also monitor the Roland Berger “E-Mobility” Index in terms of key lessons from countries that have achieved high rankings in this index. The Australian government has also set up a new Cooperative Research Centre on Batteries which could be an important resource.</p> <p><u>Comment 2:</u> Clearly the E-mobility program has positive interactions with the Sustainable Cities Impact Program because much of the high-density implementation and climate benefits of e-mobility would be realized in an urban context. There needs to be good coordination between the two programs.</p> <p><u>Comment 3:</u> A core challenge will be to ensure that the source of electricity for the e-mobility platform is low carbon to maximize the GHG reduction benefit. All calculations for GHG emissions (cars, buses versus trains etc.) need to be evaluated in terms of life-cycle analysis methodologies to ensure full systems-wide GHG benefits and ensure that impacts are internalized.</p>	<p><u>Reply 1:</u> The project recognizes the issues around provision of raw materials for battery production. Nonetheless, it is not the focus of the project to ensure availability of these materials and subsequent battery supply. It seems to be understood that availability of resources such as lithium, cobalt, nickel and copper and their transformation into reserves (classification based on IEA Global Electric Vehicle Outlook [GEVO] 2019) is not constrained by the natural resource base but rather by the pace of investment to un-tap these resources (see IEA GEVO 2019). The project seeks for acceleration of EV demand, and therefore acceleration of demand for batteries. It is believed that such an accelerated demand will lead to the necessary investment in battery production capacity and hence the provision of raw materials.</p> <p>Nonetheless, the project will put focus on the development of regulation and schemes for collection of used EV batteries for re-use, recycling and safe disposal, mainly through the International Energy Agency (IEA) led Global Thematic Working Group on “Charging infrastructure, grid integration, low-carbon power supply and batteries”. The project aims at facilitating re-use and recycling of used EV batteries through “design for recyclability” of EV batteries to ensure that a trajectory leading to some sort of circular economy can be taken in the future. Development of adequate policies will play a major role in the stipulation of high recycling rates to ease pressure on raw material demand and to increase sustainability of e-mobility as a whole. This also includes the development of guidelines and agreements with regards to the social and environmental standards for the sourcing of these materials. Private sector alliances such as the mentioned Global Battery Alliance of the World Economic Forum can help with the facilitation of such agreements and will be included in the design of the relevant operational parts of the Global Child Project. Similarly, literature and indices such as the mentioned Roland Berger “E-Mobility” Index will be included to the extent possible within the work of the relevant Working Groups. It needs to be noted that the Basel and Stockholm Convention Regional Centre for the Asia and Pacific Region in China (BCRC-SCRC China, hosted by the School of Environment of Tsinghua University) will be part of the GEF Global E-Mobility Programme. The Basel Convention regulates the international trade of waste, which might play a key role in the area of used EV battery recycling since large scale battery recycling is likely to depend on international shipping of used EV batteries and / or battery components.</p> <p><u>Reply 2:</u> For countries that have both an e-mobility and a Sustainable Cities project (i.e. India, etc.), close coordination will be undertaken during project implementation to ensure synergies. Whenever the sustainable cities projects organize events/workshops on urban mobility, the e-mobility project team / proponents will be invited to participate.</p> <p><u>Reply 3:</u> GHG emission saving potentials for all Country Child Projects are evaluated based on 1.) the current local carbon footprint of grid electricity; and 2.) prospects to reduce the average carbon footprint of grid electricity based on commitments and pledges to mitigate climate change. Many of the low and middle-income countries included in the Global E-Mobility Programme already have power mixes based on high shares of low carbon electricity such as hydro, wind, solar PV and nuclear power. This is true for many of the Country Child Projects in Latin America, Africa, Eastern Europe and West Asia. For Country Child Projects with relatively high grid emission factors such as India, most of the SIDS, Indonesia, South Africa, etc. projects have been designed in a way to ensure that sufficient amount of low carbon power will be integrated in the electricity mix used to power the demonstration vehicles to yield net climate benefits. As a general “rule of thumb” a carbon footprint threshold for grid electricity of around 800 to 900 gCO2/kWh is assumed to mark the line above which additional measures are necessary to reach net reductions of greenhouse gas emissions. Compared to alternative, technology based transport GHG mitigation measures such as the large scale use of biofuels as well as the use of potentially low carbon fuels such as hydrogen and synthetic fuels, it is believed that the direct use of electricity constitutes the most efficient means of decarbonizing transportation, alongside implementation of “avoid” (avoid transport demand) and “shift” measures (shift transport demand to more efficient means of mass transport as well as non-motorized transport). It is therefore necessary to introduce e-mobility now, in order to be prepared for upscaling once mitigation targets in the relatively low-abatement cost power sector have been achieved.</p>

STAP comments	UNEP replies
<p><u>Comment 4:</u> The program will generate both climate mitigation and air pollution reduction benefits. If possible, the expected health benefits from air pollution reduction (for example, premature death prevention and Disability-Adjusted Life Years - DALYs) should be estimated during project development. This will provide a more detailed information on the environmental and socio-economic benefits from the GEF’s investment.</p>	<p><u>Reply 4:</u> The air pollution reduction and associated expected health benefits will not be measured/quantified by the projects through GEF funding. However, if the countries wish to undertake these estimates, they will be welcome to do it through co-finance contributions.</p>
<p><u>Comment 5:</u> There is detailed evidence of multi-stakeholder engagement, particularly for training programs, and other activities which connect with the OECD’s multi-stakeholder engagement processes. It would be helpful to acknowledge that e-mobility has implications for “energy justice”, because growth of this sector has largely been in high-income markets, especially for electric cars.</p>	<p><u>Reply 5:</u> E-mobility has the potential to increase energy justice and to support the development of local value chains. While petroleum-based fuels are imported in most of the Country Child Projects, electricity is generated locally, with the potential to include high shares of locally generated renewable power. Introduction and up-scaling of e-mobility has therefore the potential to increase energy security and to hedge against the price volatility of the global petroleum fuel market. In many of the Country Child Projects, consumer prices of petroleum fuels are regulated by government and price spikes in the global supply chain has immediate effects on countries budgets. Total cost of ownership of electric vehicles, in particular when used in fleets such as public transportation fleets (buses, taxis, 2&amp;3 wheeler taxis) are already lower than for conventional vehicles today in many of the Child Country Projects. The large-scale introduction of EVs in such fleets can therefore lead to better economics of public transport services, which in turn can lead to better service and lower cost of transportation for the end consumer. In addition, the provision of e-mobility applications such as electric 2&amp;3 wheelers in least developed countries can un-tap synergies with rural electrification based on renewable micro and mini-grids (e.g, based on solar PV &amp; electricity storage). Last but not least, the relatively less complex nature of electric vehicles can lead to the creation of green jobs in the local assembly and manufacturing of EVs, notably electric 2&amp;3wheelers.</p>
<p><u>Comment 6:</u> STAP recommends that project proponents review the following study: Sovacool, B. K., Kester, J., Noel, L. &amp; de Rubens, G. Z. Energy Injustice and Nordic Electric Mobility: Inequality, Elitism, and Externalities in the Electrification of Vehicle-to-Grid (V2G) Transport. Ecological Economics 157, 205–217 (2019).</p>	<p><u>Reply 6:</u> We take note of this recommendation. This will be shared with project proponents and the global thematic working groups.</p>
<p><u>Comment 7:</u> E-vehicle technology is rapidly evolving: it will be important therefore to keep track of and incorporate innovations in the field. University partners in academia would be recommended in this regard. A few key academic partners are noted such as University of California Davis and Technical University of Denmark. These institutions and others should be involved in the M&amp;E program.</p>	<p><u>Reply 7:</u> The GEF Global E-Mobility Programme will be implemented in close collaboration with the European Commission funded Solutions Plus project. The Solutions Plus project, which started implementation in January 2020, and which has a total budget of about 18 million EUR, is targeting e-mobility demonstration projects in 9 low and middle-income cities world-wide, and includes replication activities of these demonstration projects in a number of additional cities and countries. UNEP is responsible for the development of replication projects in 8 cities worldwide. It has been agreed that EC Solution Plus funds will be included in 5 GEF Country Child Projects (around 60k to 80k USD per replication project) to procure charging equipment and to provide targeted support to local innovators with the installation and operation of this equipment. Similar to UNEP, DTU is a consortium member of the EC Solution Plus project and is mainly responsible for impact assessment and data collection and analysis of the project. UNEP will make sure that impact assessment and data collection and analysis will be closely coordinated between the GEF E-mobility Programme and the EC Solution Plus project and that all tools and materials as well as project outcomes and lessons learnt will be shared between both projects. In fact, the GEF and the EC Solutions Plus project target the joint and complementary development of tools, training materials, and events.</p> <p>Academic partners may also include the University of California, Davis, which is a long-standing partner in UNEP’s Global Fuel Economy Initiative (GFEI) through the Sustainable Transportation Energy Pathways Program directed by Lew Fulton.</p>
<p><u>Comment 8:</u> A recent study which may be helpful in considering some of the pitfalls of e-mobility is also referenced below: Onat, N. C., Kucukvar, M., Aboushaqrah, N. N. M. &amp; Jabbar, R. How sustainable is electric mobility? A comprehensive sustainability assessment approach for the case of Qatar. Applied Energy 250, 461–477 (2019).</p>	<p><u>Reply 8:</u> We take note of this recommendation. This will be shared with project proponents and the global thematic working groups.</p>

## Annex B.3 - Responses to STAP comments

Part I: Project Information	What STAP looks for	Response	UNEP replies
<b>B. Indicative Project Description Summary</b>			
Project Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	Yes – the program has a very clearly defined objective of electric mobility.	-
Project components	A brief description of the planned activities. Do these support the project’s objectives?	Yes, the outcomes support the objectives.	-
Outcomes	A description of the expected short-term and medium- term effects of an intervention.	These are defined in detail and referenced through a theory of change. Global environmental benefits of carbon mitigation are noted with key assumptions about the source of energy.	-
	Do the planned outcomes encompass important global environmental benefits/adaptation benefits?		
	Are the global environmental benefits/adaptation benefits likely to be generated?		
Outputs	A description of the products and services which are expected to result from the project. Is the sum of the outputs likely to contribute to the outcomes?	Yes, there is a clear linkage between outputs and outcomes made through the theory of change materials provided.	-
Part II: Project justification	A simple narrative explaining the project’s logic, i.e. a theory of change.		
<b>1. Project description. Briefly describe:</b>			
1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)	Is the problem statement well-defined?	Yes – detailed review of the material from the perspective of development agencies provided. However, academic literature review is not provided.	-
	Are the barriers and threats well described, and substantiated by data and references?		
	For multiple focal area projects: does the problem statement and analysis identify the drivers of environmental degradation which need to be addressed through multiple focal areas; and is the objective well-defined, and can it only be supported by integrating two, or more focal areas objectives or programs?		
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly?	Yes, baseline of current programs for countries provided as well as the relationship with EC Solutions plus program.	-
	Does it provide a feasible basis for quantifying the project’s benefits?		
	Is the baseline sufficiently robust to support the incremental (additional cost) reasoning for the project?		
	For multiple focal area projects:		
	are the multiple baseline analyses presented (supported by data and references), and the multiple benefits specified, including the proposed indicators;		
	are the lessons learned from similar or related past GEF and non-GEF interventions described; and how did these lessons inform the design of this project?		
3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	What is the theory of change?	Good presentation of theory of change material in Figure 6.	-
	What is the sequence of events (required or expected) that will lead to the desired outcomes?		
	· What is the set of linked activities, outputs, and outcomes to address the project’s objectives?		
	· Are the mechanisms of change plausible, and is there a well-informed identification of the underlying assumptions?		

## Annex B.3 - Responses to STAP comments

Part I: Project Information	What STAP looks for	Response	UNEP replies
	· Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes?		
5) incremental/additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-financing	GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?	Yes – very detailed cost reasoning and partnerships provided.	-
	LDCF/SCCF: will the proposed incremental activities lead to adaptation which reduces vulnerability, builds adaptive capacity, and increases resilience to climate change?		
6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	Are the benefits truly global environmental benefits, and are they measurable?	Yes – electric mobility if implemented with low carbon energy source has clear global environmental benefits.	-
	Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?		
	Are the global environmental benefits explicitly defined?		
	Are indicators, or methodologies, provided to demonstrate how the global environmental benefits will be measured and monitored during project implementation?		
	What activities will be implemented to increase the project's resilience to climate change?		
7) innovative, sustainability and potential for scaling-up	Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?	The PFD has a short section on innovation (Section 7 on page 68) which largely focuses on the inherent innovation of e- mobility infrastructure as a new technology. Perhaps the most significant innovations in the GEF program itself would be the financing arrangements that are being proposed through a variety of public-private partnerships that are being proposed, building on the vast experience of the International Energy Agency. Regarding' STAP's guidelines on innovation in projects, the wide range of examples provided of innovative start-ups that emanate from the EC's Solutions Plus program are also appropriate. These should be further analysed to ascertain the level of actual success they are having (refer to section starting on page 36 and the table which starts on page 37).	-
	Is there a clearly-articulated vision of how the innovation will be scaled-up, for example, over time, across geographies, among institutional actors?		
	Will incremental adaptation be required, or more fundamental transformational change to achieve long term sustainability?		
1b. Project Map and Coordinates. Please provide geo- referenced information and map where the project interventions will take place.			
2. Stakeholders. Select the stakeholders that have participated in consultations during the project identification phase: Indigenous people and local communities; Civil society organizations; Private sector entities.If none of the above, please explain why. In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.	Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?	The energy justice aspect of this program should be closely monitored as e- mobility uptake continues to favor higher income households	Please refer to our response to the energy justice comment in the 1 <sup>st</sup> section above (reply 5).
	What are the stakeholders' roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons		



## Annex B.3 - Responses to STAP comments

Part I: Project Information	What STAP looks for	Response	UNEP replies
	learned and knowledge?		
3. Gender Equality and Women's Empowerment. Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes/no/ tbd. If possible, indicate in which results area(s) the project is expected to contribute to gender equality: access to and control over resources; participation and decision-making; and/or economic benefits or services. Will the project's results framework or logical framework include gender- sensitive indicators? yes/no /tbd	Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?	Gender sensitivity analysis and action plans built into program. The uptake of electric motorcycles disproportionately by men for cultural reasons is noted as a useful example.	All country child projects as well as the global child project include a gender analysis and a gender action plan (in PART II section 3. Gender Equality and Women's Empowerment of the CEO Endorsement Document) to mainstream gender during project implementation.
	Do gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed?		
5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design	Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?	A wide variety of risks have been identified specially with reference to critical supply chains.	-
	Are there social and environmental risks which could affect the project?		
	For climate risk, and climate resilience measures:		
	· How will the project's objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately?		
	· Has the sensitivity to climate change, and its impacts, been assessed?		
	· Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?		
	· What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?		
6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives	Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?	Figure 9 presents a good organizational framework for coordinating the project across multiple agencies and private partners.	-
	Is there adequate recognition of previous projects and the learning derived from them?		
	Have specific lessons learned from previous projects been cited?		
	How have these lessons informed the project's formulation?		
	Is there an adequate mechanism to feed the lessons learned from earlier projects into this project, and to share lessons learned from it into future projects?		
8. Knowledge management. Outline the "Knowledge Management Approach" for the project, and how it will contribute to the	What overall approach will be taken, and what knowledge management indicators and metrics will be used?	University partnerships could be better leveraged for knowledge management. Clearer role delineation of university and research partners would be a positive development.	Please refer to our response in relation to UCD and DTU in the 1 <sup>st</sup> section above (reply 7).

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Part I: Project Information	What STAP looks for	Response	UNEP replies
project’s overall impact, including plans to learn from relevant projects, initiatives and evaluations.			
	What plans are proposed for sharing, disseminating and scaling-up results, lessons and experience?		
STAP advisory response	Brief explanation of advisory response and action proposed		
1. Concur	STAP acknowledges that on scientific or technical grounds the concept has merit. The proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.		
	* In cases where the STAP acknowledges the project has merit on scientific and technical grounds, the STAP will recognize this in the screen by stating that “STAP is satisfied with the scientific and technical quality of the proposal and encourages the proponent to develop it with same rigor. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design.”		
2. Minor issues to be considered during project design	STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to:		
	(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised;		
	(ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review.		
	The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.		
3. Major issues to be considered during project design	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:		
	(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.		



### **UNEP responses to GEF Council comments on the Global Programme to Support Countries with the Shift to Electric Mobility (GEFID 10114)**

❖ **Comment by Yoshiko Motoyama, GEF Alternate Council Member, Japan, Deputy Director Global Environment Division, International Cooperation Bureau, Ministry of Foreign Affairs of Japan, Council, Japan made on 6/1/2020**

The below comments from Japan were provided prior to the Council meeting. An initial agency response was provided and can be found in the list of documents specific to the project in the GEF Portal.

On single-country projects, especially with large stated co-finance ratios, and cyclical-industry-related projects, such as Project 10564 (Environmentally Sustainable Development of the Iron and Steel Industry) and Project 10544 (electric mobility addendum):

- We anticipate that participants of these projects may be severely impacted by the COVID-19 crisis. How realistic are the published co-financing arrangements to be met, and for the industry to meet the higher operating costs - - without de facto subsidization from the GEF?

#### Response:

The current health crisis related to COVID-19 poses some difficult challenges for the automotive sector, but also, looking more specifically at the electric vehicles segment, it offers some opportunities.

Challenges include delays related to the finalization of the design of some of the national child projects, due for instance to international travel restrictions for the specialists involved in the design and the relative consultations. Broader challenges also include depression of demand for cars, at least in the short term, and potential shift in government priorities to focus limited national budget and workforce to more pressing health-crisis related issues. At this point it is difficult to make assumptions regarding the extent to which this will affect government priorities with regards to the allocation of budget and work force. What can be said is that there is a clear case to be made for mobility to as a key pillar for sustainable and clean transportation investments in the context of economic recovery plans.

Opportunities: According to today's knowledge, there seems to be a correlation between air quality and COVID-19, whereby COVID-19 incidence and mortality are significantly higher in areas that have high levels of local air pollution. This includes particulate matters (e.g. PM2.5, PM10)<sup>1</sup> as well as N<sub>2</sub>O from both mobile (e.g. trucks and cars) and stationary (e.g. coal power stations) emission sources<sup>2</sup>. Since electric mobility has the potential to significantly contribute to improved urban air quality, we assume that it will play an important role in countries' strategies to respond to the COVID-19 pandemic.

Similarly, a shift to electric mobility will significantly reduce the dependency of countries to import petroleum petrol fuels. It therefore increases resilience against restrictions or price spikes resulting from international crisis.

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<sup>1</sup> Harvard University: "COVID-19 PM2.5, A national study on long-term exposure to air pollution and COVID-19 mortality in the United States", available at: <https://projects.iq.harvard.edu/covid-pm>

<sup>2</sup> Yaron Ogen, 2020, "Assessing nitrogen dioxide (NO<sub>2</sub>) levels as a contributing factor to coronavirus (COVID-19) fatality", Science of The Total Environment, available at: <https://www.sciencedirect.com/science/article/pii/S0048969720321215>

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While during COVID-19 vehicles sales have plummeted by half or more, electric vehicles sales have been relatively less affected. Analysts from Bloomberg New Energy Finance have estimated that the electric segment of car sales will continue to outperform in terms of growth the traditional cars one as we move past the crisis, even though oil prices at a historic low will create some negative headwinds. However, orders of buses are likely to suffer delays if public perception of mass transit as unsafe does persist.

Furthermore, in terms of green recovery, clean mobility is expected to play a key role in getting the global economy back on track. Continued social distancing measures will have an impact on how we use transportation services, and in particular public transportation, but certain modes of public transport are expected to grow, in particular in low and middle-income countries. These modes include 2&3 wheeler taxis, or usual taxis and ride-hailing providers using passenger cars, to reduce close contact with higher numbers of riders. For many of these modes good electric alternatives are available.

Based on current trends and signals it is expected that after COVID-19 the shift to electric mobility would continue, if not increase. Many city governments around the world are looking at opportunities to take advantage of the significant reduction in urban congestion linked to the COVID-19 mobility restrictions to introduce permanent limitations to the use of private vehicles, especially if internal combustion engines. Such measures will not only reduce local air pollutants (such as particulates PM2.5 and PM10, but also N<sub>2</sub>O) and carbon emissions but can also increase resilience of transport systems against the current - and any potential future - health crises. The contribution of low-carbon mobility, including electric mobility, to a more resilient economy will be further integrated in the Programme and highlighted throughout the training components to be delivered to participating countries.

- What happens to the funds/projects if some participants cease to become going concerns (=i.e. bankruptcy)?

### Response:

The information presented in the project documentation (PIFs and PFDs) represents the best available information available at the time of the submission to Council, following the technical review from the GEFSEC. Some level of change in the project design and in the availability of the amount of co-financing estimated ex-ante is possible and sometimes even desirable, considering the additional in depth design analysis conducted during the project preparation phase, including through the PPG-funded activities, between the submission of PIFs/PFDs and the submission of the relative CEO ER. Co-financing arrangements and amounts specified in PIFs/PFDs are best-case estimations that GEF Implementing Agencies and National Executing entities or participating actors provide for the formulation of the project proposals. These up-front estimates are assessed as part of the GEFSEC review process in terms of their relevance and adequacy vis-à-vis the scope and objective of the proposed Project/Program activities.

Once the PIF/PFD is approved by Council, as part of the detailed design process, Agencies and actors listed as other providers of co-financing amounts are asked to reassess and formally confirm that the co-financing volumes which had been included in the PIF/PFD have been approved by the competent authority within each specific organization. This is formalized through the submission of co-financing confirmation letters. In case a specific entity is no longer able to provide the previously stated co-financing amount, either in full or in part, generally Implementing Agency and GEFSEC would work together to assess if the stated co-financing is essential to achieve the project/program's objective. If so, GEFSEC and Agency assess if the expected amount of co-financing that is no longer available can be replaced by existing or additional co-financing from other actors. In

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case the co-financing is deemed essential, and there is no possibility to source such funds that are considered necessary to achieve the stated objectives, GEFSEC and Agency would consider whether to revise the approved project/program, and if not possible/advisable the project/program would not receive CEO Endorsement.

Given that the development phase will take around 12 months, and that the COVID crisis might trigger some government support to accelerate the further uptake of electric vehicles, as we have seen in France, for example (see quote below) , we hope that the co-finance might not be such an issue in a year from now, when the CEO endorsement documents will be due for submission. In any case, if planned investments and/or co-finance becomes an issue, agencies will work with the project developers to identify other sources of co-finance that can substitute the initial set of co-financiers, while keeping the project scope. If this is not possible, the developers will try to re-adjust the scope to respond to available co-finance that is still aligned with the project objectives. If this fails as well, then the developers might wish to either postpone the project or discuss with the country if the project should/can go ahead.

- We raised at the last council our interest in verifying the ability of GEF and its accredited agencies to conduct independent audits of such contributions, including verifying and assessing the abilities of the involved parties to meet the co-financing obligations of this project. We recognize that this process --- along with many other due diligence procedures --- could be increasingly impaired by the latest COVID-19 crisis. Detailed explanations on how the Secretariat plans to handle these types of issues would be appreciated (preferably in writing to be posted on the GEF website, as it is not clear from the existing material and guidelines on the website)

### Response:

In addition to the explanation provided above on the dynamics of co-financing, co-financing is reported on a yearly basis, based on progresses related to the sourcing and use of co-financing amounts. In the case of the e-mobility Programme, the Lead Implementing Agency is UNEP. For each project implemented by UNEP, the Project Manager has responsibility to seek signed co-finance reports from each co-financier of that given project. While the co-financiers are not audited, their signed (by the authorized authority in each entity providing co-financing) co-finance reports are available for the mid-term and terminal evaluators, so that the evaluation process can assess if that given GEF project reached or not the co-finance amounts which had been estimated up-front.

- We would also like to stress the need for transparency and balanced involvement of private sector providers in any of these corporate projects (particularly highly cyclical sector projects such as the ones included in this work program in the steel and automobiles sectors), especially amid the COVID crisis, given that all such industry participants indiscriminately face severe business conditions. Projects should be carefully constructed and communicated, so that they are not deemed to infringe upon rules against subsidization of particular entities, thereby “reinforcing the market power of some targeted companies at the expense of other firms” (as per the rules). For example, “to de-risk investments in ....” in the project description/ objectives implies the potential of subsidization, highlighting the need for transparency in their construct and execution, so that they are visibly in line with GEF rules and regulations and the Private Sector Engagement Strategy to be adopted at this Council session. This type of crystal-clear communication/ governance insurance measure is essential for the GEF to credibly raise funding for private sector-driven projects in a tough financial environment.

### Response:

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We certainly acknowledge the importance of the point being raised here: all projects must be careful to run clear, fair and transparent procurement policies, which Agencies have in place for GEF projects. The recently adopted MINIMUM FIDUCIARY STANDARDS FOR GEF PARTNER AGENCIES Policy (GA/PL/02, of Dec 19, 2019), which covers both the Agency's internal procurement policies and procurement by recipients of funds, provides that:

*Specific GEF Partner Agency policies and guidelines promote economy, efficiency, transparency and fairness in procurement through written standards and procedures that specify procurement requirements, accountability, and authority to take procurement actions. As a minimum, these policies and guidelines provide for:*

- *Open competition and define the situations in which other less competitive methods can be used; and*
- *Wide participation through publication of business opportunities; descriptive bid/ proposal documents that disclose the evaluation criteria to be used; neutral and broad specifications; non-discriminatory participation and selection principles; and sufficient time to submit bids or proposals.*

UNEP is the GEF agency leading the global e-mobility programme and will take on this guidance in the development of the global project and its own child projects and will also pass it along to all other Implementing Agencies (UNDP, UNIDO, DBSA and EBRD). Of course, the participation of private sector partners and entities is key for the e-mobility programme and UNEP and the other Implementation Agencies will continue to seek their support and participation in the program. The Program objective is to promote a shift towards electric mobility and away from Internal Combustion Engines, and as such all projects will be working with private sector partners that are actively working in this space.

In this context, it may also be useful to refer to the GEF-7 Programming Directions, para 121, as they refer to the Climate Change Focal Area:

*121. To take advantage of the GEF's comparative advantage, programming under this objective does not prioritize direct support for large-scale deployment and diffusion of mitigation options with GEF financing only. Rather, GEF-7 resources should be utilized to reduce risks and enhance enabling environments in order to facilitate additional investments and support by other international financing institutions, the private sector, and/or domestic sources to replicate and scale up in a timely manner.*

The global e-mobility program is responding to the GEF's grant role to support innovation and technology transfer at key early and middle stages of development, focusing on the demonstration and early deployment of innovative technologies to deliver sustainable energy solutions that control, reduce, or prevent GHG emissions.

### ❖ **Comment by Kordula Mehlhart, GEF Council Member, Head of Division on Climate Finance, BMZ, Council, Germany made on 6/18/2020**

Germany approves the following PIFs in the work program but asks that the following comments are taken into account:

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Germany approves the addendum to the global programme that contributes to the adoption of e-mobility by strengthening the technical and financial capacities of countries and taking into account different local prerequisites and requirements.

Suggestions for improvements to be made during the drafting of the final project proposal:

- The introduction of e-buses to local public transportation fleets differs from other e-mobility forms, e.g. from heavy duty long-distance trucks, when it comes to technical aspects, charging infrastructure and the role of public / private investments. Given the unique involvement of public stakeholders in the purchase and operation of e-buses as well as the significant effect e-buses can have in terms of GHG-emission reductions in urban centres, this subject deserves a great amount of attention. Germany therefore proposes, that the significance of the acceleration of ebus adoption be reflected in the program structure, by creating an additional working group focused on e-buses in public transportation.

### Response:

Many countries have prioritized the introduction of electric busses in their country projects. Often as part of their efforts to introduce mass transit/ bus rapid transit systems. There will be a key interest in developing tools about the introduction of e-buses in developing country operating environments. There are also many lessons learned and examples (good and bad) in all regions that need sharing (for example the Chile and South Africa pilots). On the other hand, no country projects have prioritized electric trucks in their projects. Generally, this sector is seen as the last sector to switch, after busses, 2&3 wheelers and light duty vehicles (with the exception of the smaller delivery trucks like vans and so). Therefore, our thinking is to focus the HDV working group on busses. With possibly (probably) a smaller sub-group focusing on electric trucks. So rather than having a busses sub-group, we want to focus the HDV working group on busses and have a sub-group on trucks.

- Germany welcomes that information exchange and knowledge management are a substantial part of the programme. We suggest establishing a close working relationship to the new TUMI (Transformative Urban Mobility Initiative) E-Bus mission. The “TUMI E-Bus Mission” follows a similar logic and approach in supporting cities in the uptake of e-buses. As the e-bus implementation in public transport is largely dependent on an involvement of city level decisionmakers, the TUMI E-Bus Mission can contribute to the proposed programme by feeding in local perspectives and requirements.

### Response:

UNEP already has existing working relations with the Transformative Urban Mobility Initiative. Coordination with and involvement of the TUMI initiative in the global e-mobility programme will be added to the project document (especially through the activities implemented as part of the Regional Support and Investment Platforms).

❖ **Comment by Anar Mamdani, Director, Environment Division (MSS), Global Issues and Development Branch (MFM), Global Affairs Canada, Council, Canada made on 6/26/2020**

- We recommend that there be some consideration to mitigating the environmental impacts of electric vehicles, particularly where facilities for managing batteries don't exist.

### Response:

## **Annex B.4 – Responses to Council comments**

Component 1 of the global e-mobility project includes a Global Thematic Working Group on “Electric vehicle charging, grid integration, renewable power supply and battery re-use, recycling and safe disposal”. This Working Group’s main objective will be to develop and make available knowledge materials that support governments in their ambitions for advancing a sustainable roll out of electric mobility, including policy instruments to ensure the sustainability of the battery supply chain and the end-of-life treatment of batteries. It also aims at the facilitation of discussions between regulators, recyclers and battery / vehicle manufacturers to better understand and enhance battery design to improve recyclability of batteries, especially with regards to economic viability.

In addition, Component 4 of the country child projects is usually focused on the long-term environmental sustainability of low-carbon electric mobility, which include outputs/activities to ensure/promote the environmentally sound management of used batteries (i.e. collection, re-use, recycling and disposal).

### **❖ Comment by Elizabeth Nichols, U.S. Department of State | Bureau of Oceans, International Environmental and Scientific Affairs (OES), Office of Environmental Equality and Transboundary Issues (EQT), Council, United States made on 7/2/2020**

- Within Bangladesh, we recommend additionally coordinating with the State Minister for Power, Energy, and Mineral Resources, and the Dhaka North City Corporation Mayor.

#### Response:

Comment taken and shared with UNDP project proponents in charge of the Bangladesh child project. This recommendation will be considered during the proposal development phase of the Bangladesh e-mobility project.

- Within Sri Lanka, there was very minimal reference to the project’s stakeholders. We look forward to seeing much more clearly defined information on stakeholders and their engagement in the next stage of proposal development.

#### Response:

Comment taken and shared with UNEP project proponents in charge of the Sri Lanka child project. Engagement of project stakeholders will be further elaborated during the proposal development phase of the Sri Lanka e-mobility project.

### **❖ Comment by Dr Katharina Stepping, Deputy Head of Unit Climate Finance, Federal Ministry for Economic Cooperation and Development (BMZ), Council, Germany made on 6/28/2019**

Germany welcomes the proposal aiming to support countries to design and implement electric mobility programs as part of an overall shift to sustainable, low carbon transport sector. Germany welcomes the proposal as the first global inter-agency electric mobility programme and appreciates that the project clearly aims at supporting the rapid introduction of electric mobility in GEF recipient countries, hereby making a contribution to the low carbon transition in the transport sector. At the same time, Germany has the following comments that it suggests be addressed in the next phase of finalizing the project proposal:

## Annex B.4 – Responses to Council comments

Suggestions for improvements to be made during the drafting of the final project proposal:

- Germany welcomes that the project foresees a clear role for the private sector as a supplier for electro mobility technologies. However, given that private sector investments in electric mobility will be key, Germany would welcome the inclusion of activities that specifically directed at spurring private investments in electric mobility (from the demand side). For instance, some firms have switched parts of their operations to electric fleets. These types of opportunities could be considered within the PIF.

### Response:

Almost all of the Country Child Projects are geared towards the introduction of electric 2&3 wheelers (and sometimes e-passenger cars) as well as e-buses into private or government owned public transportation fleets through: 1) Awareness raising, capacity building and institutionalization of e-mobility; 2) Short term barrier removal through demonstration of e-mobility; 3.) Scale-up and replication through development of e-mobility policies, business models and financial mechanisms; and 4.) Support of environmental sustainability through battery re-use / end-of-life considerations and integration of renewable power for vehicle charging. The Country Child Projects therefore target to spur e-mobility demand in the project countries.

The Regional Support and Investment Platforms under the Global Programme will create market-place events whereby the current as well as potential new projects meet with financiers (development banks, venture capital, green funds) and e-mobility manufacturers. The idea is to bundle demand for EVs and EV supply equipment and to raise interest from manufacturers in regions of the world, which are not yet in the focus of manufacturers, but have a great market potential.

The Global Working Groups and the Regional Supply and Investment Platforms are a means of private sector participation, and invites all major EV and EV supply equipment manufacturers to participate in events, tasks groups, etc. This also includes bringing together multinational EV and EVSE manufacturers with the vibrant mobility service provider start-up scene in low and middle-income countries.

Many Country Child Project also include work streams to incentivize the local assembly and manufacturing of e-vehicles, such as e-motorcycles and e-3wheelers.

- Germany welcomes the comprehensive and overall well-structured project design. To further facilitate an overview of the project's intended activities, Germany welcomes the inclusion of quantitative indications in the description of component 3 on how many pilot projects, regulatory measures etc are planned.

### Response:

Each country child project includes a project results framework with quantitative indicators and end-of-project targets to measure the number of pilot projects, regulatory measures, etc., achieved/developed within the framework of the GEF project. However, at the time of submission of the Global Child Project, not all Country Child Projects (and in particular those 10 Country Child Projects submitted as part of the second round) have been finalized, and thus the exact amount of policies planned, business models envisaged and financial mechanisms to be set-up cannot not be provided.

- While the proposal provides a comprehensive overview of highly relevant initiatives and programmes, Germany welcomes including existent initiatives such as the Transformative Urban Mobility Initiative



## Annex B.4 – Responses to Council comments

and the C40 Cities Finance Facility as well as upcoming initiatives such as TUMIVolt to enable exchange of experiences as well as potentials for future collaboration. This is especially relevant considering the planned future expansion of the proposed project to countries like Nigeria and Mexico which are partner countries to above mentioned initiatives.

### Response:

UNEP has working relations with both TUMI as well as C40 (in particular through the “Zero Emission Bus Rapid-deployment Accelerator” (ZEBRA) initiative), and coordination with and involvement of both initiatives in the global e-mobility programme, especially through the activities implemented as part of the Regional Support and Investment Platforms, will be added to the project document.

- Germany welcomes the proposal’s reliance on IEA scenarios to lay out the project approach. To even further increase the proposal’s line of argument, Germany would welcome a very brief explanation on why the proposal focuses on the IEA’s B2DS and not on the 2DS scenario when describing the programme’s focus. This could for example be provided on page 26 in the first paragraph.

### Response:

Work funded by the GEF working towards Climate Change Mitigation is related to the UNFCCC and the Climate Agreements achieved as part of the Conference of the Parties (COP). The Paris Agreement’s central aim is “to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius”. The IEA Beyond 2 Degree Scenario (B2DS) reflects this. Language can be added as suggested.

### **❖ Comment by James Woodsome, International Economist, Office of International Development Policy, International Affairs, U.S. Department of the Treasury, Council, United States made on 7/3/2019**

Feasibility. The core of this proposal for Armenia deserves further scrutiny. The claim of 5,000 electric vehicles does not fit with other statistics, for example press reports citing the Minister of Nature Protection as saying that 30 electric vehicles were imported into Armenia in 2018. While there may have been a several-fold increase in electric vehicle imports in Armenia since 2016, those imports would have started from extremely low levels. That Armenia would manufacture electric vehicles does not track with the fact there is no real manufacturing industry even for traditional petroleum fuel vehicles at present. Due to the ratcheting duties caused by incremental adoption of the Eurasian Economic Union (EAEU) common external tariff, Armenia will face steadily increasing prices for imports of cars from outside the EAEU, complicating the adoption of such technology. We encourage more background investigation before its basic feasibility can be established.


### Response:

Regarding the question on Armenia, unfortunately there is a mistake with the short description of the Armenia child project baseline in Table 2 of the PFD. This will be corrected during the Child Project development and a note will be attached to the PFD to that effect. The 5,000 EVs mentioned and the local manufacturing actually belong to Ukraine. The US Council comment is right and Armenia imported about 30 EVs in 2018 ([https://energyagency.am/en/page\\_pdf/tsragri-anvanoum](https://energyagency.am/en/page_pdf/tsragri-anvanoum)). The project feasibility in Armenia will be further analyzed during development, but the government has prioritized the promotion of electric vehicles as one of the transport measures in their NDC. Armenia recently waived the VAT on EVs to stimulate the EV market



## Annex B.4 – Responses to Council comments

(<https://energyagency.am/en/category/noroutyouanner-ev-mijocaroumner/elektromobilneri-nermoutsoumy-kazatvi-aah>). In general, high import duties for vehicles can be an opportunity rather than a barrier for EV import. In case these duties are waived or reduced for EVs (to some extent that is already the case with the VAT exemption for EVs in Armenia), it provides a meaningful monetary incentive for customers to buy electric vehicles. EV market uptake in Norway is largely due to import and registration tax exemptions for EVs, while import of conventional cars is subject to high taxes. Yerevan has instituted an exemption of parking fees for EV's and has deployed some recharging infrastructure. Armenia already has a low emissions factor of about 0.4 tons of CO<sub>2</sub>/MWh and the introduction of EV's in Armenia would be able to reduce emissions with such a grid profile, and Armenia has introduced several policies to incentivize renewable power generation investments. For example, projects have been implemented or have been committed to improve energy transmission efficiency and reliability, and investment in renewables is taking off. This GEF project aims to demonstrate light duty vehicles in a government fleet in Yerevan, and in 2019, 23 charging stations will be installed through a GEF-6 funded Small Grant Programs implemented and led by UNDP. Promoting electric vehicles together with renewable energy will improve energy efficiency and further reduce CO<sub>2</sub> emissions, air pollution and energy dependence in Armenia. This will be in full alignment with the countries' NDC and its strong commitment to the introduction of clean and sustainable energies.

❖ **Comment by Lauren Céline Naville Gisnås, NORAD, Department for Climate, Energy and Environment, Council, Norway made on 6/29/2019** 

- We put great emphasis on cutting GHG emissions through electrification of the transport sector. We are of the opinion that if all take concerted action, it will drive down costs because of scale production.
- Every country has to choose their own path. However, an important lesson so far is that one needs to tax emissions. You need carrots and sticks. In line with general GEF principles of an enabling policy framework, one should pay attention to relevant tax policies when designing GEF programs, including policies for reducing fossil fuel subsidies.

### Response:

The Child Country Projects all include work on the development of adequate policy frameworks to support the uptake of e-mobility – including regulatory, fiscal and other local measures. For example, some of the country projects include outputs on fiscal reforms in order to base registration and / or import taxation for vehicles on CO<sub>2</sub> emissions or fuel consumption. In some of the countries (i.e. in some of the SIDS), work will be brought forward to liberalize the power market and to allow the supply of power by independent power producers, which facilitates the introduction of renewable power generation and breaks the monopoly of subsidized petroleum fuel powered electricity generation.

## ANNEX C: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

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

PPG Grant Approved at PIF: <b>US\$ 35,000</b>			
<i><b>Project Preparation Activities Implemented</b></i>	<i><b>GETF/LDCF/SCCF Amount (US\$)</b></i>		
	<i><b>Budgeted Amount</b></i>	<i><b>Amount Spent to date</b></i>	<i><b>Amount Committed</b></i>
<b>GEF project consultant</b>	6,000	6,000	0
<b>UNEP Sustainable Mobility Unit expert</b>	24,068	24,824	0
<b>UNEP Sustainable Mobility Unit travel</b>	4,932	2,226	1,950
<b>Total</b>	<b>35,000</b>	<b>33,050</b>	<b>1,950</b>

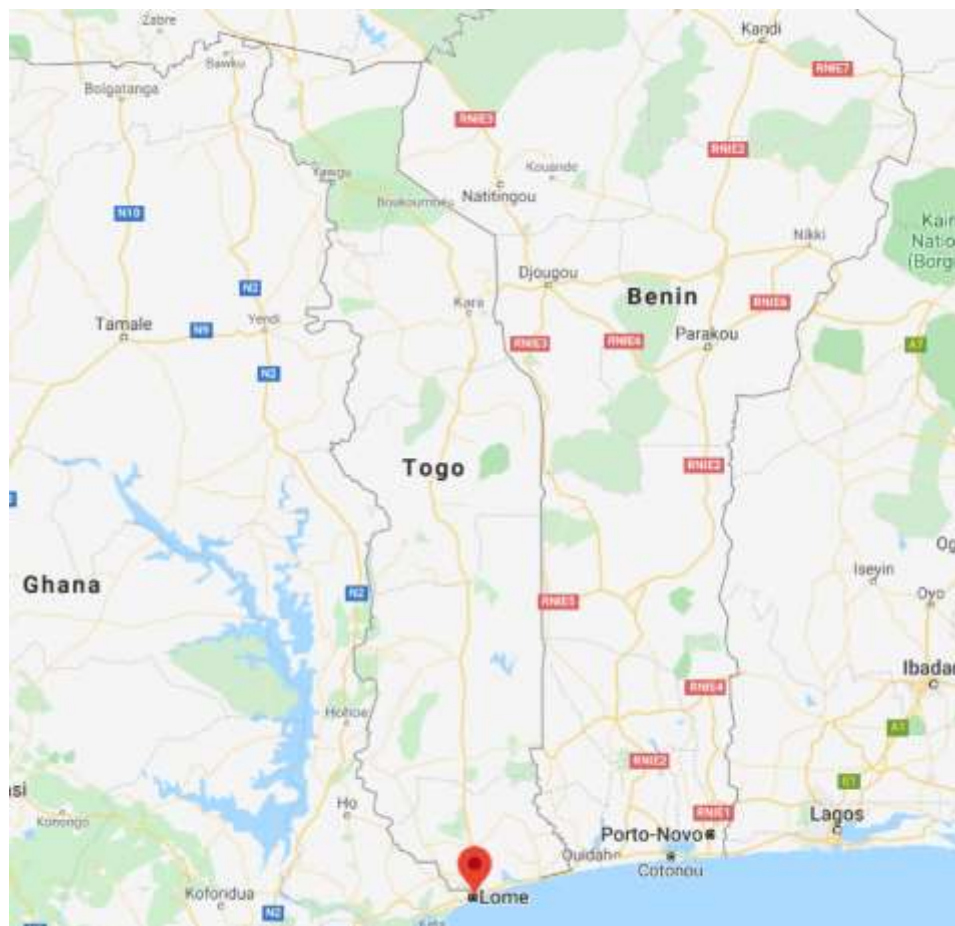
If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake exclusively preparation activities up to one year of CEO Endorsement/approval date. No later than one year from CEO endorsement/approval date. Agencies should report 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 Trust Funds or to your Agency (and/or revolving fund that will be set up) – if applicable.

**Not applicable.**

## ANNEX E: PROJECT MAP(S) AND COORDINATES



Demonstration sites	<i>Latitude</i>	<i>Longitude</i>
Lomé, Togo	6 130443	1.232279

**ANNEX F: GEF 7 CORE INDICATOR WORKSHEET**

Core Indicator 6	Greenhouse gas emission mitigated					
		Tons (6.2 ) (6.1 emissions from AFOLU do not apply)				
		Entered		Entered		
		PIF stage	Endorsement	MTR	TE	
	Expected CO2e (direct)	1,609,288	134,135			
	Expected CO2e (indirect)	1,029,349	312,263			
Indicator 6.2	Emissions avoided					
		Tons				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
	Expected CO2e (direct)	1,609,288	134,135			
	Expected CO2e (indirect)	1,029,349	312,272			
	Anticipated Year		2021			
Indicator 6.3	Energy saved					
		MJ				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
	Expected direct	17,843,689,144	1,477,791,135			
	Expected indirect	11,413,357,250	3,439,781,415			
Indicator 6.4	Increase in installed renewable energy capacity per technology					
		Capacity (MW)				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
	(select)					
	(select)					
Core Indicator 11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment					
		Number				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
	Female		515			
	Male		826			
	Total		1,341			

## ANNEX G: GEF PROJECT TAXONOMY WORKSHEET

Include the GEF 7 Taxonomy Worksheet to list down the taxonomic information required under Part I, item G by ticking the most relevant keywords/topics/themes that best describe this project.

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> <b>Influencing models</b>			
	<input checked="" type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input checked="" type="checkbox"/> Convene multi-stakeholder alliances		
	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input checked="" type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> <b>Stakeholders</b>			
	<input type="checkbox"/> Indigenous Peoples		
	<input checked="" type="checkbox"/> Private Sector		
		<input checked="" type="checkbox"/> Capital providers	
		<input checked="" type="checkbox"/> Financial intermediaries and market facilitators	
		<input checked="" type="checkbox"/> Large corporations	
		<input checked="" type="checkbox"/> SMEs	
		<input checked="" type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input type="checkbox"/> Beneficiaries		
	<input type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input type="checkbox"/> Community Based Organization	
		<input checked="" type="checkbox"/> Non-Governmental Organization	
		<input checked="" type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> <b>Type of Engagement</b>		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input checked="" type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> <b>Communications</b>		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input checked="" type="checkbox"/> Education	
		<input type="checkbox"/> Public Campaigns	
		<input checked="" type="checkbox"/> Behaviour Change	
<input checked="" type="checkbox"/> <b>Capacity, Knowledge and Research</b>			
	<input type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input type="checkbox"/> Learning		
		<input type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	
		<input type="checkbox"/> Indicators to Measure Change	
	<input checked="" type="checkbox"/> <b>Innovation</b>		
	<input checked="" type="checkbox"/> <b>Knowledge and Learning</b>		
		<input checked="" type="checkbox"/> Knowledge Management	
		<input checked="" type="checkbox"/> Innovation	
		<input checked="" type="checkbox"/> Capacity Development	
		<input checked="" type="checkbox"/> Learning	
	<input type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> <b>Gender Equality</b>			
	<input checked="" type="checkbox"/> Gender Mainstreaming		

Level 1	Level 2	Level 3	Level 4
		<input checked="" type="checkbox"/> Beneficiaries	
		<input checked="" type="checkbox"/> Women groups	
		<input checked="" type="checkbox"/> Sex-disaggregated indicators	
		<input type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input type="checkbox"/> Access and control over natural resources	
		<input checked="" type="checkbox"/> Participation and leadership	
		<input checked="" type="checkbox"/> Access to benefits and services	
		<input type="checkbox"/> Capacity development	
		<input type="checkbox"/> Awareness raising	
		<input type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain
			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Sahara Africa	
			<input type="checkbox"/> Resilience (climate and shocks)
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	
			<input type="checkbox"/> Integrated urban planning
			<input type="checkbox"/> Urban sustainability framework
			<input type="checkbox"/> Transport and Mobility
			<input type="checkbox"/> Buildings
			<input type="checkbox"/> Municipal waste management
			<input type="checkbox"/> Green space
			<input type="checkbox"/> Urban Biodiversity
			<input type="checkbox"/> Urban Food Systems
			<input type="checkbox"/> Energy efficiency
			<input type="checkbox"/> Municipal Financing
			<input type="checkbox"/> Global Platform for Sustainable Cities
			<input type="checkbox"/> Urban Resilience
	<input type="checkbox"/> Biodiversity		
		<input type="checkbox"/> Protected Areas and Landscapes	
			<input type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas
			<input type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input type="checkbox"/> Community Based Natural Resource Management

Level 1	Level 2	Level 3	Level 4
		<input type="checkbox"/> Mainstreaming	<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)
			<input type="checkbox"/> Tourism
			<input type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input type="checkbox"/> Temperate Forests
			<input type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input type="checkbox"/> Desert
		<input type="checkbox"/> Financial and Accounting	
			<input type="checkbox"/> Payment for Ecosystem Services
			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests		
		<input type="checkbox"/> Forest and Landscape Restoration	
			<input type="checkbox"/> REDD/REDD+
		<input type="checkbox"/> Forest	
			<input type="checkbox"/> Amazon
			<input type="checkbox"/> Congo
			<input type="checkbox"/> Drylands
	<input type="checkbox"/> Land Degradation		
		<input type="checkbox"/> Sustainable Land Management	
			<input type="checkbox"/> Restoration and Rehabilitation of Degraded Lands
			<input type="checkbox"/> Ecosystem Approach
			<input type="checkbox"/> Integrated and Cross-sectoral approach
			<input type="checkbox"/> Community-Based NRM
			<input type="checkbox"/> Sustainable Livelihoods
			<input type="checkbox"/> Income Generating Activities
			<input type="checkbox"/> Sustainable Agriculture
			<input type="checkbox"/> Sustainable Pasture Management
			<input type="checkbox"/> Sustainable Forest/Woodland Management
			<input type="checkbox"/> Improved Soil and Water Management Techniques
			<input type="checkbox"/> Sustainable Fire Management
			<input type="checkbox"/> Drought Mitigation/Early Warning
		<input type="checkbox"/> Land Degradation Neutrality	
			<input type="checkbox"/> Land Productivity



Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Land Cover and Land cover change
			<input type="checkbox"/> Carbon stocks above or below ground
	<input type="checkbox"/> International Waters	<input type="checkbox"/> Food Security	
		<input type="checkbox"/> Ship	
		<input type="checkbox"/> Coastal	
		<input type="checkbox"/> Freshwater	
			<input type="checkbox"/> Aquifer
			<input type="checkbox"/> River Basin
			<input type="checkbox"/> Lake Basin
		<input type="checkbox"/> Learning	
		<input type="checkbox"/> Fisheries	
		<input type="checkbox"/> Persistent toxic substances	
		<input type="checkbox"/> SIDS : Small Island Dev States	
		<input type="checkbox"/> Targeted Research	
		<input type="checkbox"/> Pollution	
			<input type="checkbox"/> Persistent toxic substances
			<input type="checkbox"/> Plastics
			<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
			<input type="checkbox"/> Nutrient pollution from Wastewater
		<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		<input type="checkbox"/> Strategic Action Plan Implementation	
		<input type="checkbox"/> Areas Beyond National Jurisdiction	
		<input type="checkbox"/> Large Marine Ecosystems	
		<input type="checkbox"/> Private Sector	
		<input type="checkbox"/> Aquaculture	
		<input type="checkbox"/> Marine Protected Area	
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangrove
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Seagrasses
			<input type="checkbox"/> Polar Ecosystems
			<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste		
		<input type="checkbox"/> Mercury	
		<input type="checkbox"/> Artisanal and Scale Gold Mining	
		<input type="checkbox"/> Coal Fired Power Plants	
		<input type="checkbox"/> Coal Fired Industrial Boilers	
		<input type="checkbox"/> Cement	
		<input type="checkbox"/> Non-Ferrous Metals Production	
		<input type="checkbox"/> Ozone	
		<input type="checkbox"/> Persistent Organic Pollutants	
		<input type="checkbox"/> Unintentional Persistent Organic Pollutants	
		<input type="checkbox"/> Sound Management of chemicals and Waste	
		<input type="checkbox"/> Waste Management	
			<input type="checkbox"/> Hazardous Waste Management
			<input type="checkbox"/> Industrial Waste
			<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Emissions	
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	
		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input checked="" type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance

Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity
			<input type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input checked="" type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input checked="" type="checkbox"/> Energy Efficiency
			<input checked="" type="checkbox"/> Sustainable Urban Systems and Transport
			<input checked="" type="checkbox"/> Technology Transfer
			<input checked="" type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input type="checkbox"/> Enabling Activities
		<input type="checkbox"/> Technology Transfer	
			<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
			<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
			<input type="checkbox"/> Endogenous technology
			<input type="checkbox"/> Technology Needs Assessment
			<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Nationally Determined Contribution
			<input type="checkbox"/> Paris Agreement
			<input type="checkbox"/> Sustainable Development Goals
		<input type="checkbox"/> Climate Finance (Rio Markers)	<input type="checkbox"/> Climate Change Mitigation 1
			<input checked="" type="checkbox"/> Climate Change Mitigation 2
			<input type="checkbox"/> Climate Change Adaptation 1
			<input type="checkbox"/> Climate Change Adaptation 2

## ANNEX H: INDICATIVE TERMS OF REFERENCE FOR PROJECT PERSONNEL, CONSULTANTS AND SUBCONTRACTS

<b>010 - Staff &amp; Personnel (Including Consultants)</b>		
Position title:	<b>Chief Technical Advisor</b>	
Budget line number:	0101	
Duration:	48 months (full time during Years 1, 2 and 3 and part-time during Year 4)	
Date required:	M-1	
Duty station:	Lome	
Reporting structure:	The Chief Technical Advisor will report to the National Project Director and to the Task Manager of the Lead Implementing Agency [UNEP]	
Description of duties:	<p><b>Main project management duties:</b></p> <ul style="list-style-type: none"> <li>- Ensure that project implementation is carried out according to the project design and the outputs are delivered and outcomes achieved to the required standard of quality within the approved timeframe and budget.</li> <li>- Regular communication with relevant ministries, governmental agencies, co-finance partners, PSC members, members of ad-hoc technical working groups and all other key stakeholders.</li> <li>- Organize and facilitate the inception workshop, project steering committee meetings and other project meetings.</li> <li>- Undertake timely reporting to the NPD and the IA as per the M&amp;E Plan and the project cooperation agreement requirements.</li> <li>- Prepare annual workplan and budget revisions and update the project Procurement Plan, as required.</li> <li>- Supervision of the staff, experts, subcontractors, and implementing partners working on the project.</li> <li>- Identification of risks, preparing of mitigation strategies and implementation of mitigations measures.</li> <li>- Track project achievements against the Results Framework, Core Indicator worksheet and Gender Action Plan.</li> <li>- Review of project documents with a particular focus on local context.</li> <li>- Support data and information retrieval and research by actively liaising national stakeholders with consultants.</li> <li>- Implement and Monitor the project's Gender Action Plan.</li> <li>- Undertake other activities as assigned by the Executing Agency (Ministry of Environment and Forestry Resources)</li> </ul> <p><b>Main technical duties:</b></p> <ul style="list-style-type: none"> <li>- Capture lessons learned during project implementation;</li> <li>- Ensure that the indicators included in the project results framework are monitored annually;</li> <li>- Assess major and minor amendments to the project within the parameters set by UNEP-GEF;</li> <li>- Support the Terminal Evaluation process;</li> <li>- Oversees the preparation and submission of proposals on waste management standards reforms to the government;</li> <li>- Oversees the preparation of training materials and the organization of capacity building activities;</li> <li>- Manages project knowledge, including dissemination of materials through project website and other channels;</li> <li>- Oversees the preparation of technical terms of reference.</li> </ul>	
Expected deliverables:	1.1	All deliverables under Output 1.1 (establishing and running the coordination body, including government note, preparing the report on best practices and lessons learned)
	1.2.1	A workshop to discuss scope, objective and milestones of the national e-mobility strategy is held and a workshop report is delivered.
	1.2.4	Supports the International Policy, Business and Strategy expert in organizing the workshop
	1.2.5	Supports the International Policy, Business and Strategy expert in the submission of the national strategy for adoption
	1.3	All deliverables under Output 1.3 (ensures right stakeholders participate in Global events)



2.1.1	Detailed terms of reference are developed to hire a team of experts (including an international e-mobility expert, a national e-mobility expert, Sustainable Transport Africa and a local university) to develop the feasibility study & implementation plan
2.1.2	Oversees the development of feasibility study and implementation plan
2.1.3	Organizes the workshop
2.1.4	Supports STA with the private sector partner selection
2.2.1	Supports STA with procurement and delivery in Togo of electric motorcycles
2.2.2	Supports UNEP SMU with procurement and delivery in Togo of charging equipment
2.2.3	Organizes the training of e-motorcycle drivers and charging equipment operators
2.2.4	Oversees the implementation of the demo project
2.2.5	Supports the International E-Mobility Technology expert in the development of the technical report summarizing the results of the demonstration project
2.2.6	Supports the International E-Mobility Technology expert in the organization of the workshop
3.1.1-3.1.4	Oversees policy development and organizes review process and workshop
3.1.5	Supports the International Policy, Business and Strategy expert in the submission of the policy proposals for adoption
3.2.1	Private sector e-mobility stakeholders and locally present international and national financing institutions interested in financing e-mobility upscaling projects in Togo are identified (detailed list with contact details issued)
3.2.2	Three private sector and finance e-mobility roundtables are carried out (1 report issued per roundtable)
3.2.3	Supports the International Policy, Business and Strategy expert in the development of a synthesis report and organizes the workshop
3.2.4	Supports the International Policy, Business and Strategy expert in the development of two e-mobility upscaling project concepts and submission to the targeted financing institution
4.1.1	An International Charging & Renewable Energy integration and Battery expert is hire based on TORs including clear timelines and deliverables
4.1.2	Oversees the development of the renewable power integration study and organizes workshop
4.1.3	Organizes the dissemination process and the submission of the scheme for approval
4.2.1	Together with the GEF 7 E-Mobility projects in Sierra Leone and Cote d'Ivoire, a coordinated approach to develop battery second and end-of-life regulation at the level of the ECOWAS is evaluated
4.2.2	A draft scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries is developed, circulated for review, and presented at a workshop
4.2.3	Oversees the development of the battery EOL scheme and organizes workshop
4.2.4	Organizes the dissemination process

Qualifications:	<ul style="list-style-type: none"> <li>- Master degree in Engineering, Environmental Sciences, Economics or other discipline related to the technical, economic and regulatory dimensions of this transport project and - Ideally - renewable energies.</li> <li>- Professional experience of at least seven (7) years in the area of urban mobility, the power sector or related fields</li> <li>- Extensive experience and ability to effectively manage and coordinate complex inter-sectoral and multi-stakeholder projects and lead, manage and motivate teams to achieve results.</li> <li>- Excellent communication (in French and English) and negotiation skills proven through successful interactions with all levels of stakeholder groups, including senior government officials, private entrepreneurs, as well as representatives from the finance sector and technical agencies.</li> <li>- Excellent and proven know-how in institutional and policies development and excellent capacities for strategic thinking, planning and management.</li> <li>- Good technical knowledge in the thematic areas of urban public transport, innovative vehicle technologies (incl. electric vehicles), renewable energies and power supply and distribution systems.</li> <li>- Knowledge implementation procedures of UNEP projects or projects with similar structures (incl. procurement, disbursements, and reporting and monitoring as well as the implementation of gender action plans) will be an added advantage.</li> </ul>				
Languages:	English, French				



Position title:	International Policy, Business and Strategy expert		
Budget line number:	0102		
Duration:	20	Weeks	(intermittent, year 1 to 3)
Date required:	M-5		
Duty station:	Home-based with missions to Togo		
Reporting structure:	Reports to the Chief Technical Advisor		
Description of duties:	<ul style="list-style-type: none"><li>- Develop the gender sensitive national e-mobility strategy</li><li>- Provide technical, economic and financial expertise on the subject of e-mobility policies and develop the policy package</li><li>- Support the preparation of the business round tables and provide synthesis report on financing needs</li><li>- Develop 2 concepts for upscaling projects</li><li>- Preparation of workshops</li><li>- Communication and promotion of results to government officials and other urban public transport sector stakeholders</li><li>- Design and preparation of an EV operation monitoring campaign</li></ul>		
Expected deliverables:	1.2.1	A workshop to discuss scope, objective and milestones of the national e-mobility strategy is held and a workshop report is delivered.	
	1.2.2	Transport and energy sector data including vehicle fleet and current policy frameworks are collected and consolidated	
	1.2.3	A national gender-sensitive e-mobility strategy outlining clear e-mobility market targets and identifying milestones and targets to close policy and funding gaps, is developed with input from all relevant stakeholders and circulated for review	
	1.2.4	The final national gender-sensitive e-mobility strategy is presented in a workshop	
	1.2.5	Final national gender sensitive e-mobility strategy is submitted for adoption	
	3.1.1	A draft proposal to reform vehicle import taxation and regulation is developed	
	3.1.2	A draft proposal to reform vehicle registration is developed	
	3.1.3	A draft proposal of power sector regulations is developed	
	3.1.4	A package of policy proposals is circulated for review and presented at a workshop	
	3.1.5	A consolidated package of policy proposals is presented and submitted for adoption	
	3.2.2	Supports CTA with the preparation of the business roundtables and participates remotely in the first two roundtables and physically in the last roundtable	
	3.2.3	A synthesis report outlining the needs for targeted finance and initial schemes for respective financing products and mechanisms is developed and presented during a workshop	
	3.2.4	Two e-mobility upscaling project concepts are prepared and submitted to the targeted financing	
Qualifications:	<ul style="list-style-type: none"><li>- Academic Degree in Automotive Engineering, Economics, Urban Planning, or other relevant fields. A Master Degree in Automotive Engineering with focus on electric transport modes or post-graduation of at least 12 month in electric mobility or sustainable urban transport and/or Business Administration/Finance/Economics would be an added advantage.</li><li>- Senior professional level with a minimum of ten years experience in related innovative transport system assessments. Work experience in the selection, procurement and/or operation of EV modes and charging infrastructure and/or in the public transport sector would be an added advantage.</li><li>- Experience in producing technical and economic feasibility studies for the introduction of electric transport or other innovative transportation modes.</li><li>- Excellent knowledge of transport policies and public, in particular those relevant for e-mobility</li><li>- Excellent communication skills proven through successful interactions with all levels of stakeholder groups, including senior government officials, private entrepreneurs, as well as representatives from the finance sector and technical agencies.</li><li>- Experience in the facilitation of workshops and meetings</li><li>- Excellent conceptualization, planning, writing and presentation skills, and pro-active behavior</li><li>- Experience in gender mainstreaming into policy / strategy documents</li><li>- Ability to work independently on deliverables</li><li>- Willingness and readiness to travel to Togo.</li></ul>		
Languages:	English, French		



Position title:	International E-mobility Technical Support (UNEP SM Unit)		
Budget line number:	0103		
Duration:	6 weeks	(Note: UNEP SM Unit will be available for support throughout the project, main intermittent contributions expected in Years 1-3.)	
Date required:	M-3		
Duty station:	Nairobi/Home-based with missions to Togo		
Reporting structure:	Reports to the Chief Technical Advisor		
Description of duties:	<p>The Executing Agency and Togo's GEF OEP have requested the UNEP SM Unit to provide execution support (refer to letter in Annex N-2) on the following:</p> <ul style="list-style-type: none"><li>- Undertake 2 additional field visits in Lomé, Togo;</li><li>- Provide technical input to the national electric mobility strategy;</li><li>- Support the setting up of e-mobility demonstration including the selection of the private sector partners through a competitive process and in coordination with the SOLUTIONSplus project for charging equipment (involves services from the NGO Sustainable Transport Africa);</li><li>- Handling the transfer of funds to subsidize the demonstration of e-motorcycles in private sector fleet(s) (involves services from the NGO Sustainable Transport Africa);</li><li>- Handling the transfer of funds for e-motorcycle charging equipment and operation (involves services from the NGO Sustainable Transport Africa);</li><li>- Support the development of an initial scheme for sound recycling and disposal of used electric vehicle batteries; and</li><li>- Provide technical input on integration of renewable power for electric vehicle charging</li><li>- Facilitate technical discussions among Ministries and project stakeholder</li><li>- Facilitate discussions with other GEF E-Mobility projects in the region and ECOWAS</li></ul> <p>In addition, through its co-finance contribution, the UNEP SMU will also support the procurement of charging infrastructure for the project.</p> <p>Finally, the SMU support will also include the following through the Africa Support and Investment Platform:</p>		
Expected deliverables:	1.2.2	Support the CTA in conducting the National e-mobility strategy workshop	
	1.2.3	Support the International Policy, Business and Strategy expert in the development of the gender sensitive national e-mobility strategy	
	2.1.4	Support with the selection of private sector stakeholders for demo through STA	
	2.2.1	Manage the procurement of electric vehicles through STA	
	2.2.2	Manage the procurement of charging equipment	
	2.2.4	Support on the implementation of the demonstration project	
	2.2.5	Support to the International E-Mobility Technology expert in the preparation of the demo project	
	3.1.2 - 3.1.5	Support to the International Policy, Business and Strategy expert with the development of e-mobility	
	3.2.1	Support the CTA in identifying private sector e-mobility stakeholders and locally present international and national financing institutions interested in financing e-mobility upscaling projects in Togo	
	3.2.2	Support the International Policy, Business and Strategy expert in the development of the financing mechanism and business models	
	4.1.2	Support the International Charging & Renewable Energy integration expert in the development of the study to integrate renewable power for electric vehicle recharging and technical standards for 2&3 wheelers	
	4.2.1	Support the CTA in the coordinated approach to develop battery second and end-of-life regulation at the level of the ECOWAS	
	4.2.2	Support the International Charging & Renewable Energy integration expert in the development of the scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries	
Qualifications:	Various levels of experience and qualifications present within the UNEP SMU as required		
Languages:	English, French		



Position title:	International E-Mobility Technology expert		
Budget line number:	0104		
Duration:	16	weeks	(Note: the Expert will be mobilized intermittently from Year 1 to 3)
Date required:	M-6		
Duty station:	Home-based with missions to Togo		
Reporting structure:	Reports to the Chief Technical Advisor		
Description of duties:	<ul style="list-style-type: none"><li>- Provide technical, economic and financial expertise on the subject of e-mobility technology</li><li>- Preparation of feasibility study and implementation plan for e motorcycle demo, including field visit</li><li>- Providing consultancy on fund-raising for public e-mobility projects</li><li>- Preparation and conduction of workshops</li><li>- Preparation and conduction of trainings</li><li>- Communication and promotion of results to government officials and other urban public transport sector stakeholders</li><li>- Design and preparation of an EV operation monitoring system (including gender disaggregated data)</li></ul>		
Expected deliverables:	2.1.2	The detailed feasibility study (including technical specifications) & implementation plan for the e-mobility and charging demonstration is developed	
	2.1.3	The feasibility study and implementation plan is presented during a workshop	
	2.1.4	Supports the selection process of private sector partners to implement the demonstration project	
	2.2.1	Supports the STA in the procurement of electric motorcycles	
	2.2.2	Supports the UNEP SMU in the procurement of charging equipment	
	2.2.3	Training of e-motorcycle drivers and charging equipment operators	
	2.2.4	Supports the CTA in the implementation of the demonstration project	
	2.2.5	A technical report summarizing the results of the demonstration project is developed including recommendations for technical specifications for e-motorcycles and charging equipment and operation for upscaling	
	2.2.6	The results of the demonstration are presented in a workshop	
Qualifications:	<ul style="list-style-type: none"><li>- A Master Degree in Engineering or other relevant fields.</li><li>- Professional with a minimum of 7 years experience in related innovative transport system assessments. Work experience in the selection, procurement and/or operation of EV modes and charging infrastructure and/or in the public transport sector would be an added advantage.</li><li>- Experience in producing technical and economic feasibility studies for the introduction of electric transport or other innovative transportation modes.</li><li>- Excellent technical and economic knowledge of electric public transport modes, incl. charging infrastructure</li><li>- Excellent communication skills proven through successful interactions with all levels of stakeholder groups, including senior government officials, private entrepreneurs, as well as representatives from the finance sector and technical agencies.</li><li>- Experience in the facilitation of workshops and meetings.</li><li>- Excellent conceptualization, planning, writing and presentation skills, and pro-active behavior.</li><li>- Ability to work independently on deliverables.</li><li>- Willingness and readiness to travel to Togo.</li></ul>		
Languages:	English, French		



Position title:	National E-Mobility Technology Expert		
Budget line number:	0105		
Duration:	28	weeks	(Note: the Expert will be mobilized intermittently from Year 2 and 3)
Date required:	M 6		
Duty station:	Lome		
Reporting structure:	Reports to Chief Technical Advisor		
Description of duties:	<ul style="list-style-type: none"><li>- Supporting experts through the research of local data and information</li><li>- Supporting experts in the preparation of workshops and meeting, incl. linguistic review of presentations and other documents provided by the international experts</li><li>- Supports the implementation of the demonstration project</li><li>- Supports the implementation of the business roundtable</li><li>- Participation in meetings and presentation of results</li></ul>		
Expected deliverables:	2.1.2	Support the International E-Mobility Technology expert in the demonstration feasibility study and implementation plan	
	2.1.3	Support the International E-Mobility Technology expert in the workshop	
	2.1.4	Support the selection of the private sector partner for the demo project	
	2.2.1	Supports the STA in the procurement of electric motorcycles	
	2.2.2	Supports the UNEP SMU in the procurement of charging equipment	
	2.2.3	Supports the International E-Mobility Technology expert in the training of e-motorcycle drivers and charging equipment operators	
	2.2.4	Supports the implementation of the demonstration project	
	2.2.6	Supports the International E-Mobility Technology expert in the results presentation workshop	
	3.1.2 - 3.1.5	Supports the International Policy, Business and Strategy expert in the development of e-mobility policy	
	3.2.2	Supports the CTA in the three private sector and finance e-mobility roundtables	
	3.2.3	Supports the International Policy, Business and Strategy expert in the development of synthesis report outlining the needs for targeted finance and initial schemes for respective financing products and	
	3.2.4	Supports the International Policy, Business and Strategy expert in the preparation of the two e-mobility upscaling project concepts	
Qualifications:	<ul style="list-style-type: none"><li>- A first-level university degree or equivalent in Engineering, Economics or other discipline related to the technical, economic and regulatory dimensions of urban public transport and - ideally - renewable energies</li><li>- At least 3 years of relevant experience in electric mobility including transport, renewable energy and climate change mitigation</li><li>- Experience with local implementation of mobility projects</li><li>- Sound technical knowledge of electric public transport modes, incl. charging infrastructure</li><li>- Good communication skills proven through successful interactions with a variety of stakeholder groups</li></ul>		
Languages:	English, French		



Position title:	International Charging & Renewable Energy integration and Battery expert		
Budget line number:	0106		
Duration:	14	weeks	(Note: the expert will be mobilized intermittently from Year 2 to 3)
Date required:	M 20		
Duty station:	Home-based, with missions to Togo		
Reporting structure:	Reports to Chief Technical Advisor		
Description of duties:	<ul style="list-style-type: none"><li>- Provide technical and economic expertise on the subject of the integration of e-mobility charging infrastructure in urban distribution grids and associated market development of renewable energies</li><li>- Preparation of a scheme on the subject of EV battery related e-waste management</li><li>- Preparation of studies on the integration of charging infrastructure into distribution grids</li><li>- Providing consultancy on EV battery waste management to e-waste collection points</li><li>- Development of scenarios for accelerated renewable energy deployment under given e-mobility scenarios</li><li>- Active participation as expert in workshops</li></ul>		
Expected deliverables:	4.1.2	A draft study to integrate renewable power for electric vehicle recharging with a focus on rural applications and minigrid integration is developed, circulated for review and presented at a workshop	
	4.1.3	The study to integrate renewable power for electric vehicle recharging is finalized and disseminated to all local stakeholders and the Global Programme knowledge management focal point.	
	4.2.2	A draft scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries is developed, circulated for review, and presented at a workshop	
	4.2.3	The scheme for reuse, and collection for recycling and sound disposal of used electric vehicle batteries is finalized and disseminated to all local stakeholders and the Global Programme knowledge management focal point.	
Qualifications:	<ul style="list-style-type: none"><li>- Academic Degree in Electrical/Electronic Engineering, Environmental Engineering/Recycling and Waste Management/Electrochemistry or other relevant fields. An Engineering Master Degree or post-graduation of at least 12 month with focus on power transmission abd distribution systems and/or e-waste management would be an added advantage.</li><li>- At least 10 years of experience in distribution grid analysis, grid integration and renewable power generation and direct renewable power purchase agreements</li><li>- Strong knowledge in the recycling and waste management sector. Experience in the management of lithium battery waste would be an added advantage.</li><li>- Strong ability to comprehend technical aspects of e-mobility, especially charging infrastructure and battery issues. Proven experience in dealing with e-mobility infrastructure would be an added advantage</li><li>- Very good knowledge of renewable energies and proven experience in the development of national renewable energy deployment scenarios.</li><li>- Proven experience in drafting policies, reports and strategies in the power sector</li><li>- Excellent communication skills (especially oral communication skills in French) proven through successful interactions with all levels of stakeholder groups, especially senior government officials.</li><li>- Excellent conceptualization, planning, writing and presentation skills, and proactive behavior</li><li>- Ability to work independently on deliverables.</li><li>- Willingness and readiness to travel to Togo.</li></ul>		
Languages:	English, French		

## 040 - Transfers & Grants to Implementing Partners

Position title:	International procurement support (STA)		
Budget line number:	1401		
Duration:	9	weeks	(Note: the partner will be mobilized intermittently during Years 1 & 2)
Date required:	M 8		
Duty station:	Nairobi, Kenya		
Reporting structure:	Reports to Chief Technical Advisor and UNEP SMU		
Description of duties:	<ul style="list-style-type: none"><li>- Leads the organization of the local call for proposals to identify the private sector stakeholders for demo implementation</li><li>- Leads the procurement of demo equipment and handles the process of disbursing project funds to demo partners</li></ul>		
Expected deliverables:	2.1.2	Support to the International E-Mobility Technology expert in the preparation of the detailed feasibility study (including technical specifications) & implementation plan for the e-mobility and charging demonstration	
	2.1.4	Support to the CTA in the selection of the private sector partners to implement the demonstration project	
	2.2.1	Procurement and delivery in Togo of electric motorcycles, based on the initial specifications established in the feasibility study (D 2.1.2)	
	2.2.2	Support the UNEP SMU for the procurement and delivery in Togo of charging equipment	
	2.2.4	Support the CTA in the implementation of the demo project	
Qualifications:	<ul style="list-style-type: none"><li>- Academic Degree in Environmental Engineering or other relevant fields</li><li>- At least 7 years of experience with implementing transport projects</li><li>- Experience with implementation of e-mobility demo projects in Africa</li><li>- Experience in collaboration with the private sector</li><li>- Excellent communication skills (especially oral communication skills in French) proven through successful interactions with all levels of stakeholder groups, especially technical agencies and private sector enterprises.</li><li>- Ability to work independently on deliverables.</li><li>- Willingness and readiness to travel to Togo.</li></ul>		
Languages:	English, French would be an advantage		



Position title:	Data collection and analysis support (local university)		
Budget line number:	1402		
Duration:	16 weeks	(Note: the partner will be mobilized intermittently from Year 1 to 3)	
Date required:	M 8		
Duty station:	Lome		
Reporting structure:	Reports to Chief Technical Advisor		
Description of duties:	<ul style="list-style-type: none"><li>- Supporting experts through the collection of local data and information</li><li>- Supports experts with the collection and analysis of the demonstration project data (including gender disaggregated data)</li><li>- Supporting experts in the drafting and finalisation of reports</li><li>- Supporting experts with analysis</li></ul>		
Expected deliverables:	2.1.2	Support to the International E-Mobility Technology expert in the preparation of the detailed feasibility study (including technical specifications) & implementation plan for the e-mobility and charging demonstration	
	2.1.3	Support to the International E-Mobility Technology expert in the presentation of the feasibility study and implementation plan during a workshop	
	2.2.4	Collection and analysis of the demo project data (data set and analysis report issued)	
	2.2.5	Support the International E-Mobility Technology expert in the preparation of a technical report summarizing the results of the demonstration project	
	4.1.2	Support the International Charging & Renewable Energy integration expert to collect data for the study to integrate renewable power for electric vehicle recharging with a focus on rural applications and minigrid integration	
Qualifications:	<ul style="list-style-type: none"><li>- Local post graduate researcher with affiliation to a local research institute / university laboratory with research focus on transport &amp; public transportation and / or energy &amp; energy efficiency and / or power sector development &amp; renewable power generation,</li><li>- Proven research skills and collaboration within the framework of international projects</li><li>- Proven experience in data collection and report writing</li><li>- Proficiency in Microsoft Office software including Word and Excel.</li></ul>		
Languages:	English, French		



**ANNEX I-1 DETAILED GEF BUDGET**

Project Components	Project Outputs	Umoja budget class	Budget line	Budget line description	Budget allocation per Year				
					Year 1	Year 2	Year 3	Year 4	Total
Component 1: Institutionalization of low-carbon electric mobility	Output 1.1: An inter-sectorial electric mobility coordination body is established	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	2,750	2,500	2,000	2,250	9,500
		120 - Contract Services	1201	Venue and catering for workshop on e-mobility coordination body & strategy	1,300	-	-	-	1,300
		160 - Travel	1607	Project Steering Committee meetings (travel allowance)	600	600	600	200	2,000
		Sub-total Output 1.1			4,650	3,100	2,600	2,450	12,800
	Output 1.2: A national strategy for electric mobility, including gender sensitive business development in the transport sector is developed and submitted for adoption.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	4,000	2,000	1,500	1,500	9,000
		010 - Staff & Personnel (Including Consultants)	0102	International Policy, Business and Strategy expert	11,000	5,500	-	-	16,500
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SM Unit)	1,500	1,500	-	-	3,000
		120 - Contract Services	1201	Venue and catering for workshop on e-mobility coordination body & strategy	1,600	1,600	-	-	3,200
		160 - Travel	1601	Travel for the International Policy, Business and Strategy expert	2,200	2,200	-	-	4,400
		160 - Travel	1602	Travel for the International E-mobility Technical Support (UNEP SM Unit)	-	2,300	-	-	2,300
		160 - Travel	1608	Technical Working Group Meetings (travel allowance)	1,800	1,800	1,800	600	6,000
		Sub-total Output 1.2			22,100	16,900	3,300	2,100	44,400
	Output 1.3: Key stakeholders from public and private sector are trained in the Global Electric Mobility Programme activities (national and regional workshops, trainings and thematic working groups).	160 - Travel	1603	Travel to attend Africa Support & Investment Platform events	6,900	6,900	4,600	4,600	23,000
		160 - Travel	1604	Travel to attend E-Mobility Global Programme events (DSA only)	900	-	-	900	1,800
		Sub-total Output 1.3			7,800	6,900	4,600	5,500	24,800
	Total Component 1				34,550	26,900	10,500	10,050	82,000
	Output 2.1: A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration including a low-carbon charging scheme, and a data collection framework are developed along with the reporting and analytical framework.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	4,000	-	-	-	4,000
		010 - Staff & Personnel (Including Consultants)	0104	International E-Mobility Technology expert	22,000	-	-	-	22,000
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility Technology Expert	3,000	-	-	-	3,000
		120 - Contract Services	1202	Venue and catering for workshop and training	1,600	-	-	-	1,600
		140 - Transfers & Grants to Implementing Partner	1401	International procurement support (STA)	4,500	-	-	-	4,500
		140 - Transfers & Grants to Implementing Partner	1402	Data collection and analysis support (local university)	2,000	-	-	-	2,000
		160 - Travel	1605	Travel for the International E-Mobility Technology expert	4,400	-	-	-	4,400
		Sub-total Output 2.1			41,500	-	-	-	41,500
	Output 2.2: Demonstration vehicles and charging equipment are procured, staff trained, the demonstration project is implemented, monitored and data are collected, analysed and disseminated.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	1,000	3,750	2,000	250	7,000
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SM Unit)	-	3,000	1,500	-	4,500
		010 - Staff & Personnel (Including Consultants)	0104	International E-Mobility Technology expert	-	19,250	2,750	-	22,000
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility Technology Expert	-	3,000	3,000	-	6,000
		120 - Contract Services	1202	Venue and catering for workshop and training	-	3,200	1,600	-	4,800
		130 - Supplies, Commodities & Materials	1301	Infomaterials	-	516	-	-	516
		140 - Transfers & Grants to Implementing Partner	1401	International procurement support (STA)	-	4,500	-	-	4,500
		140 - Transfers & Grants to Implementing Partner	1401	Price differential subsidies for electric motorcycles (STA)	-	40,000	-	-	40,000
		140 - Transfers & Grants to Implementing Partner	1401	Electric vehicle spareparts (STA)	-	7,500	-	-	7,500
		140 - Transfers & Grants to Implementing Partner	1402	Data collection and analysis support (local university)	-	2,000	2,000	-	4,000
		160 - Travel	1602	Travel for the International E-mobility Technical Support (UNEP SM Unit)	-	2,300	-	-	2,300
		160 - Travel	1605	Travel for the International E-Mobility Technology expert	-	3,300	2,200	-	5,500
		Sub-total Output 2.2			1,000	92,316	15,050	250	108,616
	Total Component 2				42,500	92,316	15,050	250	150,116
Component 3: Preparing for scale-up and replication of low-carbon electric mobility	Output 3.1: Fiscal policies and regulatory schemes are developed to incentivize the uptake of electric mobility.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	2,000	2,000	1,500	5,500
		010 - Staff & Personnel (Including Consultants)	0102	International Policy, Business and Strategy expert	-	8,250	8,250	-	16,500
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SM Unit)	-	1,500	1,500	-	3,000
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility Technology Expert	-	3,000	3,000	-	6,000
		120 - Contract Services	1203	Venue and catering for policy workshop	-	-	1,600	-	1,600
		160 - Travel	1601	Travel for the International Policy, Business and Strategy expert	-	-	2,200	-	2,200
		160 - Travel	1609	National Policy Development Support Meetings (travel allowance)	-	600	600	200	1,400
		Sub-total Output 3.1			-	15,350	19,150	1,700	36,200
	Output 3.2: An e-mobility business roundtable including private sector and financial institutions is established to develop financial schemes and concepts for e-mobility upscaling	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	1,500	1,250	250	3,000
		010 - Staff & Personnel (Including Consultants)	0102	International Policy, Business and Strategy expert	-	8,250	13,750	-	22,000
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SM Unit)	-	1,500	1,500	-	3,000
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility Technology Expert	-	3,000	3,000	-	6,000
		120 - Contract Services	1204	Venue and catering for roundtables on financing and business models	-	1,000	2,000	-	3,000
		160 - Travel	1601	Travel for the International Policy, Business and Strategy expert	-	-	2,200	-	2,200
		Sub-total Output 3.2			-	15,250	23,700	250	39,200
	Total Component 3				-	30,600	42,850	1,950	75,400



Project Components	Project Outputs	Umoja budget class	Budget line	Budget line description	Budget allocation per Year				
					Year 1	Year 2	Year 3	Year 4	Total
Component 4: Long term environmental sustainability of low-carbon electric mobility	Output 4.1: A study to integrate renewable power for electric vehicle recharging is carried out.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	-	1,500	-	1,500
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SM Unit)	-	-	1,500	-	1,500
		010 - Staff & Personnel (Including Consultants)	0106	International Charging & Renewable Energy integration and Battery expert	-	-	22,000	-	22,000
		120 - Contract Services	1205	Venue and catering for the workshop on environmental sustainability	-	-	1,600	-	1,600
		140 - Transfers & Grants to Implementing Partners	1402	Data collection and analysis support (local university)	-	-	2,000	-	2,000
		160 - Travel	1606	Travel for the International Charging & Renewable Energy integration and Battery expert	-	-	2,200	-	2,200
		Sub-total Output 4.1			-	-	30,800	-	30,800
	Output 4.2: A scheme for collection, re-use, recycling and sound disposal of used electric vehicle batteries is developed and submitted for adoption.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	-	1,500	-	1,500
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SM Unit)	-	-	1,500	-	1,500
		010 - Staff & Personnel (Including Consultants)	0106	International Charging & Renewable Energy integration and Battery expert	-	-	16,500	-	16,500
		160 - Travel	1609	National Policy Development Support Meetings (travel allowance)	-	-	600	-	600
		Sub-total Output 4.2			-	-	20,100	-	20,100
	Total Component 4				-	-	50,900	-	50,900
Monitoring & Evaluation	Monitoring & Evaluation	120 - Contract Services	1206	Inception workshop (catering)	300	-	-	-	300
		120 - Contract Services	1291	Mid-Term Review (optional)	-	10,000	-	-	10,000
		120 - Contract Services	1292	Terminal Evaluation (UNEP Evaluation Office)	-	-	-	20,000	20,000
		Sub-total M&E			300	10,000	-	20,000	30,300
	Total M&E				300	10,000	-	20,000	30,300
Project Management Costs (PMC)	Project Management Costs (PMC)	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	7,500	7,500	7,500	4,500	27,000
		120 - Contract Services	1220	Independent financial audits	2,000	2,000	2,000	2,000	8,000
	Total PMC				9,500	9,500	9,500	6,500	35,000
Project Grand Total					86,850	169,316	128,800	38,750	423,716



## ANNEX I-2 DETAILED CO-FINANCE BUDGET

No.	Co-finance partner		Nature of co-finance		Co-finance contribution per project Component in US\$					Total in US\$	Description of co-finance contributions (in line with co-finance letters received from partners)
	Name	Source	Type	Investment Mobilized	C1	C2	C3	C4	PMC		
1	Ministry of Environment and Forestry Resources	Recipient Country Government	In-Kind	Recurrent expenditures	20,000	20,000	20,000	20,000	60,000	140,000	General project execution support as the Executing Agency of this project. Participation in the Project Steering Committee meetings / Electric Mobility Coordination Body meetings, workshops, trainings and capacity building events as appropriate. Review of project documents / deliverables. Political support.
2	Ministry of Mines and Energy	Recipient Country Government	Public Investment	Investment mobilized			500,000			500,000	The investment mobilized through renewable power projects implemented by Ministry of Energy is based on the share of annual power demand of an up-scaled electric 2&3 wheeler fleet on the power generation of the renewable power projects. It is envisaged that the fleet of electric 2&3 wheelers directly attributable to the project interventions will reach about 16,000 units by 2030. The power demand stemming from the use of these electric 2&3 wheelers is estimated to account for about 2% of the annual power generation produced by the renewable power projects mentioned in the co-finance letter. This co-finance contribution in form of investment mobilized is therefore set to 2% of the total investment in renewable power projects implemented by Ministry of Energy and occurring during the project time frame 2021 to 2025
3	Ministry of Mines and Energy	Recipient Country Government	In-Kind	Recurrent expenditures	20,000	20,000	20,000	15,000	25,000	100,000	Contributions to Output 1.2, 2.1, 3.1, 3.2 and 4.1. Participation in the Project Steering Committee meetings / Electric Mobility Coordination Body meetings, workshops, trainings and capacity building events as appropriate. Review of project documents / deliverables. Political support.
4	Ministry of Transport and Infrastructure	Recipient Country Government	Grant	Investment mobilized	100,000	100,000	100,000			300,000	The amount is based on the grants received through the two World Bank projects implemented by the Ministry. In parts, these projects will directly contribute to the objectives stated in the project "Support the Shift to Electric Mobility in Togo".
5	Ministry of Transport and Infrastructure	Recipient Country Government	In-Kind	Recurrent expenditures	25,000	25,000	25,000		25,000	100,000	Contributions to 1.2, 2.1, and 3.1. Participation in the Project Steering Committee meetings / Electric Mobility Coordination Body meetings, workshops, trainings and capacity building events as appropriate. Review of project documents / deliverables. Political support.
6	UNEP	GEF Agency	Grant	Investment mobilized		60,000				60,000	UNEP will mobilize a small grant through the European Commission funded Solutions Plus project. This grant is to build upon an existing project with electric vehicle demonstration activities, and to replicate lessons learnt from the Solutions Plus demonstration projects. The grant portion will be used by UNEP for the procurement of charging equipment and for targeted support of local innovators to install and / or operate that equipment
7	UNEP	GEF Agency	In-Kind	Recurrent expenditures		20,000				20,000	In-kind support to coordinate the link between the GEF 7 E-Mobility project and the small grant for replication as part of the EC SOLUTIONSplus project
<b>Total</b>					<b>165,000</b>	<b>245,000</b>	<b>665,000</b>	<b>35,000</b>	<b>110,000</b>	<b>1,220,000</b>	

## ANNEX J: M&E BUDGET AND WORKPLAN

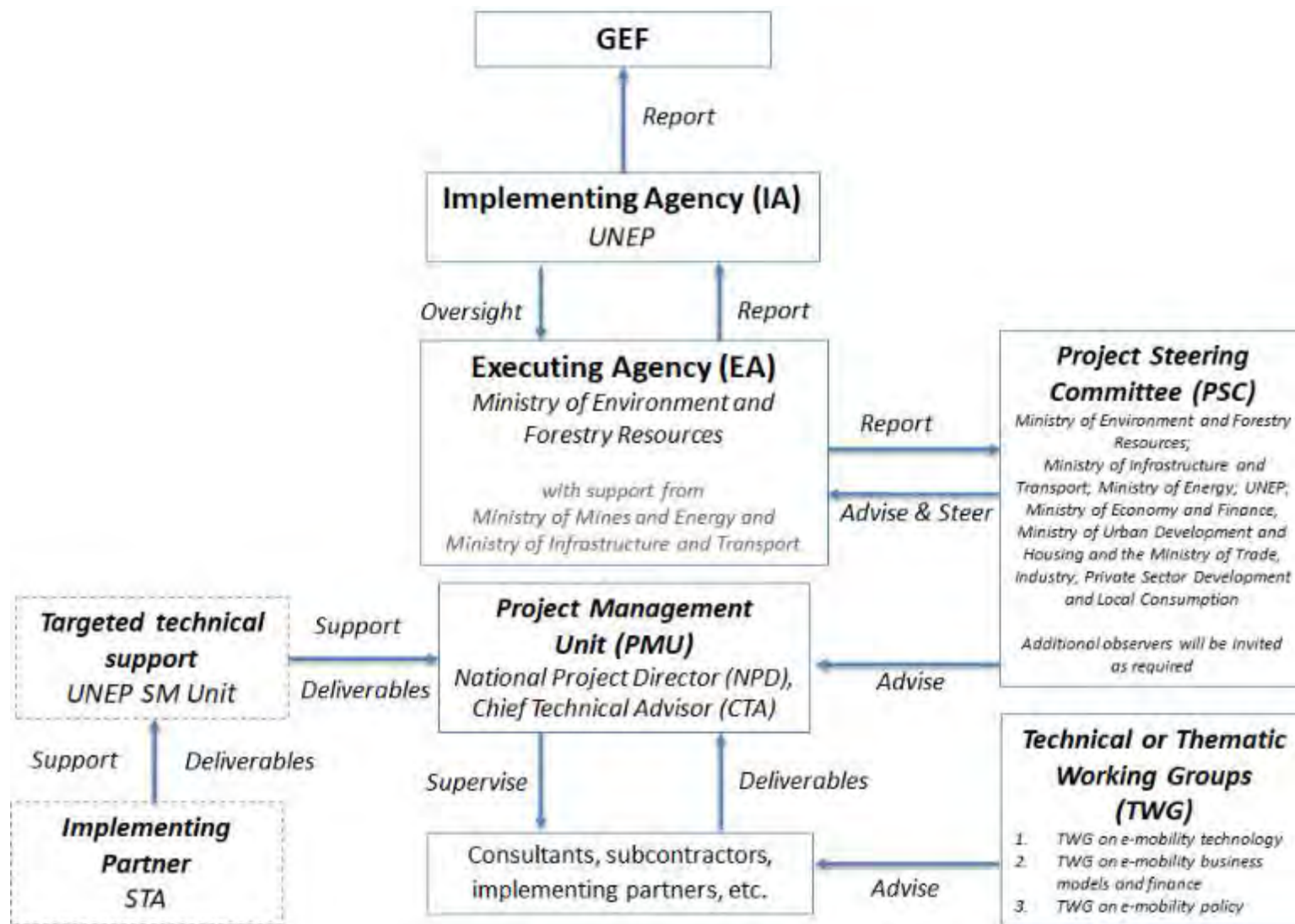
M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Inception Workshop (IW)	Report prepared following the IW; which includes: - A detailed workplan and budget for the first year of project implementation, - An overview of the workplan for subsequent years, divided per component, output and activities. - A detailed description of the roles and responsibilities of all project partners - A detailed description of the PMU and PSC, including an organization chart - Updated Procurement Plan and a M&E Plan, Gender Action Plan - Minutes of the Inception Workshop	Execution: CTA  Support:	1 report to be prepared following the IW, to be shared with participants 4 weeks after the IW (latest)	GEF: \$US 300 for catering only (Venue to be co-financed by the Ministry of Environment and Forestry Resources)
Steering Committee Meeting	Prepare minutes for every Steering Committee Meeting.	Execution: CTA  Support:	At least 3 or 4 per year Minutes to be submitted 1 week following each PSC meeting	GEF: \$US 0 Venue and catering co-financed by the Ministry of Environment and Forestry Resources
Half-yearly progress report	Part of UNEP/UNEP requirements for project monitoring. - Narrative of the activities undertaken during the considered semester - Analyzes project implementation progress over the reporting period; - Describes constraints experienced in the progress towards results and the reasons.	Execution: CTA  Support: PMU	Two (2) half-yearly progress reports for any given year, submitted by July 31 and January 31 (latest)	GEF: as part of CTA budget
Quarterly expenditure reports	Detailed expenditure reports (in excel) broken down per project component and budget line, with explanations and justification of any change	Execution: CTA and Financial Officer  Support: PMU	Four (4) quarterly expenditure reports for any given year, submitted by January 31, April 30, July 31 and October 31 (latest)	GEF: as part of CTA budget
Project Implementation Review (PIR)	Analyzes project performance over the reporting period. Describes constraints experienced in the progress towards results and the reasons. Draws lessons and makes clear recommendations for future orientation in addressing the key problems in the lack of progress. The PIRs shall be documented with the evidence of the achievement of end-of-project targets (as appendices).	Execution: CTA and TM  Support: PMU	1 report to be prepared on an annual basis, to be submitted by 15 July latest	GEF: as part of CTA budget



M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Annual Inventory of Non-expendable equipment	Report with the complete and accurate records of non-expendable equipment purchased with GEF project funds	Execution: CTA Support: PMU	1 report per year as at 31 December, to be submitted by 31 January latest	GEF: as part of CTA budget
Co-financing Report	Report on co-financing (cash and/or in-kind) fulfilled contributions from all project partners that provided co-finance letters.	Execution: CTA Support: co-finance partners	1 annual report from each co-finance partner, and 1 consolidated report, to be submitted by 31 July latest	GEF: as part of CTA budget
Medium-Term Review (MTR) <i>optional</i>	The purpose of the MTR is to provide an independent assessment of project performance at mid-term, to analyze whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way. It will verify information gathered through the GEF tracking tools.	Execution: Independent Evaluator / TM Support: CTA, PMU	At mid-point of project implementation if deemed needed by the Task Manager	GEF: US\$ 10,000
Final Report	The project team will draft and submit a Project Final Report, with other docs (such as the evidence to document the achievement of end-of-project targets). Comprehensive report summarizing all outputs, achievements, lessons learned, objectives met or not achieved structures and systems implemented, etc. Lays out recommendations for any further steps to be taken to ensure the sustainability and replication of project outcomes.	Execution: CTA Support: PMU	Final report to be submitted no later than three (3) months after the technical completion date	GEF: as part of CTA budget
Terminal Evaluation (TE)	Further review the topics covered in the mid-term evaluation. Looks at the impacts and sustainability of the results, including the contribution to capacity development and the achievement of global environmental goals.	Execution: Independent Evaluator / TM Support: CTA, PMU	Can be initiated within six (6) months prior to the project's technical completion date	GEF: US\$ 20,000
<b>TOTAL M&amp;E COST</b>			<b>GEF: US\$ 30,300</b>	

## ANNEX K: PROJECT IMPLEMENTATION ARRANGEMENTS

The project is funded by the Global Environment Facility (GEF) with UNEP acting as the GEF Implementing Agency and the Ministry of Environment and Forestry Resources as the Executing Agency. The implementation structure is illustrated in the organogram below:



Roles and responsibilities of each bodies are detailed in the following table:

Body	Composition	Role and description	Frequency of meetings
<p>Project Steering Committee (PSC)  <i>[to be transformed into the e-mobility coordination body by end of Year 3 of the project]</i></p>	<ul style="list-style-type: none"> <li>- Ministry of Environment and Forestry Resources (EA)</li> <li>- Ministry of Infrastructure and Transportation</li> <li>- Ministry of Mines and Energy</li> <li>- UNEP (IA)</li> <li>- Ministry of Economy and Finance</li> <li>- Ministry of Urban Development and Housing</li> <li>- Ministry of Trade, Industry, Private Sector Development and Local Consumption</li> <li>- Africa Support and Investment Platform Coordinator of the Global e-mobility project (virtual attendance)</li> </ul>	<ul style="list-style-type: none"> <li>• Oversight of the project progress and implementation of Outputs;</li> <li>• Approve workplans and budget revisions;</li> <li>• Approve management decisions to ensure timely delivery of quality outputs;</li> <li>• Provide overall guidance and strategic direction;</li> <li>• Enhance and optimize the contributions of various partner organizations through coordination of all activities and inputs</li> <li>• The Ministry of Environment and Forestry Resources will appoint a National Project Director (NPD) that will act as the PSC Chairperson</li> <li>• The Chief Technical Advisor (CTA) will act as the PSC Secretary</li> <li>- The Ministry of Environment and Forestry Resources, will be closely supported by the Ministry of Infrastructure and Transportation and the Ministry of Mines and Energy in the execution of the project</li> </ul>	<p>3 or 4 times per year</p>

Implementing GEF Agency (IA)	UNEP	<ul style="list-style-type: none"> <li>• Ensure timely disbursement/sub-allotment to executing agency based on agreed legal document and in accordance with UNEP and GEF fiduciary standards;</li> <li>• Follow-up with Executing agency for progress, equipment, financial and audit reports;</li> <li>• Provide consistent and regular oversight on project execution and conduct project supervisory missions as per Supervision Plans and in doing so ensures that all UNEP and GEF criteria, rules and regulations are adhered to by project partners;</li> <li>• Technically assess and oversee quality of project outputs, products and deliverables – including formal publications;</li> <li>• Provide no-objection to main TORs and subcontracts issued by the project, including selection of the Chief Technical Advisor;</li> <li>• Attend and facilitate inception workshops, field visits where relevant, and selected steering committee meetings;</li> <li>• Asses project risks, and monitor and enforce a risk management plan;</li> <li>• Regularly monitor project progress and performance and rate progress towards meeting project objectives, project execution progress, quality of project monitoring and evaluation, and risk;</li> <li>• Monitor reporting by project executing partners and provide prompt feedback on the contents of the report;</li> <li>• Promptly inform the management of any significant risks or project problems and take action and follow up on decisions made;</li> <li>• Apply adaptive management principles to the supervision of the project;</li> <li>• Review of reporting, checking for consistency between execution activities and expenditures, ensuring that it respects GEF rules;</li> <li>• Clear cash requests, and authorization of disbursements once reporting found to be complete;</li> <li>• Approve budget revision, certify fund availability and transfer funds;</li> <li>• Ensure that GEF and UNEP quality standards are applied consistently to all projects, including branding and safeguards;</li> <li>• Certify project operational completion;</li> <li>• Link the project partners to any events organized by GEF and UNEP to disseminate information on project results and lessons;</li> <li>• Manage relations with GEF.</li> </ul>	Periodic meetings (calls) with the EA's Project Management Unit (PMU), at least once per month
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Executing Agency (EA)	Ministry of Environment and Forestry Resources	<ul style="list-style-type: none"> <li>• Ensure that the project meets its objectives and achieves expected outcomes;</li> <li>• Ensure technical execution according to the execution plan laid out in the project document;</li> <li>• Ensure technical quality of products, outputs and deliverables;</li> <li>• Ensure compilation and submission of progress, financial and audit reporting to IA;</li> <li>• Submit budget revisions to IA for approval;</li> <li>• Address and propose solutions to any problem or inconsistency raised by the IA;</li> <li>• Bring issues raised by or associated with clients to the IA for resolution;</li> <li>• Facilitate meetings of Steering Committees and other oversight bodies of the project;</li> <li>• Day to day oversight of project execution;</li> <li>• Submit all technical reports and completion reports to IA (realized outputs, inventories, verification of co-finance, terminal reporting, etc.);</li> <li>• Monitoring and evaluation of the project outputs and outcomes;</li> <li>• Effective use of both international and national resources</li> <li>• Timely availability of financing to support project execution;</li> <li>• Proper coordination among all project stakeholders; in particular national parties;</li> <li>• Timely submission of all project reports, including work plans and financial reports,</li> <li>• Follow-up with, or progress, procurement, financial and audit reports.</li> </ul>	Periodic meetings (calls) with the IA's Task Manager, at least once per month
Project Management Unit (PMU)	National Project Director (NPD)	<ul style="list-style-type: none"> <li>• Will be a national/governmental officer appointed by the Ministry of Environment and Forestry Resources;</li> <li>• Act as the PSC's Chairperson;</li> <li>• Report to and receive advice from the PSC;</li> <li>• Identify and secure partner support for the implementation of project activities;</li> <li>• Advise on hiring process.</li> <li>• Act as the project's entry point within the government of Togo</li> </ul>	Regular meetings with the CTA, at least twice per month

	Chief Technical Advisor (CTA)	<p>The CTA will be recruited externally, paid with GEF funds, hosted within the Ministry of Environment and Forestry Resources premises and have the following duties:</p> <ul style="list-style-type: none"> <li>• Take responsibility for day-to-day project operations;</li> <li>• Take responsibility for the execution of the project in accordance with the project objectives, activities and budget;</li> <li>• Deliver the outputs and demonstrate its best efforts in achieving the project outcomes;</li> <li>• Coordinate project execution and liaison with national counterparts (relevant ministries, national agencies, private sector, NGOs etc.);</li> <li>• Manage financial resources and processing all financial transaction relating to sub-allotments;</li> <li>• Prepare all annual/year-end project revisions;</li> <li>• Attend and facilitate inception workshops and national project steering committee meetings;</li> <li>• Assess project risks in the field, monitor risk management plan;</li> <li>• Ensure technical quality of products, outputs and deliverables;</li> <li>• Coordinate the project team of consultants and subcontractors;</li> <li>• Coordinate with strategic taskforces (i.e. thematic or technical working groups);</li> <li>• Act as Secretary of the PSC;</li> <li>• Plan and organize the PSC annual meetings;</li> <li>• Periodic reporting to UNEP and the PSC for allocation of the GEF grant according to the approved workplan and budget, in coordination with UNEP and NPD;</li> <li>• Notify UNEP and the PSC in writing if there is need for modification to the agreed implementation plan and budget, and to seek approval;</li> <li>• Address and rectify any issues or inconsistencies raised by the Implementing Agency;</li> <li>• Support compilation and submission of progress, financial and audit reporting to the Implementing Agency;</li> <li>• Prepare, at the end of the project, the project Final Report.</li> <li>• Capture lessons learned during project implementation;</li> <li>• Ensure that the indicators included in the project results framework are monitored annually;</li> <li>• Assess major and minor amendments to the project within the parameters set by UNEP-GEF;</li> <li>• Support the Terminal Evaluation process</li> <li>• Oversees the preparation and submission of proposals on waste management standards reforms to the government</li> <li>• Oversees the preparation of training materials and the organization of capacity building activities;</li> <li>• Manages project knowledge, including dissemination of materials through project website and other channels;</li> <li>• Oversees the preparation of technical terms of reference;</li> </ul>	<p>Regular meetings with the NPD, at least twice per month</p> <p>Quarterly meeting with the project's Financial Officer</p> <p>Ad-hoc meetings with project team members (consultants, subcontractors, etc.)</p>
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Technical (or Thematic) Working Groups	1. TWG on e-mobility technology	TWG 1 – Will support the international and local experts with collection of data. Will help the PMU with the specification of the TORs. Will provide know-how and will review all products related to e-mobility technology. Will support TWG 2 and TWG 3 as required. Includes representatives from GOZEM and / or Taxiétogo, the local petrol station operator, and representatives from the Ministry of Transport and Infrastructure and the Ministry of Mines and Energy will be members, among other which are yet to be identified.	The TWGs will meet regularly as required during project implementation to work on the respective topics
	2. TWG on e-mobility business models and finance	TWG 2 - Will support the international and local experts with collection of data. Will help the PMU with the specification of the TORs. Will provide know-how and will review all products related to business models and finance schemes. Will support TWG 1 and TWG 3 as required. Includes representatives from BOAD, GOZEM, Taxiétogo and local financial institutions which are yet to be determined will be part of the TWG to work on business models and the introduction of a financial mechanism.	
	3. TWG on e-mobility policy	TWG 3 - Will support the international and local experts with collection of data. Will help the PMU with the specification of the TORs. Will provide know-how and will review all products related to policy. Will support TWG 1 and TWG 2 as required. Includes representatives from the ministries which are part of the e-mobility coordination body which, under the leadership of Ministry of Environment and Forestry Resources will work on the policy proposals to reform the regulatory and fiscal scheme for importation and registration of electric vehicles in order to incentivize the uptake of e-mobility whilst not compromising the overall tax revenue of the Republic of Togo.	
Execution support	Sustainable Mobility Unit, UNEP	<p>Togo's GEF OFP has requested the UNEP SMU to provide execution support (refer to letter in Annex N-2) on the following:</p> <ul style="list-style-type: none"> <li>• Reviews TORs for international experts;</li> <li>• Supports project kick-off;</li> <li>• Visits Togo twice to support the project implementation;</li> <li>• Provides support for design and implementation of the demonstration project (together with Sustainable Transport Africa, see below), manages the call for proposals for the EC SOLUTIONSplus small grant;</li> <li>• Provides support for procurement of demonstration equipment (together with Sustainable Transport Africa, see below);</li> <li>• Provides technical support to several outputs i.e. in form of reviews of the strategy, the policy proposals, the studies on environmental sustainability;</li> <li>• Provides coordination support with other GEF E-Mobility Projects in the region and with ECOWAS</li> <li>• Provides links to relevant international experts;</li> <li>• Receives e-mobility market data as part of annual PIR;</li> <li>• Organizes and participates in Africa Support and Investment Platform events;</li> <li>• Organizes and participates in launch and closing event of the Global Programme;</li> <li>• Support with links to financing institutions;</li> <li>• Supports the project with links to EV and EVSE manufacturers.</li> </ul>	Regular meetings between the PMU and the SMU.



Procurement support	Sustainable Transport Africa (STA)	<p>The UNPE SMU will contract STA:</p> <ul style="list-style-type: none"> <li>To organize the competitive process to identify and select the private sector partner for demo project implementation</li> <li>To disburse the price differential to the private sector partner(s)</li> <li>To support procurement of demonstration vehicles, including import to Togo</li> </ul>	
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The table below provides a detailed split of roles and responsibilities between the Ministry of Environment and Forestry Resources, the Ministry of Mines and Energy and the Ministry of Infrastructure and Transport for the execution of this project:

#### ASSIGNMENT OF RESPONSIBILITIES OF THE MINISTRIES

Component	Output	Ministry of Environment and Forestry Resources	Ministry of Mines and Energy	Ministry of Infrastructure and Transport
Component 1	Output 1.1: An inter-sectorial electric mobility coordination body is established	<i>Co-chair the PSC, organize the meetings, provide meeting room</i>	<i>Member of the PSC, participate the meetings</i>	<i>Member of the PSC, participate the meetings</i>
	Output 1.2: A national strategy for electric mobility, including gender sensitive business development in the transport sector is developed and submitted for adoption.	Support the Ministry of Infrastructure and Transport in coordinating the strategy development Hire the expert, disburse funds, report to UNEP	Contribute with data, review the draft and final version, participate in meetings and workshops	Lead the strategy development, provide data, review the draft and final version, participate in meetings and workshops
	Output 1.3: Key stakeholders from public and private sector are trained in the Global Electric Mobility Programme activities (national and regional workshops, trainings and thematic working groups).	Select the participants (coordinated with UNEP SMU) and based on the inputs of other PSC members	Propose relevant staff to participate in training events	Propose relevant staff to participate in training events
Component 2	Output 2.1: A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration including a low-carbon charging scheme, and a data collection framework are developed along with the reporting and analytical framework.	Lead the study development, hire international and local expertise, disburse funds for experts, prepare the call for proposals for the e-moto and charging demo together with STA and UNEP SMU, report to UNEP	Provide data for charging and power sector integration specific sections of the study, participate in meetings, review the draft study	Contribute to the terms of references for experts, lead content specific work, provide data, participate in meetings, review the draft study
	Output 2.2: Demonstration vehicles and charging equipment are procured, staff trained, the demonstration project is implemented, monitored and data are collected, analysed and disseminated.	Prepare procurement together with STA and UNEP SMU, oversee the demonstration, lead the development of the demo summary report hire international and local expertise, disburse funds for experts, report to UNEP	Support the demonstration implementation, support the charging site selection provide data for charging and power sector integration specific sections of the summary report, participate in meetings, review the draft demo summary	Contribute to the terms of references for experts, lead content specific work of the summary report, lead demonstration data analysis, provide data, participate in meetings, review the draft demo summary report

Component 3	Output 3.1: Fiscal policies and regulatory schemes are developed to incentivize the uptake of electric mobility.	Lead the overall task of policy development, hire international and local expertise, disburse funds for experts, coordinate with Ministries of PSC, report to UNEP	Lead the development of power sector regulation and technical standards for e-mobility, coordinate with Ministry of Economy and Finance on fiscal policies, provide data, participate in meetings, review the draft policies, provide political support for policy adoption	Lead the development of vehicle import regulation, lead the development of necessary amendments to vehicle registration, support the development of technical standards for e-mobility, coordinate with Ministry of Economy and Finance on fiscal policies, provide data, participate in meetings, review the draft policies, provide political support for policy adoption
	Output 3.2: An e-mobility business roundtable including private sector and financial institutions is established to develop financial schemes and concepts for e-mobility upscaling	Lead the overall organization of the business roundtable, organize meeting venue, coordinate with members of the PSC and in particular with Ministry of Trade, Industry, Private Sector Development and Local Consumption, hire international and local expertise, disburse funds for experts, coordinate, report to UNEP	Support Ministry of Environment and Forestry Resources with the organization of the business roundtable, participate in the roundtables, review the synthesis report	Support Ministry of Environment and Forestry Resources with the organization of the business roundtable, lead the outreach to private sector and finance, participate in the roundtables, review the synthesis report
Component 4	Output 4.1: A study to integrate renewable power for electric vehicle recharging is carried out.	Lead the overall study development, hire international expertise, disburse funds for expert, coordinate with Ministries of PSC, report to UNEP	Contribute to the terms of references for experts, lead content specific work of the renewable power integration study, provide data, participate in meetings, review the draft study, lead outreach to renewable power projects and in particular the Blitta project and the Project CIZO, lead outreach to AfDB and World Bank on renewable power and power transmission and distribution projects	Support study development, provide transport sector data
	Output 4.2: A scheme for collection, re-use, recycling and sound disposal of used electric vehicle batteries is developed and submitted for adoption.	Lead the overall study development, lead the content specific work, support coordination with ECOWAS, provide political support to adopt legislation, hire international expertise, disburse funds for expert, coordinate with Ministries of PSC, report to UNEP	/	/

Each of the 3 Ministries listed above has appointed a dedicated Focal Point for this project, as per the memorandum prepared by the Ministry of Environment and Forestry Resources (refer to the document in the following page). These members will be responsible for coordinating the project activities and components with the Chief Technical Advisor (CTA), that will be recruited as part of this project and hosted within the Ministry of Environment and Forestry Resources (the Executing Agency).

SECRETARIAT GENERAL

DIRECTION DE L'ENVIRONNEMENT

Division de lutte contre les Changements Climatiques

NOTE DE SERVICE N° 0207/DE/DLCC  
Portant mise en place de l'équipe de coordination du projet  
de mobilité électrique au Togo

LE DIRECTEUR DE L'ENVIRONNEMENT ;

Vu la nécessité de mettre en place un cadre approprié pour le pilotage du programme mobilité verte dans le cadre de la feuille de route 2020-2025 ;

**Article 1<sup>er</sup>** : Dans le cadre de la mise en œuvre de la feuille de route 2020-2025 relative au programme de mobilité verte, notamment le projet 36, il est mis en place une équipe de coordination du projet de mobilité électrique.

Cette équipe est composée de :

- 1- **Monsieur AZANKPO Komla**, Juriste, point focal national de la convention-cadre des Nations Unies sur les changements climatiques; E-mail: julesazakpo7@gmail.com / julesazakpo@yahoo.fr; Tél.: +228 90919677;
- 2- **Monsieur AMEDE Komlan**, Point focal sécurité routière, en service à la Direction des transports routiers et ferroviaires; E-mail: amedekomlan@yahoo.fr; Tél: +228 90979897 / 92242181 ;
- 3- **Monsieur ASSIH Hodabalo**, chargé des études Energies Renouvelables Off-grid et Efficacité Energétique en service à la Direction générale de l'énergie; E-mail : h.assih2@gmail.com / hodabalo.assih@minenergie.gouv.tg; Tél: +228 901813 98 / 995965 93.

**Article 2**: Les membres de l'équipe de coordination du projet de mobilité électrique sont chargés de suivre la mise en œuvre des différentes activités et composantes du projet et de rendre compte de son état d'avancement.

Fait à Lomé, ... 30 MARS 2021

Le Directeur de l'environnement



MEMORANDUM No. 0207/DE/DLCC

Regarding the establishment of a coordination team for the  
electric mobility project in Togo

THE DIRECTOR OF ENVIRONMENT ;

Considering the need to put in place an appropriate framework for steering the green mobility program within the framework of the 2020-2025 roadmap ;

**Article 1 "**: As part of the implementation of the 2020-2025 roadmap relating to the green mobility program, in particular for project No. 36 [*internal reference for the GEF project*], a coordination team for the electric mobility project is established.

This team will be made of:

- 1- **Mr. AZANKPO Komla**, Legal Officer, national focal point of the United Nations Framework Convention on Climate Change [*Ministry of Environment and Forestry Resources*]; julesazakpo7@gmail.com / julesazakpo@yahoo.fr; Tel.: +228 90919677;
- 2- **Mr AMEDE Komlan**, Road safety focal point, from the Directorate of road and rail transport [*Ministry of Transport and Infrastructure*]; E-mail: amedekomlan@yahoo.fr; Phone: +228 90979897 / 92242181;
- 3- **Mr. ASSIH Hodabalo**, in charge of Off-grid, Renewable Energies and Energy Efficiency studies at the General Directorate of Energy [*Ministry of Mines and Energy*]; E-mail: h.assih2@gmail.com / hodabalo.assih@minenergie.gouv.tg ; Tel: +228 901 813 98/995 965 93.

**Article 2**: The members of the electric mobility project coordination team are responsible for monitoring the implementation of the various activities and components of the project and for reporting on its progress.

Finally, the table below provides a detailed breakdown of the budget for the targeted technical support to be provided by the UNEP SMU and STA, based on the request formulated by the Ministry of Environment and Forestry Resources and the Togo GEF OFP::

#### DETAILED BUDGET FOR UNEP SMU'S TARGETED TECHNICAL SUPPORT

Component	Output	Type	Description	USD
Component 1: Institutionalization of low-carbon electric mobility	Output 1.2: A national strategy for electric mobility, including gender sensitive business development in the transport sector is developed and submitted for adoption.	Staff & Personnel	International E-mobility Technical Support (UNEP SM Unit)	3,000
		Travel	Travel for the International E-mobility Technical Support (UNEP SM Unit)	2,300
Component 2: Short term barrier removal through low-carbon e-mobility demonstrations	Output 2.1: A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration including a low-carbon charging scheme, and a data collection framework are developed along with the reporting and analytical framework.	Transfers & Grants to Implementing Partners	International procurement support (STA, through UNEP SM Unit)	4,500
		Staff & Personnel	International E-mobility Technical Support (UNEP SM Unit)	4,500
	Output 2.2: Demonstration vehicles and charging equipment are procured, staff trained, the demonstration project is implemented, monitored and data are collected, analysed and disseminated.	Travel	Travel for the International E-mobility Technical Support (UNEP SM Unit)	2,300
		Transfers & Grants to Implementing Partners	International procurement support (STA, through UNEP SM Unit)	4,500
		Transfers & Grants to Implementing Partners	Price differential subsidies for electric motorcycles (STA, through UNEP SM Unit)	40,000
		Transfers & Grants to Implementing Partners	Electric vehicle spare-parts (STA, through UNEP SM Unit)	7,500
Component 3: Preparing for scale-up and replication of low-carbon electric mobility	Output 3.1: Fiscal policies and regulatory schemes are developed to incentivize the uptake of electric mobility.	Staff & Personnel	International E-mobility Technical Support (UNEP SM Unit)	3,000
	Output 3.2: An e-mobility business roundtable including private sector and financial institutions is established to develop financial schemes and concepts for e-mobility upscaling	Staff & Personnel	International E-mobility Technical Support (UNEP SM Unit)	3,000
Component 4: Long-term environmental sustainability of low-carbon electric mobility	Output 4.1: A study to integrate renewable power for electric vehicle recharging is carried out.	Staff & Personnel	International E-mobility Technical Support (UNEP SM Unit)	1,500
	Output 4.2: A scheme for collection, re-use, recycling and sound disposal of used electric vehicle batteries is developed and submitted for adoption.	Staff & Personnel	International E-mobility Technical Support (UNEP SM Unit)	1,500
<b>TOTAL</b>				<b>77,600</b>



ANNEX L: PROJECT WORKPLAN AND DELIVERABLES

OUTPUTS		DELIVERABLES (*)	PROJECT YEAR 1								PROJECT YEAR 2								PROJECT YEAR 3								PROJECT YEAR 4								Consultant, subcontractor or stakeholder responsible for producing the deliverable	Other stakeholders supporting deliverable production																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Output 1.1: An inter-sectoral electric mobility coordination body is established	1.1.1	An inter-ministerial workshop to kick-off the project and to draft mandate and workplan of the Project Steering Committee is held and a workshop report is delivered.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</



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## ANNEX M: ESTIMATES OF DIRECT AND CONSEQUENTIAL GREENHOUSE GAS EMISSION REDUCTIONS

<b>Total topdown emission reduction potential 2021 to 2036, tCO2</b>	<b>2,230,816</b>
Thereof	
Total direct emission mitigation from demonstration, tCO2	305
Total secondary direct emission mitigation, tCO2	133,831
Total indirect emission mitigation, tCO2	312,272
<b>Total project related emissions reductions, tCO2</b>	<b>446,407</b>

### Methodology for the estimation of GHG reductions and energy savings benefits

A uniform methodology was applied in all GEF Global E-Mobility Child Projects for assessing the short, medium and long-term benefits in terms of GHG emission reductions and energy savings. The methodology compares two scenarios, the “benchmark scenario” and the “e-mobility scenario”. In the benchmark scenario, the transport sector evolves assuming a “business as usual” behavior with regards to vehicle fleet growth, vehicle use, technology and fuel use. It is based on the current policy framework with no or limited incentives to buy and use clean and efficient electric vehicles. The e-mobility scenario uses the same projections with regards to vehicle fleet growth but assumes a high penetration of electric vehicles within the new vehicle market, as a consequence of the project interventions including the adoption of EV policies, the use of business models and the existence of financial mechanisms. The scenarios are use a “top-down approach” targeting the national vehicle market. The Child Projects tackle the introduction of electric vehicles for one or multiple modes. In the latter case, calculations are performed for several modes (e.g. passenger cars, buses and 2&3 wheelers).

Projections of fleet growth, energy use and GHG emissions are based on country specific data, and region-specific parameters. Projection of the vehicle fleet growth is based on the elastic relationship between per capita income and vehicle acquisition. Therefore, country specific scenarios for population growth (based on the UNDESA medium scenario) and projections for gross domestic product (GDP PPP) from the World Economic Outlook of the International Monetary Fund (IMF) are used. Vehicle fleet projections are based on vehicle sales and assumptions on technical life-time of vehicles. A comprehensive set of parameters describing the technologic and economic parameters of various vehicle technologies are used. Country specific grid emission factors for the carbon footprint of electricity are used. For petroleum-based fuels, well-to-wheel emission factors are used. Historic development of the vehicle fleet is based on country specific vehicle stock and sales data. Emission reductions which accrued during and after the project timeframe are taken into account. GHG emission benefits are classified as direct and indirect GHG emission reductions. This categorization follows the methodology suggested by the GEF.

**Direct benefits** correspond to the GHG emission reductions and energy savings obtained from 1.) The investments that are planned and executed during the project lifetime, i.e. the emission and energy use savings stemming from the demonstration of electric vehicles and EV supply equipment such as chargers purchased as part of the project<sup>36</sup>; and 2.) emission reductions and energy savings as a result of investment in replication and upscaling (secondary direct benefits).

**Indirect benefits** correspond to the GHG reductions and energy savings obtained during and beyond the project as the result of outputs and outcomes of the project. This includes in particular the adoption of policies, business models and financial mechanisms, which incentivize the uptake of electric mobility. Total emission reductions attributable to the project are based on the cumulative sum of annual emission reductions compared to the baseline scenario over a time frame equivalent to the lifetime of the demonstration assets purchased as part of the project or for a period of ten years after the end of the project<sup>37</sup>.

<sup>36</sup> These benefits are calculated over the lifetime of the purchased assets (e.g. 15 years for cars and buses, 5 years for 2&3 wheelers and 20 years for EV supply equipment).

<sup>37</sup> Whichever time frame is longer is applied. E.g. if the project demonstrates e-buses with an assumed lifetime of 15 years (which are introduced in year 2 of the project) then the timeframe for the calculation of indirect emission reductions is the year 2036 (2021 plus 15 years). If electric motorcycles with a lifetime of only 5 years are demonstrated, the timeframe is 2034 (end of project 2025 plus ten years).



Quantification of secondary direct and indirect benefits is based on an e-mobility scenario considering the maximum realizable electric mobility market (both in terms of size and pace of technology introduction). Causality factors are used to estimate the contribution of the GEF funded project to the projected large-scale and nation-wide introduction of electric vehicles. Guidelines issued by the GEF for the selection of the causality factor level are as following:

- Level 5 = “The project contribution is critical, and nothing would have happened in the benchmark scenario,” causality factor = 100%
- Level 4 = “The project contribution is dominant, but some of this reduction can be attributed to the benchmark scenario,” causality factor = 80%
- Level 3 = “The project contribution is substantial, but modest indirect emission reductions can be attributed to the benchmark scenario,” causality factor = 60%
- Level 2 = “The project contribution is modest, and substantial indirect emission reductions can be attributed to the benchmark,” causality factor = 40%
- Level 1 = “The project contribution is weak, and most indirect emission reductions can be attributed to the benchmark scenario,” GEF causality = 20%

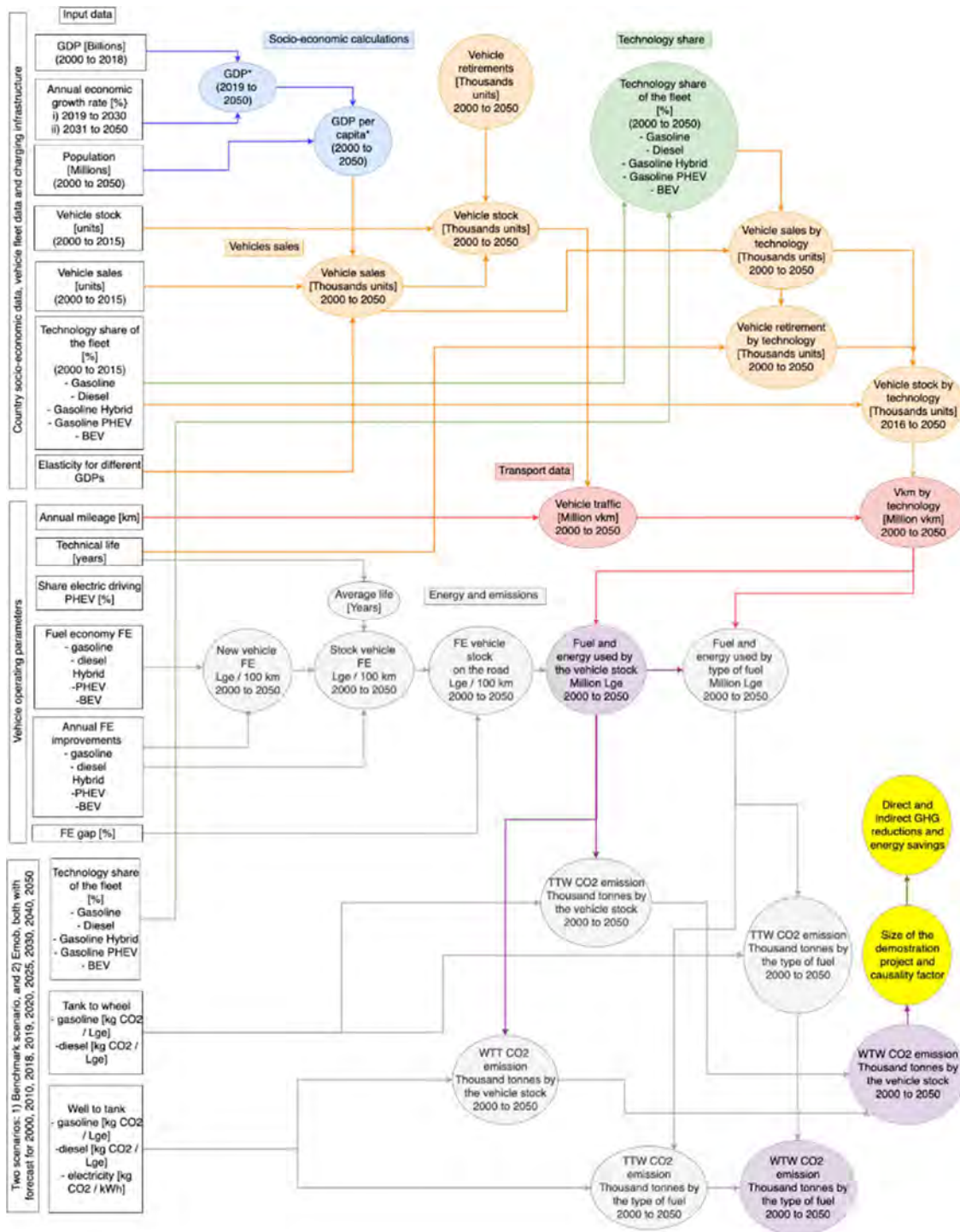
Secondary direct and indirect emission reduction are based on a 30:70 split of the top-down emission reductions attributable to the project via the application of the causality factor (Level I / 20%).

As selection of the parameters and variables to describe the benchmark and the e-mobility scenario are shown in the table below, a flow diagram of the e-mob calculator is shown on the following page.

#### VARIABLES AND PARAMETERS OF THE BENCHMARK AND EMOBILITY SCENARIO

	Variable	Unit
Socio – economic data	GDP PPP (2000-2018)	Billion USD PPP
	Population	Million habitants
	Annual growth of GDP	% of 2023-2030, and % 2031-2050
Vehicle fleet data	Vehicles stock (2000-2015)	Thousand vehicles
	Vehicles sales (2000-2015)	Thousand vehicles
	Technology share of stock	% share gasoline, diesel, hybrid, PHEV, BEV
Vehicle operating information	Annual Mileage	km
	Load factor	Passenger in a vehicle
	Technical lifetime	years
	Share of electric driving for PHEV	%
	Fuel economy (FE) by technology	Lge / 100 km, kWh / 100 km
	Annual FE improvement by technology	%
	FE gap (Real vs Type Approval)	%

Variable	Benchmark scenario	E-mobility scenario
Technology share of vehicle sales	%	%
Well to tank CO2 footprint Tank to wheel CO2 footprint	kg CO2/ Lge kgCO2 / kWh	kg CO2/ Lge kgCO2 / kWh
Vehicle fleet emission standards	Euro 1 to Euro 6	Euro 1 to Euro 6
Fuel quality standards	Euro 1 to Euro 6	Euro 1 to Euro 6
Vehicle price, maintenance and fuel price	USD	USD



FLOW DIAGRAMME OF THE EMOB CALCULATOR

## ANNEX N-1: OFP ENDORSEMENT LETTER

**MINISTÈRE DE L'ENVIRONNEMENT,  
DU DÉVELOPPEMENT DURABLE ET  
DE LA PROTECTION DE LA NATURE**

**CABINET**

**POINT FOCAL OPÉRATIONNEL FEM**

N° 002-1 PFOFEM



**REPUBLIQUE TOGOLAISE**  
**Travail – Liberté – Patrie**

Lomé, le 28 MAR 2019

To: Kelly West  
UN Environment  
P.O Box 30552  
Nairobi 00100  
Kenya

Subject: Endorsement for **“Supporting Togo with the Shift to Electric Mobility”**

In my capacity as GEF Operational Focal Point for Togo, I confirm that the above project proposal (a) is in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above project proposal with the support of the GEF Agency listed below. If approved, the proposal will be prepared and implemented by UN Environment as the Implementing Agency as the Executing Agency. I request the GEF Agency to provide a copy of the project document before it is submitted to the GEF Secretariat for CEO endorsement.

The total financing (from GEFTF) being requested for this project is US\$ 500,000, inclusive of project preparation grant (PPG), if any, and Agency fees for project cycle management services associated with the total GEF grant. The financing requested for Togo is detailed in the table below.

Source of Funds	GEF Agency	Focal Area	Amount (in US\$)			
			Project Preparation	Project	Fee	Total
GEFTF	UNEP	Climate Change	35,000	423,716	41,284	500,000
<b>Total GEF Resources</b>			35,000	423,716	41,284	500,000

I consent to the utilization of Togo's allocations in GEF-7 as defined in the System for Transparent Allocation of Resources (STAR).

Sincerely,  
  
**Mr. Comlan AWOUGNON**  
Operational Focal Point

Directeur des Affaires Administratives et Financières  
Ministère de l'Environnement, du développement durable et de la protection de la nature  
01BP 4825 Lomé-Togo

Copy to : Convention Focal Point for UNECCC

## ANNEX N-2: OFP EXECUTION SUPPORT APPROVAL LETTER

MINISTÈRE DE L'ENVIRONNEMENT  
ET DES RESSOURCES FORESTIÈRES

CABINET

POINT FOCAL OPERATIONNEL FEM



REPUBLIQUE TOGOLAISE  
Travail – Liberté – Patrie

N° 003/21 /PFOFEM

Lomé... 21 MAR 2021

To: Mrs. Kelly WEST  
GEF Coordinator  
UNEP  
Nairobi

**Subject: Letter of Support to request GEF Agency Execution for the « Support the Shift to Electric Mobility in Togo » project (GEF ID 10272)**

Dear Mrs. WEST,

1. In my capacity as GEF Operational Focal Point for Togo, I hereby request UNEP, the GEF implementing Agency for the aforementioned project, to also carry out execution services for the above project, on an exceptional basis, for a total amount of **US\$ 77,600** – out of which **US\$ 47,500** is for the procurement of demonstration assets.

2. The execution services provided by UNEP's Sustainable Mobility Unit (SMU) are expected to include:

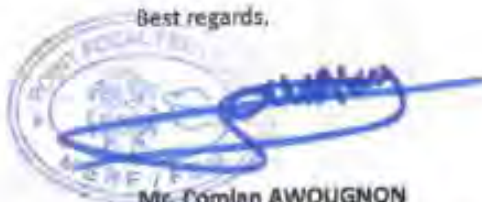
- Two additional field visits in Lomé, Togo, to support Togo on the elements described below;
- Provide technical input to the national electric mobility strategy;
- Support the setting up of e-mobility demonstration including the selection of the private sector partners through a competitive process and in coordination with the SOLUTIONSplus project for charging equipment (involves services from the NGO Sustainable Transport Africa);
- Handling the transfer of funds to subsidize the demonstration of e-motorcycles in private sector fleet(s) (involves services from the NGO Sustainable Transport Africa);
- Handling the transfer of funds for e-motorcycle charging equipment and operation (involves services from the NGO Sustainable Transport Africa);
- Support the development of an initial scheme for sound recycling and disposal of used electric vehicle batteries;
- Provide technical input on integration of renewable power for electric vehicle charging; and
- Provide technical support for the development of e-mobility policies.

3. The budget to be handled by UNEP's Sustainable Mobility Unit is broken down as following:

Type	Purpose	USD
Travel	UNEP SMU staff missions to Togo	4,600
Procurement	UNEP SMU procurement of e-motorcycle demonstration assets	47,500
Staff & Personnel	UNEP SMU execution support to Togo	16,500
Implementing Partners	UNEP SMU agreement with Sustainable Transport Africa	9,000
<b>Total</b>		<b>77,600</b>

4. Execution activities provided by UNEP's Sustainable Mobility Unit are described in detail in the GEF CEO Endorsement / Approval request and accompanying project documents, including the project budget.

Best regards,



**Mr. Comlan AWOUGNON**

**GEF OFP**

**Director of Administrative and Financial Affairs  
Ministry of Environment and Forestry**



## ANNEX O: CO-FINANCING COMMITMENT LETTERS FROM PROJECT PARTNERS

MINISTRE DE L'ENVIRONNEMENT  
ET DES RESSOURCES FORESTIERES

REPUBLIQUE TOGOLAISE  
Travail-Liberté-Patrie

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SECRÉTARIAT GÉNÉRAL

-----  
DIRECTION DE L'ENVIRONNEMENT

-----  
Division Lutte contre les changements climatiques

N° 0241 /MERF/SG/DE/DECC

Lomé le 23 MARS 2021

### LE MINISTRE

A  
Madame Kelly WEST,  
Coordonnatrice du FEM,  
Programme des Nations  
Unies pour l'Environnement (PNUE)

### Nairobi, KENYA

**Objet :** Cofinancement du projet « Soutenir la transition  
vers la mobilité électrique au Togo » (GEF ID 10272)

**Madame la Coordinatrice,**

Me référant au projet intitulé « Soutenir la transition vers la mobilité électrique au Togo »  
(GEF ID 10272),

J'ai l'honneur de vous écrire pour vous rassurer du soutien du ministère de  
l'environnement et des ressources forestières à ce projet.

Ce ministère qui agit en tant qu'agence d'exécution du projet, apportera un  
cofinancement de cent quarante mille (140 000) dollars US sous forme de contributions  
en nature sur les quatre (04) années de mise en œuvre du projet à partir de début 2021.

Dans le cadre de cette contribution de cofinancement, le ministère de l'environnement et  
des ressources forestières entend soutenir les composantes et les réalisations suivantes  
du projet :

- composante 1 : institutionnalisation de la mobilité électrique à faible émission de  
carbone ;
- composante 2 : élimination des barrières à court terme grâce à une  
démonstration de taxi électronique à faible émission de carbone et au  
développement de la recharge ;
- composante 3 : préparation à la mise à l'échelle et à la réplique de la mobilité

B.P. : 4825 - Tél : (228) 22 21 06 00 / 22 21 30 78 - Fax (228) 22 21 03 33  
Avenue Sarakawa - E-mail : [environnementministre@yahoo.fr](mailto:environnementministre@yahoo.fr)



électrique à faible émission de carbone ;

- composante 4 : durabilité environnementale à long terme de la mobilité électrique à faible émission de carbone.

En tant qu'organe d'exécution du projet, le ministère de l'environnement sera chargé de

- 1.) la coordination entre toutes les parties prenantes du projet, y compris l'organisation des réunions des comités de pilotage et autres organes de supervision du projet ;
- 2.) du suivi et évaluation des produits et des résultats du projet ;
- 3.) de la soumission en temps opportun de tous les rapports de projet, y compris les plans de travail et les rapports financiers ; et
- 4.) d'assurer le suivi des rapports d'avancement, de passation des marchés financiers et d'audit.

La contribution en nature couvre la participation du personnel de haut niveau aux réunions du comité de pilotage du projet ainsi qu'aux réunions de l'organe national de coordination de la mobilité électronique du Togo, qui doit être créé dans le cadre du projet. Il contient en outre le temps du personnel du Directeur national du projet, de l'assistant technique en chef ainsi que du personnel administratif.

De même, le ministère de l'environnement et des ressources forestières soutiendra le projet en fournissant des données, mais aussi en examinant les réalisations / livrables pertinents du projet, tels que la stratégie nationale de mobilité électronique (produit 1.2), l'étude sur l'intégration de la production d'énergie renouvelable pour la recharge des véhicules (résultat 4.1) et l'étude sur la collecte des batteries pour réutilisation, recyclage et élimination en toute sécurité (résultat 4.2).

En outre, le ministère de l'environnement soutient fermement cet important projet du FEM et se réjouit d'en être une partie prenante.

Je puis donc vous rassurer de la disponibilité du gouvernement togolais à collaborer avec le Programme des Nations Unies pour l'environnement (PNUE) pour accélérer la transition mondiale vers la mobilité électrique et en faire un succès.

Vous réitérant les remerciements du gouvernement togolais pour les appuis multiformes que le FEM apporte à notre pays pour la mise en œuvre des projets, je vous prie d'agréer, **Madame la Coordinatrice**, l'assurance de ma considération distinguée.



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PRESIDENCE DE LA REPUBLIQUE  
MINISTERE DELEGUE  
CHARGE DE L'ENERGIE ET DES MINES

C A B I N E T

DIRECTION GENERALE  
DE L'ENERGIE



N° 094 /PR/MDEM/CAB/DGE/2021

REPUBLIQUE TOGOLAISE  
Travail-Liberté-Patrie

Lomé, le 09 MARS 2021

*La Ministre déléguée*



Mme Kelly WEST  
Coordonnatrice du FEM  
PNUE

Nairobi, Kenya

**Objet :** Cofinancement du ministère délégué auprès du Président de la République chargé de l'énergie et des mines du Togo pour le projet « Soutenir le passage à la mobilité électrique au Togo » (GEF ID 10272)

**Madame la Coordinatrice,**

Nous avons l'honneur de venir par la présente, vous informer du soutien du ministère délégué auprès du Président de la République chargé de l'énergie et des mines du Togo au projet « **Soutenir le passage à la mobilité électrique au Togo** » (GEF ID 10272). Le ministère délégué auprès du Président de la République chargé de l'énergie et des mines du Togo contribuera au cofinancement à hauteur de **600 000 USD** sous forme d'investissements publics et de contributions en nature au cours des quatre années de mise en œuvre du projet, à compter de fin 2021.

Dans le cadre de ce cofinancement, le ministère délégué auprès du Président de la République chargé de l'énergie et des mines du Togo a l'intention de soutenir les composantes et produits suivants :

- **Composante 1.** Institutionnalisation de la mobilité électrique à faible émission de carbone ;
- **Composante 2.** Élimination de barrière à court terme grâce à une démonstration de moto-taxi électrique à faible émission de carbone et au développement de recharge ;
- **Composante 3.** Préparation à l'extension et à la réplique de la mobilité électrique à faible émission de carbone ;
- **Composante 4.** Durabilité environnementale à long terme de la mobilité électrique à faible émission de carbone.



L'investissement public est basé sur le pipeline actuel d'investissements dans des projets d'énergie renouvelable mis en œuvre par le ministère délégué auprès du Président de la République chargé de l'énergie et des mines, et résumés dans le tableau ci-dessous.

<i>Titre et description du projet</i>	<i>Détails du projet</i>	<i>Capacité installée</i>	<i>Investissement</i>
<i>La centrale solaire photovoltaïque de Blitta dans la région centrale du Togo</i>	<i>Financement de la Banque Ouest Africaine de Développement (BOAD) et du Fonds d'Abu Dhabi pour le Développement (ADFD)</i>	<i>50 MW</i>	<i>25 134 000 USD</i>

Les 50 MW de capacité d'énergie solaire installée qui sont envisagés sont supposés fournir environ 82 GWh de production électrique annuelle, couvrant ainsi environ 7% de la production électrique actuelle<sup>1</sup> du Togo.

Il est prévu que la flotte des engins à 2 et 3 roues électriques qui seront directement issus des interventions du projet atteigne environ 16 000 unités d'ici 2030. La demande en électricité découlant de l'utilisation de ces engins électriques à 2 et 3 roues est estimée à environ 2%<sup>2</sup> de la production annuelle d'électricité produite par les projets d'énergie renouvelable présentés dans le tableau ci-dessus. Le cofinancement sous forme d'investissement mobilisé est donc fixé à 2% de l'investissement total dans les projets d'énergie renouvelable mis en œuvre par le Ministère délégué auprès du Président de la République Chargé de l'Énergie et des Mines, et intervenant pendant la durée du projet, de 2021 à 2025. Ainsi, l'investissement public mobilisé s'élève à 500 000 USD.

Dans le cadre de cette contribution au titre de cofinancement, le Ministère délégué auprès du Président de la République Chargé de l'Énergie et des Mines fournira également des contributions en nature pouvant atteindre 100 000 USD pour soutenir des projets, notamment pour participer aux réunions du Comité directeur du projet, aux réunions de l'organe de coordination de la mobilité électrique, aux ateliers, aux formations et aux sessions de renforcement des capacités. En outre, le Ministère délégué auprès du Président de la République Chargé de l'Énergie et des Mines soutiendra le projet en fournissant des données, et en examinant les produits et éléments livrables pertinents du projet, tels que la stratégie nationale de mobilité électrique (Produit 1.2), l'étude de faisabilité pour la démonstration de la mobilité électrique (produit 2.1), la proposition de politiques fiscales et de régimes réglementaires visant à encourager l'adoption de la mobilité électrique (produit 3.1), et l'étude sur l'intégration de la production d'énergie renouvelable pour la recharge des engins (produit 4.1).

<sup>1</sup> Sur la base de la demande de puissance totale de 1282 GWh, Rapport ARSE 2019

<sup>2</sup> Sur la base d'une flotte de 16 000 unités d'engins électriques, avec une consommation moyenne de 4 kWh par 100 km, et une distance de parcours annuelle estimée à 21 840 km.

Le ministère délégué auprès du Président de la République chargé de l'énergie et des mines du Togo soutient fermement cet important projet du FEM et se réjouit d'y participer. Nous espérons continuer à travailler avec le PNUE pour accélérer la transition mondiale vers la mobilité électrique et en faire un succès.

Veuillez agréer, **Madame la Coordinnatrice**, l'assurance de notre considération distinguée.


**Mawanya Mila AZIABLE**

Reference: UNEP/SMU/RDJ

25 March 2021

Dear Ms. West,

I have the pleasure to inform you of UNEP's support to the GEF 7 project "Supporting the Shift to Electric Mobility in Togo (GEF ID 10272)". UNEP's Sustainable Mobility Unit will make a co-financing contribution in the form of a grant worth US\$ 60,000 and in the form of in-kind contribution worth USD\$ 20,000 over the 4 years of the project's implementation, starting first quarter of 2021.

More specifically, under this co-finance contribution UNEP intends to support the following project component and output:

Component 2 – Short term barrier removal through low-carbon e-moto-taxi demonstration and charging development

- Output 2.1. A comprehensive feasibility study and implementation plan for electric moto-taxi demonstration including a low-carbon charging scheme, and a data collection framework are developed along with the reporting and analytical framework.
- Output 2.2: Demonstration vehicles and charging equipment are procured, staff trained, the demonstration project is implemented, monitored and data are collected, analyzed and disseminated.

UNEP, through its Sustainable Mobility Unit (SMU) will use part of the replication funds mobilized through the European Commission funded Solutions Plus project (Grant Agreement number: 875041 – SOLUTIONSplus – H2020-LC-GV-2018-2019-2020/H2020-LC-GV-2019, started implementation January 2020). The funds will be used to support procurement of charging equipment and eventually provide a small grant to the selected charging operation company. The recipient(s) will be selected through a competitive process managed by UNEP's SMU and with support from the Sustainable Transport Africa.

UNEP, as the Implementation Agency for the project "Supporting the Shift to Electric Mobility in Togo" strongly supports this Child Country Project under the GEF-7 Global E-Mobility Programme.

Yours sincerely,



Rob de Jong  
Head, Sustainable Mobility Unit  
UNEP

Ms. Kelly WEST  
GEF Coordinator  
UNEP  
[kelly.west@un.org](mailto:kelly.west@un.org)

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CABINET

SECRETARIAT GENERAL

DIRECTION GENERALE DES TRANSPORTS

DIRECTION DES TRANSPORTS ROUTIERS  
ET FERROVIAIRES

N° 148 /MTRAF/CAB/SG/DGT/DTRF

Lomé, le 26 AVR 2021

*Le Ministre*

A

**Madame Kelly WEST,  
Coordonnatrice du FEM  
Programme des Nations Unies  
pour l'Environnement (PNUE)**

**Nairobi, KENYA**

Objet : Cofinancement du projet « Soutenir la transition  
vers la mobilité électrique au Togo » (GEF ID 10272)

**Madame la Coordinatrice,**

En référence au projet intitulé « Soutenir la transition vers la mobilité électrique au Togo » (GEF ID 10272), j'ai l'honneur de vous rassurer par la présente, du soutien du ministère des transports routiers, aériens et ferroviaires à ce projet.

Mon département apportera une contribution de cofinancement de quatre cent mille (400 000) dollars US sous forme d'investissements mobilisés et de contributions en nature sur les quatre (4) années de mise en œuvre du projet, à partir de début 2021.

Dans le cadre de cette contribution de cofinancement, le ministère des transports routiers, aériens et ferroviaires entend soutenir les composantes et réalisations suivantes du projet :

- (i) composante 1 : institutionnalisation de la mobilité électrique à faible émission de carbone ;
- (ii) composante 2 : élimination des barrières à court terme grâce à une démonstration de moto-taxis électriques à faible émission de carbone et au développement de la recharge ;



(iii) composante 3 : préparation à la mise à l'échelle et à la réplication de la mobilité électrique à faible émission de carbone

(iv) composante 4 : durabilité environnementale à long terme de la mobilité électrique à faible émission de carbone.

L'investissement mobilisé d'un montant de trois cent mille (300 000) dollars US est basé sur les subventions reçues dans le cadre des projets résumés dans le tableau ci-dessous. En partie, ces projets contribueront directement aux objectifs énoncés dans le projet « *Soutenir la transition vers la mobilité électrique au Togo* ».

<b>Titre et description</b>	<b>Partenaire du projet</b>	<b>Début du projet</b>	<b>Durée</b>	<b>Investissement</b>
Assistance technique internationale pour la formalisation et la professionnalisation du sous-secteur des transports routiers	Banque mondiale	Février 2019	40 mois	3 800 000 USD
Assistance technique internationale pour l'amélioration du système d'inspection technique des véhicules et réhabilitation du centre d'inspection technique de Lomé et acquisitions d'équipements de visite technique fixes et mobiles	Banque mondiale	Avril 2019	36 mois	4 000 000 USD

La contribution en nature d'un montant de 100 000 dollars US contribuera au soutien du projet tel que la participation aux réunions du comité de pilotage du projet, aux réunions de l'organe de coordination de la mobilité électrique, aux ateliers, aux formations et aux événements de renforcement des capacités.

Mon département soutiendra le projet en fournissant des données, mais aussi en examinant les produits/livrables pertinents du projet, tels que la stratégie nationale de mobilité électrique (produit 1.2), l'étude de faisabilité pour la mobilité électrique, démonstration (produit 2.1), la proposition de politiques fiscales et de régimes de réglementation pour encourager l'adoption de la mobilité électrique (produit 3.1).

Aussi, le ministère des transports routiers, aériens et ferroviaires apportera un soutien institutionnel et financier à cet important projet du FEM et se réjouit d'en être une partie prenante.

Enfin, je tiens à vous rassurer de la disponibilité de mon ministère à collaborer avec le Programme des Nations Unies pour l'environnement (PNUE) pour accélérer la transition mondiale vers la mobilité électrique et en faire un succès.

Veillez agréer, **Madame la Coordinatrice**, l'assurance de ma considération distinguée.



**Affoh ATCHA-DEDJI**

**N.B.** : cette lettre annule la lettre n°119/MTRAF/  
CAB/SG/DGT/DTRF du 02 avril 2021

## ANNEX P: SAFEGUARD RISK IDENTIFICATION FORM (SRIF)

### Section 1: Project Overview

<b>Identification</b>	10272
Project Title	Support the Shift to Electric Mobility in Togo
Managing Division	Economy Division
<b>Type/Location</b>	National
Region	Africa
List Countries	Togo
<b>Project Description</b>	<p>This project aims at mitigating GHG emissions by accelerating the shift towards electric mobility in Togo by demonstrating the technical, operational and economic viability of electric motorcycles used as moto-taxis in Lomé, Togo.</p> <p>The proposed project is structured across four components, which are necessary to address the barriers and facilitate the successful implementation of the efforts to achieve an integrated, sustainable, and low-emissions transport system.</p> <ol style="list-style-type: none"> <li>1. Component 1. Institutionalization of low-carbon electric mobility</li> <li>2. Component 2. Short term barrier removal through low-carbon e-mobility demonstrations</li> <li>3. Component 3. Preparing for scale-up and replication of low-carbon electric mobility</li> <li>4. Component 4. Long-term environmental sustainability of low-carbon electric mobility</li> </ol>
<b>Relevant Subprogrammes</b>	Climate Change
<b>Estimated duration of project</b>	48 months
<b>Estimated cost of the project</b>	US\$ 423,716
<b>Name of the UNEP project manager responsible</b>	Julien Lheureux
<b>Funding Source(s)</b>	GEF7 (Climate Change Mitigation)
<b>Executing/Implementing partner(s)</b>	Ministry of Environment and Forestry Resources
<b>SRIF submission version</b>	<p>If it is not the first time, mark the time of your previous submission</p> <p>Concept Review [ ] During Project development [ ] PRC [ ]</p> <p>Other _____</p>
<b>Safeguard-related reports prepared so far</b>  <i>(Please attach the documents or provide the hyperlinks)</i>	<ul style="list-style-type: none"> <li>• Feasibility report [ ]</li> <li>• Gender Action Plan [x]</li> <li>• Stakeholder Engagement Plan [ ]</li> <li>• Safeguard risk assessment or impact assessment [ ]</li> <li>• ES Management Plan or Framework [ ]</li> <li>• Indigenous Peoples Plan [ ]</li> <li>• Cultural Heritage Plan [ ]</li> <li>• Others _____</li> </ul>

## Section 2: Safeguards Risk Summary

### Summary of the Safeguards Risk Triggered

Safeguard Standards Triggered by the Project	Impact of Risk (1-5)	Probability of Risk (1-5)	Significance of Risk (L, M, H)
SS 1: Biodiversity, Ecosystems and Sustainable Natural Resource Management	1	1	L
SS 2: Climate Change and Disaster Risks	2	2	L
SS 3: Pollution Prevention and Resource Efficiency	1	1	L
SS 4: Community Health, Safety and Security	1	1	L
SS 5: Cultural Heritage	1	1	L
SS 6: Displacement and Involuntary Resettlement	1	1	L
SS 7: Indigenous Peoples	1	1	L
SS 8: Labor and working conditions	2	2	L

#### A. ESS Risk Level<sup>38</sup>

Refer to the UNEP ESSF (Chapter IV) and the UNEP's ESSF Guidelines.

Low risk



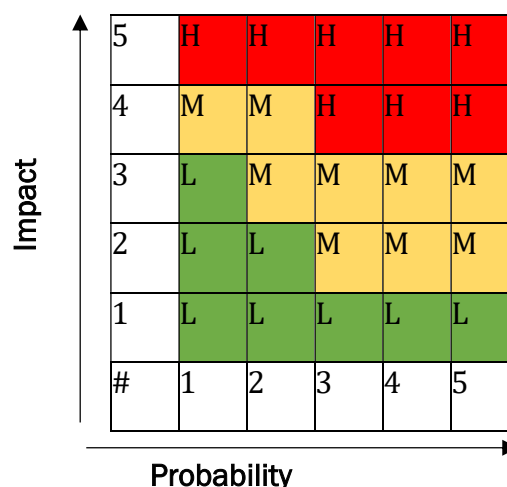
Moderate risk



High risk



Additional information required



#### B. Development of ESS Review Note and Screening Decision

Prepared by

Name: \_Yeonju Jeong\_\_\_\_\_ Date: 01/28/2020

Screening review by

Name: \_\_Yunae Yi \_\_\_\_\_ Date: 24/02/2021

Signature Yunae Yi

Cleared<sup>39</sup>

<sup>38</sup> **Low risk:** Negative impacts minimal or negligible: no further study or impact management required.

**Moderate risk:** Potential negative impacts, but limited in scale, not unprecedented or irreversible and generally limited to programme/project area; impacts amenable to management using standard mitigation measures; limited environmental or social analysis may be required to develop a Environmental and Social Management Plan (ESMP). Straightforward application of good practice may be sufficient without additional study.

**High risk:** Potential for significant negative impacts (e.g. irreversible, unprecedented, cumulative, significant stakeholder concerns); Environmental and Social Impact Assessment (ESIA) (or Strategic Environmental and Social Assessment (SESA)) including a full impact assessment may be required, followed by an effective comprehensive safeguard management plan.

<sup>39</sup> This is signed only for the full projects latest by the PRC time.

### C. Safeguard Review Summary (by the safeguard team)

This is likely a low risk project. However, the components 2 and 3 would require vigilant attention on potential safeguard issues and project's potential impact to the marginalized and vulnerable people.

UNEP ESSF guiding principles-- resilience and sustainability; human rights, gender equality and women empowerment, accountability and leave no one behind--are still applicable for low risk projects. Project level grievance mechanism (if the government does not have such venue) should be established for any complaints to be handled swiftly at the project level.

### D. Safeguard Recommendations (by the safeguard team)

- No specific safeguard action required ☒
- Take Good Practice approach<sup>40</sup> ☐
- Carry out further assessments (e.g., site visits, experts' inputs, consult affected communities, etc.) ☐
- Carry out impact assessments (by relevant experts) in the risk areas and develop management framework/plan ☐
- Consult Safeguards Advisor early during the full project development phase ☐
- Other \_\_\_\_\_ ☐

---

<sup>40</sup> Good practice approach: For most low-moderate risk projects, good practice approach may be sufficient. In that case, no separate management plan is necessary. Instead, the project document demonstrates safeguard management approach in the project activities, budget, risks management, stakeholder engagement or/and monitoring segments of the project document to avoid or minimize the identified potential risks without preparing a separate safeguard management plan.

## Section 3: Safeguard Risk Checklist

Screening checklist		Y/N/ Maybe	Justification for the response (please provide answers to each question)
<b>Guiding Principles</b> (these questions should be considered during the project development phase)			
GP1	Has the project analyzed and stated those who are interested and may be affected positively or negatively around the project activities, approaches or results?	Y	The project document includes an estimate of project beneficiaries, disaggregated by gender.
GP2	Has the project identified and engaged vulnerable, marginalized people, including disabled people, through the informed, inclusive, transparent and equal manner on potential positive or negative implication of the proposed approach and their roles in the project implementation?	Y	The project document includes climate change Climate Risks Analysis.
GP3	Have local communities or individuals raised human rights or gender equality concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	N	Not anticipated.
GP4	Does the proposed project consider gender-balanced representation in the design and implementation?	Y	Yes. The project includes Gender Analysis, which is followed by Gender Action Plan.
GP5	Did the proposed project analyze relevant gender issues and develop a gender responsive project approach?	Y	Yes. Note the comment above.
GP6	Does the project include a project-specific grievance redress mechanism? If yes, state the specific location of such information.	N	Not included.
GP7	Will or did the project disclose project information, including the safeguard documents? If yes, please list all the webpages where the information is (or will be) disclosed.	Y	Yes. As this is a GEF project, all the project documents will be publicly available on the GEF website ( <a href="https://www.thegef.org/projects">https://www.thegef.org/projects</a> ) as the UNEP website ( <a href="https://open.unep.org/">https://open.unep.org/</a> )
GP8	Were the stakeholders (including affected communities) informed of the projects and grievance redress mechanism? If yes, describe how they were informed.	N	This project does not include project-specific grievance redress mechanism.
GP9	Does the project consider potential negative impacts from short-term net gain to the local communities or countries at the risk of generating long-term social or economic burden? <sup>41</sup>	Y	Little to no potential negative impacts from short-term net gain are anticipated.
GP10	Does the project consider potential partial economic benefits while excluding marginalized or vulnerable groups, including women in poverty?	N	One of the main project goals is to improve urban air pollutants, a benefit that can be enjoyed by the general public.
<b>Safeguard Standard 1: Biodiversity, Ecosystems and Sustainable Natural Resource Management</b>			
<i>Would the project potentially involve or lead to:</i>			
1.1	conversion or degradation of habitats (including modified habitat, natural habitat and critical natural	N	Not anticipated.

<sup>41</sup>For example, a project may consider investing in commercial shrimp farm by clearing the nearby mangrove forest to improve the livelihood of the coastal community. However, long term economic benefit from the shrimp farm may be significantly lower than the mangroves if we consider full costs factoring safety from storms, soil protection, water quality, biodiversity and so on.



	habitat), or losses and threats to biodiversity and/or ecosystems and ecosystem services?		
1.2	adverse impacts specifically to habitats that are legally protected, officially proposed for protection, or recognized as protected by traditional local communities and/or authoritative sources (e.g. National Park, Nature Conservancy, Indigenous Community Conserved Area, (ICCA); etc.)?	N	Not anticipated.
1.3	conversion or degradation of habitats that are identified by authoritative sources for their high conservation and biodiversity value?	N	Not anticipated.
1.4	activities that are not legally permitted or are inconsistent with any officially recognized management plans for the area?	N	Not anticipated.
1.5	risks to endangered species (e.g. reduction, encroachment on habitat)?	N	Not anticipated.
1.6	activities that may result in soil erosion, deterioration and/or land degradation?	N	Not anticipated.
1.7	reduced quality or quantity of ground water or water in rivers, ponds, lakes, other wetlands?	N	Not anticipated.
1.8	reforestation, plantation development and/or forest harvesting?	N	Not anticipated.
1.9	support for agricultural production, animal/fish production and harvesting	N	Not anticipated.
1.10	introduction or utilization of any invasive alien species of flora and fauna, whether accidental or intentional?	N	Not anticipated.
1.11	handling or utilization of genetically modified organisms?	N	Not anticipated.
1.12	collection and utilization of genetic resources?	N	Not anticipated.
<b>Safeguard Standard 2: Climate Change and Disaster Risks</b>			
<i>Would the project potentially involve or lead to:</i>			
2.1	improving resilience against potential climate change impact beyond the project intervention period?	N	Not anticipated.
2.2	areas that are now or are projected to be subject to natural hazards such as extreme temperatures, earthquakes, extreme precipitation and flooding, landslides, droughts, severe winds, sea level rise, storm surges, tsunami or volcanic eruptions in the next 30 years?	Maybe	In Component 2, in locating the charging stations and selecting the vehicle models, climate and natural disaster factors will be factored in to minimize potential damages from floods, landslides and heatwave, among others.
2.3	outputs and outcomes sensitive or vulnerable to potential impacts of climate change (e.g. changes in precipitation, temperature, salinity, extreme events)?	Maybe	While this risk is beyond the control of the project, careful project planning with buffer times will be exercised to help mitigate delays due to unexpected climate events.
2.4	local communities vulnerable to the impacts of climate change and disaster risks (e.g. considering level of exposure and adaptive capacity)?	Maybe	Please see the comment above
2.5	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?		The project seeks to mitigate GHG and black carbon emissions through the promotion of electric mobility which provides cleaner modes of transport
2.6	Carbon sequestration and reduction of greenhouse emissions, resource-efficient and low carbon development, other measures for mitigating climate change	Y	The project will lead to direct and indirect GHG emissions reduction through the promotion of sustainable and low-emissions transport

<b>Safeguard Standard 3: Pollution Prevention and Resource Efficiency</b>		
<i>Would the project potentially involve or lead to:</i>		
3.1 the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	N	The proposed project seeks to improve air quality through sustainable and low-emissions transport.
3.2 the generation of waste (both hazardous and non-hazardous)?	N	To address this issue, the activities to be undertaken under project Component 4 will include the development of life-cycle management of battery packs that are used to power electric vehicles, as well as plans for battery recycling, reuse and sound disposal.
3.3 the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	N	Not anticipated.
3.4 the use of chemicals or materials subject to international bans or phase-outs? (e.g. DDT, PCBs and other chemicals listed in international conventions such as the <a href="#">Montreal Protocol</a> , <a href="#">Minamata Convention</a> , <a href="#">Basel Convention</a> , <a href="#">Rotterdam Convention</a> , <a href="#">Stockholm Convention</a> )	N	Not anticipated.
3.5 the application of pesticides or fertilizers that may have a negative effect on the environment (including non-target species) or human health?	N	Not anticipated.
3.6 significant consumption of energy, water, or other material inputs?	N	The project seeks to reduce fossil energy consumption through the promotion of electric mobility powered with renewable energy sources.
<b>Safeguard Standard 4: Community Health, Safety and Security</b>		
<i>Would the project potentially involve or lead to:</i>		
4.1 the design, construction, operation and/or decommissioning of structural elements such as new buildings or structures (including those accessed by the public)?	N	Not anticipated.
4.2 air pollution, noise, vibration, traffic, physical hazards, water runoff?	N	Not anticipated. Rather, the proposed project seeks to improve air quality through sustainable and low-emissions transport.
4.3 exposure to water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable or noncommunicable diseases?	N	Not anticipated.
4.4 adverse impacts on natural resources and/or ecosystem services relevant to the communities' health and safety (e.g. food, surface water purification, natural buffers from flooding)?	N	Not anticipated.
4.5 transport, storage use and/or disposal of hazardous or dangerous materials (e.g. fuel, explosives, other chemicals that may cause an emergency event)?	Maybe	Additional health and safety protocols for the drivers and charging station operators will need to be put in place to ensure safe operations of demonstration vehicles.
4.6 engagement of security personnel to support project activities (e.g. protection of property or personnel, patrolling of protected areas)?	Maybe	Note the comment above
4.7 an influx of workers to the project area or security personnel (e.g. police, military, other)?	N	Not anticipated.

<b>Safeguard Standard 5: Cultural Heritage</b>		
<i>Would the project potentially involve or lead to:</i>		
5.1 activities adjacent to or within a Cultural Heritage site?	N	Not anticipated.
5.2 adverse impacts to sites, structures or objects with historical, cultural, artistic, traditional or religious values or to intangible forms of cultural heritage (e.g. knowledge, innovations, practices)?	N	Not anticipated.
5.3 utilization of Cultural Heritage for commercial or other purposes (e.g. use of objects, practices, traditional knowledge, tourism)?	N	Not anticipated.
5.4 alterations to landscapes and natural features with cultural significance?	N	Not anticipated.
5.5 significant land clearing, demolitions, excavations, flooding?	N	Not anticipated.
<b>5.6 identification and protection of cultural heritage sites or intangible forms of cultural heritage</b>		
<b>Safeguard Standard 6: Displacement and Involuntary Resettlement</b>		
<i>Would the project potentially involve or lead to:</i>		
6.1 full or partial physical displacement or relocation of people (whether temporary or permanent)?	N	Not anticipated.
6.2 economic displacement (e.g. loss of assets or access to assets affecting for example crops, businesses, income generation sources)?	N	On the opposite, the project will investigate options for potential job creation through the national strategy to be developed as part of Output 1.2.
6.2 involuntary restrictions on land/water use that deny a community the use of resources to which they have traditional or recognizable use rights?	N	Not anticipated.
6.3 risk of forced evictions?	N	Not anticipated.
6.4 changes in land tenure arrangements, including communal and/or customary/traditional land tenure patterns (including temporary/permanent loss of land)?	N	Not anticipated.
<b>Safeguard Standard 7: Indigenous Peoples</b>		
<i>Would the project potentially involve or lead to:</i>		
7.1 areas where indigenous peoples are present or uncontacted or isolated indigenous peoples inhabit or where it is believed these peoples may inhabit?	N	Not anticipated.
7.2 activities located on lands and territories claimed by indigenous peoples?	N	Not anticipated.
7.3 impacts to the human rights of indigenous peoples or to the lands, territories and resources claimed by them?	N	Not anticipated.
7.4 the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	N	Not anticipated.
7.5 adverse effects on the development priorities, decision making mechanisms, and forms of self-government of indigenous peoples as defined by them?	N	Not anticipated.
7.6 risks to the traditional livelihoods, physical and cultural survival of indigenous peoples?	N	Not anticipated.
7.7 impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	N	Not anticipated.

<b>Safeguard Standard 8: Labor and working conditions</b>		
8.1 Will the proposed project involve hiring or contracting project staff ?	Y	The project will recruit 2 local experts and 5 international experts. Please see Annex H and Annex I-1 of the CEO Endorsement document for details.
<i>If the answer to 8.1 is yes, would the project potentially involve or lead to:</i>		
8.2 working conditions that do not meet national labour laws or international commitments (e.g. ILO conventions)?	N	Not anticipated.
8.3 the use of forced labor and child labor?	N	Not anticipated.
8.4 occupational health and safety risks (including violence and harassment)?	N	Not anticipated.
8.5 the increase of local or regional unemployment?	N	On the opposite, the project is envisaged to reduce unemployment, please see the comment on 6.2
8.6 suppliers of goods and services who may have high risk of significant safety issues related to their own workers?	N	Not anticipated.
8.7 unequal working opportunities and conditions for women and men	N	Not anticipated.

## ANNEX Q: ACRONYMS AND ABBREVIATIONS

ADA	Other Excise Taxes (Autres Droits d'Accises)
AFD	Agence Francaise de Developpement
AfDB	African Development Bank
AT2ER	Togolese Agency for Rural Electrification and Renewable Energies
BIC	Levy for Industrial and Commercial Profit (Prélèvement pour Bénéfice Industriel et Commercial)
BOAD	Banque Ouest Africaine de Development (West African Development Bank)
CEB	Communauté Electrique du Benin
CEET	Compagnie d'Energie Electrique du Togo
CODATU	Cooperation for Urban Mobility in the Developing World
CTA	Chief Technical Advisor
DD	Customs duties (Droits de douanes)
DTRF	Directorate of Road and Rail Transport
DCTV	Directorate of Technical Control of Vehicles
EA	Executing Agency
ECOWAS	Economic Community of West African States
EV	Electric Vehicles
GEF	Global Environment Facility
GFEI	Global Fuel Economy Initiative
GDP	Gross domestic product
GHG	Greenhouse gas
HFO	Heavy fuel oil
IA	Implementing Agency
IDA	International Development Agency
IEA	International Energy Agency
INV	Investments
IPP	Independent power producer
kWh	Kilo Watt hours
MME	Ministry of Mines and Energy
MJ	Mega Joule
MW	Mega Watt
NPD	National Project Director
PC	Community levy for ECOWAS (Prélèvement communautaire (CEDEAO))
PCS	Community levy for Solidarity West African Economic and Monetary Union - UEMOA (Prélèvement communautaire de solidarité (UEMOA))
PIR	Project Implementation Review
PMC	Project Management Costs
PMU	Project Management Unit
PNS	National Solidarity Levy (Prélèvement National de Solidarité)
PPP	Public private partnership
PSC	Project Steering Committee
RID	IT Fee (Redevance Informatique)
RI	IT fee for declaration (Redevance Informatique pour déclaration)
RS	Statistical Royalty (Redevance Statistique)
SMU	UNEP Sustainable Mobility Unit
SOTRAL	Lome Transport Association (Societe Des Transports De Lome)
SRIF	Safeguard Risk Identification Form
STA	Sustainable Transport Africa
STAP	Scientific Technical Advisory Panel
TA	Technical Assistance

TE	Terminal Evaluation
TPI	Infrastructure protection tax (Taxe de protection des infrastructures)
TVA	Value added tax (Taxe sur la Valeur Ajoutée)
TWG	Technical Working Groups
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value added tax
WAPP	West African Power Pool
WAGP	West African Gas Pipeline
WB	World Bank
WAEMU	West African Economic and Monetary Union



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