



# 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 the Seychelles			
Country(ies):	Seychelles	GEF Project ID:	10274
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01720
Project Executing Entity(s):	Ministry of Transport (Department of Land Transport)	Re-submission Date:	April 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	1,886,000
<b>Total project costs</b>			<b>423,716</b>	<b>1,886,000</b>

### B. PROJECT DESCRIPTION SUMMARY

**Project Objective:** mitigate GHG emissions by accelerating the introduction of electric mobility in Seychelles through demonstration in public transportation, capacity building, and preparation of upscaling and replication through development of adequate electric mobility policies and financing concepts.

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 has established a coordinated institutional framework and adopts a gender sensitive strategy for the promotion of low-carbon electric mobility in Seychelles	<p>1.1: A national inter-sectorial electric mobility steering committee is established.</p> <p>1.2: A gender sensitive National Electric Mobility Strategy that includes electrification of Seychelles Public Transport Corporation is developed and formally proposed.</p> <p>1.3: Key stakeholders are trained in the EV Global Programme activities and through private sector engagement (national and regional workshops, trainings and thematic</p>	GEFTF	77,066	283,000

Project Components/ Programs	Component Type	Project Outcomes	Project Outputs	Trust Fund	<i>(in \$)</i>	
					<i>GEF Project Financing</i>	<i>Confirmed Co-financing</i>
			working groups) and awareness is raised among key stakeholders on electric mobility			
Component 2. Short term barrier removal through low-carbon electric mobility demonstrations	TA/INV	2. The e-bus demonstration provides evidence of technical, financial, and environmental sustainability enabling SPTC to plan for scale-up of Seychelles' e- bus fleet.	2.1: A comprehensive feasibility study and implementation plan for electric bus demonstration for testing on different routes is developed including data collection, reporting and analytical frameworks  2.2: One demonstration bus and charging equipment are procured, staff trained, demonstration project on different routes is implemented, monitored and data collected, analyzed and disseminated.	GEFTF	167,525  Thereof: TA 87,525  INV: 80,000	934,000
Component 3. Preparing for scale-up and replication of low-carbon electric mobility	TA	3. The government creates conditions for removing existing barriers by developing plans and financing concepts, and by submitting policies and regulations for adoption to accelerate the introduction of EVs in Seychelles	3.1: Based on the demonstration project, priority routes for scaled-up e-bus deployment are selected and technical specifications for electric buses and the respective charging equipment are developed  3.2: Fiscal policies, and regulatory measures to incentivize the uptake of electric mobility are developed and formally proposed.  3.3 One e-bus up-scaling financing concept is developed and submitted to a financier	GEFTF	65,875	243,000
Component 4. Long-term environmental sustainability of low-carbon electric mobility	TA	4. Measures are developed by the government to ensure the long-term environmental sustainability of low-carbon electric mobility	4.1 A sustainable e-mobility study including a brief technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries, an evaluation of the potential to charge EVs with renewable power and the impact of EVs on the integration of renewable is	GEFTF	46,000	243,000

Project Components/ Programs	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
			developed with the support of the Global Programme			
			Monitoring & Evaluation	GEFTF	30,000	-
			Subtotal		386,466	1,703,000
			Project Management Cost (PMC)	GEF TF	37,250	183,000
			<b>Total project costs</b>		<b>423,716</b>	<b>1,886,000</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 Agriculture, Climate Change & Environment	In-kind	Recurrent expenditures	748,000
Recipient Country Gov.	Ministry of Transport	In-kind	Recurrent expenditures	748,000
Recipient Country Gov.	Ministry of Transport / Seychelles Public Transport Corporation	Public Investment	Investment Mobilized	120,000
Recipient Country Gov.	Ministry of Transport / Seychelles Public Transport Corporation	In-kind	Recurrent expenditures	250,000
GEF Agency	UNEP SMU	In-kind	Recurrent expenditures	20,000
<b>Total Co-financing</b>				<b>1,886,000</b>

Describe how any "Investment Mobilized" was identified:

Investment mobilized was identified through bilateral meetings with the potential co-financiers within the government:

- The Ministry of Transport will grant USD 120,000 cash contribution to the Seychelles Public Transport Corporation (SPTC), which is a public entity domiciled within the Ministry of Transport established to provide public transport services focused on Mahé and Praslinto. This cash contribution is to support the purchase of one electric bus to demonstrate and prepare the scaling-up of electric buses within SPTC.

### 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	GEFTF	Seychelles	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> )	Total direct: 23,117 Indirect: 86,901
11	Number of <b>direct beneficiaries disaggregated by gender</b> as co-benefit of GEF investment	Women: 387 Men: 604 Total: 991

Methodology for the estimation of GHG reductions and energy saving are illustrated in Annex M.

#### Direct Beneficiaries:

The beneficiaries of the project will come mainly by the country project activities and the Global Programme activities executed through the African regional platform.

- The Africa regional Support and Investment Platform will carry out 8 events. We propose the participation of at least 2 attendees from the country institutions. In addition, we estimate that the country will host at least 5 workshops and trainings. Each workshop will gather at least 15 participants. Based on these assumptions, 91 beneficiaries will directly benefit from trainings and workshops, of which 27 are women and 64 are men (considering a 30% women / 70% men ratio).
- The demonstration project also will benefit customers using the demonstration bus. In total we estimate 900 beneficiaries from the demonstrated electric bus, of which 360 are women and 540 are men. The number of beneficiaries is based on “single users” of the demonstration buses, which have been estimated based on assumptions on annual passengers transported (per bus) and trips per year (per passenger). For the Seychelles, a share of 40% of women has been assumed for bus ridership<sup>1</sup>.

## 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		
<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	
Communications	Awareness Raising		

<sup>1</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.

Level 1	Level 2	Level 3	Level 4	
		Behavior Change		
<b>Capacity, Knowledge and Research</b>	Capacity Development			
	Knowledge Generation and Exchange			
	Innovation			
	Knowledge and Learning	Knowledge Management		
		Innovation		
Capacity Development				
		Learning		
<b>Gender Equality</b>	Gender Mainstreaming	Beneficiaries		
		Sex-disaggregated indicators		
	Gender results areas	Participation and leadership		
Access to benefits and services				
<b>Focal Areas/Theme</b>	Climate Change	Climate Change Mitigation	Sustainable Urban Systems and Transport	
<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.).*

The concept envisioned an electric vehicle demonstration study with solar recharging in Mahé together with an electric bus demonstration with SPTC in Mahé. The concept did not specify numbers of vehicles for either study. The final project reduces the scope of the electric vehicle demonstration study to Mahé with one electric bus to be demonstrated there. The final project will support scaled-up deployment of electric buses – for example through the donation of up to 22 electric buses into the SPTC fleet as part of a government-to-government agreement between the Republic of the Seychelles and China, which is currently under development. The final project will also conduct a sustainable electric mobility study including the assessment of EV renewable charging and grid integration, and the evaluation of an Extended Producers Responsibility scheme for used EV battery collection.

Both the concept and the final project have four components. The concept components were:

- 1) Institutionalization of electric mobility;
- 2) Electric vehicle demonstration project;
- 3) Preparation of scale-up and replication of electric mobility, and
- 4) Promotion of long-term sustainability of electric mobility

The final project four components are:

- 1) Institutionalization of low-carbon electric mobility;
- 2) Short term barrier removal through low-carbon electric mobility demonstrations;
- 3) Preparation of scale-up and replication of low-carbon electric mobility; and
- 4) Long-term environmental sustainability of low-carbon electric mobility.

Budget allocations between the components have shifted slightly in the final project to ensure that the demonstration projects are adequately resourced to ensure that this critical introduction of electric mobility will see to scalable uptake after the project.

As per the project concept (PFD), Seychelles was supposed to provide a total project co-financing of USD 1,496,000 of which USD 374,000 represented in-kind contributions and USD 1,122,000 was to be mobilized from related public investment. The final project total co-finance stands at USD 1,866,000 comprising USD 120,000 of public investment, with the remainder being in-kind contributions.

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

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

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.

The Republic of Seychelles is an archipelago of 115 islands on the Indian Ocean in Eastern Africa. Three-quarters of the 94,737 population lives on the main island of Mahé (UN, 2017) (Figure 1). Seychelles has the highest Gross Domestic Product (GDP) per capita in Africa (\$15,410 in 2016), but inequality is significant.



**FIGURE 1 MAP OF THE MAIN DISTRICTS OF SEYCHELLES**

Categorized as a Small Island Developing State (SIDS) with a large dependency on tourism, the “Seychelles National Climate Change Strategy” states that Seychelles is economically, culturally and environmentally vulnerable to the potential effects of climate change and associated extreme events. Vulnerability characteristics such as concentration of development on narrow coastal zones, non-resilient populations and ecosystems make the Seychelles extremely sensitive to climate change and its associated impacts. The impact of climate change on coastal livelihoods as a result of sea level rise, storm and tidal surges, extreme sea-surface temperatures, and coastal flooding will have serious consequences for livelihoods in the Seychelles. The effects of climate change on tourism in small islands are expected to be largely negative. Furthermore, recent studies suggest that changes in long-term rainfall patterns and temperature changes will also have adverse consequences for water, food and health<sup>2</sup>. As such, it gives priority concern for adaptation to climate change as communicated in its Nationally Determined Contribution (NDC) under the United Nations Framework Convention on Climate Change (UNFCCC) in September 2015. Further, the Republic of Seychelles is putting in place efforts to mitigate climate change as part of its commitments to the UNFCCC which will in turn enhance its energy security and reduce its energy bill.

According to the Seychelles’ Second National Communication (2011), **in 2000, the total Seychelles CO<sub>2</sub> emissions were 0.273 Mt CO<sub>2</sub>**. According to the World Bank, **total global CO<sub>2</sub> emissions were 24,690 Mt CO<sub>2</sub> in 2000**, indicating Seychelles emissions contributed approximately 0.001% of global emissions. Between 1990 and 2011, GHG emissions increased by 285% in the Seychelles (2015, GHG in Southern Africa). Although Seychelles currently contribute only about 0.002% to global greenhouse gas emissions, the archipelago state is vulnerable to global climate change and pollutant emissions from transport are significantly reducing air quality.

About 95% of the Seychelles emissions of CO<sub>2</sub> in 2000 were from fuel combustion as shown in Figure 2 below, whilst 5% were from changes in forest and other woody biomass stocks. Some 57% of the CO<sub>2</sub> emissions from fuel combustions were from public electricity production, **25% were from transport (19% from road transport)**, 11% were from the commercial and institutional sector, 3% were from manufacturing and construction, 3% were from residential sector, and 1% from other sectors. The inventory concluded that the most significant source of GHG in Seychelles is the consumption of fuel oil both to produce electricity and for transportation. Public electricity and transport are therefore priority sectors for emissions reductions in Seychelles

<sup>2</sup> Seychelles National Climate Change Strategy November 2009, the Seychelles National Climate Change Committee

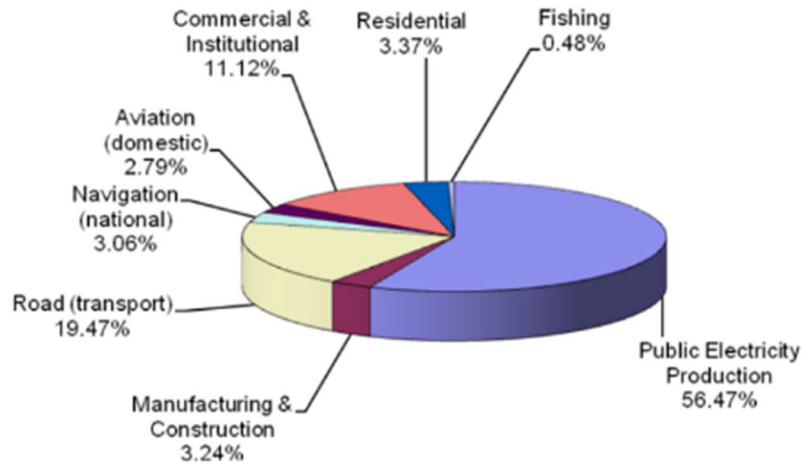


FIGURE 2 CO<sub>2</sub> EMISSIONS BY SECTOR IN 2000 (SOURCE: GOVERNMENT OF SEYCHELLES, 2011)

In 2007, Seychelles primary energy consumption reached 115,000 toe (2009, Seychelles National Climate Change Strategy). According to the European Union Emissions Database for Global Atmospheric Research (EDGAR) *Fossil CO<sub>2</sub> and GHG emissions of all world countries report*, in 2016, the total Seychelles CO<sub>2</sub> emissions were 0.520 Mt CO<sub>2</sub> indicating a doubling of CO<sub>2</sub> emissions in Seychelles in less than twenty years. This is clear indication that without intervention, Seychelles GHG emissions will continue to grow significantly.

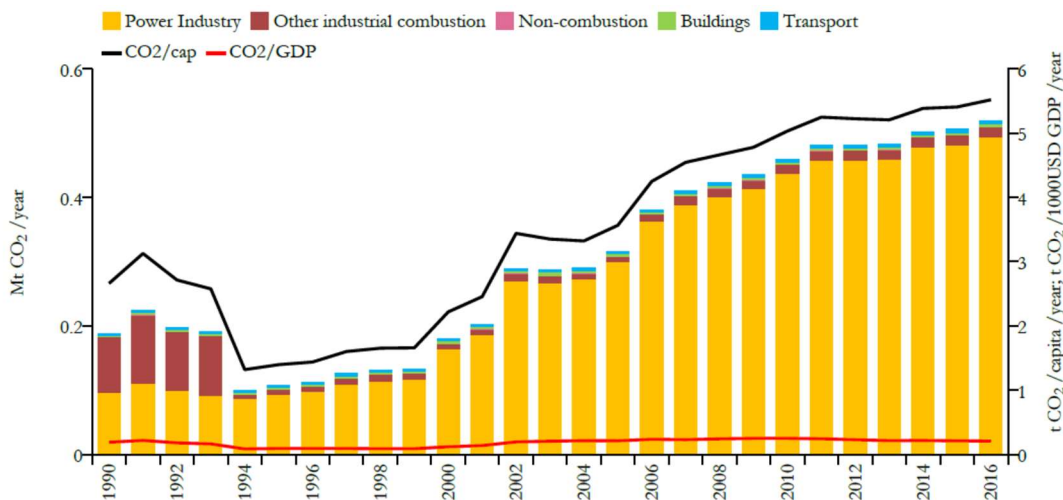


FIGURE 3 SEYCHELLES SECTORAL CO<sub>2</sub> EMISSIONS (SOURCE: EU EDGAR)

Fuel imports were 22% of the GDP in 2005, and the Seychelles energy import bill rose from 6 million US\$ in 1998 to approximately \$84 million in 2008. However, Seychelles only consumes one-third of what is imported, the remainder is exported as international bunker. Nevertheless, Seychelles 100% dependence on fuel imports has great economic implications with fluctuations in international oil prices directly impacting GDP. There is therefore great impetus to reduce this exposure to economic hardship from oil price fluctuation by transitioning from fossil fuel-based transport and electricity production.

The total power generation capacity in Seychelles consists of 82.8 megawatts (MW) of fuel oil power generation, 6MW of wind power generation and 3.8MW of solar power generation each representing 97, 2 and 1 percent of overall power generation, respectively (Seychelles Public Utilities Corporation). In 2010, the Cabinet approved and adopted the **2010 Seychelles Energy Policy**<sup>3</sup> (developed with support from UNDP), with an aim to diversify the energy supply. Renewable energy integration targets of 5% and 15% share of renewable energy supply have been set for 2020 and 2030 respectively.

<sup>3</sup> Proposal for Energy Policy of the Republic of Seychelles, 2010 – 2030, Jan Van Vreden et al June 2010



In 2012, the Government of the Seychelles enacted Energy Act, 2012 (No. 11 of 2012), which “[...] concerns the control and licensing of electricity generation and distribution. It establishes the Seychelles Energy Commission, the Seychelles Energy Board and provides with respect to renewable energy, energy efficiency and designates the national authority for purposes of the Clean Development Mechanism as defined in Article 12 of Kyoto Protocol to the United Nations Framework Convention on Climate Change”.<sup>4</sup> More specifically, the Energy Act states “1- The use of RE will be promoted in all sectors. 2- The Energy Commission may develop specialized power purchase agreements depending on the nature of RE resource and on the capacity of proposed project. 3- The Commission will carry out and facilitate the provision of RE related information to encourage the use of renewable energy”<sup>5</sup>.

It needs to be highlighted that while the power supply of Seychelles today is dominated by large diesel gensets ranging between 1.2 MW and 8 MW electrical power output, **the use of electric buses would result in immediate emission reductions in the range of 30% to 35% compared to a diesel bus**. This is due to the fact that while both primary energy conversion technologies (i.e. the diesel engine in the bus to propel the bus and the diesel generator in the electricity grid to generate power) use diesel as primary energy carrier, the conversion efficiency to transform diesel into electricity is around 42% to 45% for large diesel gensets of more than 1MW power output<sup>6</sup> compared to the efficiency of a diesel engine in a bus to convert diesel into motion of less than 20%<sup>7</sup>. The more than twice as high efficiency of the diesel genset compared to the diesel bus engine is then only lowered by 15% to 20% stemming from losses in power transmission and distribution (~5%), e-bus charging (10% to 15%) and the electric engine to propel the bus (~5%)<sup>8</sup>.

The Government of Seychelles 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. Seychelles in its **NDC identified the need for maintaining a high penetration of public transport, targeting fuel efficiency and biofuels import regulations, and moving towards electric vehicles**, as these have the potential to reduce oil imports for transport purposes by 15% to 30% (or perhaps more) by 2030 compared to the baseline<sup>9</sup>.

Specifically, Seychelles identified the following mitigation actions for land transport: 1.) 30% of private vehicles to be electric by 2030 at an estimated cost of 66.7 million USD; and 2.) 15.8 MW of solar PV for meeting the energy demand of electric vehicles (capital expenditure, and operation & maintenance costs) at a cost of 29.8 million USD. This project is working towards both of these targets, supporting the Government of Seychelles with the accelerated introduction of electric mobility and linking the use of renewable power for EV charging.

In 2015, the Seychelles Infrastructure Action Plan<sup>10</sup> supported by the African Development Bank (AfDB) suggested the development of a “Transportation Master Plan”, to encourage public transportation, which is proposed to play a much more prominent role to tackle the challenges of growing population and increased vehicle ownership. The report outlines that the greatest challenge faced by Seychelles Public Transport Corporation (SPTC), which is responsible for about 20% to 25% of all trips made lies with “the replacement of the bus fleet, lowering the average age with the aim of reducing annual maintenance costs”. It concludes that “external funding will be required to facilitate the gradual introduction of greener buses, given that such an investment would not otherwise be economically viable”.

Indeed, the government’s ability to invest in large infrastructure projects (including transport and energy) is reduced “due to the ongoing debt reduction programme” and “mechanisms permitting ‘project finance’ solutions not involving government guarantees will therefore need to be found”<sup>11</sup>. Between 2008 and 2016, public debt as a percentage of GDP has been halved but is still above the average debt of comparable countries<sup>12</sup>. While the constraint to take on new debt

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<sup>4</sup> <https://www.informea.org/en/legislation/energy-act-2012-no-11-2012>

<sup>5</sup> <https://www.ica.org/policies/457-energy-act?q=seychelles&s=1>

<sup>6</sup> Guidelines for estimating greenhouse gas emissions of Asian Development Bank projects: Additional guidance for clean energy projects. Mandaluyong City, Philippines: Asian Development Bank, 2017.

<sup>7</sup> The much lower efficiency of the bus engine is due to effects of scale (the average diesel genset in the Seychelles has more than 25 times the power output than the average diesel bus) and the operation scheme. While a diesel generator always runs at optimal engine speed, a diesel engine in a bus is subject to a very transient cycle of acceleration and deceleration constantly operating off optimal engine speed, which significantly reduces engine efficiency.

<sup>8</sup> Assumed fuel economies: diesel bus ~46 L/100km; e-bus ~110kWh/100km; both for a 12m city bus w/o air conditioning

<sup>9</sup> Republic of Seychelles Intended Nationally Determined Contribution (INDC) Under The United Nations Framework Convention On Climate Change (UNFCCC), September 2015

<sup>10</sup> Seychelles Infrastructure Action Plan, African Development Bank, May 2015

<sup>11</sup> Seychelles Infrastructure Action Plan, African Development Bank, May 2015

<sup>12</sup> GOVERNMENT OF SEYCHELLES Debt Management Strategy: For the years 2017 - 2019

has been relaxed in the recent past, this still poses a significant barrier. This barrier is amplified by the absence of a “Transportation Master Plan or indeed any strategic planning tool for infrastructure”<sup>13</sup>. The use of public private partnerships (PPPs) has therefore been identified an option to circumvent the financing barrier. Under a PPP, the private sector would finance, develop and operate the infrastructure, and provide a service to the public. Transforming SPTC into a PPP is currently being considered to unlock the finance barrier in the public transport sector. However, the Seychelles Infrastructure Action Plan (2015) also stated that Seychelles was not ready to effectively implement PPPs in areas other than in public infrastructure due to a policy framework and legal and regulatory framework which at the time was not prepared for the implementation of PPPs as well as a general absence of capacity and a clear implementation plan. Equally, the World Economic Forum Global Competitive Index ranks access to finance as the most problematic factor for doing business in the Seychelles<sup>14</sup>.

This project supports the Republic of Seychelles in its efforts to promote public transportation through the demonstration of 1 electric bus, which will prepare the planned upscaling of the e-bus fleet through the development of a financing concept, and finally the total switch to electric buses within the fleet of SPTC. By promoting electric public transportation, and by developing an adequate strategic and policy framework, the project will work towards the intended plan to electrify public and private vehicle fleets in the Seychelles. By further investigating the interdependencies between renewable power supply and flexible power demand, e.g. through the introduction of electric vehicles, the project will also work towards the renewable power supply target of 15% by 2030 set in the 2010 Seychelles Energy Policy.

## 2) Baseline scenario and any associated baseline projects

### *Transport sector*

Between 2000 and 2015, the total vehicle fleet in Seychelles more than doubled (Error! No bookmark name given.), with the fleet of passenger cars almost tripling. Overall fleet growth is clearly driven by (private) passenger cars. Motor vehicle driving licenses have also increased steadily, at a rate of approximately 10% per year, standing at 10,037 in 2011. Motor vehicles registration between 2000 and 2015 indicated that Seychelles has a relatively high motorization rate per capita fleet at 176 vehicles per 1000 people in 2014. Globally, this placed the small island archipelago at number 77 out of 191 that year. This is approximately at the same level as Singapore and Hong Kong.

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<sup>13</sup> Seychelles Infrastructure Action Plan, African Development Bank, May 2015

<sup>14</sup> The Global Competitiveness Index 2017-2018 edition – Seychelles, World Economic Forum 2018

NEW REGISTRATIONS					
Year	Passenger cars <sup>(1)</sup>	Omnibuses	Commercial vehicles <sup>(2)</sup>	Motor cycles	Total
2000	275	24	83	2	384
2001	270	19	88	11	388
2002	475	11	202	5	693
2003	518	39	172	15	744
2004	427	39	143	15	624
2005	511	9	215	13	748
2006	931	2	308	6	1,247
2007	1,319	4	373	11	1,707
2008	1,025	33	373	9	1,440
2009	493	42	233	4	772
2010	1,314	72	327	26	1,739
2011	1,579	142	377	76	2,174
2012	1,250	42	233	131	1,656
2013	1,285	15	331	107	1,738
2014	2,273	23	480	50	2,826
2015	1,345	30	357	149	1,881
<b>NEW PLUS RE- REGISTRATIONS</b>					
2000	6,970	216	2,267	55	9,508
2001	5,384	203	2,521	59	8,167
2002	6,448	193	2,833	33	9,507
2003	7,376	171	2,405	42	9,994
2004	7,373	200	2,486	50	10,109
2005	7,831	226	2,426	34	10,517
2006	8,195	215	2,581	21	11,012
2007	9,104	191	2,524	34	11,853
2008	10,361	227	2,796	44	13,428
2009	10,409	269	2,886	28	13,592
2010	12,071	293	2,878	74	15,316
2011	12,102	473	3,105	173	15,853
2012	12,911	439	2,885	335	16,570
2013	14,606	458	3,235	307	18,606
2014	15,952	475	3,624	240	20,291
2015	15,788	566	3,558	516	20,428

**FIGURE 4 SEYCHELLES VEHICLE REGISTRATION AND FLEET GROWTH  
(SOURCE: SEYCHELLES LICENSING AUTHORITY)**

There is broad agreement on the need to provide more public transport to discourage greater private car ownership - a recent survey indicated that all young Seychellois aspire to own a car. The high motorization has negative ramifications with congestion, traffic safety and pollution increasingly becoming major concerns. It is recognized that several key existing roads cannot be widened, since the rights-of-way are fully occupied to the edge of pavement by buildings or retaining walls on steep slopes, which amplifies the problem of congestion.

Vehicle importation and registration is ruled by the “Road Transport Act” (Laws of Seychelles, Chapter 206) which sets that currently, all motor vehicles imported require an import permit and should be new, unless for returning residents (3 year age limit). To further discourage motorization uptake, Government has imposed a 50% increase in the levy on imported private vehicles in 2014, albeit with little to no success. This is in part because road infrastructure is well-established with more than 95% of roads being paved<sup>15</sup>. One other intervention proposed to discourage the use of private vehicles, is to raise the parking fees in the Central Business District (CBD) and introduce a toll to enter the CBD, in recognition of the pending challenges in providing additional roadway capacity. During the scoping mission, the

<sup>15</sup> The road network in Seychelles includes primary, secondary, feeder and estate roads. There are approximately 508 km of roads, of which 250 km are primary roads, 150 km are secondary roads, and more than 100 km are feeder roads. The bulk of this road network is on Mahé. The primary road network connects the main economic centers and also the different districts of the country on the three main islands of Mahé and Praslin

government spoke of interest in looking into vehicle scrappage or removal of older cars to reduce congestion and roll back emissions from existing vehicle fleets.

An overview of current vehicle import taxation for conventional, hybrid and battery electric vehicles (BEVs, including plug-in hybrids) is shown in Figure . Clearly, the import of vehicles is highly taxed, with total tax burden varying 81% and 184% of the Cost, Insurance and Freight (CIF) value of the vehicle. Compared to ICE vehicles, hybrids and BEVs benefit from quite substantial tax incentives (excises are waived 100% for BEVs) – which, based on the assumed vehicle CIF values, has varying effect on total costs, depending on the size and power of the vehicle (captured through the outdated parameter “engine displacement”). For example, for smaller vehicles with engine displacement below 2,000cc the incentive is not enough to bring hybrid and BEV cost on par with conventional vehicles, while for large and powerful cars (displacement over 2,000cc) BEVs finally become the most economic option. As such there is an incentive to purchase vehicles with smaller internal combustion engines, which often goes along with lower power and higher efficiency, but there is little incentive to buy fully electric vehicles in the segments accounting for the largest market shares.

There would be much better ways of taxation, directly linking the various excises and levies to fuel economy or CO<sub>2</sub> emissions. Since only cars not older than 3 years are allowed to be imported to the Seychelles, collecting the relevant information is easy, since all vehicles of this build year need to come with tested fuel economy / CO<sub>2</sub> emission data complying to various standards around the world. However, with about 500 EVs sold to date (including BEVs and plug-in hybrids), Seychelles has more private EV sales per capita than any other African country. Most of the EVs are imported from South Africa and India, however, local dealers have started to establish local presence providing consumers local support.

The Seychelles Revenue Commission and Ministry of Finance are responsible for value added taxes (VAT), excise tax trade tax and levies. Legislation with regards to vehicle registration and use lies with Ministry of Transport.

	below 1600cc			1600cc to 2000cc			2000cc to 2500cc			2500cc to 3000cc			exceeding 3000cc		
	ICE	Hybrid	BEV	ICE	Hybrid	BEV	ICE	Hybrid	BEV	ICE	Hybrid	BEV	ICE	Hybrid	BEV
Example CIF value, USD	23,000	30,000	36,000	28,000	36,000	43,000	35,000	46,000	54,000	70,000	91,000	109,000	90,000	117,000	140,000
Trade tax, ad valorem, %	25%														
Goods and service tax, %	15%														
Excise tax, ad valorem, %	25%	13%	0%	50%	38%	0%	75%	75%	0%	100%	100%	0%	100%	75%	0%
Levy, USD	1,500			2,500						5,000					
Total taxes & levies ad valorem, USD	16,450	17,250	15,900	27,700	30,400	19,700	45,250	57,900	26,600	103,000	132,400	48,600	131,000	139,550	61,000
VAT, %	15%														
VAT, USD	5,918	7,088	7,785	8,355	9,960	9,405	12,038	15,585	12,090	25,950	33,510	23,640	33,150	38,483	30,150
Total taxes & levies, USD	22,368	24,338	23,685	36,055	40,360	29,105	57,288	73,485	38,690	128,950	165,910	72,240	164,150	178,033	91,150
Total vehicle price incl. taxes & levies, USD	45,368	54,338	59,685	64,055	76,360	72,105	92,288	119,485	92,690	198,950	256,910	181,240	254,150	295,033	231,150
% share of taxes on CIF price	97%	81%	66%	129%	112%	68%	164%	160%	72%	184%	182%	66%	182%	152%	65%

FIGURE 5 VEHICLE IMPORT TAXES AND LEVIES (SOURCE SEYCHELLES REVENUE COMMISSION)<sup>16</sup>

### Background on Seychelles Public Transport Corporation

The SPTC was established in December 1977 in accordance with the Seychelles Public Transport Corporation Decree 1977. The Decree mandated SPTC to provide an efficient, adequate and economical public transport system within Seychelles for the general public, that charges a reasonable and adequate level of fares. To date, SPTC is 100% government owned but plans exist to either privatize the corporation or to convert it into some form of public private partnership. The Corporation has grown to offer an expansive range of services including special hires, maintenance services and advertising opportunities. SPTC is the only public transportation service provider in Seychelles with over 55,000 passengers accessing their service every day in the islands of Mahé and Praslin.

In 2016, SPTC’s total revenue<sup>17</sup> amounted to about 8.0 million USD, of which 5.02 million USD were generated through fare collection, 834,000 USD were generated through special services hire contracts and 2.14 million USD were covered

<sup>16</sup>Source : <https://www.src.gov.sc/pages/pressreleases/VATImportation.aspx>;

<http://www.seychellesnewsagency.com/articles/7396/Excise+taxes+on+hybrids+in+Seychelles+set+to+increase%2C+closing+luxury+loophole>

<sup>17</sup> SPTC Efficiency and Effectiveness of the Public Bus Service, Office of the Auditor General, March 2018

though government subsidies, accounting therefore for about 27% of SPTC income (a value which is rather moderate as usual subsidies for bus public transport usually reaches levels of 50% and more in European cities<sup>18</sup>).



**FIGURE 6 VEHICLE FLEET OF THE SEYCHELLES PUBLIC TRANSPORT CORPORATION (SPTC)**

SPTC operates a fleet of 265 buses, of which 207 are manufactured by Tata Motors, India's largest buses & chassis manufacturer. The SPTC bus fleet mainly consists of three models, the TATA 713, TATA 1512 and the TATA 1318 (see Figure ). These are rated for approximately, 28, 38 and 52 seating passengers, respectively. Seychelles does not have clean fuel standards or heavy-duty emissions standards, hence the buses are highly pollutive.

SPTC Fleet Replacement Policy specifies that only buses of up to 12 years are kept in active service, as such, over the last four years, 107 buses have been replaced and about 45 buses are expected to be introduced into the fleet in 2020 and 2021. The average SPTC fleet age is 8 years, but some buses are up to 15 years old and could be associated with higher maintenance costs. The SPTC has a fleet replacement plan that targets an average fleet age of 5 years or less. To achieve this external financing will be required.

SPTC is currently operating a network of 41 routes and service is starting by 5.50 am and ending by 7pm at the latest, providing ample time for e-bus charging. SPTC is operating 5 bus depots distributed over the islands of Mahe and Praslin. Data on duty hours and kilometers driven indicate (Figure ) that daily distances driven on many of the routes are relatively short (between 52 km/d up to 194 km/d) and therefore well suited for electric buses. Whilst daily distances seem moderate, the geographical profile includes hilly terrain with steep gradients, demanding for sufficient engine power and battery range. Bus speeds are limited to 50 km/h on free road and 60 km/h on highway, being well suited for e-bus operation.

Fuel consumption of the bus fleet increased over the past years, averaging to about 250,000 liters per month costing the company around 800,000 USD per year (equal to almost 30% of annual government subsidies). In addition, at fuel cost of SCR 4.75 or about USD 0.22 per liter, diesel for use by SPTC is currently highly subsidized by government (compared to diesel pump price of SCR 20 per litre or USD 0.98 per litre<sup>19</sup>). The use of e-buses would significantly reduce expenditures on diesel fuel, and hence also reduce the amount fuel subsidy expenditures. At the same time, the subsidy on diesel fuel substantially distorts the TCO of electric buses when benchmarked against diesel buses. It is therefore proposed to evaluate whether better ways of subsidizing SPTC exist, e.g. directly via the ticket price. This would also create an incentive to use the remaining ICE buses more efficiently, e.g. through training drivers to drive more fuel economical.

<sup>18</sup> Comparison of subvention levels for public transport systems in European, Asiling Reynolds Feighin et al, University Colleg Dublin, 2000 cities

<sup>19</sup> <https://www.seypec.com/fuel-prices>

**Table 8: Examples of duty hours versus kilometres driven**

Depot	Duty number	Start time	Finish time	Total hours	Duty duration	Km driven
Victoria	0137	5.45am	5.45pm	12 hours	9 hours 35 mins	52.5
Port Launay & Barbarons	0171	6.05am	4.05pm	10 hours	8 hours 25 mins	69.5
Victoria	0009	5.35am	7.10pm	13 hours 35 mins	10 hours 15 mins	101.0
Baie Lazare	0071	6.05am	5.25pm	11 hours 20 mins	9 hours 5 mins	149.5
Baie Lazare	0075	6.35am	6.40pm	12 hours 5 mins	9 hours 25 mins	154.0
Anse Aux Pins	0108	4.45am	5.05pm	12 hours 20 mins	9 hours 35 mins	167.5
Baie Lazare	0082	5.50am	5.30pm	11 hours 40 mins	10:20hrs	168.0
Anse Aux Pins	0109	5.30am	5.35pm	12 hours 5 mins	09:35hrs	172.5
Baie Lazare	0084	5.40am	5.30pm	11 hours 50 mins	10:45hrs	194.0

Source: OAG Analysis of duties as per the SPTC Scheduling Unit

**FIGURE 7 DUTY HOURS AND KILOMETRES DRIVEN ON VARIOUS ROUTES**

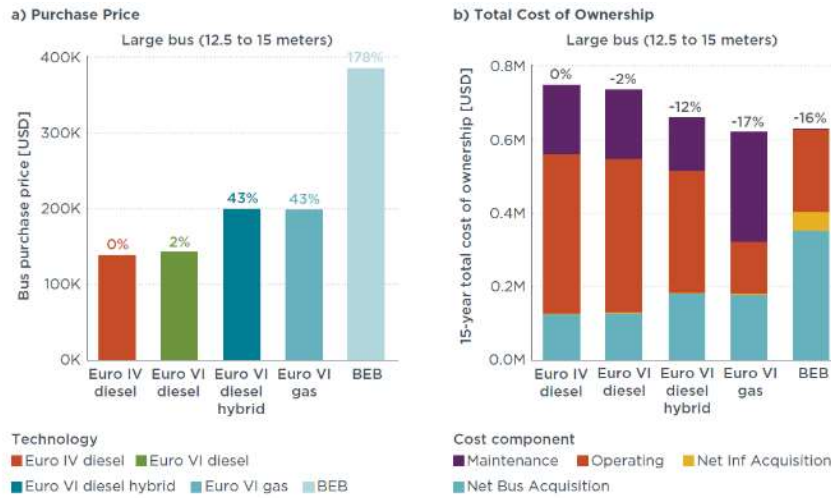
SPTC has managed to operate an efficient and reliable public transportation system. The 2018 Performance Audit on SPTC operation conducted by the Office of the Auditor General titled ‘Efficiency and Effectiveness of the Public Bus Service’ established that:

- SPTC operated 99 per cent of its scheduled trips and kilometres between 2013 and 2016
- SPTC has been able to increase number of trips between 2013 and 2016 to meet public demand, as articulated in consultations with public stakeholders
- In addition to training of new bus driver recruits, SPTC offers continuing education and training to its existing drivers at its Driving School, raising the level of proficiency of the fleet drivers
- SPTC observes a thorough monthly service schedule for all its buses as part of its preventive maintenance program. This has resulted in a declining bus breakdown over the years. This coupled with a quicker response to bus breakdowns has seen to significant reduction in down times due to breakdown.

Undoubtedly, the audit did establish several areas of operation that required corrective measures and/or improvement but largely, this audit underscored the fact that SPTC has been successful in meeting the mandate with which it was charged. SPTC running a well-maintained scheduled service is therefore in a good position to pilot electric buses in, with potential for providing outreach and replication to other developing and transitional countries.

A public transport survey conducted by the SPTC as part of this audit found that 95% of daily commuters rely on the SPTC bus service to travel to work or school. While the ridership numbers are impressive.

Research from the International Council on Clean Transportation (ICCT) found in 2017 that total cost of ownership for new 12.5m electric buses in Bangkok would be about 16% cheaper compared to a Euro IV diesel bus. This analysis also included a thorough dive in the analysis of maintenance costs, which for example reveals that an engine of a conventional diesel bus needs a complete overhaul each 5 years costing about 38,000 USD in the Bangkok example, which is about equivalent to the cost of a 200 kWh battery (at USD 200 per kWh), which should be sufficient for a trip distance of max 200 km for a 30 to 40 seater bus. While the analysis is not based on Seychelles data, the main takeaway remains the same: All cost including fuel cost (cleaned from subsidies) internalized, electric buses are the more economic option over the entire lifetime of the investment.



**FIGURE 8 TOTAL COST OF OWNERSHIP COMPARISON FOR 12.5 M BUSES IN BANGKOK**

*Energy sector*

Seychelles depends heavily on imported fuel products. Its primary energy consumption is about 1.86 tons of oil equivalent (TOE), which is higher than the average for Africa (0.7) and the world (1.8). Seychelles’ per capita energy consumption in 2010 averaged 4,300 kWh. The energy sector falls under the Ministry of Agriculture, Climate Change & Environment. The energy regulator is the Seychelles Energy Commission (SEC). The Public Utility Corporation (PUC) is the main producer of power in Seychelles. There is some power production by private operators, but these are overwhelmingly from diesel engines on the smaller islands. PUC is also responsible for transmitting and distributing electric energy in Seychelles. Since 2012, 100% of the population has had access to electricity. The legal framework for energy is provided by the Public Utilities Corporation Act (1985). The main sector policy the Seychelles Energy Policy for 2010-2030 which was formally approved by the Cabinet and adopted as official government policy in 2010. It recommends a sustainable development of the energy sector focusing on energy efficiency, renewable energy and reducing the dependence on oil to improve energy security. With an aim to diversify the energy supply, a 5% and 15% share of renewable energy is targeted for 2020 and 2030, respectively.

The Seychelles Energy Policy includes analysis of historical, existing and projected energy demand and supply, and proposes key changes to the institutional and regulatory framework for energy in the country, including strengthening the SEC, the creation of an independent energy regulator, and clearly defined independent power producers (IPPs) regulations to promote renewable energy development. According to the terminal evaluation report of the GEF funded project “Grid-Connected Rooftop Photovoltaic Systems, Seychelles” (led by UNDP), a PV net-metering scheme has not yet been formalized in Seychelles’ legislation but “has been approved by SEC [Seychelle Energy Commission] and is implemented effectively by PUC [Public Utilities Corporation]”<sup>20</sup>. The Energy Policy also represents the first formal recognition by the Government of Seychelles of the importance of renewable energy production. On the other hand, the Energy Policy is not a traditional policy or planning document and does not provide detailed targets, methods, or timeframes for instituting changes to energy management in the country. Four renewable energy technologies are identified that may be appropriate in the country: solar PV, wind, micro-hydro, and biomass/municipal solid waste.

<sup>20</sup> Grid-Connected Rooftop Photovoltaic Systems, Seychelles, GEF Project ID: 4164, GEF PMIS ID: 4052, UNDP Project ID (PIMS): 4331, Atlas Award ID: 00065515, Atlas Project ID: 81971

kWh per month	USD/kWh	
	20 A	40 A
200	0.04	0.07
300	0.04	0.06
400	0.07	0.08
600	0.09	0.11
1000	0.13	0.14

**FIGURE 9 POWER PRICE FOR DOMESTIC CONSUMERS BY CONNECTION TYPE (PUC 2018)<sup>21</sup>**

Electricity price in the Seychelles is moderate, ranging from USD 4ct/kWh to USD 14 ct/kWh depending on the capacity rating of the power connection and the monthly consumption. Tariffication incentivizes economic use of power since it increases progressively with monthly consumption. Differentiated tariffication for EV charging would be preferential to incentivize the use of EVs over the use of conventional vehicles.

Given the emissions arising from fuel combustion in Seychelles for the generation of electricity and for mobility (the two main consumers of the imported fuel), there is need for a concerted effort and an integrated approach to transition these two sectors to renewable energy models so as to wean Seychelles off fossil fuels.

#### *Associated Baseline Renewable Energy Projects*

PUC is building the 5MW Ile de Romainville Solar Park – a solar photovoltaic (PV) power plant with battery storage. The project which will be commissioned in 2021 is projected to cost 12 million USD with 8.4 million USD being financed by a loan from Abu Dhabi Fund for Development (ADFD) and the rest from the government (including PUC’s own equity). The project’s engineering, procurement and construction (EPC) contract scope includes subsea cabling, switch gear extensions, and an underground water piping system for module cleaning. The new project will also include an energy storage system (ESS) with a capacity of 5MW and 3.3 megawatt-hours (MWh), allowing for the safe and stable supply of electricity to the main island of Mahé, while also addressing the intermittency challenges of renewables, further consolidating Seychelles’ energy security. The cutting-edge Ile de Romainville Solar Park project harnesses the latest efficiency enhancements in solar power technology, including the optimisation benefits of battery storage, demonstrating the benefits of renewable energy ventures in long-term socio-economic development. The new Ile de Romainville solar PV project will be installed on the same artificial island hosting five of the eight wind turbines comprising the 28 million USD 6MW Port Victoria Wind Farm. Operational since 2013, the eight wind turbines of the Port Victoria Wind Farm supply approximately 2,100 households on Mahé Island. The PV array has been specifically designed to maximise the use of available land, while allowing for the maintenance of the wind turbines and minimising any shading losses resulting from them. By combining solar energy with wind power, Seychelles will double its renewables capacity while freeing up resources for economic development.

Africa’s first utility scale, private sector financed floating PV project is being implemented in the Lagoon le Rocher, a shallow body of water separated from the sea by the Providence Industrial Estate on Mahé Island. The project which is expected to have a capacity of 5.8 MW is on track for commissioning during year 2021, after having experienced Covid-19 related delays. The project is being implemented by the Seychelles government and PUC with additional support from the Clinton Foundation. A consortium of private developers who won the competitive project bid will finance, design, build, own and operate the plant and the electricity will be sold to the PUC at a fixed tariff under a 25-year power purchase agreement.

In addition, the government has incentivized the adoption of home solar panel (PV) installations by providing subsidies and rebates for PV components.

The project seeks for close collaboration with the renewable power projects, especially on questions on grid operation, renewable power integration and storage.

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<sup>21</sup> PUC Domestic Tariff Rebalancing Programme



The development of policies, regulation and strategies related to the power sector and the generation, transmission and retail of power is under the responsibility of Ministry of Agriculture, Climate Change & Environment and its implementing agency Seychelles Energy Commission.

### *Electronic waste and batteries*

A recent study carried out by ETH Zurich<sup>22</sup> investigated the electronic waste management system in the Seychelles and developed a roadmap towards improving it. The following challenges were identified:

- High and rising waste volumes due to relatively high population density and fast economic growth
- Limited availability of land for waste management activities
- Small market sizes and limited potential for economies of scale
- Vulnerability to supply and demand shocks
- Lack of capital and financing options
- Limited institutional and human resources capacity
- High operational costs
- High costs of products that must be imported or exported

Seychelles is a signatory of the Minamata, Stockholm and Basel convention, which all have effects on the treatment of e-waste. In her thesis, Rapold explains that currently, the Seychelles do not have in place detailed legislation on waste management, including e-waste. Some broad legislation is contained in the Environment Protection Act (EPA, 2016). It states that dumping waste in in places other than designated disposal areas is illegal and that hazardous waste (as defined under the Stockholm convention and including some parts of electronic waste) cannot be disposed without government authorization. The study identified the National Waste Policy 2018 – 2023 (Ministry of Agriculture, Climate Change & Environment, MEECC 2018) to be the guiding instrument with regards to waste management, being based on Extended Producer Responsibility and the Polluter Pays Principle. The study finds that “With regards to recycling, the policy points out the use of deposit-refund schemes to encourage waste segregation and specifically mentions the objective to establish a scheme for the separation and collection of Electrical and Electronic Equipment (EEE) to be able to recycle and export it”<sup>23</sup>. The Department of Environment (DoE, under MEECC) and the Landscape and Waste Management Agency (LWMA) have been identified to be the lead institutions for treatment of waste, including e-waste.

According to Rapold, electronic waste, which is generally recognized as hazardous waste in the Seychelles, is currently disposed through landfilling, which poses a significant risk for the environment. This practice is unsustainable and needs to be changed in particular with the arrival of EVs. Since Seychelles is a small island with a manageable amount of vehicle importers, and since generally no used vehicles can be imported, obliging vehicle importers to collect used EV batteries for re-use and recycling through an Extended Producer Responsibility mechanism seems to be a viable measure to propose.

As outlined in the baseline scenario, various policies, regulations and incentives have already put in place both in the transport as well as in the energy sector. Coordination among ministries and in particular between Ministry of Transport, Ministry of Agriculture, Climate Change & Environment and Ministry of Finance Trade Investment and Economic Planning needs to be improved to work towards an aligned implementation of e-mobility in the Seychelles.

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

The project will develop the environment for a transformative shift to electric mobility in Seychelles. This will be achieved through the development of a Seychelles E-Mobility Strategy, the establishment of a National Inter-Sectorial Electric

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<sup>22</sup> A Pathway Towards the Implementation of an Electronic Waste Management System in Seychelles - Status Quo Analysis and Assessment of Future Strategies, Nina Seraina Rapold, ETH Zuerich 2019

<sup>23</sup> A Pathway Towards the Implementation of an Electronic Waste Management System in Seychelles - Status Quo Analysis and Assessment of Future Strategies, Nina Seraina Rapold, ETH Zuerich 2019

Mobility Steering Committee, capacity building on EV procurement, operation and maintenance among key stakeholders from government, private sector and academia and through putting in place the right institutional and policy framework to facilitate the implementation of the E-Mobility Strategy, which will lay out milestones for a complete shift to e-mobility in the Seychelles driven by the electrification of public transportation starting with SPTC.

Through demonstration of one electric bus alongside the required charging infrastructure, this project will prepare the upscaling of electric buses within SPTC, which can be based on e-buses donated by the Government of the People's Republic of China to the Seychelles (see Box 1). The e-bus demonstration targeting the electrification of the Seychelles Public Transport Corporation (SPTC) will provide the necessary data and experience to make an informed choice to put in place e-buses which are fit-on-purpose.

Assessments of EV grid integration and energy storage will provide evidence of technical, financial and environmental sustainability of combining renewable energy generation and electric mobility within a SIDS. The assessment of the sustainability of e-mobility will furthermore include the development of an initial scheme for the collection of used EV batteries for re-use, recycling and safe disposal, and will recommend concrete action to policymakers, consumers and investors.

### **Box 1: Donation of 22 electric buses from the People's Republic of China to the Government of the Seychelles**

In February 2020, former President of the Republic of Seychelles Danny Faure announced in his State-of-the-Nation-Address that “In the last 40 years, our public transportation has used diesel as the main source of energy. The time has come for SPTC to move toward cleaner energy. Following our discussions with the Government of China, next year we will receive 22 new electric busses” (<http://www.nation.sc/articles/3547/2020-state-of-the-nation-address-by-president-danny-faure-on-february-20-2020> ). Discussion about the provision of 22 electric buses as part of a government to government development agreement between the Republic of Seychelles and the People's Republic of China were started already in 2019. Discussions have been led by Ministry of Foreign Affairs. With the election of a new government following the vote of the Seychelles in November 2020, discussions were stalled and have only recently revived. However, both parties have expressed interest to continue the negotiations, and at this point in time we anticipate that the provision of electric buses will be agreed and that these buses would potentially be ready to start operation in the Seychelles Public Transport Corporation (SPTC) in 2023.

The demonstration project, which is an integral part of this proposal, is to prepare for the implementation of e-buses at scale within SPTC, including but not being limited to the anticipated 22 electric buses part of abovementioned agreement. Therefore, it is the aim of the project to demonstrate one electric bus on at least 5 different routes and over a time frame of at least 10 months in order to define technical and operational specifications of e-buses suitable for the conditions found in the Seychelles, such as 1.) passenger capacity; 2.) engine power; 3.) range and battery capacity; 4.) climbing ability / gradeability; 5.) need / dimensioning of air conditioning; 6.) charging equipment (including rated capacity, standard, charging type) among other yet-to-be defined parameters. The project aims equally at the definition of technical and operational specifications of the necessary charging equipment, including an assessment of preconditions which need to be put in place at the depots of SPTC to ensure adequate power supply for the charging of at least 22 electric buses.

For this, the project plans the testing of one electric bus and its corresponding charging equipment, which is partly funded by the GEF, on different routes of the SPTC public bus network on Mahé and eventually Praslin Island.

In addition, the project is envisaged to rely on the support of in-kind contribution leveraged by UNEP, and based on the European Union funded SOLUTIONSplus project (Grant Agreement number: 875041 - SOLUTIONSplus - H2020-LC-GV-2018-2019-2020/H2020-LC-GV-2019, which has started implementation January 2020). This in-kind contribution provided through an EC SOLUTIONSplus industry partner, and supported by UNEP SMU would be used to test and integrate innovative charging solutions alongside the identified demonstration routes. Through the SOLUTIONSplus partner project, additional expertise as part of a comprehensive industry partnership could also be directed towards the Seychelles E-Mobility Project.

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

*Outcome 1: The government has established a coordinated institutional framework and adopts a gender sensitive strategy for the promotion of low-carbon electric mobility in Seychelles*

This first component will set the basis for the long-term impact of the project through 1) the establishment of an institutional framework and the National Inter-Sectorial Electric Mobility Steering Committee; 2.) through the development of a comprehensive National E-Mobility Strategy; and 3.) through capacity building of project stakeholders. In addition, the market place events carried out as part of the Global E-Mobility Programme will provide the opportunity to present on the implementation and lessons learnt of the Seychelles E-Bus demonstration to kick-start discussions and to develop concepts for the financing of electric buses as part of the SPTC, with the ultimate goal to fully electrify the SPTC bus fleet.

The National Electric Mobility Strategy will serve as a central guidance document for a long-term approach in the uptake of a sustainable electric transport in Seychelles. This strategy will cover all areas and modes of e-mobility and including concrete targets and milestones for the EV market development as well as the necessary regulatory, fiscal, financial and infrastructural actions required to achieve the set targets.

The development of the Strategy will be also assisted by the international best practices and expertise to be made accessible through the Global Thematic Working Groups. As the Seychelles project is part of the UNEP-led Global Electric Mobility Programme, it will enjoy the benefits offered by the Global E-mobility Project through the knowledge products developed by the Global Thematic Working Groups (especially the Heavy Duty Vehicle Working Group, which will have a particular focus on e-buses) and the Africa Support and Investment Platform. Both the Heavy Duty Vehicle Working Group and the Africa Support and Investment Platform will be led by UNEP.

The National Inter-Sectorial Electric Mobility Steering Committee will include representatives from relevant ministries such as the Ministry of Transport, the Ministry of Agriculture, Climate Change & Environment, the Ministry of Finance, Trade Investment and Economic Planning, the Seychelles Revenue Commission, the Seychelles Energy Commission, SPTC and the Road Transport Commission and will have the mandate to propose relevant policies for adoption by parliament (National Assembly). The National Inter-Sectorial Electric Mobility Steering Committee will initially be constituted by the Project Steering Committee (PSC) of this Seychelles E-Mobility Project, which will prepare for the establishment and formal recognition of the National Inter-Sectorial Electric Mobility Steering Committee by the government of Seychelles by the end of Year 3 of the project. The goal is to ensure that the National Inter-Sectorial Electric Mobility Steering Committee will live beyond the life of this GEF funded project, and for this purpose the government will need to commit regular budget to sustain it beyond the end of Year 3 of this project.

The two e-mobility market place events and the replication event organized by the Global E-Mobility Project in year 2, 3 and 4 of the project will provide a platform to present the progress, challenges and lessons learnt of the e-bus demonstration in the Seychelles to financiers (comprising development banks, the Green Climate Fund, private sector investment companies etc.) in order to start developing concepts for e-mobility upscaling (including the plans to implement a fleet of up to 22 electric buses donated under a Government to Government agreement between the Republic of the Seychelles and China), which has been extensively discussed under the former Government of the Seychelles, and which has been recently revived under the new government which was elected in November 2020.

*Output 1.1: A national inter-sectorial electric mobility steering committee is established*

A Project Steering Committee will be established, which will formally transform into the National Inter-Sectorial Electric Mobility Steering Committee after year three of the project, and which will ensure the successful implementation of e-mobility policies, regulations and financial schemes after the lifetime of the project. The PSC will be chaired by the Department of Land Transport within the Ministry of Transport and will include representatives from Ministry of Agriculture, Climate Change & Environment, Ministry of Finance, Trade Investment and Economic Planning, the Seychelles Revenue Commission and the Seychelles Energy Commission, the Public Utilities Cooperation, the Seychelles Public Transport Corporation, the National Bureau of Statistics, the Seychelles Licensing Authority, the Seychelles Bureau of Standards, the Enterprise Seychelles Agency and the Seychelles Motor Vehicle Dealers Association, among others when required.

Key responsibilities of the PSC will include to 1.) provide supervision to Department of Land Transport in its role as Executing Agency; 2.) establish clear roles and responsibilities for all parties for the delivery of the proposed activities;

3.) coordinate all e-mobility activities in Seychelles and 4.) to ensure comprehensive stakeholder engagement throughout the project.

#### Deliverables

- D 1.1.1 Draft mandate, institutional structure, rules and procedures of operation, host entity, representation requirements, and workplan of the National Inter-Sectorial Electric Mobility Steering Committee
- D 1.1.2 Meetings of the proposed National Inter-Sectorial Electric Mobility Steering Committee held three times a year to guide the development of the e-mobility strategy, to comment and review on draft policy proposals and other project outputs
- D 1.1.3 Government notification to establish the National Inter-Sectorial Electric Mobility Steering Committee as a strategic, national, multi-stakeholder steering committee on e-mobility is issued
- 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 Seychelles (to be shared with the Global E-mobility Programme)

*Output 1.2. A gender sensitive National Electric Mobility Strategy that includes electrification of Seychelles Public Transport Corporation is developed and formally proposed.*

A gender sensitive National E-Mobility Strategy including the electrification of SPTC will be developed under this output. The strategy will be developed upon vehicle fleet data provided by the National Bureau of Statistics and will include the definition of aspirational electrification targets and milestones for all main vehicle modes, including passenger cars, buses and commercial vehicles such as delivery trucks. Based on these targets financing needs will be evaluated and initial financing mechanisms proposed.

The National E-Mobility Strategy can start of the e-mobility market penetration scenarios, which underly the CO<sub>2</sub> emission mitigation calculations in this project document. These targets foresee the share of BEVs on new buses to account for 30% by 2025, 50% by 2030 and 100% by 2050. The small numbers of annual sales of buses of around 40 to 60 units per year, as well as the generally very favorable conditions (low daily mileages, long overnight charging times, low speeds etc.) allow for an ambitious target to sell only electric buses from 2040 onwards. The respective target for electric LDVs, is much more conservative, accounting for 3% of new vehicle registrations in the Seychelles by 2025 (including BEVs and PHEVs), 20% by 2030 and 75% by 2050 is ambitious, yet feasible under the conditions found in Seychelles and can be evaluated during the development of the strategy.

The strategy will be developed in close coordination with all members of the project steering committee and the National Inter-Sectorial Electric Mobility Steering Committee. It will also include action items to address gender-based inequalities in the public transport sector, women's representation and participation in decision-making, and investing in women's capacity in the e-mobility industry. The Project Management Unit will liaise with and seek the support of the Gender Secretariat of the Ministry of Family Affairs on this aspect. It will be submitted for review to the National Inter-Sectorial Electric Mobility Steering Committee, prior to submission for adoption by the government.

#### Deliverables

- D 1.2.1 Set-up of the national strategy development team
- D 1.2.2 Gender-sensitive national e-mobility strategy workshop (1 report with an outline of the national strategy)
- D 1.2.3 Transport and energy sector data is collected and consolidated and a draft strategy is developed (summary report)
- D 1.2.4 Gender-sensitive national e-mobility strategy finalized and presented to National Inter-Sectorial Electric Mobility Steering Committee

*Output 1.3. Key stakeholders are trained in the EV Global Programme activities and through private sector engagement (national and regional workshops, trainings and thematic working groups) and awareness is raised among key stakeholders on electric mobility.*

Key stakeholders from government, private sector, civil society, 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 event. The Chief Technical Advisor will be responsible for identifying and selecting the individuals to participate in the different events, in consultation with the Project Management Unit (PMU) and the National Inter-Sectorial Electric Mobility Steering Committee. The Chief Technical Advisor will seek to ensure at least 30% of the participants selected for participation in the events are female, as outlined in the Gender Action Plan.

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 e-buses; 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 SPTC, and the Public Utilities Corporation (PUC), among others yet to be identified, to implement electric buses at scale, and to generally support the achievement of milestones and targets set in the E-Mobility Strategy.

#### Deliverables

- 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 bus training events (+ 1 report for each event)
- D 1.3.4 Participation in two financing / marketplace events (+ 1 report for each event)
- D 1.3.5 Participation in one e-mobility replication event (+ 1 report for each event)

### **Component 2: Short term barrier removal through low-carbon electric mobility demonstrations**

*Outcome 2: The e-bus demonstration provides evidence of technical, financial, and environmental sustainability enabling SPTC to plan for scale-up of Seychelles' e- bus fleet.*

This component will prepare for the introduction of electric buses at scale, including but not being limited to the donation up to 22 e-buses of as part of the Government-to-Government development agreement between the Republic of the Seychelles and China (see box 1).

Therefore, this component focuses on the demonstration of one electric bus alongside its charging equipment, to provide the data basis for informed decision making with regards to e-bus and charging technology, and to gain on-the-ground experience with an electric bus in the Seychelles. A comprehensive feasibility study will be developed to identify at least three routes, which are suitable for electrification, taking into account daily trip length, mission profile, bus intervals, depot situation and access to high capacity power supply, among other parameters. Based on the identified routes, technical specification for the demonstration bus will be developed, aiming at a passenger capacity of about 30 seats, and targeting a reasonable battery size to provide for sufficient range and power under the geographical condition found in the Seychelles. The GEF, through this project, will support the purchase of the bus with USD 80,000 and SPTC will cover the rest (estimated at USD 120,000 both parts adding up to a total of USD 200,000 for one e-bus with 30 to 35 seats, based on data from NREL<sup>24</sup> for a BYD bus with 31 seats and 162 kWh battery capacity including a 15% safety margin).

Upon completion of the required studies and implementation plans, the e-bus and the charger will be procured, including technical support through UNEP SMU. It is envisaged, that the e-bus charger will be provided through an industry partner of the EC SOLUTIONSplus project for the time of the demonstration.

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<sup>24</sup> Surat Municipal Corporation Bus Electrification Assessment, NREL/TP-5400-73600 May 2019

The demonstration bus will then be tested for at least 9 months on the identified routes and data will be collected and analyzed. After the end of the demonstration project, the bus will become the property of SPTC and will be used in common service on the most suitable route identified for this e-bus.

The demonstration project will increase the visibility and assist with awareness raising for electric mobility. In addition to the awareness raising impact of the pilots, this will also help in providing critical technical information regarding uptake barriers and solutions, quantifying infrastructure gaps and potential policy interventions.

*Output 2.1: A comprehensive feasibility study and implementation plan for electric bus demonstration for testing on different routes is developed including data collection, reporting and analytical frameworks*

The feasibility study and implementation plan will be developed for the demonstration of one pilot electric bus and associated charging infrastructure in Mahé. The data to be collected and analyzed during the demonstration will provide the data basis needed to plan for the upscaled deployment of at least 20 electric buses within SPTC. In addition, the experience gained and challenges identified will feed into the target-setting process part of the national electric mobility strategy. The data will also be used in the assessment of grid integration and energy storage of electric vehicles on Mahé. All feasibility assessments will be conducted in close consultation with the Global Thematic Working Groups and the Africa Support and Investment Platform to ensure global best practices are incorporated into the demonstration studies.

The implementation plan will be developed in close collaboration with the EC SOLUTIONSplus industry partner, which is envisaged to provide an EV charger capable to charge the demonstration e-bus. Ideally, the provided charger would be mobile to the extent that, upon availability of the required input power, it can be moved to different locations, e.g. different depots, and therefore enable a testing of the e-bus on a broader choice of routes.

Both, feasibility study and implementation plan for the e-bus demonstration will be developed based on a combination of international and local expertise and in close cooperation with SPTC. While the International E-Mobility Technology expert is most knowledgeable in e-bus technology, charging, operation (including routing etc.) and maintenance, the National E-Mobility and Power Market expert is most knowledgeable about the local power market and has a good overview on general aspects of e-mobility. A field trip of at least 7 days will be organized to collect the necessary input for the feasibility study and the implementation plan.

The technical electric bus feasibility assessment will evaluate the following key aspects of the bus pilot:

- Electric Bus Technology: identify the electric bus technical specs and configuration suitable for Seychelles and SPTC taking into account local geographical and climate conditions, and the selected route specifications
- Route analysis: identify 3 viable SPTC routes on the island of Mahé on which the electric buses will be deployed over a period of at least 10 months (e.g. at least 2 months per route). Suitable route selection needs to be based on daily distance travelled, frequency of service, number of passengers, stops, elevation change, road conditions, seating capacity, in line with electric motor power specifications, battery capacity, and charging scheme (i.e. overnight charging) and the possibility to install the mobile charger (at least 50kW power output) provided by the EC SOLUTIONSplus industry partner.
- Charging Assessment: ensure connectivity between the charging equipment provided by the EC SOLUTIONSplus industry partner and the demonstration e-bus and evaluate different charging alternatives for SPTC (e.g. at various depots and eventually taking into account the option of opportunity charging along routes, upon availability of respective equipment), based on the equipment, which can be provided by the EC SOLUTIONSplus industry partner.
- Conduct operations & maintenance impact assessment of electric buses in Mahé; identifications of gaps to be addressed for managing new technology, in particular with regards to overnight charging.

The implementation plan for the electric bus pilot in Mahé will involve the following key aspects:

- Identification of key performance indicators (e.g. reliability of service, trips performed, kilometers travel, passenger carried, energy used, monitoring of state of charge of battery, charging patterns and logistics, maintenance issues, comparison to internal combustion engine vehicles in terms reliability of service fixed and operational costs etc.).

- Development of a detailed planning to use the demonstration bus on at least 3 routes for at least 3 months each, including plans to transfer the charging station and to prepare the respective depots to provide the necessary power supply (at least 50 kW continuous)
- Development of a detailed agreement between SPTC and the EC SOLUTIONSplus industry partner to use the charging equipment provided by the EC SOLUTIONSplus industry partner as part of the EC SOLUTIONSplus project and with support of UNEP SMU. The Seychelles bus demonstration will be operated under the umbrella of the “replication projects”, which are part of the EC SOLUTIONSplus grant agreement, and which are led by UNEP SMU. The agreement needs to cover all operational and liability aspects related to the demonstration project and the use of the charging equipment. The EC SOLUTIONSplus industry partner is envisaged to cover all costs related to the shipping of the charging equipment (as part of their involvement within the EC SOLUTIONSplus project) and is envisaged to provide technical support throughout the demonstration, including at least 2 field visits over the time of the project implementation. UNEP SMU will provide coordination support to manage the relationship between the GEF Seychelles e-mobility project and the EC SOLUTIONSplus project for which the dedicated UNEP in-kind contributions will be used.
- Development of a detailed staff plan including a technology assistant to overview and manage the demonstration project (SPTC), various bus drivers (SPTC), charging operators (SPTC), mechanics for bus maintenance (SPTC), electrician for charging equipment connection and operation monitoring (SPTC)
- Development of a detailed data collecting and analysis plan for the identified key performance indicators
- Preparation of bus user surveys to get feedback.

#### Deliverables

- D 2.1.1 Detailed terms of references with timelines and deliverables for hiring of local and international expertise developed
- D 2.1.2 Workshop and field visit to collect data for the e-bus feasibility assessment and implementation plan conducted (field visit report + workshop report)
- D 2.1.3 Feasibility assessment for demonstration of 1 electric bus as part of the SPTC fleet in Mahé, including technical specifications of the demonstration bus and charger, and selection of routes (at least 3) and charger locations carried out;
- D 2.1.4 Implementation plan for e-bus operation (including operation on three different routes and possibly within different depots), charging and maintenance, data collection, reporting and analysis framework developed

*Output 2.2: One demonstration bus and charging equipment are procured, staff trained, demonstration project on different routes is implemented, monitored and data collected, analyzed and disseminated.*

Based on the detailed feasibility study and implementation plan, the demonstration bus is procured and imported to the Seychelles. All procedures to import the demonstration bus tax free need to be prepared in advance to minimize delays eventually related to the clearance of the bus by customs and technical inspection. The UNEP Sustainable Mobility Unit (SMU) will ensure the bus demonstration is closely coordinated with the EC SOLUTIONSplus industry partner, as part of the GEF – EC SOLUTIONSplus project cooperation, to ensure that readiness of the e-bus and the charger are ensured and on time. The EC SOLUTIONSplus industry partner is envisaged to provide a technician to supervise the initial installation of the charging equipment and to train local engineers on the conditions to be put in place in the envisaged other locations where the charging equipment shall be installed for overnight charging. Local engineers (SPTC) will be trained on the connection and installation of the mobile charger so that the EC SOLUTIONSplus industry partner staff is not required to be physically present each time the mobile charger changes location. The EC SOLUTIONSplus industry partner is envisaged to provide remote technical advice throughout the duration of the demonstration project.

During a second field trip of the International E-Mobility Technology expert, bus operational staff will be trained on the usage of the e-bus and the charging plan lined out in the implementation plan will be operationalized.

As per the detailed planning described in the implementation plan, the e-bus and the charger will be tested on at least 3 different routes to collect data for the operation and charging of electric buses on the SPTC network. SPTC will monitor the bus operation and collect all relevant KPI's defined in the feasibility study. Final analysis of the data will be compiled led by the international e-mobility technology expert with support of the local e-mobility and power market expert.

All testing, data collection and analysis is geared towards the preparation of technical specifications for e-buses and chargers (component 3), for scaled up deployment of e-buses within SPTC, including but not being limited to the e-buses donated under the envisaged Government-to-Government development agreement between the Seychelles and China (detailed in Box 1 above). The data will be used to identify suitable e-bus models, their respective charging equipment, as well as charging operation modes. The data will also be used to identify the most suitable routes for upscaled e-bus deployment. All data to be collected will be disaggregated by gender.

After finalization of the demonstration project, the ownership of the demonstration bus will lie with SPTC. The demo bus will be integrated in the daily operation of SPTC fleet on the route most suitable for the demo bus. In the case that the EC SOLUTIONSplus industry partner will retract its mobile charging system, SPTC will need to buy one stationary 50kW charger to be installed at the depot, which will be used for the ongoing operation of the e-bus. For this, SPTC need to commit for the purchase (USD 30,000) and installation of one 50kW charger (to be decided during project implementation).

### Deliverables

- D 2.2.1 Procurement of electric bus based on specifications established in D 2.1.3, to be managed by SPTC in Mahé
- D 2.2.2 A second field trip and workshop is carried out to prepare for e-bus operation and to train SPTC on the use of the bus (field visit report + workshop report)
- D 2.2.3 Provision of charging equipment by the EC SOLUTIONSplus industry partner and installation at first charging point identified in the implementation plan (D 2.1.4)
- D 2.2.4 The e-bus together with the mobile charging equipment is used for at least 9 months on at least 3 different routes and data is collected and analyzed
- D 2.2.5 Final report on the demonstration results, technical assessments and data analysis is presented to the national inter-sectorial electric mobility steering committee (Output 1.1) and shared with the Global E-Mobility Programme

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

*Outcome 3: The government creates conditions for removing existing barriers by developing plans and financing concepts, and by submitting policies and regulations for adoption to accelerate the introduction of EVs in Seychelles*

Under this component the project will prepare scale-up and replication of electric mobility in Seychelles. It will build on the results of the demonstration project and prepare for meeting the targets and milestones set in the National E-Mobility Strategy. It will focus on the following objectives: 1.) Based on the e-bus demo, preparing the scaling up of electric buses within SPTC; 2.) The development and implementation of e-mobility policies to prepare for the scale-up of the e-mobility market in the Seychelles; and 3.) The development of one e-bus scale-up financing proposal. While the first objective focuses on the development of detailed technical specifications and an implementation plan for the use of at least 20 e-buses on appropriate routes of the SPTC (including but not limited to the donation of e-buses as outlined in Box 1 above), the second part of this component focuses on the improvement of some key policies to better incentivize e-mobility in the Seychelles. The third part is targeting to raise additional funding to scale-up the number of electric buses within the fleet of SPTC, working towards the ultimate target to completely electrify the fleet of SPTC.

Public and private sectors, civil society and academia will participate in the review and update of policies and regulation related to the electric mobility.



*Output 3.1: Based on the demonstration project, priority routes for scaled-up e-bus deployment are selected and technical specifications for electric buses and the respective charging equipment are developed*

Based on the results of the demonstration of one electric bus alongside the charging infrastructure provided by the EC SOLUTIONSplus industry partner, technical specifications and an implementation plan for the scaling up of the electric bus fleet to at least 20 e-buses within SPTC are developed. The technical specifications for the e-buses comprise (among other details yet to be defined): passenger capacity, seating configurations, engine power, torque and hill climbing capacity, battery capacity and range, charging standard and charging power, air conditioning requirements, monitoring equipment (e.g. GPS, state of the charge of the battery, etc.). The implementation plan furthermore defines specs for the e-bus chargers and comprises an installation plan (including location and power supply) to charge a fleet of 20 e-buses.

The implementation plan contains allocation of buses on routes, schedules and depots, charging plans, maintenance plans, staff plans for drivers and technicians. The implementation plan furthermore specifies requirements for power supply to charge the buses overnight at the depots, costs out the necessary works to upgrade and ensure local power supply, and plans for additional investment and in-kind contributions eventually required from the local utility PUC. The implementation plan also plans for power supply monitoring and data collection. It builds on the local expertise built with piloting the demonstration bus.

Deliverables

- D 3.1.1 A workshop for e-bus upscaling is carried out (1 report)
- D 3.1.2 Technical specifications for e-buses for scaling-up as well as the necessary chargers are developed
- D 3.1.3 A detailed implementation plan for the operation and maintenance of a scale-up fleet of about 20 electric buses is developed

*Output 3.2: Fiscal policies, and regulatory measures to incentivize the uptake of electric mobility are developed and formally proposed*

The Department of Land Transport, with support from UNEP, will lead in developing and implementing policies and measures that will support the introduction of electric mobility (buses, light duty vehicles and motorcycles) in Seychelles. Similarly, the Department of Land Transport, with the help of international and national expertise will process the data from the assessments and from the demonstration study for policymakers to help with development of the necessary policies for Seychelles. This process will be supported by the (UNEP-managed) African Support and Investment Platform of the GEF 7 Global Electric Mobility Programme, which will organize and implement training and knowledge exchange on electric mobility for all the African projects under this programme including the Seychelles PSC.

Policies to be developed will include:

- Regulation: Electric vehicle standards and specifications for EV import including the setting of a charger standard based on the internationally available standards and the expected provenience of the imported EVs.
- Fiscal incentives: The government has zero rated excises on EVs but the uptake has not been as high as intended. There is need to better examine why the uptake is slow and to identify what additional incentives need to be implemented e.g. waiving of additional tax components, direct subsidies for an EV purchase etc. Most importantly, the project suggests to replace the current vehicle import taxation scheme based on engine displacement (refer to Figure 5 in the Baseline scenario section) by a scheme based on fuel economy (Litres of gasoline equivalent used per 100 kilometres) or vehicle CO<sub>2</sub> emissions (grams of CO<sub>2</sub> emitted per 100 kilometres). In doing so, a technology-agnostic way of incentivising the import of low-emission vehicles to the Seychelles would be incentivized while the uptake of large, powerful and relative to smaller cars inefficient hybrid and plug-in hybrid SUVs could be mitigated.
- Evaluation of the diesel subsidy for SPTC: The project will investigate whether there are better ways for the Government of the Seychelles to subsidize the operation of SPTC. The current support for diesel purchase is distorting the economic viability of electric buses and is incentivizing the inefficient use of fuel in the conventional buses.

All policy interventions and recommendations will be developed consultatively, coordinated by the National E-Mobility Steering Committee and guided by the National E-Mobility Strategy.

Deliverables

- D 3.2.1 A workshop on e-mobility policies is carried out including stakeholders from all relevant line ministries (1 report)
- D 3.2.2 Based on currently available regulation in other countries, EV and EV charging technical standards are adapted and drafted for the Seychelles.
- D 3.2.3 A vehicle import tax scheme based on CO<sub>2</sub> emissions is proposed.
- D 3.2.4 An alternative scheme to subsidize SPTC and to remove subsidies on diesel is proposed.
- D 3.2.5 The draft package of policy proposals is presented during a workshop and submitted for review by the National E-Mobility Steering Committee
- D 3.2.6 Final Policy package submitted for adoption by the government

*Output 3.3: One e-bus up-scaling financing concept is developed and submitted to a financier*

Progress and results of the Seychelles e-bus demonstration will be presented during the E-Mobility Market Place and Replication events organized by the Africa Support and Investment Platform and led by UNEP SMU. With the support of UNEP SMU, one e-bus up-scaling financing concept will be developed to be submitted to a finance institution identified during the events.

The financing concept to be developed could for example include the development of innovative business models to de-risk investment in electric buses for SPTC, based on private sector ownership and operation of the buses, and SPTC collecting fares and paying the bus operating company for the provided service. It could furthermore include the development of a strategic partnership with the PUC (Public Utilities Corporation) or other independent power producers (IPPs), including elements of the approach used to introduce electric buses in Santiago de Chile, where utilities not only provide the electricity for the buses but also act as financial agents which lease<sup>25</sup> the buses to the bus operating companies.

The concept could also potentially look into replicating the “Seychelles Sovereign Blue Bond”<sup>26</sup>, which has been jointly implemented by the World Bank and the GEF, and which constitutes a mechanism to issue grants and loans to support sustainable marine and fisheries projects (managed by the Seychelles’ Conservation and Climate Adaptation Trust (SeyCCAT) and the Development Bank of Seychelles).

During the October 2019 Scoping Mission, the Government expressed interest in evaluating the potential for developing innovative mechanisms for financing electric mobility in Seychelles, however the limited resources of the GEF E-Mobility Project in the Seychelles are not sufficient to set-up a fully operational financing mechanism, but will be used to draft and assess one initial concept.

Deliverables

- D 3.3.1 Development of one e-bus upscaling financing concept and submission to targeted financing institution

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

*Outcome 4: Measures are developed by government to ensure the long-term environmental sustainability of low-carbon electric mobility*

Through Component 4 the project will ensure promotion of long-term environmental and economic sustainability of electric mobility by developing plans to integrating it with renewable energy and outlining robust lifecycle management of batteries.

It is noteworthy to mention that 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 Seychelles, electricity is generated locally, with the potential to integrate the locally generated renewable power. Electrification of the transport sector in Seychelles has

<sup>25</sup> From pilots to scale - Lessons from electric bus deployments in Santiago de Chile, ZEBRA 2020

<sup>26</sup> <https://www.worldbank.org/en/news/press-release/2018/10/29/seychelles-launches-worlds-first-sovereign-blue-bond>

therefore the potential to increase national energy security and to hedge against fluctuating oil prices. Beyond that, the total cost of ownership of electric vehicles are already lower than for conventional vehicle fleets today, especially when used in fleets such as public transportation fleets. This can in turn can lead to better service and lower cost of transportation for the end consumer.

*Output 4.1: A sustainable e-mobility study including a brief technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries, an evaluation of the potential to charge EVs with renewable power and the impact of EVs on the integration of renewable is developed with the support of the Global Programme*

Based on the knowledge products provided by the Global Programme focusing on the options to re-used, recycle and safely dispose used EV batteries, a brief technical assessment will be conducted to assess the option of basing a scheme to collect used EV batteries on Extended Producer Responsibility in the Seychelles. Therefore, the current treatment of e-waste will be further assessed and the role of vehicle dealerships and importers in the effort to collect used EV batteries will be evaluated. The findings developed by the Global Programme on the re-use, recycling and safe disposal will be put in the context of the Seychelles and presented during a workshop.

A more comprehensive study will be developed focussing on the potential to charge EVs with renewable power and the impact a significant fleet of EVs can have on the integration of renewable power in the Seychelles power grid, based on services EVs can provide to the grid. To date, renewable power generation is only covering some 3% of Seychelles power consumption, while the majority of electricity is generated using diesel gen-sets. Seychelles has formulated ambitious targets to ramp-up renewable power generation – according to the “Seychelles Energy Policy for 2010-2030” plan, 15% of power demand shall be covered based on renewable energy by 2030. As highlighted before, the study “Solar Power Integration on the Seychelles Islands”, concludes that “Seychelles can reach its target of 15% load coverage by renewables by 2030 even with conservative operating practice. By using innovative technologies such as demand side management and allowing the diesel generators to operate for short periods of time at lower turn-down rates (to provide additional spinning reserves to compensate sudden losses in PV production), the Seychelles could cover up to 28% of its electrical demand from clean energy sources. The same study finds out that the impact of power storage, for example by using batteries (which can be EVs connected to the grids and used EV batteries used for power storage), is comparable to the above cited demand-side management in that it bumps up the maximum PV integration by 4.4 MW, see Figure 10.

Scenario	PV [MW]
Base Case (BC) (65% min. generator loading, no extra technology)	29.1
BC + 7 MW of Demand-Side Management (customers can decrease/increase their load within 5 minutes to support PUC's power balancing)	34.3
BC + 7 MW of storage (such as batteries and/or pumped hydro storage)	34.3
BC + Limit PV inverters to 80% of PV panel size (reduces PV peaks with tiny effect on energy production)	36.4
BC + Curtailment of large units during bottlenecks (only when simultaneously feed-in is high and load is low)	38.8
BC + Keep a 15 MW backup generator on standby (so that it can start up in a shorter period, e.g. 5 minutes)	39.5
Conservative scenario (75% min. loading, no changes to existing system)	21.5
Moderate scenario (65% min. loading, DSM, 80% inverter limit, curtailment)	57.2
Advanced scenario (50% min. loading, DSM, 80% inverter limit, curtailment, standby generator)	85.8

**FIGURE 10 PV INTEGRATION LIMITS [MW] ON MAHÉ IN 2030 IN SCENARIOS<sup>27</sup>**

The study on e-mobility and renewable power integration will expand on the work carried out in “Solar Power Integration on the Seychelles Islands” and will investigate: 1.) To which extent charging of EVs (including the bus fleet of SPTC) can be based on renewable power, also integrating decentralized solar power generation (domestic and workplace); and

<sup>27</sup> Solar Power Integration on the Seychelles Islands, Tom Brown, Thomas Ackermann and Nis Martensen, URL: <http://journals.openedition.org/factsreports/4148>; ISSN: 1867-8521

2.) How grid services provide by EVs can contribute to ramping up the integration of renewable power generation in the Seychelles grid through controlled charging based on differentiated tariffs and future potential to use of electric vehicles to grid (V2G) for electricity storage and demand side management. The latter would also include a brief description of the role of EVs for back-up power, e.g. as a consequence of extreme weather events services controlled EV charging during off-peak hours based on differentiated tariffication;

Collaboration with on-going renewable power projects and in particular the Ile de Romainville Solar Park and the Lagoon le Rocher floating PV project will be pursued during project implementation.

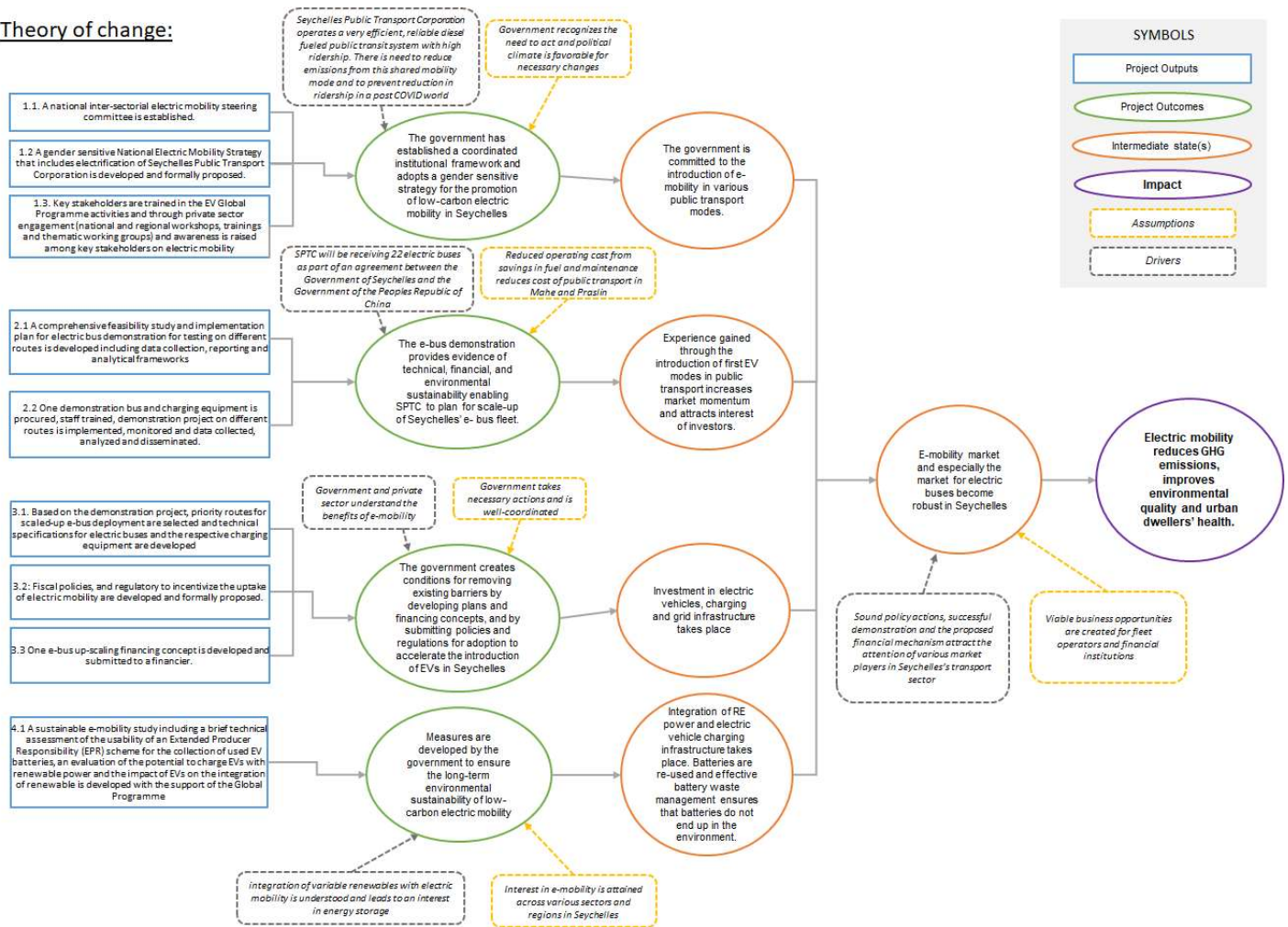
#### Deliverables

- D 4.1.1 Detailed terms of reference incl. timelines and deliverables for hiring the International Battery Technology, Charging & Renewable Energy integration expert
- D 4.1.2 A workshop on sustainable e-mobility in the Seychelles is carried out focusing on the A) the development of an initial scheme for re-use, recycling, and sound disposal of used electric vehicle batteries; and B) a plan for the integration of renewable power for electric vehicle charging;
- D 4.1.3 A brief technical assessment on the usability of an EPR scheme for used EV battery collection is prepared and recommendations for an initial scheme for battery EOL issues are developed
- D 4.1.4 A study focusing on the integration of renewable power for electric vehicle charging and the impact of EVs on renewable power integration in the Seychelles is developed and disseminated;

#### **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 institutionalization of e-mobility (national inter-sectorial electric mobility steering committee and National Electric Mobility Strategy, outputs 1.1 and 1.2) and capacity building (output 1.3), in combination with on-the-ground experience with e-mobility through the demonstration of an electric bus (outputs 2.1 and 2.2), the basis will be laid for upscaling of e-buses deployment (output 3.1) for informed policy making (output 3.2) and for the development of an e-mobility financing concept (output 3.3) to prepare for the upscaling of e-mobility in Seychelles. Preparing the long-term sustainability of e-mobility through an initial assessment of ways to integrate higher shares of renewable power for e-vehicle recharging and the development of a preliminary scheme for extended producer responsibility for the collection of used EV batteries (output 4.1) ensure a holistic approach to introduce e-mobility in Seychelles.

## Theory of change:



### 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 GEFTF and co-financing

Seychelles government has already invested in electric mobility by zero rating import duties for 100% electric vehicles. This has resulted to increased sales of approximately 500 electric cars, however, this translates to only about 1.5% of all on road vehicles in Seychelles today. This project is therefore designed to identify the reasons for this lag in uptake and meet the incremental cost to remove those barriers. This incremental cost-GEF funds will serve to overcome the gaps in awareness raising, capacity building, developing policy frameworks, supporting demonstration studies and most critically conducting assessments for appropriate interventions. One of these assessments – the electric bus feasibility study – and pilot demonstration bus project in the Mahé will help see to the deployment of 22 electric busses in SPTC’s fleet, representing 10% of the current fleet at an investment cost of approximately US\$ 8 million.

Furthermore, the GEF funding will provide the technical assistance necessary to introduce the reforms required for the public transport sector to facilitate a shift to EVs, and to establish adequate financial and business models that will allow operators and users to access EV at reasonable costs. This will be made possible once the demonstration and policy

reforms improve the perception of local and international financial institutions towards the risks associated to the use of EVs in Seychelles.

The project in the Seychelles is part of the UNEP led GEF Global Electric Mobility Programme unifying 29 low and middle-income countries around the world to introduce and prepare for upscaling of electric mobility. It will benefit from the UNEP led Global Project to support countries with the introduction of electric mobility through the knowledge products developed by the Global Working Groups (especially the Heavy Duty Vehicle Working Group with a focus on e-buses led by UNEP) and the Africa Support and Investment Platform (led by UNEP). The project in the Seychelles will furthermore benefit of UNEP Sustainable Mobility Unit's (SMU) experience with e-mobility projects in low and middle-income countries around the world. Seychelles, through the activities of the Global Project and the experience with e-mobility projects within UNEP SMU will benefit from lessons learnt, best practices shared and vibrant exchange with e-mobility experts, the e-mobility industry as well as financiers interested to invest in e-mobility projects.

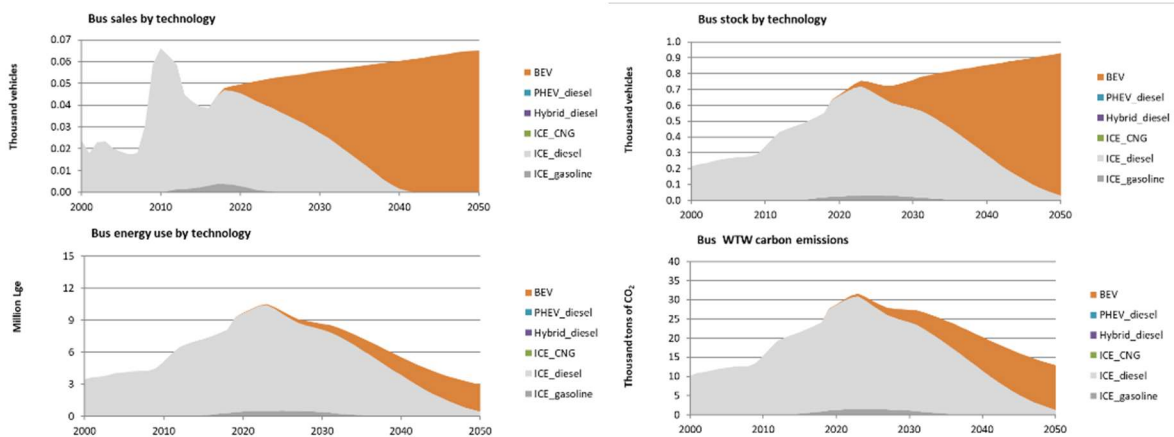
The global knowledge management component of the Global Programme and the Africa Support and Investment Platform approach seek to bundle demand in the region and thus reduce the incremental costs. The Global Programme is a cost-effective way of minimizing the incremental costs, including through the following means:

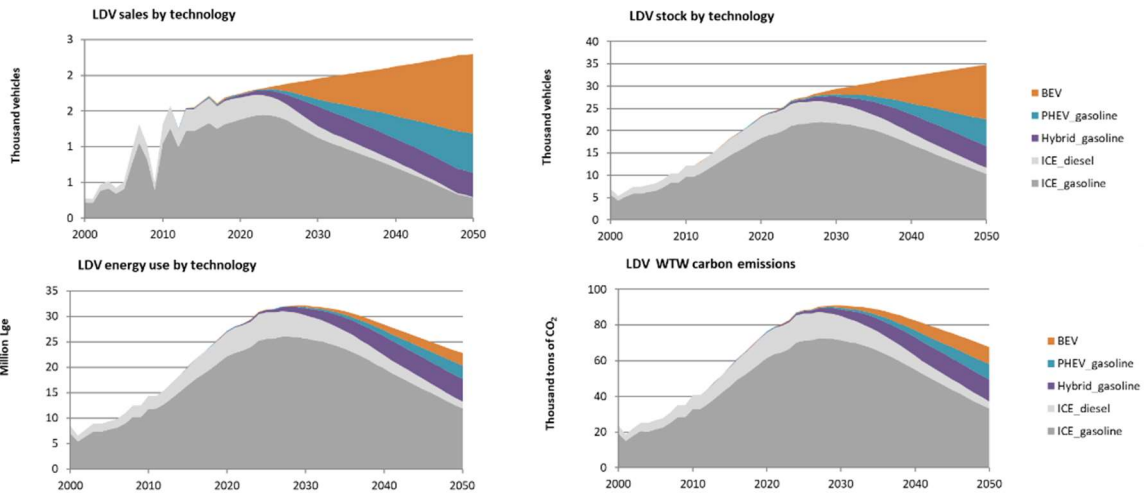
- Generic tools are produced at global level, disseminated through regional support and investment platforms and adapted to the needs in the country at the country level – thus return on investment for the development of tools and methodologies is maximized;
- Investment risk for demand side – bundling 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.

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

The projected CO<sub>2</sub> emissions reductions are based on the benefits, which will stem from the introduction of electric buses in public transportation as well as from the policies incentivising the switch to electric mobility most notably in the light duty vehicle (LDV) sector.

It is estimated that in 2019, buses were responsible for about 22,000 tons of CO<sub>2</sub> emissions. In the baseline scenario, it is projected that CO<sub>2</sub> emissions from the bus fleet in Seychelles grow to about 30,000 tons in 2030 and 35,000 tons by 2050.



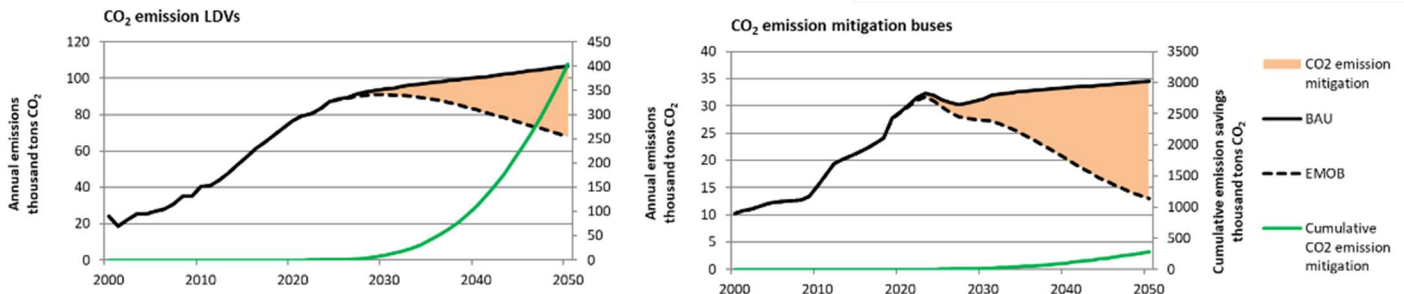


**FIGURE 11 ALTERNATIVE SCENARIO FOR BUS AND LDV SALES, STOCK, ENERGY USE AND EMISSIONS IN THE SEYCHELLES**

<b>EMOB scenario for LDVs</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>
Sales share gasoline ICE	80%	57%	22%	10%
Sales share diesel ICE	18%	8%	3%	0%
Sales share gasoline hybrid	2%	15%	15%	15%
Sales share gasoline PHEV	0%	5%	20%	25%
Sales share BEV	0%	15%	40%	50%
<b>EMOB scenario for buses</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>
Sales share gasoline ICE	4%	0%	0%	0%
Sales share diesel ICE	86%	50%	0%	0%
Sales share CNG ICE	0%	0%	0%	0%
Sales share diesel hybrid	0%	0%	0%	0%
Sales share diesel PHEV	0%	0%	0%	0%
Sales share BEV	10%	50%	100%	100%

For LDVs the baseline scenario projects a growth of emissions from about 70,000 tons CO<sub>2</sub> in 2019 to about 95,000 tons CO<sub>2</sub> by 2030 and more than 100,000 by 2050. This growth of CO<sub>2</sub> emissions goes hand in hand with a growth in air pollutants.

Under the alternative scenario, total sales and stock of buses in Seychelles are identical with the baseline scenario. It is assumed that the institutionalization of electric mobility, the short-term barrier removal as well as the preparation for scale-up of the e-mobility market and in particular the development of a fiscal and regulatory framework will trigger a substantial shift towards the use of electric buses and LDVs.



Under the top down scenario is assumed that 20% of all new LDVs (including PHEVs and BEVs) and 50% of all new buses added to the fleet will be electric in 2030. By 2050, 75% of all new LDVs (including PHEVs and BEVs) and 100% of all new buses to the fleet are assumed to be electric. The underlying scenario leads to an overall top-down emission reduction of about 110 kT CO<sub>2</sub>, including post-project emission reductions until the year 2036<sup>28</sup>

<b>Total top down emission mitigation potential, tCO<sub>2</sub></b>	<b>110,018</b>
Thereof	
Total direct emission mitigation from demonstration, tCO <sub>2</sub>	332
Total direct secondary impact emission mitigation, tCO <sub>2</sub>	22,785
Total indirect emission mitigation, tCO <sub>2</sub>	86,901
<b>Total project related emissions reductions, tCO<sub>2</sub></b>	<b>110,018</b>

Since Seychelles is an archipelago of small islands and no other sizeable e-mobility projects are known of at the time of the submission of the project proposal, GEF causality factors of 100% for secondary and indirect emission reductions are used. Therefore, total GHG emission reductions attributable to the project account for 110 ktCO<sub>2</sub> for the time frame 2021 to 2036.

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

Regionally, Seychelles has enjoyed a stable economic and political environment over the past decades, as evidenced by sound governance indicators. The 2018 Mo Ibrahim Index of African Governance ranked Seychelles as follows:

- Overall Governance: 2<sup>nd</sup> out of 54 African countries with increasing improvement trend
- Safety & Rule of Law: 5<sup>th</sup> out of 54 African countries with increasing improvement trend
- Participation & Human Rights: 7<sup>th</sup> out of 54 African countries with increasing improvement trend
- Sustainable Economic Opportunity: 5<sup>th</sup> out of 54 African countries albeit with warning signs trend
- Human Development: 2<sup>nd</sup> out of 54 African countries albeit with warning signs trend

### Innovativeness

This project is innovative from various angles:

- It promotes a new and innovative clean and low carbon transport technologies. The country is yet to introduce an electric bus, which is one of the project's deliverables;
- It promotes the integration of low carbon renewable energy with transport, including mass urban transit;
- It promotes the deployment of innovative business models for electric buses and LDVs operation and charging;
- It looks at the use of mobility as energy storage using innovative concepts, potentially such as net metering;
- It promotes the development of innovative financing schemes for electric mobility by investigating financing models for climate change mitigation within the transport sector;
- It promotes environmental sustainability by tackling the issue of collection of used EV batteries for re-use, recycling or safe disposal.

### Environmental Sustainability

The project has one output dedicated to environmental sustainability, which will be based on 2 deliverables: (1) A study on integration of renewable power for electric vehicle charging ; and (2) A scheme for re-use, recycling and sound disposal of used electric vehicle batteries (refer to deliverables 4.1.3 and 4.1.4 of the Workplan in Annex L).

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

<sup>28</sup> Based on the lifetime of the demonstration assets of 15 years



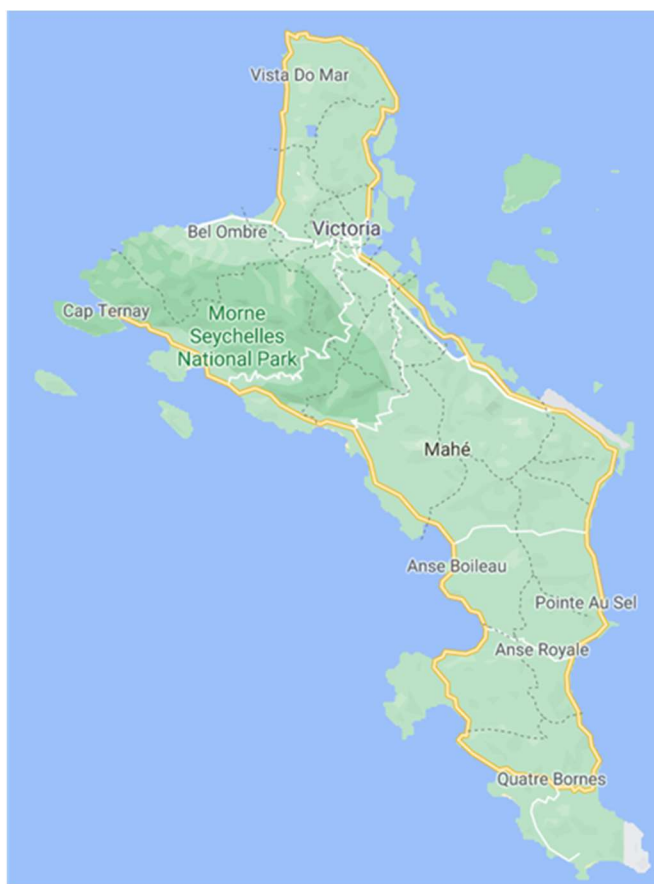
In addition, the current diesel bus fleet lacks the latest emission control technologies, hence are a significant source of small particulates and other harmful pollutants. Shifting to electric buses will thus improve urban air quality and led to longer term environmental sustainability.

Sustainability of market development after the project and potential for scaling up:

The project will be closely linked to the Africa Support and Investment Platform of the Global electric mobility programme. Through this platform and the cooperation with various development banks such as the African Development Bank (AfDB), the World Bank but also private investors such as the Private Infrastructure Development Group (PIDG), it is anticipated that the project will lead to the unlocking of various financial mechanisms to upscale the market for electric vehicles in Seychelles. The Africa Support and Investment Platform will be operational beyond the lifetime of the Seychelles electric mobility project and is anticipated to become the leading marketplace in Africa where potential project concepts meet potential financiers and potential technology suppliers. It is hence anticipated that the GEF Seychelles electric mobility project will lay the ground for a transformational shift towards electric mobility in Seychelles. This is based on the removal of market barriers outlined above, namely capacity building, the introduction of the technology to Seychelles market, the introduction of an adequate policy framework, and the provision of business models and financial schemes.

It is also envisaged that after the demonstration of the pilot electric bus in Mahe, the government intends to replace all of the SPTC’s fleet with electric buses, hence proving scalability of the project.

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



<b>Demonstration sites</b>	<b><i>Latitude</i></b>	<b><i>Longitude</i></b>
Mahé, Seychelles	-4.666664	55.4666648

## 1d. Child Project



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

The Global Programme to Support Countries with the Shift to Electric Mobility was submitted (June 2019 GEF Council) with child projects in Antigua and Barbuda, Armenia, Burundi, Chile, Costa Rica, India, Cote d’Ivoire, Jamaica, Madagascar, Maldives, Peru; Seychelles, Sierra Leone, Saint Lucia, Togo, Ukraine, Uzbekistan, as well as a global child project. For each child project, a concept note was prepared including national background, policy status, baseline scenario and description of individual national components.

The Global Programme is divided into 4 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

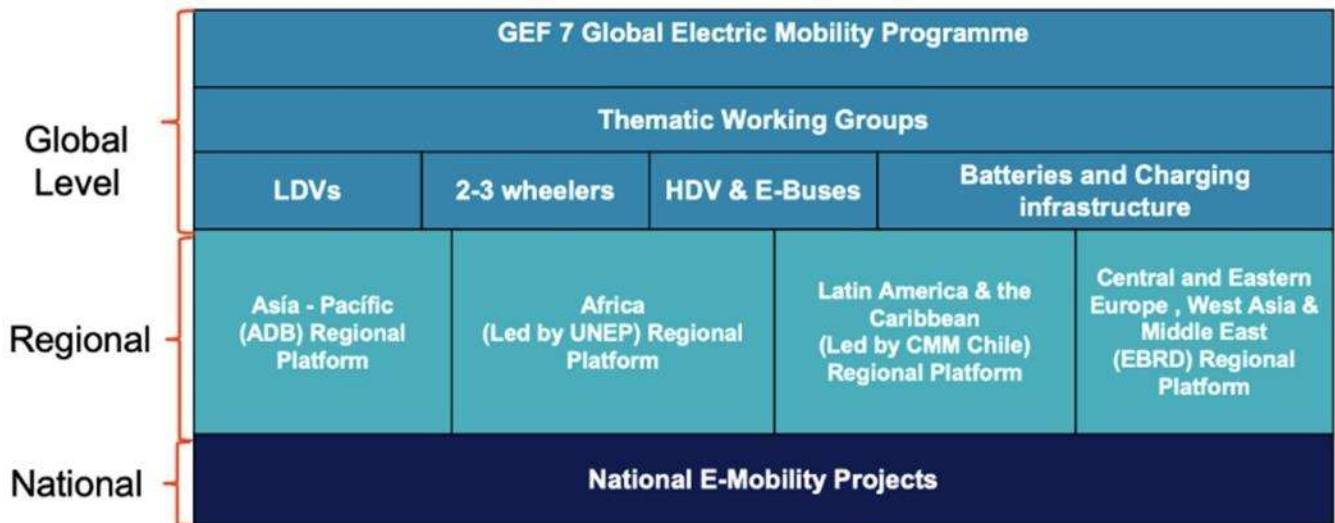
The Global Programme has put in place the monitoring framework below to track progress both globally and at the level of the country child projects. 12 indicators have been designed for this purpose: 6 relying on global level information (highlighted in blue) and 6 relying on country level information (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 energy savings (MJ)			
Indicator C: Number of direct beneficiaries (disaggregated by Gender)			
Component 1 Global thematic working groups and knowledge materials	Component 2 Support and Investment Platforms	Component 3 Country project implementation (Child Projects)	Component 4 Tracking progress, monitoring and dissemination
<b>Outcome 1</b> Knowledge products are generated to support policy making and investment decision-making through four global thematic working groups	<b>Outcome 2</b> Conditions are created for market expansion and investment in electric mobility through support and investment platforms	<b>Outcome 3</b> Conditions are created at country and city level for the introduction of electric mobility demonstration projects, and wider up take of electric mobility	<b>Outcome 4</b> 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.
<b>Indicator 1.1</b> # of knowledge products developed by the four thematic working groups and used by the Support and Investment platforms in their training and outreach activities	<b>Indicator 2.1</b> % of countries using services and knowledge products offered by the Support and Investment Platform	<b>Indicator 3.1</b> % of countries with an improved institutional framework and a strategy to promote the uptake of low-carbon electric mobility	<b>Indicator 4.1</b> % of countries generating and sharing best practices and other lessons learned on low-carbon electric mobility with the global programme
	<b>Indicator 2.2</b> # of e-mobility scale-up and / or replication concepts facilitated as a result of the match-making	<b>Indicator 3.2</b> % of countries with nationally generated evidence of the technical, financial and/or environmental benefits of low-carbon electric mobility	<b>Indicator 4.2</b> # of e-mobility knowledge products refined based on evidence coming from the country projects
	<b>Indicator 2.3</b> # of financial institutions / development banks (national/regional) that have been engaged through the Global Programme and are actively supporting e-mobility projects	<b>Indicator 3.3</b> % of countries that have improved preparedness to accelerate market transformation towards low-carbon electric mobility	<b>Indicator 4.3</b> # of non-e-mobility programme countries committing to actively promote the uptake of low-carbon e-mobility
	<b>Indicator 2.4</b> # of US\$ leveraged to scale-up low-carbon electric mobility through the support and investment platforms	<b>Indicator 3.4</b> % of countries with measures in place to ensure the long-term environmental sustainability of low-carbon electric mobility	

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 Department of Land Transport will be requested to report against the indicators of the country Project Results Framework (Annex A) on an annual basis, during the PIR process.

At the global level, a steering committee integrated by the International Energy Agency (IEA) and 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. For Africa, the regional platform will be led by UNEP.



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 Africa 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 African countries;
- Personalized assistance from international experts in electric mobility;
- Generation of training sessions and workshops.

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

## 2. Stakeholders

Stakeholders involved in the project can be categorized into six groups: 1) Government, 2) Private sector and 3) International Organizations 4.) Academia and 5.) Civil Society Organizations (CSO's) and 6.) Financiers. Key government stakeholders include the Ministries which will be part of the Project Steering Committee as well as a larger group of Ministries which will be part of the National Inter-Sectorial Electric Mobility Steering Committee. The ministries that are part of the National Inter-Sectorial Electric Mobility Steering Committee will have the political power to drive the necessary regulatory and fiscal reforms to incentivize the introduction of electric mobility and in Seychelles.

The project focuses on the introduction of electric buses within SPTC, which is a state-owned public transportation company. With the new government elected in 2020, and according to the discussions during the validation workshop, there are plans to privatize SPTC and to form a public-private-partnership (PPP). This new development underlines the need to further involve private sector during project implementation. As of today, no private sector partner for the PPP has been identified.

The Seychelles Pension Fund had been identified as a domestic institutional investor interested in investing into renewable power generation as part of a concept note submitted to the Green Climate Fund. Interest of the Seychelles Pension Fund in investing into electric buses for SPTC will be explored during project implementation. The project could also engage in similar discussions with another private investor, the Private Infrastructure Development Group (PIDG).

Initial discussions have taken place with the African Development Bank (AfDB) on the development of a Green Mobility Programme for Africa, funded by the GCF. Upscaling the SPTC electric bus fleet could potentially be a project under such a programme led by the AfDB.

The project will rely on close cooperation with auto manufacturers. For example, the Chinese company Build Your Dreams Auto Company Limited (BYD) is the leading e-bus manufacturer and has a country office in the Seychelles. BYD will be closely engaged as a potential partner for the e-bus demonstration and upscaling. The envisaged introduction of e-buses as part of the above-mentioned government-to-government development agreement will also involve private sector partners, which are still to be defined.

The project validation workshop was held virtually on March 3<sup>rd</sup>, 2021, with a total of 13 participants, including the representatives from the Ministry of Agriculture, Climate Change and Environment, the Ministry of Transport, the Ministry of Family Affairs, the Seychelles Public Transport Corporation (SPTC), the Seychelles Energy Commission (SEC), Public Utilities Cooperation (PUC) and UNEP. Participants had the opportunity to get more clarity on details for the e-bus demonstration setting and stressed the importance of the close coordination between the governments of Seychelles and China regarding the donation of electric buses, as well as between key ministries. Finally, the workshop was also an opportunity to confirm the co-financing commitments of the Ministry of Agriculture, Climate Change and Environment, the Ministry of Transport and the SPTC (through the Ministry of Transport).

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
Government	Ministry of Transport (Department of Land Transport)	<ul style="list-style-type: none"> <li>Deliver an effective transport system that contributes to the economic growth, quality of life and environmental sustainability</li> <li>Develop and implement all transport related policies with the ultimate goal of ensuring safe and reliable transport infrastructure and systems</li> <li>Establish regulations to ensure proper enforcement as well as monitoring of transport policies.</li> </ul>	<ul style="list-style-type: none"> <li>GEF Executing Agency of the project</li> <li>Chair the national inter-sectorial electric mobility committee (Component 1)</li> <li>Plan and participate in stakeholder training and capacity building (Component 1)</li> <li>Plan and oversee demonstration studies together with implementing partners (Component 2)</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>• Provide oversight to following key project stakeholder agencies:               <ol style="list-style-type: none"> <li>1. Road Transport Commissioner’s Office (RTC)</li> <li>2. Seychelles Land Transport Agency (SLTA)</li> <li>3. Seychelles Public Transport Corporation (SPTC).</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate all transport policy development work (Component 3)</li> <li>• Oversee activities ensuring long-term environmental sustainability of low-carbon electric mobility</li> <li>• Support RTC, SLTA and SPTC participation in project</li> </ul>
Government	Ministry of Agriculture, Climate Change & Environment	<ul style="list-style-type: none"> <li>• Government agency in charge of climate change mitigation and adaptation. Oversees all investment in climate change mitigation, disaster mitigation, preparedness and resilience</li> <li>• Acts as GEF Focal Point for Government of Seychelles</li> <li>• Oversee supply of affordable energy to all, promote energy efficiency and democratize access to renewable energy,</li> <li>• Provide oversight to following key project stakeholder agencies:               <ol style="list-style-type: none"> <li>1. Public Utilities Corporation (PUC)</li> <li>2. Seychelles Energy Commission (SEC)</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Liaise with the Executing Agency on day to day project implementation</li> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of national electric mobility strategy ensuring that emissions mitigation potential for targeted uptake scenarios link to Seychelles’ National Climate Change Policy (Component 1)</li> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Coordinate all energy policy development work e.g. incentives for EV charging with renewable energy power etc. (Component 3)</li> <li>• Ensure activities gear towards ensuring long-term environmental sustainability of low-carbon electric mobility are consistent with national environmental conservation plans (Component 4)</li> <li>• Support PUC and SEC participation in project</li> </ul>
Government	Ministry of Finance, Trade Investment and Economic Planning	<ul style="list-style-type: none"> <li>• Main driver on development of sound and sustainable economic policies in line with Government’s vision of a modern and efficient economy</li> <li>• Create a modern and enabling environment that is conducive for the private sector to become the engine of growth and government the facilitator</li> <li>• Formulate and implement fiscal policy framework for the government, whereby the financial resources are managed effectively and efficiently.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Oversee electric vehicle procurement and contracting for demonstration study is in line with national procedures, provide waivers/exemptions where feasible (Component 2)</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>• Provide oversight to following key project stakeholder agencies:               <ol style="list-style-type: none"> <li>1. National Statistics Bureau (NSB)</li> <li>2. Seychelles Licensing Authority (SLA)</li> <li>3. Seychelles Revenue Commission (SRC)</li> <li>4. National Tender Board (NTB)</li> <li>5. Seychelles Investment Board (SIB)</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Oversee formulation of fiscal incentives for electric mobility in line with government planning (Component 3).</li> <li>• Spearhead trade agreement negotiations as needed to see too fiscal incentives (Component 3)</li> <li>• The Department of Finance is charge of budget allocation and monitoring and will support the management of budget for the project</li> <li>• The Department of Trade regulates the Import Permit Policy and will support the regulation of import permit policy in regard to electric mobility</li> <li>• Support NSB, SLA, SRC, NTB and SIB participation in project</li> </ul>
Government	Seychelles Public Transport Corporation (SPTC)	<ul style="list-style-type: none"> <li>• Sole public transport provider in Seychelles.</li> <li>• In addition to its bus operations on Mahé, SPTC is the parent company to the Praslin Transport Company (PTC)</li> <li>• SPTC operates a fleet of almost 2,000 buses transporting approximately 55,000 people daily.</li> <li>• SPTC also provides bus hire services, advertisement services and maintenance and repair services.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Oversee electric bus demonstration study from providing project co-finance, route planning, defining data parameters, developing specifications, assisting with procurement, operating electric bus, providing access to workshop for electric bus pilot, evaluating alternate revenue streams for electric buses, assessing electric bus hire schemes etc. (Component 2)</li> <li>• Support the development of an implementation plan for e-bus upscaling (Component 3)</li> <li>• Support the development of a scale-up financing concept (Component 3)</li> <li>• Provide input to electric mobility policy formulation based on pilot data (Component 3)</li> <li>• Based on pilot data, provide input to long-term environmental sustainability of electric mobility (Component 4)</li> </ul>
Government	Gender Secretariat, Ministry of Family Affairs	<ul style="list-style-type: none"> <li>• Ministry of Family Affairs is the umbrella Ministry for the Gender Secretariat</li> </ul>	<ul style="list-style-type: none"> <li>• Provide support for gender mainstreaming</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>• To ensure gender integration into the project</li> <li>• Formulate, review and analyse national social development policies based on research-oriented activities.</li> <li>• Ensure that national, sub national and sectoral development policies, plans and strategies take into account population, gender and HIV/AIDS issues and linkages.</li> <li>• Review development policies and strategies, taking account of result based practices in work activities.</li> <li>• Examine Seychelles population trends and their implications for the country's future development.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Provide input to electric mobility policy formulation e.g. Develop gender mainstreaming framework and activities, assess impact of policy interventions given Seychelles population outlook etc. (Component 3)</li> <li>• Develop social safeguards to anchor long term sustainability planning for electric mobility (Component 4)</li> </ul>
Government	Public Utilities Corporation	<ul style="list-style-type: none"> <li>• Responsible for the provision of utilities (water &amp; electricity) in Seychelles</li> <li>• State cooperation charged with generation, transmission, distribution and sale of electrical energy on Mahe, Praslin</li> <li>• Within energy sector in Seychelles, PUC has sole expertise on metering, billing, procuring equipment and materials, inventory control, inspectorate services, customer services, public relations, system planning and project management</li> <li>• Mandated to increase increasing energy access and security for all Seychellois.</li> <li>• Lead agency in charge of implementing Government's renewable energy initiatives e.g. the target set under the Energy Policy of 5% energy production based on renewables by 2020 and 15% by 2030</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Provide input to electric mobility policy formulation e.g. preferential tariffs for EVs, grid connectivity, grid peak shedding, renewable energy to grid capability etc. (Component 3)</li> <li>• Provide support and manage renewable energy</li> </ul>
Government	Seychelles Energy Commission (SEC)	<ul style="list-style-type: none"> <li>• Responsible for the promotion of renewable energy in Seychelles</li> <li>• Responsible for oversight and planning of the Government's approach on energy issues</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>• Develops, implements and enforces the energy supply standards and regulations</li> <li>• Promotes energy efficiency and conservation of energy and the use of renewable energy</li> <li>• Oversees coordination and implementation of the National Energy Policy and Implementation Plan</li> <li>• Collects and maintains energy data, produces national energy statistics and fulfills any requirements for reporting of energy and emissions data</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Development of harmonized standards and specifications to guide all stakeholders in the electric mobility sector, from importation and installation of PV systems, charging infrastructure etc. (Component 3)</li> </ul>
Government	National Bureau of Statistics	<ul style="list-style-type: none"> <li>• Plans, authorizes, coordinates and supervises all official statistical programs undertaken within the National Statistical System, and establishes standards, and promotes the use of the best practices and methods in the production and dissemination of statistical information;</li> <li>• collects, compiles, analyses, abstracts, publishes and disseminates statistical information and related material;</li> <li>• assists Government Ministries and Departments in the collection, compilation and publication of statistical information, including statistics related to their activities;</li> <li>• provides advice and assistance to official bodies in relation to statistics; and</li> <li>• co-ordinates the activities of Seychelles and other countries and international organisations in the field of statistics and other related matters.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide data, conduct analyses and simulations for different financing and business models in order to develop ideal financing scheme and business models for electric mobility in Seychelles (Component 3)</li> </ul>
Government	Seychelles Licensing Authority	<ul style="list-style-type: none"> <li>• Oversee regulation of all licensable activities with the aim of setting minimum standards relating to such activities and to ensure public safety and hygiene, national security and environmental protection</li> <li>• Responsible for regulating the number of vehicles, their usage, and</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> <li>• Participate in stakeholder training and capacity building (Component 1)</li> </ul>



Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>road worthiness standards to ensure road safety</li> <li>• Facilitates business socio-economic development through issuing and enforcement of the Licences Act and Licence Regulations and to create the enabling environment for sustainable business development in Seychelles</li> </ul>	<ul style="list-style-type: none"> <li>• Assist with demonstration vehicles registration (Component 2)</li> <li>• Contribute to formulation of incentives for electric mobility e.g. EV registration incentives, EV SME incentives etc. (Component 3)</li> <li>• Provide support to licence all vehicles in Seychelles</li> <li>• To provide the statistics on vehicles</li> </ul>
Government	Seychelles Revenue Commission	<ul style="list-style-type: none"> <li>• Administers and enforces all laws enshrined in the Seychelles Revenue Commission Act 2009</li> <li>• Seychelles Revenue Commission regulates the entry of goods in the country include vehicles</li> <li>• Ensure vehicles are paying the right tax upon entering the country</li> <li>• Advises the Government on matters of policy relating to revenue</li> <li>• Monitors and controls the cost of revenue collection,</li> <li>• Exchange information in terms of any intergovernmental tax agreement or treaty.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> <li>• Participate in stakeholder training and capacity building (Component 1)</li> <li>• Assist with procurement of demonstration vehicles in line with directives from Ministry of Finance, Trade Investment and Economic Planning (Component 2)</li> <li>• Provide monitoring and control on importation at the Port of entry</li> </ul>
Private Sector	Enterprise Seychelles Agency	<ul style="list-style-type: none"> <li>• Mandated to implement policies and strategies of Government relating to micro, small and medium enterprises (MSMEs) and to provide them with the necessary services and support</li> <li>• identify challenges to the sustainable development of MSMEs and to propose solutions</li> <li>• provide start-up services to include needs analysis, business and legal advice, and aftercare for continuous improvement</li> <li>• assist entrepreneurs to plan their business for financial viability</li> <li>• encourage locally made products for domestic and export markets</li> <li>• facilitate programmes and schemes for enterprises</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>• Contribute to development of National electric mobility strategy (Component 1)</li> <li>• Assist with training and capacity building on EVs in Seychelles (Component 1)</li> <li>• Create synergies between private sector and the demonstration study to ensure technology transfer, value chain creation etc. (Component 2)</li> <li>• Contribute to policy development for electric mobility e.g. ensuring incentives favor local manufacturing of EVs, champion local innovation etc. (Component 3)</li> <li>• Work with project partners to ensure long term environmental sustainability of EVs creates opportunities for local SMEs thus ensuring link to economic sustainability. (Component 4)</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>facilitate the use of technology and innovation to expedite and accelerate production</li> <li>advocate the benefits of inter-enterprise cooperation through cluster networks and business linkages</li> <li>promote the importance of intellectual property rights amongst MSMEs</li> <li>encourage the transition from micro to small to medium-to high technology based enterprises; and promote and develop value addition and semi-industrialization</li> </ul>	
Private Sector	Seychelles Motor Vehicle Dealers Association (SMVDA)	<ul style="list-style-type: none"> <li>Maintains comprehensive industry data e.g. record of vehicle sales, categorized by make, class, and individual model, with constantly up-dated price lists.</li> <li>Develops wide array of media and public information on a wide range of motoring issues, offers market and technical expertise to appropriate branches of government</li> <li>Holds regular industry meetings and hosts member forums to identify and address problems</li> <li>Represents motor industry in championing for better enabling environment from policies, financing and awareness raising</li> </ul>	<ul style="list-style-type: none"> <li>Participate in the national inter-sectorial electric mobility steering committee (Component 1)</li> <li>Contribute to development of National electric mobility strategy (Component 1)</li> <li>Provide support on importation of vehicles by motor dealers</li> <li>Provide support on types and quantity of electric vehicles being imported</li> <li>Assist with training and capacity building on EVs in Seychelles (Component 1)</li> <li>Assist in development of demonstration pilot, provide technical expertise on fleet procurement and operation (Component 2)</li> <li>Contribute to policy development for electric mobility, assist with development of ideal financing schemes and business models for EVs in Seychelles (Component 3)</li> </ul>
Private Sector	BYD	<ul style="list-style-type: none"> <li>BYD is the leading manufacturer of electric buses and has a country office in the Seychelles</li> </ul>	<ul style="list-style-type: none"> <li>Potential partner for the e-bus demonstration and upscaling</li> <li>Knowledge partner for e-bus technology</li> </ul>
International Organization (GEF Agency)	UNEP Climate Mitigation Unit	<ul style="list-style-type: none"> <li>GEF Implementing Agency of the Seychelles child project as well as the Global Electric Mobility Programme</li> </ul>	<ul style="list-style-type: none"> <li>Overall project oversight</li> <li>Financial and substantive reporting</li> <li>Disbursement of funds</li> </ul>
International Organization	UNEP Sustainable Mobility Unit (SMU)	<ul style="list-style-type: none"> <li>Lead Executing Agency of the Global E-mobility project.</li> </ul>	<ul style="list-style-type: none"> <li>Review of the national electric mobility strategy (Component 1)</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		<ul style="list-style-type: none"> <li>• Technical support unit involved in more than 40 e-mobility projects in low and middle income countries</li> </ul>	<ul style="list-style-type: none"> <li>• Support with the demonstration bus and procurement of charging equipment and staff training (Component 2)</li> <li>• To facilitate coordination for a charging system to be provided by the EC SOLUTIONSplus industry partner under Component 2 as part of the European Commission SOLUTIONSplus Project (Component 2)</li> <li>• Review of policies and support with the e-bus up-scaling finance concept (Component 3)</li> <li>• Support preparation of sustainable e-mobility study including a scheme for re-use, recycling, and sound disposal of used electric vehicle batteries; and a plan for the integration of renewable power for electric vehicle charging; (Component 4)</li> <li>• Two additional field visits to the Seychelles.</li> </ul>
Private Sector	EC SOLUTIONSplus industry partner	<ul style="list-style-type: none"> <li>• Is a globally leading provider of EV and specifically e-bus charging equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Supports the implementation of the demo project through the potential provision of one e-bus charger (at least 50kW) and technical support (Component 2)</li> </ul>
Private Sector	Renewable power projects, namely the Ile de Romainville Solar Park and the Floating PV Project in the Lagoon le Rocher	<ul style="list-style-type: none"> <li>• Started implementation of renewable power projects as described under the baseline investment section with particular focus on grid integration under the conditions of a small island</li> </ul>	<ul style="list-style-type: none"> <li>• Exchange on technical subjects with regards to the integration of e-mobility and renewable power generation (Component 3 and 4)</li> </ul>
Finance / Government	Seychelles Pension Fund	<ul style="list-style-type: none"> <li>• Had been identified as a domestic institutional financier for renewable power projects as part of a concept note submitted to GCF</li> </ul>	<ul style="list-style-type: none"> <li>• Participation in the development of an upscaling concept (Component 3)</li> </ul>
Finance	African Development Bank	<ul style="list-style-type: none"> <li>• AfDB currently investigating the development of a Green Mobility Programme for Africa including funding from the GCF</li> </ul>	<ul style="list-style-type: none"> <li>• Participation in the development of an upscaling concept (Component 3)</li> </ul>
Private Sector / Finance	Private Infrastructure Development Group (PIDG)	<ul style="list-style-type: none"> <li>• Mobilises private investment in infrastructure in frontier markets of sub-Saharan Africa, south and south-east Asia, headquartered in London</li> </ul>	<ul style="list-style-type: none"> <li>• Participation in the development of an upscaling concept (Component 3)</li> </ul>
Academia	University of Seychelles and the Seychelles Institute of Technology	<ul style="list-style-type: none"> <li>• The University of Seychelles participated in renewable power projects (e.g. SeyRES 100 - GCF)</li> <li>• The department of information and communication technology (DICT) already has projects together with the Seychelles Land Transport Agency (SLTA) for example on</li> </ul>	<ul style="list-style-type: none"> <li>• Could support the development of the demo monitoring plan and the collection and analysis of demo data (Component 2)</li> </ul>

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
		online booking services for the Vehicle Testing Services (VTS)	
CSO	Seychelles Women Commission (SWC)	<ul style="list-style-type: none"> <li>12 Women Organizations were formed into the Seychelles Women Commission (SWC) so as to provide a forum to give women a voice and a platform, to ensure that due weight is given to women's informed opinions when formulating policies pertaining to women and women's issues.</li> </ul>	<ul style="list-style-type: none"> <li>Support the development of gender sensitive sections of the National E-Mobility Strategy (Component 1)</li> </ul>

Stakeholders will be consulted during project implementation as following:

- Government stakeholders will participate as members of the Project Steering Committee (PSC, meetings foreseen at least three times per year) and in Thematic Working Groups as appropriate.
- Privates sector and civil society stakeholders will participate in the Thematic Working Groups as appropriate.
- Selected government and private sector stakeholders will be appointed by the Steering Committee to participate in the Global Programme events as appropriate.
- Private sector and financiers will be consulted during the Global Programme events i.e. the e-mobility market place and replication events for the development of an e-mobility scale-up finance concept

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 and mobility in the Seychelles

Transportation planning and design are commonly regarded as “gender neutral.” It is assumed that transport projects equally benefit both men and women and that there are no significant differences between travel needs and patterns of either gender. Investments are therefore oriented towards hard infrastructure and planning towards benefiting different social groups. On the contrary, how women experience mobility is very different from men. This is deeply rooted in community-driven gender roles with economic, social and livelihood influences. By way of example, the aforementioned March 2018 independent performance audit of SPTC services by the Office of the Auditor General (Efficiency and Effectiveness of the Public Bus Service) did not look at the role of gender in enhancing efficiency or effectiveness of SPTC’s bus service, even while assessing issues such as high rate of drivers claiming sick time, over speeding, propensity for working overtime etc.

There is currently no robust data on SPTC bus rider ship by gender, but experiences from other countries with similar conditions such as the Seychelles suggest a somewhat lower ridership share of women compared to men. However, robust data exists on indicators such as women employment and gender pay gap: UN Women estimates that around 66% of women are in labour force (compared to 71%). While equality is almost reached in terms of employment, the gender pay gap is significant, with women earning on average 21% less than men for the same work. It is assumed that these indicators are equally true for the public transport sector and the mentioned issues will be addressed in the e-mobility strategy, in particular how to better integrate women in the transport sector value chain.

With regards to roles in government, women still lack representation. As of February 2019, there are only 21.2% of parliament seats held by women. In Seychelles, only 19.4% of indicators needed to monitor the SDGs from a gender perspective are available, with gaps in key areas such as Violence Against Women, Unpaid Care and Domestic Work and other key labour market indicators. In addition, many areas such as gender and poverty, women’s access to assets including land, physical and sexual harassment, and gender and the environment currently lack comparable methodologies for comprehensive and periodic monitoring<sup>29</sup>

The Seychelles Constitution of 1993 does promote non-discrimination and guarantees equal rights and protection to both men and women. The National Assembly of the Seychelles has 44% women and the country has over 45% women at Chief Executive or Middle Management levels. A number of structures exist in government to protect the rights of women.

### Gender action plan

In line with Seychelle’s constitution to encourage women’s empowerment, the project will seek to disaggregate data collection to capture gender-based differences in public transport use, and to ensure women are included in all awareness-raising activities, decision making and capacity building so that they reap the socio-economic and health benefits of shifting to cleaner technology to the same degree as men do

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

<b>Project Components / Outputs</b>	<b>Objectives</b>	<b>Activities</b>	<b>Target / 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	Gender Representation Guidelines document drafted and issued	CTA with support from the Ministry of Family Affairs

<sup>29</sup> <https://data.unwomen.org/country/seychelles>

		bodies. The guidelines are prepared in collaboration with the Ministry of Family Affairs and are disseminated to the gender focal points from respective ministries to be appointed.		
	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, training and workshops.	Attendance sheet template prepared	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 / CTA
<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 Inter-Sectorial Electric Mobility Steering Committee to appoint women as their representatives.	The national e-mobility steering committee has at least 30% female members  (gender-disaggregated attendance sheets)	PMU / CTA
<b>Component 1 Output 1.2</b>	Ensure that the national e-mobility strategy considers gender aspects in an equitable manner	The national strategy to promote low-carbon e-mobility in the Seychelles will include a gender analysis and action plan to mainstream gender equality right from the beginning of the development process. Gender-related action items will be included in the draft national e-mobility strategy.	Final gender-sensitive national strategy prepared	PMU together with the International Policy, Business and Strategy expert
<b>Component 1 Output 1.3</b>	Empowerment of women through participation in regional / international events	Based on the Gender Representation Guidelines, participation of women in regional/international events, meetings 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.	At least 30% of participants attending the events are women.  (gender disaggregated attendance sheets)	PMU / CTA
<b>Component 2 Output 2.2</b>	Assess the ratio of women ridership on the demonstrated e-bus	As part of the monitoring and data collection work to be undertaken under Output 2.2, the project will also monitor the use of the demonstrated e-bus by gender.	The final report on the demonstration results (deliverable 2.2.3) includes the statistics on the use of the e-buses, disaggregated by gender	PMU / CTA with the National E-Mobility & Power Market Expert
<b>All Components</b>	Promote women participation in project consultation meetings / workshops.	The participation of female representatives will be encouraged in all project consultation meetings and workshops outlined in the Workplan (refer Annex L for more details)	At least 30% of participants attending the project consultation meetings/workshops are women.  (gender disaggregated attendance sheets)	PMU / CTA

#### 4. Private Sector Engagement

With China accounting for approximately 98% of all electric buses in the world, leading Chinese electric bus manufacturer Build Your Dreams Auto Company Limited (BYD) is the biggest electric bus manufacturer in the world. UNEP has a Memorandum of understanding with BYD to support uptake of low emission bus technologies in developing and transitional countries. Furthermore, BYD has established an office in Seychelles. The project will potentially work with BYD in developing the electric bus demonstration study at SPTC as well as establishing demonstration study co-financing arrangements with BYD ranging from provision of in-kind technical support to SPTC, training and capacity building as well as supply of charging equipment and discounted electric bus(es). Finally, the project stands to leverage significant co-finance from the supply of 22 electric buses from China as per the announcement by the President of Seychelles in early 2020<sup>30</sup>.

Private sector involvement in the project is expected to increase during project implementation as the newly elected government has plans to eventually transform the government-owned public transport company SPTC into a PPP. The private sector partner for such a PPP has not been identified yet, but will need to play a major role within the project if the decision is taken to form a PPP. Electrification of the SPTC bus fleet will be a key-component of such a PPP.

In addition to the bus sector, Sun Motors Limited and PMC Auto Group, both members of Seychelles Motor Vehicle Dealers Association (SMVDA), have already started selling new EVs (LDVs) in Seychelles and therefore have started to acquire experience from selling and monitoring operation of EVs. During the scoping mission, representatives from Sun Motors and PMC Auto Group pledged their support for the project. Working through the SMVDA, they will help in supporting adequate EV policies to incentivise the uptake of the EV market.

The project will also engage with the private sector through the Enterprise Seychelles Agency. Start-ups working on in the EV ecosystem from vehicle sales, vehicle charging, software service etc. will be invited to all relevant events and will participate in the development process of adequate policies and regulations.

#### 5. Risks

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

Risk description	Main categories	Risk level rating	Risk Mitigation Strategy and Safeguards	By Whom / When?
The growing demand from electric vehicles destabilizes the power supply	Technical / Economic	Moderate	Introduction of e-mobility in the Seychelles starts with one electric bus which will be up-scaled to about 20 after project implementation. The impact of the charging of 20 electric buses is moderate. It will be part of the e-mobility strategy and component 4 on renewable power integration to align power supply and e-mobility market in the Seychelles	Minister for Agriculture, Climate Change and Environment, Ministry of Transport, Seychelles Energy Commission year 3-4
Leadership change: change in leadership and priorities in the government	Political / Institutional	Low	Seychelles has re-elected the President in and the members of the National Assembly in October 2020, who will be in power for a term of 5 years and a	Government of Seychelles, year 1-4

<sup>30</sup> <http://www.nation.sc/articles/3547/2020-state-of-the-nation-address-by-president-danny-faure-on-february-20-2020>

			new cabinet has appointed end of October 2020.	
Conflicting interests making it impossible to find consensus or required compromises that render the strategy and action plan too vague.	Political / Institutional	Moderate	The national coordination body brings together all relevant ministries on a regular basis to discuss the e-mobility project and align interests. The project is led by Ministry of Transport (Department of Land Transport).	Government of Seychelles, year 1-3
SPTC does not have the capacity to implement the demonstration project	Capacity	Low	SPTC has proven capable of running public transportation in Mahe and Praslin and showed good economic performance over the last couple of years according to a recent audit.	SPTC Year 1-3
Higher upfront cost of electric vehicles and in particular buses may pose a barrier to implementation and scale up of activities	Economic	Moderate	The government of Seychelles is committed to scale-up electric buses and negotiations about a government to government development agreement between the Seychelles and China are underway,	E-bus manufacturers, Government of Seychelles, Government of China Year 2-4
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 e-bus manufacturers to create an understanding of the market size and requirements of electric buses in Africa. Negotiations about a government to government development agreement between the Seychelles and China are underway	E-bus manufacturers, Government of Seychelles, Government of China Year 2-4
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.	Government of Seychelles, SPTC, year 2-3
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 concepts developed	Government of Seychelles, SPTC year 3-4 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 and a scale-up financing concept will be developed and submitted to a relevant financier. Negotiations about a government to government development agreement between the Seychelles and China are underway	Government of Seychelles, Government of China, Financing institutions, SPTC Year 2-4
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	Political / Financial	Low	The project addresses upscaling and replication through the development of one scale-up concept for e-buses operated within SPTC. Negotiations about a government to government development agreement between the Seychelles and China are underway	Government of Seychelles, SPTC year 3-4



activities in the medium/long term				
Higher electricity use might lead to higher emissions, e.g. from HFO powerplants	Environmental	Low	Power generation in the Seychelles is based on diesel gensets but plans to substantially scale-up renewable power integration exist. Even under the unlikely scenario of continued reliance on diesel genset for power generation, emission reductions will be achieved. The project considers the enabling capacity of e-mobility for renewable power integration in the Seychelles.	Minister for Agriculture, Climate Change and Environment, Ministry of Transport, Seychelles Energy Commission year 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 4.1	Minister for Agriculture, Climate Change and Environment year 3-4

### **Climate risk assessment**

*(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?*

The Republic of Seychelles is a small island developing state (SIDS) and is an archipelago of 115 islands on the Indian Ocean in Eastern Africa with a population of approximately 94, 000. Three-quarters of the population lives on the main island of Mahé. Seychelles has the highest Gross Domestic Product (GDP) per capita in Africa (\$15,410 in 2016), but inequality is significant and increasingly the effects of climate change are placing its economy at risk

Categorized as a Small Island Developing State (SIDS) with a large dependency on tourism, the “Seychelles National Climate Change Strategy” states that Seychelles is economically, culturally and environmentally vulnerable to the potential effects of climate change and associated extreme events. Vulnerability characteristics such as concentration of development on narrow coastal zones, non-resilient populations and ecosystems make the Seychelles extremely sensitive to climate change and its associated impacts. The impact of climate change on coastal livelihoods as a result of sea level rise, storm and tidal surges, extreme sea-surface temperatures, and coastal flooding will have serious consequences for livelihoods in the Seychelles. The effects of climate change on tourism in small islands are expected to be largely negative. Furthermore, recent studies suggest that changes in long-term rainfall patterns and temperature changes will also have adverse consequences for water, food and health<sup>31</sup>. Climate risk assessment for the Seychelles in the context of the electric mobility project is as follows:

#### **1. Hazards**

##### *Cyclones*

The main climate change threats facing Seychelles are similar to those threatening other small island developing states: changes in rainfall patterns leading to flooding, landslides on one hand and extended periods of drought on the other, increases in sea temperature, changes in acidity and damage to marine ecosystems, increases in storms, storm surges and cyclones, and sea level rise during the longer term

The Seychelles has a history of being affected by tropical cyclones, which form to the south of the Equator in the period November to mid-May, and more frequently from late December to mid-April. The islands most at risk are the southernmost of the Outer Islands, in particular, the groups of Aldabra and Farquhar. Cyclones bring strong winds and torrential rains.

<sup>31</sup> Seychelles National Climate Change Strategy November 2009, the Seychelles National Climate Change Committee

The northernmost islands, including Mahé, being close to the Equator, are generally spared by cyclones, or they are affected marginally, but they can sometimes be more clearly affected, as happened in May 1990 with Tropical Storm Ikonjo, and in January 2013 with Cyclone Felleng, which caused considerable damage.

A 2013 cyclone caused flooding and landslides that led to damages and losses exceeding \$8.4 million, or .77% of the country's gross domestic product (GDP). Seychelles' infrastructure was the heaviest hit, with many roads completely washed away by the storm.

#### *Sea level*

Sea level is already affecting Seychelles, such as in May 2007 when very high tides combined resulted in flooding up to 50m inland causing damage to roads, public infrastructure. Sea level rise may lead to coastal erosion impacting infrastructure especially tourism and roads. Sea level change may also increase salinity of the soil and aquifers impacting food and water supply.

#### *Rainfall*

Extreme rainfall has caused significant agricultural losses to crops in the last decade. Heavy rainfall during 1997-98 El Nino and 1998-00 La Nina events caused widespread flooding with significant losses to the economy. The government reported that Fisheries alone accounted for 45% of the total losses followed by agriculture and tourism. Increases in rainfall intensity may also result in greater surface runoff and reduced water capture in existing storage facilities and could also pose health risks.

Short, intense rain events are known to trigger landslides such as in Jan 2013 when Pointe Au Sel in the southeast of the island reported 184mm of rain in a 24-hour period - nearly half the amount of rain expected in the entire month of January. Landslides and rock falls cause damage to transport infrastructure and houses and are expected to worsen

Regarding the project, there is a risk of high impact climatic events such as cyclones disrupting power generation and electricity diffusion, damaging electric vehicles and destroying road and power infrastructure. This would lead to a loss of income as hotels close and taxi and bus services are consequently reduced. <sup>2</sup>

The threats caused by climate change will have significant impacts on Seychelles in the short, medium and longer term on infrastructure, agriculture, fisheries, tourism, energy and water security, biodiversity, waste management and on human health and well-being. Although the exact impacts are not known, and more research is needed to better understand the implications of a change global climate on the islands, it is critical that Seychelles take measures to better understand the threats and begin longer-term planning for adaptation. <sup>3</sup>

## 2. Vulnerability and exposure

As a small island developing state, Seychelles is on the front line of vulnerability to climate change. Higher sea surface and atmospheric temperatures, a rise in sea level, inland flooding, drought and cyclones and storm surges have threatened the lives, property, and livelihoods of the Seychelles population. The project has therefore moderate vulnerability and exposure to climate change. The infrastructure locations chosen need to be chosen in a way that they are save from recurring, regular and foreseeable bad weather impact.

## 3. Risk

The project has moderate risk. Impact from climate change may occur, but will be manageable. Financial, environmental and social failure is unlikely. The system has, to a certain extent, the capacity to manage climate shocks and transport and infrastructure is not identified as an area of high vulnerability in the Seychelles National Climate Strategy of 2009<sup>4</sup>. While the country has some propensity to experience increasing quantities of extreme weather events, the project's interventions have moderate exposure, as noted previously. The primary risks are that:

- Cyclones damage road, transport, electricity or charging infrastructure;
- Sea level rises or storm surges affect road or transport infrastructure operation.

#### 4. Measures to manage risks

The project's overall objective is to promote low-carbon and *climate-resilient* public and private transportation systems in the Seychelles. Thus, it has a key and direct focus on building resilience. In particular the project will focus on building resilient electric public transportation systems, and by investigating the impact of electric vehicle to grid services it will evaluate the options of using EVs for back-up power after extreme weather events. These grid-interactive systems aim to ensure that in the event of a grid blackout, electric vehicles will still be able to provide power to run critical systems in domestic environments.

On plans and regulations, output 1.2 aims to develop a national strategy for low-carbon electric mobility. While, under 3.2 it will be ensured that developed regulations for the installation of electric vehicle charging infrastructure also incorporate resiliency.

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

Seychelles has high sensitivity to climate change and its impacts. It experiences severe weather events annually due to cyclones. It is also susceptible to sea level rise. See additional information above under (2) vulnerability and exposure.

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

As noted in the response to (i), the project incorporates the aspect on building resilience.

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

The technical design of the e-bus demonstration including the charging 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 (output 3.2) will also need to be in accordance with such codes. Information on extreme weather events and wind speeds is currently available and will not need to be obtained through the project. Operators of and institutions operating charging installations will need capacity to understand how to operate the grid interactive systems during and after extreme weather events, especially in the event of grid blackouts.

#### COVID-19 Risk and Opportunity analysis

The COVID-19 pandemic presents several challenges but also highlights the valuable benefits of electric mobility, in particular in the field of public health, and therefore the Seychelles Electric Mobility Child Project has an opportunity for larger impact by starting now. According to today's knowledge, long-term exposure to particulates could be linked to up to 15% of global COVID-19 deaths. Other studies suggest that besides, particulates (e.g. PM2.5, PM10), N2O from both mobile (e.g. trucks and cars) and stationary emission sources can be a multiplier of COVID-19 impact. Since electric mobility has the potential to significantly contribute to improving urban air quality, this project is a timely move in the Seychelle's efforts to respond to the COVID-19 pandemic. Similarly, a shift to electric mobility will significantly reduce the dependency of Seychelles on petroleum fuel imports. It therefore increases resilience against restrictions or oil price spikes resulting from international crisis. Furthermore, in terms of green recovery, clean mobility is expected to play a key role in getting the country's economy back on track.

#### Risks:

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

*Reduced bus operations / load factors.* The responses to COVID-19, ranging from social distancing, teleworking to lockdowns have significant implications for the continuity of transport services in Seychelles both from the demand and supply perspectives. Firstly, users will have to modify their mobility needs either for concern on reducing the physical moves but also because users will less likely afford them. Secondly, public transport operators could suffer a reduction in income through lower ridership numbers and imposed reductions of passengers, and hence adopting new technologies such as electric vehicles might not be their priority. This would negatively impact the effective execution of the project's outputs, potentially leading to slower adoption of electric buses in the Seychelles.

*Lockdowns and movement restrictions.* Mobility restrictions and the need for social distancing would make it difficult to organise physical events that have traditionally benefited from in-person interactions, 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, especially Component 2 which is scheduled to take place in 2021 and 2022 with lockdowns and travel restrictions continue to impact the country, the PMU will re-evaluate the project work plan to reschedule field activities until the second or the third year (2022-2023). Additional health and safety protocols 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, 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 and social distancing, events will be rescheduled or held online. The project stakeholders in Seychelles have used teleconferencing and therefore are already familiar with required arrangements.

*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 when it is estimated that action on the pandemic will be in place and less of a requirement for legislative authorities. If the pandemic continues to be requiring the attention of decision-makers, such project activities will be rescheduled for the project's third year.

#### Opportunities:

*Increased awareness about cleaner urban air:* As the GEF project directly contributes to improving urban air quality through a reduction of air pollutants coming from internal combustion engine vehicles, the project can take advantage of this growing global voice demanding cleaner urban air. What needs to be ensured is that this leads to not only better awareness in the public and among decision-makers but also to concrete actions.

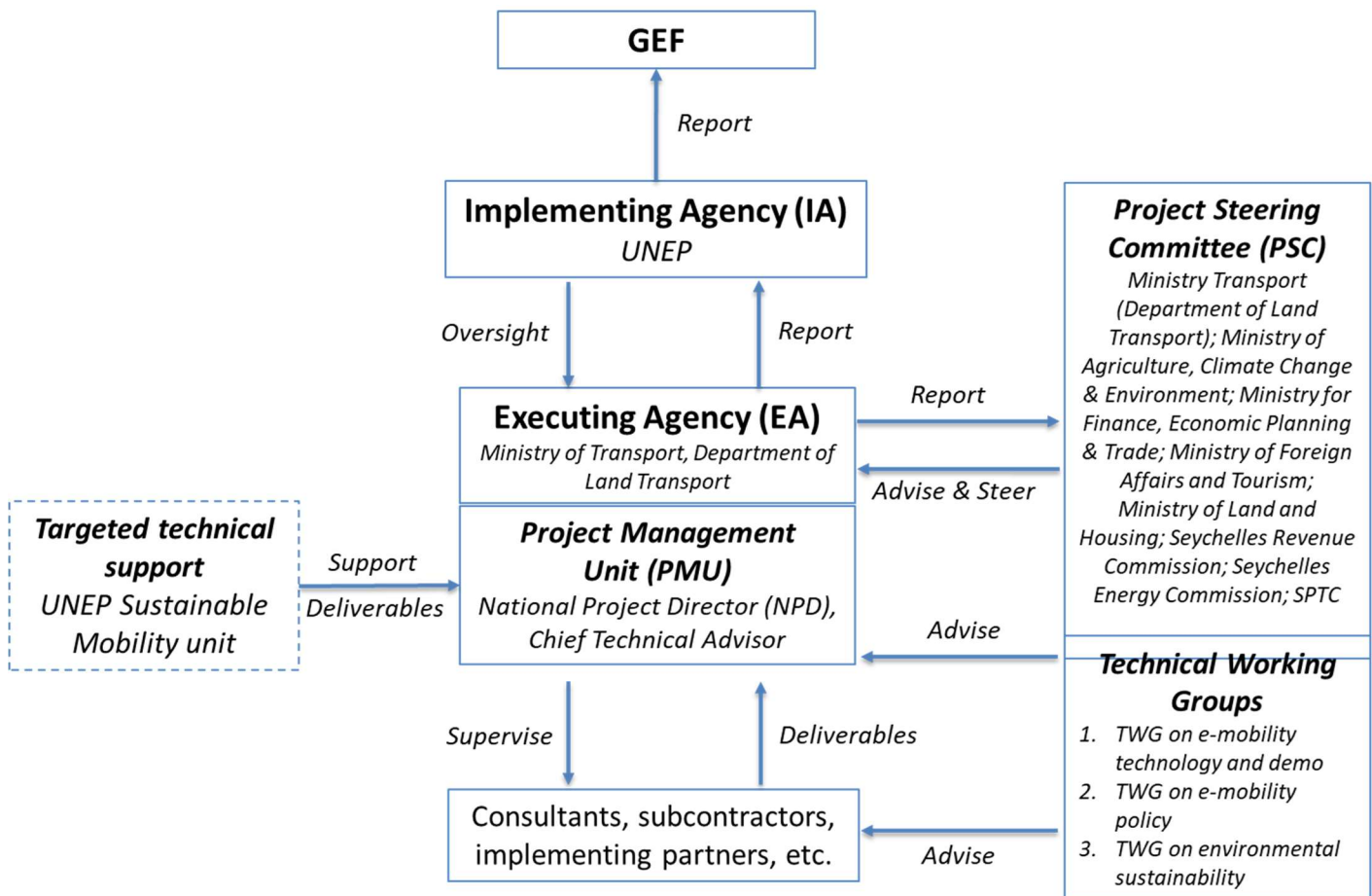
*Budget savings and reallocation:* It is likely many of the project's events at least in the first year of implementation would have to be held virtually. Budget savings made from the unused traveling and venue costs could be reallocated to more substantive activities, which would be decided depending on project needs.

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

### Institutional arrangements:

This project is funded by the GEF and co-financed by the Ministry of Transport (Department of Land Transport), the Ministry of Agriculture, Climate Change & Environment and UNEP. UNEP, through its Climate Mitigation Unit, will be acting as the GEF Implementing Agency and the Ministry of Transport (Department of Land Transport) will be the project's Executing Agency. Refer to Annex K for further details on the roles and responsibilities of the Implementing and Executing Agencies.

The main project bodies are the following (refer to Annex K for more details):



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 at least three times per year. The PSC will officially transform into the National Intersectoral E-Mobility Coordination Body at the end of year 3 of the project, through a formal notification from the Seychelles government.

A **Project Management Unit (PMU)** will also be established within Ministry of Transport (Department of Land Transport) 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 Transport and Seychelles’ GEF OFP have requested for **targeted technical support**<sup>32</sup> to be provided by the UNEP Sustainable Mobility Unit (UNEP SMU), which is also the Lead Executing Agency of the Global E-mobility child project. The GEF OFP’s letter request for the support may be found in Annex N-2 of the CEO Endorsement and the details of the support to be provided by UNEP SMU are outlined in the Project Implementation Arrangements (Annex K) and in the Terms of References (Annex H).

Below is a summary of the UNEP SMU budget, which can also be found in the detailed budget (Annex I-1):

Project Outputs the UNEP SMU will be supporting:	Budget Category	Amount (US\$)
	Staff & Personnel	1,750

<sup>32</sup> The UNEP SMU does not intend to hire a consultant to provide the targeted technical support requested by Seychelles, 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 Transport (the Executing Agency) to help build its capacity, in particular with regards to e-mobility policy and to the procurement of e-vehicles.

Output 1.2: A gender sensitive National Electric Mobility Strategy that includes electrification of Seychelles Public Transport Corporation is developed and formally proposed.	Travel	2,200
Output 2.2. One demonstration bus and charging equipment are procured, staff trained, demonstration project on different routes is implemented, monitored and data collected, analysed and disseminated.	Staff & Personnel	3,500
Output 3.2: Fiscal policies, and regulatory measures to incentivize the uptake of electric mobility are developed and formally proposed.	Staff & Personnel	3,500
	Travel	2,200
Output 3.3. One e-bus up-scaling financing concept is developed and submitted to a financier	Staff & Personnel	1,750
Output 4.1: A sustainable e-mobility study including a brief technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries, an evaluation of the potential to charge EVs with renewable power and the impact of EVs on the integration of renewable is developed with the support of the Global Programme	Staff & Personnel	3,500
<b>Total</b>		<b>18,400</b>

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:

- TWG on e-mobility technology and demonstration: including SPTC, SEC, the EC SOLUTIONSplus industry partner, Department of Land Transport, Public Utility Corporation, among others.
- TWG on e-mobility policy: Formulation of e-mobility policy and technology - Department of Land Transport Ministry of Finance, Trade Investment and Economic Planning, Seychelles Revenue Commission, Ministry of Land and Housing, Ministry of Foreign Affairs and Tourism; Ministry of Agriculture, Climate Change & Environment, Seychelles Motor Vehicle Dealers Association (SMVDA), and government agencies responsible for business support such as the Enterprise Seychelles Agency, among others.
- TWG on e-mobility and sustainability, Ministry of Agriculture, Climate Change & Environment, SEC, Public Utility Corporation, among others.

Coordination with other initiatives:

The project will be coordinated with:

- Government of Seychelles plans to acquire 22 new electric buses for the Seychelles Public Transport Corporation (SPTC) through a government to government agreement between the Republic of Seychelles and China. Discussions have been advanced under the old government and are currently revived by the new government elected November 2020. The demonstration project works towards the specification of technical, operation and financial parameter of the e-bus upscaling part of abovementioned agreement. Coordination takes place on all levels, especially with regards to technical parameters of the buses and implementation plan. The donated buses shall not be received before end of the year 2023.
- The renewable power projects identified in the baseline scenario. More specifically, the project will coordinate on a technical level and in particular with the Ile de Romainville Solar PV project, since this project is already integration energy storage as means to better integrate variable renewables in the island power grid. Input to and expertise generated under Component 4 will be received and shared with the respective partners. Information exchange with all renewable power projects is envisaged for the development of the e-mobility strategy, particularly with regards to annual power generation, generation profiles and plans to feed power to the Seychelles grid.

## 7. Consistency with National Priorities

### 1. Minamata Initial Assessment (MIA) under Minamata Convention

The Republic of Seychelles Minamata Initial Assessment Report of 2016 established that the mercury production and release to air from transportation and domestic LPG usage was negligible, accounting for 0.0014 kilograms/year against a total calculated release of mercury of 55kg for Seychelles in 2015.

### 2. National Communications (NC) under UNFCCC

The Republic of Seychelles' Second National Communication Under the United Nations Framework Convention on Climate Change December 2011 established that the total emission for electricity production was around 64% while from the transport sector (road, aviation & navigation) it was around 25%. Consequently, the report recognizes the need for reduction of consumption of gasoline and gasoil from the transport sector to see to the reductions of GHG emission.

### 3. United Nations Strategic Partnership Agreement (UNSPA)

The Republic of Seychelles and United Nations Strategic Partnership Agreement 2018 – 2022 under Section 3 (Resources and Resource Mobilization Strategy) calls for UN system agencies to provide support to the development and implementation of activities within the Agreement which *may include technical support, cash assistance, supplies, commodities and equipment, procurement services, transport, funds for advocacy, research and studies, consultancies, programme development, monitoring and evaluation, training activities and staff support. Part of the UN system agencies' support may be provided to Non-Governmental [and Civil Society] organizations as agreed within the framework of the individual work plans (WPs) and project documents.*

### 4. Sustainable Development Goals (SDGs)

- 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

### 5. Nationally Determined Contributions (NDC)

Nationally Determined Contribution (NDC) under the United Nations Framework Convention on Climate Change (UNFCCC) in September 2015 commits to see to absolute economy-wide emission reductions covering public electricity, land transport and solid waste management. Specifically, the NDC calls for more efficient fuel-based land transport and more use of electric vehicles charged with renewable energy technology

## 8. Knowledge Management

The project is part of the global GEF-UNEP 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 regional knowledge and investment platforms and the relevant global working groups, as well as by providing insights and knowledge.

The Department of Land Transport 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). Furthermore, the CTA will collect and maintain all project reports and make sure that they are publicly accessible.

Results of the Seychelles Project will be accessible through the Global E-Mobility Programme Online Toolbox. The Global Programme Website will showcase the Seychelles Project and report on progress. The Global Programme will also disseminate results of the Seychelles Project through social media.

Key deliverables contributing to knowledge management are

#### Component 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 Seychelles (to be shared with the Global E-mobility Programme)
- D 1.2.4 Gender-sensitive national e-mobility strategy finalized and presented to National Inter-Sectorial Electric Mobility Steering Committee

#### Component 2

- D 2.1.3 Feasibility assessment for demonstration of 1 electric bus as part of the SPTC fleet in Mahé, including technical specifications of the demonstration bus and charger, and selection of routes (at least 3) and charger locations carried out;
- D 2.1.4 Implementation plan for e-bus operation (including operation on three different routes and possibly within different depots), charging and maintenance, data collection, reporting and analysis framework developed
- D 2.2.5 Final report on the demonstration results, technical assessments and data analysis is presented to the national inter-sectorial electric mobility steering committee (Output 1.1) and shared with the Global E-Mobility Programme

#### Component 3

- D 3.1.2 Technical specifications for e-buses for scaling-up as well as the necessary chargers are developed
- D 3.1.3 A detailed implementation plan for the operation and maintenance of a scale-up fleet of about 20 electric buses is developed
  - D 3.2.2 Based on currently available regulation in other countries, EV and EV charging technical standards are adapted and drafted for the Seychelles.
  - D 3.2.3 A vehicle import tax scheme based on CO<sub>2</sub> emissions is proposed.
  - D 3.2.4 An alternative scheme to subsidize SPTC and to remove subsidies on diesel is proposed.

#### Component 4

- D 4.1.3 A brief technical assessment on the usability of an EPR scheme for used EV battery collection is prepared and recommendations for an initial scheme for battery EOL issues are developed
- D 4.1.4 A study focusing on the integration of renewable power for electric vehicle charging and the impact of EVs on renewable power integration in the Seychelles is developed and disseminated

The total GEF budget dedicated to the production of knowledge products is estimates at around USD 150,000. The development of the knowledge products is envisaged to take place over the entire duration of the project. For detailed information on the timeline of delivery of each of the knowledge products listed above, please refer to the project's Workplan in Annex L of the CEO Endorsement Document.

## ***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 (including evaluations) is US\$ 30,000.

## **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)?*

By transitioning from a mobility model based on imported fossil fuels to one based on renewable energy powered electric mobility, Seychelles stands to reap the following socio-economic benefits:

- Improved public health from reduced local air and noise pollution and a commensurate reduction in air pollution associated healthcare costs
- Development of new policy frameworks to underpin electric mobility is a key opportunity to improve road safety through ensuring better enforcement of existing policies as well as development of new ones to seal road safety regulation gaps
- The evaluation and development of strategies to ensure non-discriminatory access to opportunities created by electric mobility will go a long way in bridging the gender disparity in mobility from employment, investment and access of services.
- Reduced exposure to oil price volatility & reduced oil imports (Improved energy security)
- By reducing consumers gasoline expenditures, more money will stay local and boost the local economy. This will result in new business/investment opportunities for financiers, local investors etc.
- Potential to reduce poverty and inequality by providing clean and affordable transport options
- Reduced congestion leading to better quality of life with less time spent in traffic and better accessibility to jobs, health care services by low-income groups.

**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	UNEP MTS reference
Mitigate GHG emissions by accelerating the introduction of electric mobility in Seychelles through demonstration in public transportation, capacity building, and preparation of upscaling and replication through development of adequate electric mobility policies and financing concepts.	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: 23,117 tCO2 Indirect: 86,901 tCO2 (by year 2036)	Calculation based on UNEP Emob calculator	Assumption: Adoption of policies and introduction of financial mechanism by the Government of Seychelles  - Objection or low commitment from industry and lack of interest or participation from market players/private sector. - Higher upfront cost of EVs pose a barrier to implementation and scale up - 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: 387 Men: 604 Total: 991	- Attendance sheets from the child project and the Global Electric Mobility Programme - Monitoring (the number of unique passengers serviced by the demonstration bus)		
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 has established a coordinated institutional framework and adopts a gender sensitive strategy for the promotion of low-carbon electric mobility in Seychelles	Indicator 1.1: A National Inter-Sectorial Electric Mobility Steering Committee to support and promote the uptake of low-carbon e-mobility is established and endorses a national strategy to promote low-carbon electric mobility	Baseline 1.1: No	Mid-point target 1.1: The Project Steering Committee is established and includes all key institutions.	End-of-project target 1.1: Yes The National Inter-Sectorial Electric Mobility Steering Committee: - is officially created by the government - remains operational and has agreed on post-project plan to promote e-mobility. - has at least 30% female members.	- Reports of the steering committee's quarterly meetings - Gender-disaggregated participation lists - Government notification of the National Inter-Sectorial Electric Mobility Steering Committee's creation - Written agreement of cooperation and 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 or low commitment from industry and lack of interest or participation from market players/private sector. - Leadership change: change in leadership and priorities in the government  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 or low commitment from industry and lack of interest or participation from market players/private sector. - Leadership change: change in leadership and priorities in the government  Assumption: The project properly disseminates and communicates the results of the demo project  - Time lag of results: Major results of the project may not be seen before the end of the project period.	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 the Seychelles endorses a gender sensitive National Electric Mobility 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 National Electric Mobility Strategy - The strategy contains a chapter / section on gender mainstreaming - Government gazette and other publications		
	Indicator 1.3: # of reports on best practices and lessons learned on low carbon electric mobility in the Seychelles shared with the global 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 Inter-Sectorial Electric Mobility Steering Committee (deliverable 1.1.4)		
Outcome 2: The e-bus demonstration provides evidence of technical, financial, and environmental sustainability enabling SPTC to plan for scale-up of Seychelles' e-bus fleet.	Indicator 2.1: # of electric buses committed to be introduced with SPTC based on the evidence generated by the 1-bus demonstration project	Baseline 2.1: 0	Mid-point target 2.1: N/A	End-of-project target 2.1: At least 20	- SPTC commitment letter - Donation / funding agreement with potential donor / investor	Assumption: The project properly disseminates and communicates the results of the demo project  - Lack of linkages with available funding/financing for EVs fleets. - SPTC does not have the capacity to implement the demonstration project - Objection or low commitment from industry and lack of interest or participation from market players/private sector. - Higher upfront cost of EVs pose a barrier to implementation & scale up - 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	Expected Accomplishment (b): Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies
Outcome 3: The government creates conditions for removing existing barriers by developing plans and financing concepts, and by submitting policies and regulations for adoption to accelerate the introduction of EVs in Seychelles	Indicator 3.2: # of policies to incentivize the uptake of low-carbon electric mobility submitted for adoption by the government of Seychelles	Baseline 3.1: 0	Mid-point target 3.1: N/A	End-of-project target 3.1: at least 2	- Government gazette and other publications - Policy package document including: + EV and EV charging technical standards + Vehicle import tax scheme + Alternative scheme to subsidize SPTC and to remove subsidies on diesel	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. - Leadership change: change in leadership and priorities in the government  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.	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 Seychelles submitted to financial institutions	Baseline 3.2: 0	Mid-point target 3.2: N/A	End-of-project target 3.2: 1	- E-mobility concept note - Approval letter / document of the submitted concept note received from the financial institution		
Outcome 4: Measures are developed by the government to ensure the long-term environmental sustainability of low-carbon electric mobility	Indicator 4.1: # of recommendations reports / schemes developed to ensure the long term sustainability of electric mobility in Seychelles (including the issue of EV batteries EOL and the integration of low-carbon power for charging)	Baseline 4.1: 0	Mid-point target 4.1: 0	End-of-project target 4.1: 2 recommendation reports / schemes	- Technical assessment on the usability of an EPR scheme for used EV battery collection including recommendations for an initial scheme for battery EOL - Study report focusing on the integration of renewable power for electric vehicle charging	Assumption: The project properly disseminates and communicates the results of the demo project'  - Higher electricity use might lead to higher emissions, e.g. from HFO powerplants - The growing demand from electric vehicles destabilizes the power supply - Materials from EVs (e.g. from batteries) might generate environmental pollution	Expected Accomplishment (b): Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies

## **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

## 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>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF Amount (US\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent to date</i>	<i>Amount Committed</i>
GEF project consultant	6,000.00	4,000.00	2,000.00
UNEP Sustainable Mobility Unit personnel	24,240.00	24,183.02	0
UNEP Sustainable Mobility Unit travel	4,760.00	3,631.60	1,185.38
<b>Total</b>	<b>35,000.00</b>	<b>31,814.62</b>	<b>3,185.38</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.

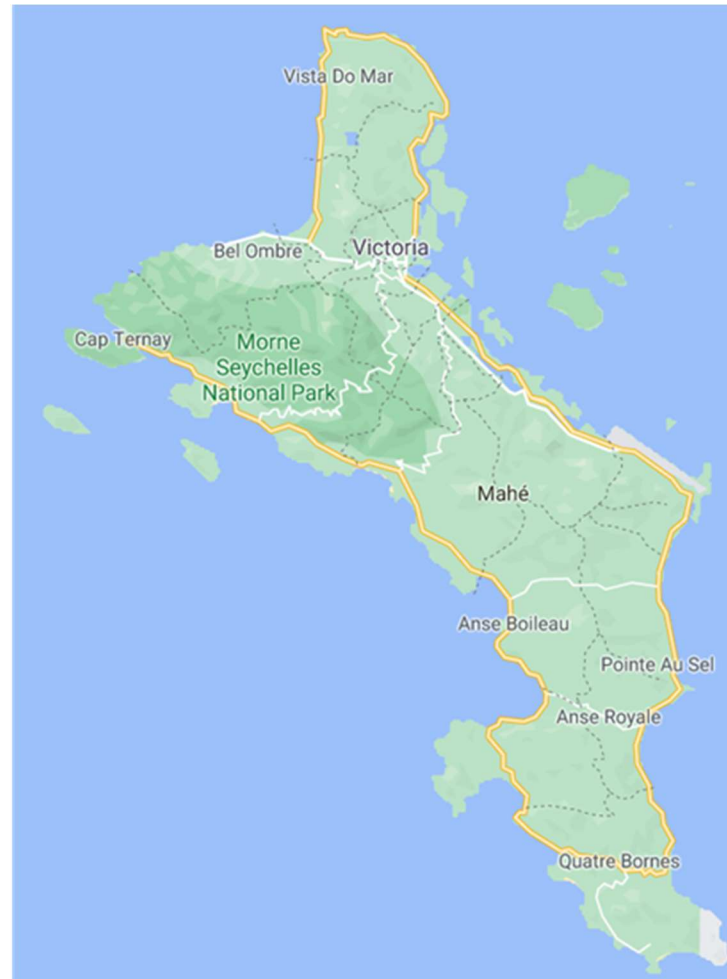
**ANNEX D: CALENDAR OF EXPECTED REFLOWS (IF NON-GRANT INSTRUMENT IS USED)**

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**



<b>Demonstration sites</b>	<i>Latitude</i>	<i>Longitude</i>
Mahé, Seychelles	-4.666664	55.4666648

**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)	14,253	23,117		
	Expected CO2e (indirect)	2,941	86,901		
Indicator 6.2	Emissions avoided				
		Tons			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)	14,474	23,117		
	Expected CO2e (indirect)	20,136	86,901		
	Anticipated Year	2021	2021		
Indicator 6.3	Energy saved				
		MJ			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
	Expected direct	164,800,664	267,291,488		
	Expected indirect	34,011,086	1,004,791,637		
Indicator 6.4	Increase in installed renewable energy capacity per technology				
		Capacity (MW)			
	Technology	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		387		
	Male		604		
	<i>Total</i>		<i>991</i>		

## 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"/> <b>Transform policy and regulatory environments</b>		
	<input checked="" type="checkbox"/> <b>Strengthen institutional capacity and decision-making</b>		
	<input checked="" type="checkbox"/> <b>Convene multi-stakeholder alliances</b>		
	<input checked="" type="checkbox"/> <b>Demonstrate innovative approaches</b>		
	<input checked="" type="checkbox"/> <b>Deploy innovative financial instruments</b>		
<input checked="" type="checkbox"/> <b>Stakeholders</b>			
	<input type="checkbox"/> <b>Indigenous Peoples</b>		
	<input checked="" type="checkbox"/> <b>Private Sector</b>		
		<input checked="" type="checkbox"/> <b>Capital providers</b>	
		<input checked="" type="checkbox"/> <b>Financial intermediaries and market facilitators</b>	
		<input checked="" type="checkbox"/> <b>Large corporations</b>	
		<input checked="" type="checkbox"/> <b>SMEs</b>	
		<input checked="" type="checkbox"/> <b>Individuals/Entrepreneurs</b>	
		<input type="checkbox"/> <b>Non-Grant Pilot</b>	
		<input type="checkbox"/> <b>Project Reflow</b>	
	<input type="checkbox"/> <b>Beneficiaries</b>		
	<input type="checkbox"/> <b>Local Communities</b>		
	<input checked="" type="checkbox"/> <b>Civil Society</b>		
		<input type="checkbox"/> <b>Community Based Organization</b>	
		<input checked="" type="checkbox"/> <b>Non-Governmental Organization</b>	
		<input checked="" type="checkbox"/> <b>Academia</b>	
		<input type="checkbox"/> <b>Trade Unions and Workers Unions</b>	
	<input checked="" type="checkbox"/> <b>Type of Engagement</b>		
		<input checked="" type="checkbox"/> <b>Information Dissemination</b>	
		<input checked="" type="checkbox"/> <b>Partnership</b>	
		<input checked="" type="checkbox"/> <b>Consultation</b>	
		<input checked="" type="checkbox"/> <b>Participation</b>	
	<input checked="" type="checkbox"/> <b>Communications</b>		
		<input checked="" type="checkbox"/> <b>Awareness Raising</b>	
		<input type="checkbox"/> <b>Education</b>	
		<input type="checkbox"/> <b>Public Campaigns</b>	
		<input checked="" type="checkbox"/> <b>Behavior Change</b>	
<input checked="" type="checkbox"/> <b>Capacity, Knowledge and Research</b>			
	<input type="checkbox"/> <b>Enabling Activities</b>		
	<input checked="" type="checkbox"/> <b>Capacity Development</b>		
	<input checked="" type="checkbox"/> <b>Knowledge Generation and Exchange</b>		
	<input type="checkbox"/> <b>Targeted Research</b>		
	<input type="checkbox"/> <b>Learning</b>		
		<input type="checkbox"/> <b>Theory of Change</b>	
		<input type="checkbox"/> <b>Adaptive Management</b>	
		<input type="checkbox"/> <b>Indicators to Measure Change</b>	
	<input checked="" type="checkbox"/> <b>Innovation</b>		
	<input checked="" type="checkbox"/> <b>Knowledge and Learning</b>		
		<input checked="" type="checkbox"/> <b>Knowledge Management</b>	
		<input checked="" type="checkbox"/> <b>Innovation</b>	
		<input checked="" type="checkbox"/> <b>Capacity Development</b>	
		<input checked="" type="checkbox"/> <b>Learning</b>	
	<input type="checkbox"/> <b>Stakeholder Engagement Plan</b>		
<input checked="" type="checkbox"/> <b>Gender Equality</b>			
	<input checked="" type="checkbox"/> <b>Gender Mainstreaming</b>		

Level 1	Level 2	Level 3	Level 4
		<input checked="" type="checkbox"/> Beneficiaries	
		<input 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"/> <b>Climate Change Mitigation</b>	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input checked="" type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input type="checkbox"/> Enabling Activities
		<input type="checkbox"/> <b>Technology Transfer</b>	
			<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"/> <b>United Nations Framework on Climate Change</b>	
			<input type="checkbox"/> Nationally Determined Contribution
			<input type="checkbox"/> Paris Agreement
			<input type="checkbox"/> Sustainable Development Goals
		<input type="checkbox"/> <b>Climate Finance (Rio Markers)</b>	
			<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

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:	Mahé		
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>Main project management duties:</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>- Undertake other activities as assigned by the Executing Agency.</li> <li>- Implement and Monitor the project's Gender Action Plan.</li> </ul>		
Expected deliverables:	1.1.1	Draft mandate, institutional structure, rules and procedures of operation, host entity, representation requirements, and workplan of the National Inter-Sectorial Electric Mobility Steering Committee	
	1.1.2	Meetings of the proposed National Inter-Sectorial Electric Mobility Steering Committee held three times a year to guide the development of the e-mobility strategy, to comment and review on draft policy proposals and other project outputs	
	1.1.3	Government notification to establish the National Inter-Sectorial Electric Mobility Steering Committee as a strategic, national, multi-stakeholder steering committee on e-mobility is issued	
	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 Seychelles (to be shared with the Global E-mobility Programme)	
	1.2.1	Set-up of the national strategy development team	
	1.2.2	Support the International Policy, Business and Strategy expert in organizing the gender-sensitive national e-mobility strategy workshop	
	1.2.3	Support the International Policy, Business and Strategy expert in collecting transport and energy sector data for the draft strategy	
	1.2.4	Support the International Policy, Business and Strategy expert in presenting the gender-sensitive national e-mobility strategy to the National Inter-Sectorial Electric Mobility Steering Committee	
	1.3.1-1.3.4	Ensures that right stakeholders participate in Global Programme events	
	2.1.1	Detailed terms of reference incl. timelines and deliverables for hiring of local and international expertise	
	2.1.2	Organize the workshop and field visit for the International E-Mobility Technology expert to collect data for the e-bus feasibility assessment and implementation plan	



	2.1.3	Oversees the feasibility assessment for demonstration of 1 electric bus as part of the SPTC fleet in Mahé, including technical specifications of the demonstration bus and charger, and selection of routes (at least 3) and charger locations
	2.1.4	Oversees the development of implementation plan for e-bus operation (including operation on three different routes and possibly within different depots), charging and maintenance, data collection, reporting and analysis framework
	2.2.1	Supports SPTC in the procurement of the electric bus
	2.2.2	Organize the second field trip and workshop for the International E-Mobility Technology expert to prepare for e-bus operation and to train SPTC on the use of the bus
	2.2.3	Coordinates with the UNEP SMU and SPTC for the installation of charging equipment provided by the EC SOLUTIONSplus industry partner at first charging point
	2.2.4	Oversees the implementation of the e-bus demonstration
	3.1.1	A workshop for e-bus upscaling is carried out (1 report)
	3.1.2	Oversees and supports development of technical specifications for e-buses for scaling-up as well as the necessary chargers
	3.1.3	Oversees and supports development of a detailed implementation plan for the operation and maintenance of a scale-up fleet of about 20 electric buses
	3.2.1	A workshop on e-mobility policies is carried out including stakeholders from all relevant line ministries (1 report)
	3.2.2 - 3.2.4	Oversees and supports drafting of policy package by the International Policy, Business and Strategy expert
	3.2.5	Organizes the workshop to present the draft package of policy proposals
	3.2.6	Final Policy package submitted for adoption by the government
	3.3.1	Supports the International Policy, Business and Strategy expert in the development of one e-bus upscaling financing concept and submission to targeted financing institution
	4.1.1	Detailed terms of reference incl. timelines and deliverables for hiring the International Battery Technology, Charging & Renewable Energy integration expert
	4.1.2	Organizes the workshop on environmentally sustainable e-mobility
	4.1.3	Oversees and supports the International Battery Technology, Charging & Renewable Energy integration expert in the development of a brief technical assessment on the usability of an EPR scheme for used EV battery collection
	4.1.4	Oversees and supports the International Battery Technology, Charging & Renewable Energy integration expert in the development and dissemination of a study focusing on the integration of renewable power for electric vehicle charging and the impact of EVs on renewable power integration in the Seychelles
Qualifications:		<ul style="list-style-type: none"> <li>- Professional degree in Engineering, Economics or other discipline related to the technical, economic and regulatory dimensions of urban public transport and - ideally - renewable energies. A Master Degree in urban mobility or automotive engineering will be an added advantage.</li> <li>- Professional experience of at least seven (7) years in the area of urban mobility 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 (especially in French) 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	

Position title:	<b>International Policy, Business and Strategy expert</b>		
Budget line number:	0102		
Duration:	18 weeks	(Note: the Expert will be mobilized intermittently from Year 1 to 3)	
Date required:	M-5		
Duty station:	Home based with missions to Seychelles		
Reporting structure:	Reports to the Chief Technical Advisor		
Description of duties:	<ul style="list-style-type: none"> <li>- Lead the development of gender-sensitive national e-mobility strategy</li> <li>- Lead the development of policies</li> <li>- Develops and implements workshops</li> <li>- Analyze transport and energy sector data</li> <li>- Provide technical, economic and financial expertise on the subject of e-mobility policies</li> <li>- Communication and promotion of results to government officials and other urban public transport sector stakeholders</li> <li>- Mainstream gender into the national e-mobility strategy</li> </ul>		
Expected deliverables:	1.2.2	Gender-sensitive national e-mobility strategy workshop (1 report with an outline of the national strategy)	
	1.2.3	Transport and energy sector data is collected and consolidated and a draft strategy is developed (summary report)	
	1.2.4	Gender-sensitive national e-mobility strategy finalized and presented to National Inter-Sectoral Electric Mobility Steering Committee	
	3.2.1	Support the CTA in presentations to be prepared for the workshop on e-mobility policies is carried out including stakeholders from all relevant line ministries (1 report)	
	3.2.2	Based on currently available regulation in other countries, EV and EV charging technical standards are adapted and drafted for the Seychelles.	
	3.2.3	A vehicle import tax scheme based on CO2 emissions is proposed.	
	3.2.4	An alternative scheme to subsidize SPIC and to remove subsidies on diesel is proposed.	
	3.2.5	The draft package of policy proposals is presented during a workshop and submitted for review by the National Intersectoral E-Mobility Steering Committee	
	3.2.6	Supports the CTA with the submission of final policy package for adoption by the government	
	3.3.1	Development of one e-bus upscaling financing concept and submission to targeted financing institution	
Qualifications:	<ul style="list-style-type: none"> <li>- Academic Degree in Automotive Engineering 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 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 Seychelles.</li> </ul>		
Languages:	English		

Position title:	<b>International E-mobility Technical Support (UNEP SMU)</b>		
Budget line number:	0103		
Duration:	5	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 with missions to Seychelles		
Reporting structure:	Reports to the Chief Technical Advisor		
Description of duties:	<p>The Executing Agency and Seychelles's GEF OFP 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;</li> <li>- Provide technical input to the national electric mobility strategy;</li> <li>- Support the setting up of e-mobility demonstration and in particular leverage technical assistance and provision of a 50kW e-bus charger for the e-bus demos through the SOL+ Replication framework / SOL+ industry partnership</li> <li>- Support the development of one e-bus upscaling concept for financing through a financial institution</li> <li>- Support the development of an initial scheme for battery EOL</li> <li>- Facilitate technical discussions among Ministries and project stakeholder</li> </ul>		
Expected deliverables:	1.2.1	Support the CTA in setting-up of the national strategy development team	
	1.2.2	Support the International Policy, Business and Strategy expert in conducting the National e-mobility strategy workshop	
	1.2.3	Review and commenting the draft gender sensitive national e-mobility strategy prepared by the International Policy, Business and Strategy expert	
	2.1.1	Support the CTA in hiring the international expert	
	2.1.3	Supports the feasibility assessment for demonstration of 1 electric bus and in particular coordination with EC SOL+ industry partner	
	2.1.4	Supports the preparation of the implementation plan for e-bus operation, in particular on charging in coordination with the EC SOL+ industry partner	
	2.2.1	Supports SPTC and the CTA with the procurement of the e-bus	
	2.2.3	Coordination for the of provision of charging equipment by the EC SOLUTIONSplus industry partner	
	3.2.2-3.2.5	Review of the draft package of policy proposals	
	3.3.1	Support the International Policy, Business and Strategy expert with the development of one e-bus upscaling financing concept	
	4.1.1	Supports the CTA with the hiring of the international expert	
	4.1.3	Supports to the International Battery Technology, Charging & Renewable Energy integration expert in the development of a brief technical assessment on the usability of an EPR scheme for used EV battery collection	
	4.1.4	Supports to the International Battery Technology, Charging & Renewable Energy integration expert in the preparation of the study focusing on the integration of renewable power for electric vehicle charging	
Qualifications:	Various levels of experience and qualifications present within UNEP SMU as required		
Languages:	English		

Position title:	<b>International E-Mobility Technology expert</b>		
Budget line number:	0104		
Duration:	18	weeks	(Note: the Expert will be mobilized intermittently from Year 1 to 3)
Date required:	M 6		
Duty station:	Home based with missions to Seychelles		
Reporting structure:	Reports to the Chief Technical Advisor		
Description of duties:	<p>Provide technical, economic and financial expertise on the subject of e-mobility technology especially e-buses</p> <p>Preparation of feasibility studies and preparation of the analysis for charging network</p> <ul style="list-style-type: none"> <li>- Develop implementation plan for e-bus operation</li> <li>- Develops and implements workshops</li> <li>- Communication and promotion of results to government officials and other urban public transport sector stakeholders</li> <li>- Final report on the demonstration results</li> </ul>		
Expected deliverables:	2.1.2	Workshop and field visit to collect data for the e-bus feasibility assessment and implementation plan conducted (field visit report + workshop report)	
	2.1.3	Feasibility assessment for demonstration of 1 electric bus as part of the SPTC fleet in Mahé, including technical specifications of the demonstration bus and charger, and selection of routes (at least 3) and charger locations carried out,	
	2.1.4	Implementation plan for e-bus operation (including operation on three different routes and possibly within different depots), charging and maintenance, data collection, reporting and analysis framework developed	
	2.2.1	Support to SPTC and the CTA in the procurement of electric bus	
	2.2.2	A second field trip and workshop is carried out to prepare for e-bus operation and to train SPTC on the use of the bus (field visit report + workshop report)	
	2.2.4	Analysis of the data collected during the e-bus demonstration	
	2.2.5	Final report on the demonstration results, technical assessments and data analysis is presented to the national inter-sectorial electric mobility steering committee (Output 1.1) and shared with the Global E-Mobility Programme	
	3.1.1	Support to the CTA in the preparation of presentations for the workshop on e-bus upscaling	
	3.1.2	Technical specifications for e-buses for scaling-up as well as the necessary chargers are developed	
	3.1.3	A detailed implementation plan for the operation and maintenance of a scale-up fleet of about 20 electric buses is developed	
Qualifications:	<ul style="list-style-type: none"> <li>- Academic Degree in Automotive Engineering 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 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 Seychelles.</li> </ul>		
Languages:	English		

Position title:	<b>National E-Mobility &amp; Power Market Expert</b>		
Budget line number:	0105		
Duration:	35	weeks	(Note: the Expert will be mobilized intermittently from Year 1 to 3)
Date required:	M-3		
Duty station:	Mahé		
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>- Preparation of studies on the integration of charging infrastructure into distribution grids</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>- Communication and promotion of results to government officials and other urban public transport and energy sector stakeholders</li> <li>- Participation in meetings and presentation of results</li> </ul>		
Expected deliverables:	2.1.2	Support to the workshop and field visit to collect data for the e-bus feasibility assessment and implementation plan	
	2.1.3	Support to the feasibility assessment for demonstration of 1 electric bus as part of the SPTC fleet in Mahé	
	2.1.4	Support to the development of the implementation plan for e-bus operation	
	2.2.1	Supports to the CTA and SPTC for the procurement of the electric bus	
	2.2.2	Supports to the second field trip and workshop to prepare for e-bus operation and to train SPTC on the use of the bus	
	2.2.3	Support to the industry partner, SPTC and UNEP SMU on the installation of the charging equipment	
	2.2.4	Collection and analysis of data from the the e-bus demonstration	
	2.2.5	Supports the International E-Mobility Technology expert on the development of final report on the demonstration results, technical assessments and data analysis	
	3.1.1	Support to the workshop and for e-bus upscaling	
	3.1.2	Supports the International E-Mobility Technology expert in the development of technical specifications for e-buses for scaling up as well as the necessary chargers	
	3.1.3	Supports the International E-Mobility Technology expert in the development of a detailed implementation plan for the operation and maintenance of a scale-up fleet of about 20 electric buses	
	4.1.3	Supports the International Battery Technology, Charging & Renewable Energy integration expert in the development of a brief technical assessment on the usability of an EPR scheme for used EV battery collection	
	4.1.4	Supports the International Battery Technology, Charging & Renewable Energy integration expert in the development and dissemination of a study focusing on the integration of renewable power for electric vehicle charging and the impact of EVs on renewable power integration in the Seychelles	
	Qualifications:	<ul style="list-style-type: none"> <li>- A first-level university degree or equivalent in Engineering, Electrical 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 5 years of relevant experience in the power sector and/or experience with e-mobility</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		

Position title:	<b>International Battery Technology, Charging &amp; Renewable Energy Integration expert</b>		
Budget line number:	0106		
Duration:	13	weeks	(Note: the Expert will be mobilized intermittently in year 2 & 3)
Date required:	M 18		
Duty station:	Home based with missions to Seychelles		
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>- Conduct a technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries</li> <li>- Provide technical expertise on the subject of EV battery technologies</li> <li>- Preparation of a study on the introduction and conceptualization of EV battery management in Seychelles</li> <li>- Development of scenarios for accelerated renewable energy deployment under given e-mobility scenarios</li> <li>- Active participation as expert in workshops</li> <li>- Communication and promotion of results to government officials and other urban public transport and energy sector stakeholders</li> <li>- Support data collection and research</li> </ul>		
Expected deliverables:	4.1.2	A workshop on sustainable e-mobility in the Seychelles is carried out focusing on the A) the development of an initial scheme for re-use, recycling, and sound disposal of used electric vehicle batteries; and B) a plan for the integration of renewable power for electric vehicle charging;	
	4.1.3	A brief technical assessment on the usability of an EPR scheme for used EV battery collection is prepared and recommendations for an initial scheme for battery EOL issues are developed	
	4.1.4	A study focusing on the integration of renewable power for electric vehicle charging and the impact of EVs on renewable power integration in the Seychelles is developed and disseminated	
Qualifications:	<ul style="list-style-type: none"> <li>- Academic Degree in Electrical/Electronic Engineering or other relevant fields. An Engineering Master Degree or post-graduation of at least 12 month with focus on battery technologies, power transmission and distribution systems would be an added advantage.</li> <li>- Senior level experience with at least 10 years of experience in the power sector, especially in battery technologies, distribution grid analysis, grid integration, renewable power generation and direct renewable power purchase agreements, incl. cost estimations</li> <li>- Excellent technical and economic knowledge of battery technologies, grid integration issues and relevant standards.</li> <li>- Strong ability to comprehend technical aspects of e-mobility, especially charging infrastructure. 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 pro-active behavior.</li> <li>- Ability to work independently on deliverables</li> <li>- Willingness and readiness to travel to Seychelles.</li> </ul>		
Languages:	English		

**ANNEX I-1 DETAILED GEF BUDGET**

Project Components	Project Outputs	Umoja budget class	Budget line number	Budget line description	Budget allocation per Year					
					Year 1	Year 2	Year 3	Year 4	Total	
<b>Component 1: Institutionalization of low-carbon electric mobility</b>	Output 1.1: A national inter-sectorial electric mobility steering committee is established	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	2,500	1,875	2,500	2,500	9,375	
		120 - Contract Services	1201	Venue and catering for the 1st workshop on the National Inter-Sectorial Electric Mobility Steering Committee	1,800	-	-	-	1,800	
		<b>Sub-total Output 1.1</b>				<b>4,300</b>	<b>1,875</b>	<b>2,500</b>	<b>2,500</b>	<b>11,175</b>
	Output 1.2: A gender sensitive National Electric Mobility Strategy that includes electrification of Seychelles Public Transport Corporation is developed and formally proposed.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	2,500	1,875	1,250	1,875	7,500	
		010 - Staff & Personnel (Including Consultants)	0102	International Policy, Business and Strategy expert	11,000	11,000	-	-	22,000	
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SMU)	1,750	-	-	-	1,750	
		120 - Contract Services	1202	Venue and catering for workshop on National E-Mobility Strategy	-	1,800	-	-	1,800	
		130 - Supplies, Commodities & Materials	1301	Printed products	241	-	-	-	241	
		160 - Travel	1601	Travel for the International Policy, Business and Strategy expert	2,200	-	-	-	2,200	
		160 - Travel	1602	Travel for the International E-mobility Technical Support (SMU)	-	2,200	-	-	2,200	
	<b>Sub-total Output 1.2</b>				<b>17,691</b>	<b>16,875</b>	<b>1,250</b>	<b>1,875</b>	<b>37,691</b>	
	Output 1.3: Key stakeholders are trained in the EV Global Programme activities and through private sector engagement (national and regional workshops, trainings and thematic working groups) and awareness is raised among key stakeholders on electric mobility	160 - Travel	1603	Travel to attend Africa Support & Investment Platform events	9,900	9,900	3,300	3,300	26,400	
		160 - Travel	1604	Travel to attend E-Mobility Global Programme events (DSA only)	900	-	-	900	1,800	
<b>Sub-total Output 1.3</b>				<b>10,800</b>	<b>9,900</b>	<b>3,300</b>	<b>4,200</b>	<b>28,200</b>		
<b>Total Component 1</b>					<b>32,791</b>	<b>28,650</b>	<b>7,050</b>	<b>8,575</b>	<b>77,066</b>	
<b>Component 2: Short-term barrier removal through low-carbon electric mobility demonstrations</b>	Output 2.1: A comprehensive feasibility study and implementation plan for electric bus demonstration for testing on different routes is developed including data collection, reporting and analytical frameworks	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	5,000	-	-	-	5,000	
		010 - Staff & Personnel (Including Consultants)	0104	International E-Mobility Technology expert	19,250	-	-	-	19,250	
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility & Power Market Expert	7,500	-	-	-	7,500	
		120 - Contract Services	1203	Venue and catering for workshop on demo design & implementation	1,800	-	-	-	1,800	
		160 - Travel	1605	Travel for the International E-Mobility Technology expert	3,300	-	-	-	3,300	
		<b>Sub-total Output 2.1</b>				<b>36,850</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>36,850</b>
	Output 2.2: One demonstration bus and charging equipment are procured, staff trained, demonstration project on different routes is implemented, monitored and data collected, analysed and disseminated.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	625	5,625	1,875	-	8,125	
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SMU)	-	1,750	1,750	-	3,500	
		010 - Staff & Personnel (Including Consultants)	0104	International E-Mobility Technology expert	-	11,000	8,250	-	19,250	
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility & Power Market Expert	-	5,250	6,750	-	12,000	
		120 - Contract Services	1204	Venue and catering for e-bus workshop and training	-	2,700	1,800	-	4,500	
		135 - Equipment, Vehicles & Furniture	1351	GEF investment support for one e-bus	-	80,000	-	-	80,000	
		160 - Travel	1605	Travel for the International E-Mobility Technology expert	-	3,300	-	-	3,300	
<b>Sub-total Output 2.2</b>				<b>625</b>	<b>109,625</b>	<b>20,425</b>	<b>-</b>	<b>130,675</b>		
<b>Total Component 2</b>					<b>37,475</b>	<b>109,625</b>	<b>20,425</b>	<b>-</b>	<b>167,525</b>	
<b>Component 3: Preparing for scale-up and replication of low-carbon electric mobility</b>	Output 3.1: Based on the demonstration project, priority routes for scaled-up e-bus deployment are selected and technical specifications for electric buses and the respective charging equipment are developed	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	625	1,250	-	1,875	
		010 - Staff & Personnel (Including Consultants)	0104	International E-Mobility Technology expert	-	-	11,000	-	11,000	
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility & Power Market Expert	-	-	4,500	-	4,500	
		120 - Contract Services	1205	Venue and catering for e-bus up-scaling workshop	-	-	1,800	-	1,800	
		160 - Travel	1605	Travel for the International E-Mobility Technology expert	-	-	2,200	-	2,200	
		<b>Sub-total Output 3.1</b>				<b>-</b>	<b>625</b>	<b>20,750</b>	<b>-</b>	<b>21,375</b>
	Output 3.2: Fiscal policies, and regulatory measures to incentivize the uptake of electric mobility are developed and formally proposed.	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	-	1,250	625	1,875	
		010 - Staff & Personnel (Including Consultants)	0102	International Policy, Business and Strategy expert	-	-	24,750	-	24,750	
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SMU)	-	-	3,500	-	3,500	
		120 - Contract Services	1206	Venue and catering for workshops on fiscal policies & regulatory schemes	-	-	3,600	-	3,600	
		160 - Travel	1601	Travel for the International Policy, Business and Strategy expert	-	-	2,200	-	2,200	
		160 - Travel	1602	Travel for the International E-mobility Technical Support (SMU)	-	-	2,200	-	2,200	
	<b>Sub-total Output 3.2</b>				<b>-</b>	<b>-</b>	<b>37,500</b>	<b>625</b>	<b>38,125</b>	
Output 3.3: One e-bus up-scaling financing concept is developed and submitted to a financier	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	-	1,250	625	1,875		
	010 - Staff & Personnel (Including Consultants)	0102	International Policy, Business and Strategy expert	-	-	1,375	1,375	2,750		
	010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SMU)	-	-	1,750	-	1,750		
	<b>Sub-total Output 3.3</b>				<b>-</b>	<b>-</b>	<b>4,375</b>	<b>2,000</b>	<b>6,375</b>	
<b>Total Component 3</b>					<b>-</b>	<b>625</b>	<b>62,625</b>	<b>2,625</b>	<b>65,875</b>	
<b>Component 4: Long-term environmental and economic sustainability of low carbon electric mobility</b>	Output 4.1: A sustainable e-mobility study including a brief technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries, an evaluation of the potential to charge EVs with renewable power and the impact of EVs on the integration of renewable is developed with the support of the Global Programme	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	-	625	1,250	-	1,875	
		010 - Staff & Personnel (Including Consultants)	0103	International E-mobility Technical Support (UNEP SMU)	-	-	3,500	-	3,500	
		010 - Staff & Personnel (Including Consultants)	0105	National E-Mobility & Power Market Expert	-	375	1,875	-	2,250	
		010 - Staff & Personnel (Including Consultants)	0106	International Battery Technology, Charging & Renewable Energy integration expert	-	9,625	24,750	-	34,375	
		120 - Contract Services	1207	Venue and catering for sustainable e-mobility workshops	-	1,800	-	-	1,800	
		160 - Travel	1606	Travel for the International Battery Technology, Charging & Renewable Energy integration expert	-	2,200	-	-	2,200	
		<b>Sub-total Output 4.1</b>				<b>-</b>	<b>14,625</b>	<b>31,375</b>	<b>-</b>	<b>46,000</b>
		<b>Total Component 4</b>					<b>-</b>	<b>14,625</b>	<b>31,375</b>	<b>-</b>
<b>Monitoring &amp; Evaluation</b>	Monitoring & Evaluation	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	
<b>Total M&amp;E</b>					<b>-</b>	<b>10,000</b>	<b>-</b>	<b>20,000</b>	<b>30,000</b>	
<b>Project Management Costs (PMC)</b>	Project Management Costs (PMC)	010 - Staff & Personnel (Including Consultants)	0101	Chief Technical Advisor	8,750	8,750	8,750	5,000	31,250	
		120 - Contract Services	1211	Independent financial audits	-	2,000	2,000	2,000	6,000	
<b>Total PMC</b>					<b>8,750</b>	<b>10,750</b>	<b>10,750</b>	<b>7,000</b>	<b>37,250</b>	
<b>Project Grand Total</b>					<b>79,016</b>	<b>174,275</b>	<b>132,225</b>	<b>38,200</b>	<b>423,716</b>	

**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 Transport	Recipient Country Government	In-Kind	Recurrent expenditures	130,000	303,000	150,000	80,000	85,000	<b>748,000</b>	Overall project support. Component 1-4 This includes personnel time (including high level staff for participation in meetings etc., operational staff for project implementation and administrative staff) as well as the provision of office space, machines (e.g. notebook, printer etc.) and stationary material. It furthermore includes cost for meeting rooms, travel cost to participate in meetings in Seychelles, as well as venue and catering costs for the project's Inception workshop and the PSC meetings.
2	Ministry of Agriculture, Climate Change & Environment	Recipient Country Government	In-Kind	Recurrent expenditures	130,000	303,000	80,000	150,000	85,000	<b>748,000</b>	Overall project support. Component 1-4. Coordination of all energy policy development work. USD 748,000 comprises in-kind support including high-level staff for participation in meetings etc., operational staff for project implementation and administrative staff as well as the provision of office space, machines (e.g. notebook, printer etc.) and stationary material.
3	Ministry of Transport / Seychelles Public Transport Corporation	Recipient Country Government	Public Investment	Investment mobilized	-	120,000	-	-	-	<b>120,000</b>	Public Investment contribution to Component 2. This co-financing of USD 120,000 is to cover 60% of the purchase price of the demonstration bus.
4	Ministry of Transport / Seychelles Public Transport Corporation	Recipient Country Government	In-Kind	Recurrent expenditures	23,000	168,000	23,000	23,000	13,000	<b>250,000</b>	Contribution to component 1-4. This in-kind contribution covers SPTC staff time for operating and maintaining the demonstration bus as well as for participation in workshops and document review part of the other components.
5	UNEP	GEF Agency	In-Kind	Recurrent expenditures	-	20,000	-	-	-	<b>20,000</b>	Contribution of the UNEP SMU to ensure proper coordination with the SOLUTIONSplus project and its industry partners who will be providing the charging infrastructure for the e-bus demonstration.
<b>Total</b>					<b>283,000</b>	<b>914,000</b>	<b>253,000</b>	<b>253,000</b>	<b>183,000</b>	<b>1,886,000</b>	



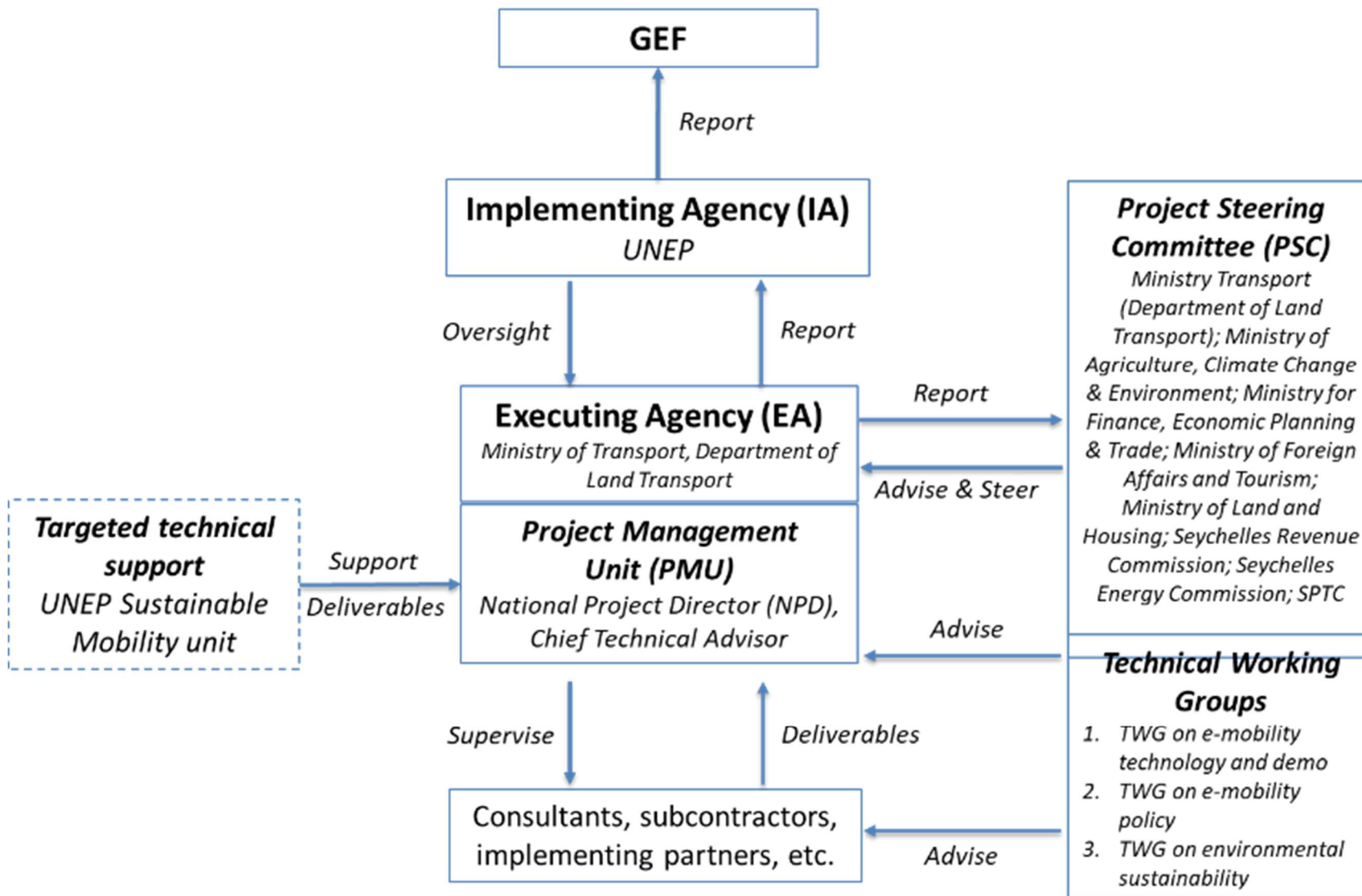
## ANNEX J: M&E BUDGET AND WORKPLAN

M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Inception Workshop (IW)	Report prepared following the IW; which includes: <ul style="list-style-type: none"> <li>- A detailed workplan and budget for the first year of project implementation,</li> <li>- An overview of the workplan for subsequent years, divided per component, output and activities.</li> <li>- A detailed description of the roles and responsibilities of all project partners</li> <li>- A detailed description of the PMU and PSC, including an organization chart</li> <li>- Updated Procurement Plan and a M&amp;E Plan, Gender Action Plan</li> <li>- Minutes of the Inception Workshop</li> </ul>	Execution: CTA  Support:	1 report to be prepared following the IW, to be shared with participants 4 weeks after the IW (latest)	GEF: US\$ 0 Venue and catering of the Inception Workshop will be co-financed by the Ministry of Transport
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 of the PSC meetings will be co-financed by the Ministry of Transport
Half-yearly progress report	Part of UNEP requirements for project monitoring. <ul style="list-style-type: none"> <li>- Narrative of the activities undertaken during the considered semester</li> <li>- Analyzes project implementation progress over the reporting period;</li> <li>- Describes constraints experienced in the progress towards results and the reasons.</li> </ul>	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

<b>M&amp;E Activity</b>	<b>Description</b>	<b>Responsible Parties</b>	<b>Timeframe</b>	<b>Indicative budget (USD)</b>
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\$ 30,000</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 Transport (Department of Land Transport) 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:

<b>Body</b>	<b>Composition</b>	<b>Role and description</b>	<b>Frequency of meetings</b>
<p>Project Steering Committee (PSC)</p> <p><i>[to be officially transformed into the National Inter-Sectorial Electric Mobility Steering Committee at end of Year 3]</i></p>	<ul style="list-style-type: none"> <li>- Department of Land Transport (EA)</li> <li>- UNEP (IA)</li> <li>- Ministry of Agriculture, Climate Change &amp; Environment</li> <li>- Ministry of Finance, Trade Investment and Economic Planning</li> <li>- Ministry of Foreign Affairs and Tourism;</li> <li>- Seychelles Revenue Commission</li> <li>- Seychelles Energy Commission</li> <li>- Ministry of Land and Housing</li> <li>- Public Utilities Cooperation</li> <li>- Seychelles Public Transport Corporation (SPTC)</li> <li>- Africa Support and Investment Platform coordinator of the Global E-mobility Programme (virtual attendance)</li> <li>- Other entities may be invited as observers / participants according to the PSC requirements</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 Department of Land Transport 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> </ul>	<p>3 or 4 times a year</p>

<b>Body</b>	<b>Composition</b>	<b>Role and description</b>	<b>Frequency of meetings</b>
Implementing GEF Agency (IA)	UNEP, Climate Mitigation Unit	<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

<b>Body</b>	<b>Composition</b>	<b>Role and description</b>	<b>Frequency of meetings</b>
Executing Agency (EA)	Department of Land Transport	<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 Department of Land Transport;</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 Seychelles</li> </ul>	Regular meetings with the CTA, at least twice per month

<b>Body</b>	<b>Composition</b>	<b>Role and description</b>	<b>Frequency of meetings</b>
	Chief Technical Advisor (CTA)	<p>The CTA will be recruited externally, paid with GEF funds, hosted within the Department of Land Transport 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>• Implement and monitor the project's Gender Action Plan;</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> </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>
Technical Working Groups (TWG)	E-mobility technology E-mobility policy and finance E-mobility and sustainability	<ul style="list-style-type: none"> <li>• E-mobility technology, including SPTC, SEC, the EC SOLUTIONSplus industry partner, department of Land Transport, Public Utility Corporation, among others</li> <li>• E-mobility policy and finance, Department of Land Transport, Ministry of Finance, Trade Investment and Economic Planning, Seychelles Revenue Commission, Ministry of Land and Housing, Ministry of Foreign Affairs and Tourism; Ministry of Agriculture, Climate Change &amp; Environment, Seychelles Motor Vehicle Dealers Association (SMVDA), and government agencies responsible for business support such as the Enterprise Seychelles Agency, among others</li> <li>• E-mobility and sustainability, Ministry of Agriculture, Climate Change &amp; Environment, SEC, Public Utility Corporation, among others</li> </ul>	The TWGs will meet regularly as required during project implementation to work on the respective topics

<b>Body</b>	<b>Composition</b>	<b>Role and description</b>	<b>Frequency of meetings</b>
Targeted technical support	Sustainable Mobility Unit (SMU), UNEP	<p>Seychelles' 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>• Undertakes two missions to Seychelles to support the project implementation;</li> <li>• Provides targeted technical support to:</li> </ul> <p>Output 1.2: A gender sensitive National Electric Mobility Strategy that includes electrification of Seychelles Public Transport Corporation is developed and formally proposed.</p> <p>Output 2.2: Demonstration bus and charging equipment are procured, staff trained, demonstration project on different routes is implemented, monitored and data collected, analysed and disseminated</p> <p>Output 3.2: Fiscal policies and regulatory schemes to incentivize the uptake of electric mobility are developed and formally proposed.</p> <p>Output 3.3. One e-bus up-scaling financing concept is developed and submitted to a financier</p> <p>Output 4.1: A sustainable e-mobility study including a brief technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries, an evaluation of the potential to charge EVs with renewable power and the impact of EVs on the integration of renewable is developed with the support of the Global Programme.</p> <ul style="list-style-type: none"> <li>• Supports the procurement of the demo e-bus</li> <li>• Facilitates in-kind contribution of EC SOLUTIONSplus industry partner</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 OEMs and EV SMEs.</li> </ul>	Regular meetings between the PMU and the UNEP SMU.



# 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												
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32			M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44
<b>Component 1: Institutionalization of low-carbon electric mobility</b>																																															
Output 1.1: A national inter-sectoral electric mobility steering committee is established	1.1.1	Draft mandate, institutional structure, rules and procedures of operation, host entity, representation requirements, and workplan of the National Inter-Sectoral Electric Mobility Steering Committee							Workshop report																									CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC												
	1.1.2	Meetings of the proposed National Inter-Sectoral Electric Mobility Steering Committee held three times a year to guide the development of the e-mobility strategy, to comment and review on draft policy proposals and other project outputs										Summary report 1												Summary report 2										CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC												
	1.1.3	Government notification to establish the National Inter-Sectoral Electric Mobility Steering Committee as a strategic, national, multi-stakeholder steering committee on e-mobility is issued																																CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment												
	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 Seychelles (to be shared with the Global E-mobility Programme)																															Best practices report		CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC											
Output 1.2: A gender sensitive National Electric Mobility Strategy that includes electrification of Seychelles Public Transport Corporation is developed and formally proposed.	1.2.1	Set-up of the national strategy development team																																CTA	UNE SMU												
	1.2.2	Gender-sensitive national e-mobility strategy workshop (1 report with an outline of the national strategy)										Workshop report																						International Policy, Business and Strategy expert	UNE SMU, CTA, relevant members of the PSC												
	1.2.3	Transport and energy sector data is collected and consolidated and a draft strategy is developed (summary report)											Summary report																					International Policy, Business and Strategy expert	UNE SMU, CTA, Department of Land Transport, Seychelles Energy Commission (SEC)												
	1.2.4	Gender-sensitive national e-mobility strategy finalized and presented to National Inter-Sectoral Electric Mobility Steering Committee																																Final strategy submitted	International Policy, Business and Strategy expert	CTA											
Output 1.3: Key stakeholders are trained in the EV Global Programme activities and through private sector engagement (national and regional workshops, trainings and thematic working groups) and awareness is raised among key stakeholders on electric mobility	1.3.1	Participation in three Africa Platform / Community of Practice events (+ 1 report for each event)																																CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC												
	1.3.2	Participation in three electric mobility / electric bus training events (+ 1 report for each event)																																CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC												
	1.3.3	Participation in two financing / marketplace events (+ 1 report for each event)																																CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC												
	1.3.4	Participation in one e-mobility replication event (+ 1 report for each event)																																Event participation	CTA	Department of Land Transport, Ministry of Agriculture, Climate Change & Environment, SPTC, SRC, SEC and other member of the PSC											
<b>Component 2: Short-term barrier removal through low-carbon electric mobility demonstrations</b>																																															
Output 2.1: A comprehensive feasibility study and implementation plan for electric bus demonstration for testing on different routes is developed including data collection, reporting and analytical frameworks	2.1.1	Detailed terms of reference incl. timelines and deliverables for hiring of local and international expertise																																CTA	UNE SMU												
	2.1.2	Workshop and field visit to collect data for the e-bus feasibility assessment and implementation plan conducted (field visit report + workshop report)																																	International E-Mobility Technology expert	National E-Mobility and Power Market expert, SPTC, CTA											
	2.1.3	Feasibility assessment for demonstration of 1 electric bus as part of the SPTC fleet in Mahé, including technical specifications of the demonstration bus and charger, and selection of routes (at least 3) and charger locations carried out																																	International E-Mobility Technology expert	CTA, National E-Mobility and Power Market expert, UNEP SMU, SPTC											
	2.1.4	Implementation plan for e-bus operation (including operation on three different routes and possibly within different depots), charging and maintenance, data collection, reporting and analysis framework developed																																	International E-Mobility Technology expert	CTA, National E-Mobility and Power Market expert, UNEP SMU, SPTC											
Output 2.2: One demonstration bus and charging equipment are procured, staff trained, demonstration project on different routes is implemented, monitored and data collected, analysed and disseminated	2.2.1	Procurement of electric bus based on specifications established in D 2.1.3, to be managed by SPTC in Mahé																																SPTC, CTA	International E-Mobility Technology expert, National E-Mobility and Power Market expert, UNEP SMU												
	2.2.2	A second field trip and workshop is carried out to prepare for e-bus operation and to train SPTC on the use of the bus (field visit report + workshop report)																																	International E-Mobility Technology expert	National E-Mobility and Power Market expert, SPTC, CTA											
	2.2.3	Provision of charging equipment by the EC SOLUTIONSplus industry partner and installation at first charging point identified in the implementation plan (D 2.1.4)																																	UNE SMU, EC SOLUTIONSplus industry partner, SPTC	National E-Mobility and Power Market expert, CTA											
	2.2.4	The e-bus together with the mobile charging equipment is used for at least 9 months on at least 3 different routes and data is collected and analyzed																																	SPTC, National E-Mobility and Power Sector expert	CTA, International E-Mobility Technology expert											
	2.2.5	Final report on the demonstration results, technical assessments and data analysis is presented to the national inter-sectoral electric mobility steering committee (Output 1.1) and shared with the Global E-Mobility Programme																																		International E-Mobility Technology expert	SPTC, CTA, National E-Mobility and Power Market expert										
<b>Component 3: Preparing for scale-up and replication of low-carbon electric mobility</b>																																															
Output 3.1: Based on the demonstration project, priority routes for scaled-up e-bus deployment are selected and technical specifications for electric buses and the respective charging equipment are developed	3.1.1	A workshop for e-bus upscaling is carried out (1 report)																																CTA	International E-Mobility Technology expert, National E-Mobility and Power Market expert												
	3.1.2	Technical specifications for e-buses for scaling-up as well as the necessary chargers are developed																																	International E-Mobility Technology expert	National E-Mobility and Power Market expert, CTA											
	3.1.3	A detailed implementation plan for the operation and maintenance of a scale-up fleet of about 20 electric buses is developed																																	International E-Mobility Technology expert	National E-Mobility and Power Market expert, CTA, SPTC											
Output 3.2: Fiscal policies, and regulatory measures to incentivize the uptake of electric mobility are developed and formally proposed.	3.2.1	A workshop on e-mobility policies is carried out including stakeholders from all relevant line ministries (1 report)																																	CTA	International Policy, Business and Strategy expert											
	3.2.2	Based on currently available regulation in other countries, EV and EV charging technical standards are adapted and drafted for the Seychelles																																	International Policy, Business and Strategy expert	Department of Land Transport, Seychelles Energy Commission, UNEP SMU											
	3.2.3	A vehicle import tax scheme based on CO2 emissions is proposed																																	International Policy, Business and Strategy expert	Seychelles Revenue Commission, UNEP SMU											
	3.2.4	An alternative scheme to subsidize SPTC and to remove subsidies on diesel is proposed																																	International Policy, Business and Strategy expert	Department of Land Transport, Seychelles Revenue Commission, UNEP SMU											
	3.2.5	The draft package of policy proposals is presented during a workshop and submitted for review by the National Intersectoral E-Mobility Steering Committee																																	International Policy, Business and Strategy expert	Department of Land Transport, Seychelles Revenue Commission, Seychelles Energy Commission, CTA											
	3.2.6	Final Policy package submitted for adoption by the government																																		CTA	International Policy, Business and Strategy expert										
Output 3.3: One e-bus up-scaling financing concept is developed and submitted to a financier	3.3.1	Development of one e-bus upscaling financing concept and submission to targeted financing institution																																	International Policy, Business and Strategy expert	CTA, UNEP SMU											
<b>Component 4: Long-term environmental and economic sustainability of low carbon electric mobility</b>																																															
Output 4.1: A sustainable e-mobility study including a brief technical assessment of the usability of an Extended Producer Responsibility (EPR) scheme for the collection of used EV batteries, an evaluation of the potential to charge EVs with renewable power and the impact of EVs on the integration of renewable is developed with the support of the Global Programme	4.1.1	Detailed terms of reference incl. timelines and deliverables for hiring the International Battery Technology, Charging & Renewable Energy integration expert																																	CTA	UNE SMU											
	4.1.2	A workshop on sustainable e-mobility in the Seychelles is carried out focusing on the A) the development of an initial scheme for re-use, recycling, and sound disposal of used electric vehicle batteries; and B) a plan for the integration of renewable power for electric vehicle charging;																																		International Battery Technology, Charging & Renewable Energy integration expert	CTA, Ministry of Agriculture, Climate Change & Environment										
	4.1.3	A brief technical assessment on the usability of an EPR scheme for used EV battery collection is prepared and recommendations for an initial scheme for battery EOL issues are developed																																		International Battery Technology, Charging & Renewable Energy integration expert	CTA, Ministry of Agriculture, Climate Change & Environment, UNEP SMU, National E-Mobility & Power Market Expert										
	4.1.4	A study focusing on the integration of renewable power for electric vehicle charging and the impact of EVs on renewable power integration in the Seychelles is developed and disseminated																																			International Battery Technology, Charging & Renewable Energy integration expert	CTA, Ministry of Agriculture, Climate Change & Environment, UNEP SMU, National E-Mobility & Power Market Expert									

(\*) Important notice: for every workshop or training undertaken as part of the above workplan, the project staff or consultant in charge of it needs to prepare a report (or minutes of meeting), including an attendance sheet disaggregated by gender.

## ANNEX M: ESTIMATES OF DIRECT AND CONSEQUENTIAL GREENHOUSE GAS EMISSION REDUCTIONS

<b>Total top down emission mitigation potential, tCO2</b>				<b>110,018</b>
Thereof				
Total direct emission mitigation from demonstration, tCO2				332
Total direct secondary impact emission mitigation, tCO2				22,785
Total indirect emission mitigation, tCO2				86,901
<b>Total project related emissions reductions, tCO2</b>				<b>110,018</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” behaviour 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) 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 lifetime 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>33</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>34</sup>.

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

<sup>33</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>34</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 2024 plus ten years).

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%

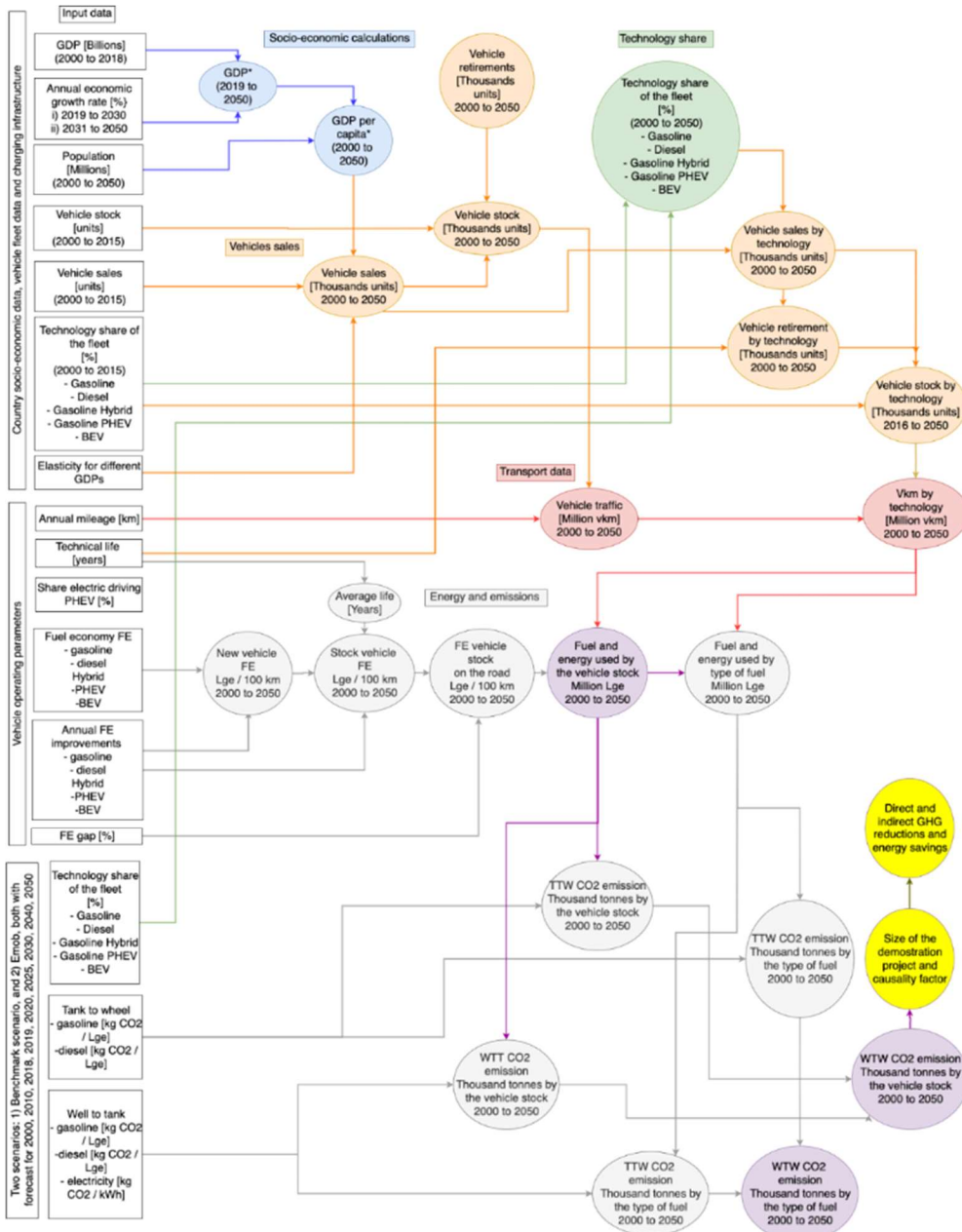
Secondary direct emission reductions are based on the plan to introduce up to 22 electric buses as a direct result of the success of the e-bus demonstration project.

As selection of the parameters and variables to describe the benchmark and the e-mobility scenario are shown in the tables below, a flow diagram of the e-mob calculator is shown in 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

### MINISTRY OF ENVIRONMENT, ENERGY & CLIMATE CHANGE ENERGY AND CLIMATE CHANGE DEPARTMENT

#### Office of the Principal Secretary

Botanical Gardens, Mont Fleuri, P.O. Box 445, Victoria, Mahe, Republic of Seychelles

Tel. No. (+248) 4670568 Telefax No. (+248) 4610514 Email: [w.agricole@env.gov.sc](mailto:w.agricole@env.gov.sc)

Please address all correspondence to the Principal Secretary – Mr Wills Agricole



**DATE:** 5<sup>th</sup> April 2019

Kelly West  
UN Environment  
P.O Box 30552  
Nairobi 00100  
Kenya

**SUBJECT: ENDORSEMENT FOR "ACCELERATING THE SHIFT TO ELECTRIC MOBILITY IN THE SEYCHELLES"**

In my capacity as GEF Operational Focal Point for the Seychelles, 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 the Ministry of Environment, Energy & Climate Change. I request UN Environment 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 the Seychelles 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 the Seychelles allocations in GEF-7 as defined in the System for Transparent Allocation of Resources (STAR).

Sincerely,

Wills Agricole

GEF Operational Focal Point

**PRINCIPAL SECRETARY/ENERGY AND CLIMATE CHANGE**



Copy to: Convention Focal Point for UNFCCC  
Convention Focal Point for Biodiversity  
Convention Focal point for UNCCD  
Minister for Environment, Energy and Climate Change

## ANNEX N-2: OFP EXECUTION SUPPORT APPROVAL LETTER

**MINISTRY OF AGRICULTURE, CLIMATE CHANGE & ENVIRONMENT  
CLIMATE CHANGE DEPARTMENT**

**Office of the Principal Secretary**

Botanical Gardens, Mont Fleuri, P.O. Box 445, Victoria, Mahe, Republic of Seychelles

Tel. No. (+248) 4670569

Email: [w.agricole@env.gov.sc](mailto:w.agricole@env.gov.sc) / [w.agricole@meteo.gov.sc](mailto:w.agricole@meteo.gov.sc)

*Please address all correspondence to the Principal Secretary – Mr Wills Agricole*



DATE: - 24th March 2021

**Mrs. Kelly West**  
GEF Coordinator  
UNEP  
Nairobi, Kenya

**SUBJECT: LETTER OF SUPPORT TO REQUEST GEF AGENCY EXECUTION FOR THE  
“SUPPORTING SEYCHELLES WITH THE SHIFT TO ELECTRIC MOBILITY”  
PROJECT (GEF ID 10274)**

Dear Mrs. West,

1. In my capacity as GEF Operational Focal Point for Seychelles, 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\$ 18,400.
2. The execution services provided by UNEP's Sustainable Mobility Unit are expected to include:
  - Support the preparation of a national strategy on e-mobility
  - Support the procurement / installation of charging infrastructure
  - Support the development policies and regulations for e-mobility upscaling and used EV batteries management.
3. Execution activities provided by UNEP are described in detail in the GEF CEO Endorsement / Approval request and accompanying project documents, including the project budget.

Sincerely,

Wills Agricole (Mr.)

**PRINCIPAL SECRETARY/CLIMATE CHANGE  
GEF FOCAL POINT**



## ANNEX O: CO-FINANCING COMMITMENT LETTERS FROM PROJECT PARTNERS

### MINISTRY OF AGRICULTURE, CLIMATE CHANGE & ENVIRONMENT CLIMATE CHANGE AND ENERGY DEPARTMENT

#### Office of the Principal Secretary

Botanical Gardens, Mont Fleuri, P.O. Box 445, Victoria, Mahe, Republic of Seychelles

Tel. No. (+248) 4670569

Email: [w.agricole@env.gov.sc](mailto:w.agricole@env.gov.sc) / [w.agricole@meteo.gov.sc](mailto:w.agricole@meteo.gov.sc)



*Please address all correspondence to the Principal Secretary – Mr Wills Agricole*

DATE: - 15<sup>th</sup> April 2021

Ms. Kelly West  
Global Environment Facility Coordinator  
UN Environment Programme  
P.O Box 30552  
Nairobi 00100  
KENYA

Dear Ms. West,

**SUBJECT: SEYCHELLES, CO-FINANCING CONTRIBUTIONS TOWARDS THE GLOBAL PROGRAMME TO SUPPORT COUNTRIES WITH THE SHIFT TOWARDS ELECTRIC MOBILITY**

I have the pleasure of writing to confirm the Seychelles Government support to the Global Programme to Support countries with the Shift to Electric Mobility Project (GEF SEC ID 10274).

*The Ministry of Agriculture, Climate Change and Environment also umbrella ministry for Seychelles Energy Commission will make a co-financing contribution worth of US\$ 748,000 in the form of in-kind investment over three (3) year period of the project implementation, starting early 2021.*

Under this in-kind co-financing contribution, the Seychelles through the Ministry of Agriculture, Climate Change and Environment intends to also support the following project component:

- Institutionalization of electric mobility through the creation of inter-sectoral coordination body
- Support the Introduction of electric vehicle demonstrations on Mahe and La Digue Islands
- Develop strategies, policies and regulatory schemes to support the shift to electric mobility
- Promote long-term sustainability of electric mobility through the encouragement of renewable charging stations and schemes for re-use and recycling of batteries.



The contribution of the Ministry aggregating together with the Ministry of Transport and Seychelles Public Transport Corporation will take several forms, of:

- Coordination of inter-sectorial agencies for the implementation of the project
- Staff support for the development of strategies, policies and regulations
- Staff monitoring and evaluation of e-mobility demonstrations on Mahe and La Digue Islands with the support of Department of Land Transport, Road Transport Commission and Seychelles Public Transport Corporation
- Support for integration of renewable energy into the national electricity grid for vehicle recharging stations, in collaboration with the Department of Climate Change and Energy and the Seychelles Energy Commission
- Support for development of recycling schemes, policies and disposal facilities with support of both Ministry Transport and Ministry of Agriculture, Climate Change and Environment.

The Seychelles Government strongly supports this important GEF project and is pleased to be part of it. We look forward to continue working with UNEP to accelerate the global transition to electric mobility, and making it a success.

Yours sincerely,



**Wills Agricole (Mr)**  
**GEF Focal Point Seychelles**  
**PRINCIPAL SECRETARY FOR CLIMATE CHANGE AND ENERGY**

CC: PS, Department of Land Transport





## MINISTRY OF TRANSPORT

### Department of Land Transport

1<sup>st</sup> Floor, Quadrant Building, Republic of Seychelles  
P. O. Box 92, Seychelles Telephone: 4674200, Fax: 4611012

*(Please address all correspondence to the Principal Secretary)*



Date: 29 March 2021

To: Mrs. Kelly WEST

GEF Coordinator  
UNEP  
Nairobi, Kenya

Subject: Ministry of Transport co-financing towards the project "Support the shift to electric mobility in the Seychelles" (GEF ID 10274)

Dear Mrs. WEST,

I have the pleasure of writing to you to inform you of the Ministry of Transport support to the "Support the Shift to Electric Mobility in the Seychelles" project (GEF ID 10274). The Ministry of Transport will make a co-financing contribution worth USD 1,118,000 in the form of public investment and in-kind contributions over the 4 years of the project's implementation, starting 2021.

The Ministry of Transport's contributions will be made of 3 parts:

A public investment amounting to USD 120,000, based on the Ministry of Transport's contribution to the purchase of one electric bus on behalf of the Seychelles Public Transportation Corporation (SPTC), which will also be partly funded by the GEF.

An in-kind contribution amounting to USD 250,000 will cover the Seychelles Public Transportation Corporation (SPTC) staff costs to operate and maintain the bus over the project duration, to cater for the required power supply at the depots (50kW) and to support the bus demonstration through adequate technical and administrative staff. It furthermore ensures adequate parking of the demonstration bus at the depot. In addition, the in-kind contribution ensures participation of Seychelles Public Transportation Corporation (SPTC) staff in the Project Steering Committee meetings / Electric Mobility Coordination Body meetings, workshops, trainings and capacity building events.

Finally, an in-kind contribution of USD 748,000 from the Ministry of Transport itself. Under this in-kind co-financing contribution, the Ministry of Transport intends to support the following project component:

- Component 1. Institutionalization of low-carbon electric mobility
- Component 2. Short term barrier removal through low-carbon e-moto-taxi demonstration and charging development



- Component 3. Preparing for scale-up and replication of low-carbon electric mobility
- Component 4. Long-term environmental sustainability of low-carbon electric mobility

The in-kind contribution of the Ministry Habitat, Infrastructure and Land Transport will take several forms, such as:

- Coordination of inter-sectorial agencies for the implementation of the project.
- Staff support for the development of strategies, policies and regulations.
- Staff for the monitoring and evaluation of the e-mobility demonstration, with the support of Department of Land Transport, and the Seychelles Public Transport Corporation.
- Support for integration of renewable energy into the national electricity grid for vehicle recharging stations, in collaboration with the Ministry of Agriculture, Climate Change and Environment and the Seychelles Energy Commission.
- Support for development of recycling schemes, policies and disposal facilities with the support of the Ministry of Agriculture, Climate Change and Environment.

Particularly, the Department of Land Transport of the Ministry of Transport will support the project with provision of data, but also through review of relevant project outputs / deliverables, such as the national gender sensitive e-mobility strategy (output 1.2), the feasibility study and the implementation plan for the e-bus demonstration (output 2.1), the data collection, analysis and dissemination from the e-bus demonstration (output 2.2), the selection of priority routes and the development of technical specifications for e-bus upscaling (output 3.1), the proposal for fiscal policies, regulatory measures and financial schemes to incentivize the uptake of electric mobility (output 3.2), and the comprehensive sustainable e-mobility study (output 4.1).

The Ministry of Transport strongly supports this important GEF project and is pleased to be part of it. We look forward to continue working with UNEP to accelerate the global transition to electric mobility, and making it a success.

Yours sincerely,



Patrick Andre  
Principal Secretary  
Department of Land Transport  
Ministry of Transport  
Victoria, Mahe, Seychelles



Reference: UNEP/SMU/RDJ

30 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 the Seychelles (GEF ID 10274)". UNEP's Sustainable Mobility Unit will make a co-financing contribution in the form of in-kind contribution worth USD\$ 20,000 over the 4 years of the project's implementation, starting 2021.

Under this co-finance contribution, UNEP intends to support the overall implementation of the project, and in particular the coordination with 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).

UNEP, as the Implementation Agency for the project "Supporting the Shift to Electric Mobility in the Seychelles" 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)

## ANNEX P: SAFEGUARD RISK IDENTIFICATION FORM (SRIF)

### Section 1: Project Overview

<b>Identification</b>	10274
Project Title	Support the Shift to Electric Mobility in Seychelles
Managing Division	Economy Division
<b>Type/Location</b>	National
Region	Africa
List Countries	Seychelles
<b>Project Description</b>	<p><i>This project aims to accelerate the introduction of electric mobility in Seychelles through capacity building and demonstration of electric vehicles, and preparation of upscaling and replication through development of adequate electric mobility policies, and development of business models and finance schemes.</i></p> <p><i>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.</i></p> <p><i>Component 1. Institutionalization of low-carbon electric mobility</i></p> <p><i>Component 2. Short term barrier removal through low-carbon e-mobility demonstrations</i></p> <p><i>Component 3. Preparing for scale-up and replication of low-carbon electric mobility</i></p> <p><i>Component 4. Long-term environmental sustainability of low-carbon electric mobility</i></p>
<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 Transport
<b>SRIF submission version</b>	<p><i>If it is not the first time, mark the time of your previous submission</i></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

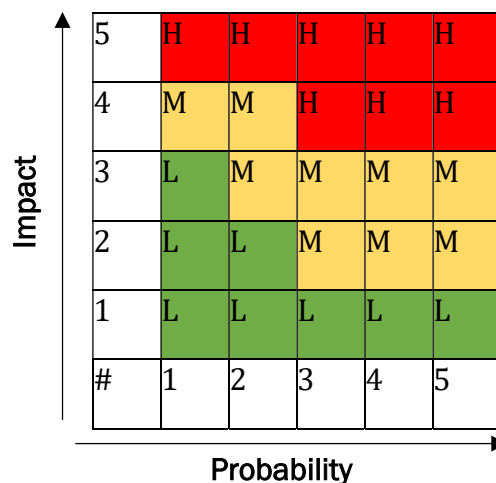
### Summary of the Safeguards Risk Triggered

Safeguard Standards Triggered by the Project	Impact of Risk (1-5)	Probability of Risk (1-5)	Significance of Risk (L, M, H) <i>Please refer to the matrix below</i>
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	2	2	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	1	L

#### A. ESS Risk Level<sup>35</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: 18/02/2021

##### Screening review by

Name: Yunae Yi Date: 24/02/2021

Signature Yunae Yi

Cleared<sup>36</sup>

<sup>35</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>36</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>37</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>37</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 well 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>38</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>		

<sup>38</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.

1.1	conversion or degradation of habitats (including modified habitat, natural habitat and critical natural habitat), or losses and threats to biodiversity and/or ecosystems and ecosystem services?	N	Not anticipated.
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?	N	While Seychelles as a country is highly vulnerable to climate change due to their geographic location, the project interventions are not likely to be affected by it.
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	Y	The project will lead to direct and indirect GHG emissions reduction through the



development, other measures for mitigating climate change		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)?	Y	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 the demonstration charging equipment.
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	Not anticipated.
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 4 international experts. Please see Annex I-1 (budget) and Annex H 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?	Maybe	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**

ADFD	Abu Dhabi Fund for Development
AFDB	African Development Bank
AFOLU	Agriculture, Forestry and Other Land Use
AIDS	Acquired Immunodeficiency Syndrome
BYD	Build Your Dreams Auto Company Limited
CBD	Central Business District
CBO	Community Based Organization
CCM	Climate Change Mitigation
CEO	Chief Executive Officer
COVID-19	2019 Novel Coronavirus Disease
CO <sub>2</sub>	Carbon Dioxide
CTA	Chief Technical Advisor
DDT	Dichlorodiphenyltrichloroethane
EA	Executing Agency
EDGAR	European Union Emissions Database for Global Atmospheric Research
EOL	End Of Life
EPC	Engineering, Procurement and Construction
ESA	Enterprise Seychelles Agency
ESS	Energy Storage System
EV	Electric Vehicles
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEFTF	Global Environment Facility Trust Fund
GHG	Greenhouse Gas
GPS	Global Positioning System
HIV	Human Immunodeficiency Virus
IA	Implementing Agency
ICCA	Indigenous Community Conserved Area
IMF	International Monetary Fund
INV	Investment
IPM	Integrated Pest Management
IPP	Independent Power Producer
IVM	Integrated Vector Management
LEV	Light Electric Vehicles

LDCF	Least Developed Countries Fund
Li-ion	Lithium-Ion
MOU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
MSME	Micro, Small and Medium Enterprise
MTR	Midterm Review
MW	Megawatt
MWh	Megawatt-hour
NBS	National Bureau of Statistics
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
Ni-MH	Nickel–Metal Hydride
N <sub>2</sub> O	Nitrous Oxide
NPD	National Project Director
NTB	National Tender Board
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturers
PCB	Polychlorinated Biphenyl
PFD	Program Framework Document
PIDG	Private Infrastructure Development Group
PIF	Project Information Form
PIR	Project Implementation Review
PM <sub>2.5</sub>	Particulate Matter with Diameter 2.5 micrometers and smaller
PM <sub>10</sub>	Particulate Matter with Diameter 10 micrometers and smaller
PM	Project Manager
PMC	Project Management Costs
PMU	Project Management Unit
PPG	Project Preparation Grant
PPP	Public Private Partnership
PSC	Project Steering Committee
PTC	Praslin Transport Company
PUC	Seychelles Public Utilities Corporation
PV	Photovoltaic
RTA	Regional Trade Agreement
RTC	Road Transport Commissioner
SEC	Seychelles Energy Commission

SCCF	Special Climate Change Fund
SDG	Sustainable Development Goal
SIB	Seychelles Investment Board
SIDS	Small Island Developing State
SLA	Seychelles Licensing Authority
SLTA	Seychelles Land Transport Agency
SME	Small and Medium-Sized Enterprise
SMVDA	Seychelles Motor Vehicle Dealers Association
SPTC	Seychelles Public Transport Corporation
SRC	Seychelles Revenue Commission
TA	Technical Assistance
TE	Terminal Evaluation
TW	Terawatt
TWG	Technical Working Group
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollars
WHO	World Health Organization

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