



Sustainable and Efficient Electric Mobility System in Sri Lanka

Part I: Project Information

Name of Parent Program

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

GEF ID

10651

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

Sustainable and Efficient Electric Mobility System in Sri Lanka

Countries

Sri Lanka

Agency(ies)

UNEP

Other Executing Partner(s)

Ministry of Environment

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Climate Change, Focal Areas, Climate Change Mitigation, Sustainable Urban Systems and Transport, Influencing models, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Stakeholders, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Type of Engagement, Information Dissemination, Participation, Consultation, Private Sector, Capital providers, Individuals/Entrepreneurs, Large corporations, Financial intermediaries and market facilitators, SMEs, Communications, Awareness Raising, Behavior change, Education, Public Campaigns, Gender Equality, Gender results areas, Access to benefits and services, Gender Mainstreaming, Beneficiaries, Women groups, Sex-disaggregated indicators, Capacity, Knowledge and Research, Knowledge Generation, Training, Workshop, Knowledge Exchange, South-South, Peer-to-Peer, Conference, Capacity Development

Sector

Transport/Urban

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

8/21/2020

Expected Implementation Start

1/1/2023

Expected Completion Date

12/31/2025

Duration

36In Months

Agency Fee(\$)

98,711.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1-2	Climate Change	GET	1,096,789.00	25,695,000.00
Total Project Cost(\$)			1,096,789.00	25,695,000.00

B. Project description summary

Project Objective

To reduce GHG and air pollutant emissions and to reduce costs for fuel import and the related foreign exchange risks through the accelerated introduction of electric mobility in Sri Lanka.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
1. Strengthening the Enabling Environment	Technical Assistance	A national inter-ministerial coordinated mechanism; a long-term strategy and a MRV system; and, regulations, policies and technical standards supporting the adoption of EV technologies is adopted and implemented by GOSL for promoting EV in the transport sector.	1.1 Institutional coordination mechanism, LTS and MAP to promote low-carbon electric mobility developed 1.2. Guidelines and regulations developed to effectively implement the LTS and MAP for electric mobility transformation	GET	297,131.00	1,250,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
2(TA). Technology, investment and PPPs demonstrated for electric mobility transformation	Technical Assistance	Increased investments and adoption of EV for 2-3 wheelers by private sector enabled through demonstration of pilots.	2.1. EV Integration plan, including identification of pilot sites, for ASA developed 2.3 Scale up Strategy formulated for electric mobility developed	GET	111,500.00	2,000,000.00
2 (INV) Technology, investment and PPPs demonstrated for electric mobility transformation	Investment	Increased investments and adoption of EV for 2-3 wheels by private sector in pilot sites.	2.2 Pilot EV technologies for E2Ws, E3Ws and E bicycles, renewable energy-integrated charging infrastructure, battery management and ICT options designed and implemented	GET	325,200.00	19,695,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
3. Knowledge and capacity to support low-carbon, e-mobility strategies	Investment	Sustainability is ensured by adoption of lessons learned, awareness and peer to peer exchange at national and regional level.	<p>3.1: EV Knowledge and stakeholder interaction Platform established, and communication strategy developed to facilitate communication and interaction among all stakeholders</p> <p>3.2 Programme developed and implemented for creating long term capacities to support the implementation of LTS and MAP.</p> <p>3.3 Participation in GEVP events and training programmes</p>	GET	228,250.00	
4. Monitoring and Evaluation	Technical Assistance	Project is effectively monitored and evaluation	4.1 Monitoring and evaluation activities are executed (see Sec 0 and Annex J)	GET	40,000.00	

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
				Sub Total (\$)	1,002,081.00	22,945,000.00

Project Management Cost (PMC)

	GET		94,708.00		2,750,000.00	
Sub Total(\$)			94,708.00		2,750,000.00	
Total Project Cost(\$)			1,096,789.00		25,695,000.00	

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Environment	In-kind	Recurrent expenditures	500,000.00
Recipient Country Government	Ministry of Transport	In-kind	Recurrent expenditures	3,400,000.00
Private Sector	ThermalR Industries Pvt Ltd	Equity	Investment mobilized	125,000.00
Recipient Country Government	Urban Development Authority	Public Investment	Investment mobilized	21,670,000.00
Total Co-Financing(\$)				25,695,000.00

Describe how any "Investment Mobilized" was identified

The investment is mobilized through the Urban Development Authority's (UDA), Anuradhapura Integrated Urban Development Plan (AIUDP). AIUDP is a project funded by AFD and the Government of Sri Lanka. One component of this plan covers transport infrastructure development within the Anuradhapura City, a provincial capital in Sri Lanka. The plan's objectives are to limit private vehicle movement in the Sacred City area which is a tourism attraction and minimize congestion and air pollution. The UDA will invest in creating the infrastructure for multi-modal transport hubs (connecting rail and bus services), improved parking facilities, develop cycling lanes and promote a shuttle bus service within the Sacred Area. The UDA will work with the GEF project to integrate EVs and e-mobility options, such as allocating parking spaces dedicated to EVs, facilities to setup charging stations, planning the cycling route, facilities for installing E-Bike docking stations, promoting EVs in the sacred area that will leverage the investments of the AIUDP. Further investments will be mobilized through a number of private sector organizations listed above covering provision of EVs (E2Ws, E3Ws and E bikes), their repair & maintenance and related charging infrastructure. Ceylon Electricity Board too will invest in establishing charging centres.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNEP	GET	Sri Lanka	Climate Change	CC STAR Allocation	1,096,789	98,711	1,195,500.00
Total Grant Resources(\$)					1,096,789.00	98,711.00	1,195,500.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

50,000

PPG Agency Fee (\$)

4,500

Agency	Trust Fund	Country	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNEP	GET	Sri Lanka	Climate Change	CC STAR Allocation	50,000	4,500	54,500.00
Total Project Costs(\$)					50,000.00	4,500.00	54,500.00

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	0	3668971	0	0
Expected metric tons of CO ₂ e (indirect)	0	8559898	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)		3,668,971		
Expected metric tons of CO ₂ e (indirect)		8,559,898		
Anticipated start year of accounting		2023		
Duration of accounting		13		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)		40,449,254,110		

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		356,000		
Male		464,000		
Total	0	820000	0	0

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

Part II. Project Justification

1a. Project Description

1a. Changes in project design

The project has retained the logical construction of the components and outcomes envisaged in the concept note/PIF. However, outcome descriptions and outputs have been amended to reflect the actual changes to the changes envisaged through project intervention. The geographical focus of the project has changed from the city of Colombo to Anuradhapura, the provincial capital of North Central Province of Sri Lanka. The pilot demonstrations will focus on two-wheelers and three-wheelers and not on public bus services as originally envisaged in the Concept Note. This decision was made due to budget constraints of the GEF funds, non-availability of investment through public or private sector to transform public buses to EVs during the lifetime of the project and consensus among stakeholders during project preparation stage consultations to focus on two-wheelers and three-wheelers which comprise the largest and fastest growing segment of the active fleet in Sri Lanka.

Table 1: Summary of the changes in the project design and the original concept note

Subject of change	Changes proposed at CEO Endorsement	Rational for changes
Project title and objectives	Project title remains unchanged as ?Sustainable and Efficient Electric Mobility System in Sri Lanka The project objective remains unchanged as ?To reduce GHG and air pollutant emissions and to reduce costs for fuel import and the related foreign exchange risks through the accelerated introduction of electric mobility in Sri Lanka.?	

Subject of change	Changes proposed at CEO Endorsement	Rational for changes
Components	<p>The project has largely retained the overall logic of the three components in the approved concept, which broadly addresses the 1) Institutional and regulatory coherence; 2) Demonstration of technically and financially feasible models and 3) Knowledge and capacity for E-mobility. However, there are changes in the component and outcome formulation. The three updated components and their corresponding outcomes are given below and reflect the state of changes anticipated through the outputs devised during the PPG, through extensive stakeholder consultation while considering the new baseline scenario for e-mobility in Sri Lanka.</p> <p>Component 1: Strengthening the Enabling Environment Outcome 1. The government establishes an institutional framework and adopts a long-term strategy (LTS) together with midterm action plan (MAP) for the promotion of low-emission electric mobility, facilitating effective implementation of increased e-vehicles and associated infrastructure.</p> <p>Component 2: Technology, investment and PPPs demonstrated for electric mobility transformation Outcome 2. Investment in EVs and EV charging infrastructure scaled up through learned experience of implemented pilots Component 2 will focus on electric 2-and-3 wheelers which are the dominant components of the current active fleet. The pilot demonstrations revolve around a city-based EV ecosystem that includes introduction of commercial fleets of three-and two-wheel EVs catering to food and grocery delivery and last mile connectivity and E-bicycles for tourism.</p> <p>Component 3: Knowledge and capacity to support low-carbon, e-mobility strategies Outcome 3: New knowledge generated and shared among users accelerates shift towards EVs</p>	<p>The language of the components and the outcomes has been modified to accurately reflect the state that is being attempted as a result of project intervention. The project is being formulated to be on par with the existing government initiatives to promote electric mobility, private sector initiatives and innovations for two-wheelers and three-wheelers and urban development plans for provincial cities.</p> <p>As indicated in the concept note, Component 1 still focuses on development of an integrated policy and institutional framework, including strategy and action plan.</p> <p>There are some changes in the scope of the demonstrations envisaged in Component 2 of the concept note in terms of geographical focus and piloted technologies/EV choice. In the concept note, Component 2 was developed considering the introduction of electric busses to the public transport system in Sri Lanka including the development of E-bus implementation strategy and plan for the Sri Lanka Transport Board (SLTB) and investment support to assist in implementing the E-Bus demonstration project. This has changed due to the change of government priority.</p> <p>During the PPG it was clear that the government's plans for electric busses would not be ready for investment in the short-term. Therefore, it is proposed that Component 2 focuses on other e-mobility transport solutions such as 2-and-3 wheelers. This is due to the high potential for replication among this market segment if the models demonstrated are viable in terms of financing, long-term running costs resulting in better livelihood and gender outcomes.</p> <p>The project would explore e-mobility solutions for public transportation within the Long-Term Strategy and Mid-term Action Plan for E-mobility. These will be developed in Component 1 and support Government of Sri Lanka (GoSL) to develop funding partnerships with stakeholders including the Asian Development Bank's planned investments to support the Ministry of Transport to introduce electric busses. It is assumed that improved inter-ministerial coordination, barrier removal around the regulatory framework and developing standards and norms for e-mobility will create conducive environment for future introduction of e-busses in Sri Lanka.</p>

Subject of change	Changes proposed at CEO Endorsement	Rational for changes
Outputs	<p>In the Concept Stage Component 1 had four outputs aimed at creating 1) a national institutional framework, 2) an integrated policy framework, 3) supportive financing mechanisms and 4) regulations and policy support for battery management</p> <p>The CEO endorsement has two reformulated outputs which will deliver the results expected from the original outputs. Output 1.1 in the CEO-ER combines outputs 1, 2 and 3 above. Output 1.2 in the CEO-ER will address not only battery management, but also a host of other regulatory barriers and policy discrepancies that hold back the sector including EV local manufacture, registration and Charging Infrastructure</p> <p>Component 2 in the concept note had two outputs both focused on demonstrating the viability of e-busses in partnership with the Sri Lanka Transport Board. This Component has seen significant change due to the reasons explained above. The project will now demonstrate light duty vehicles focusing on 2-and 3- wheelers which constitute the majority of the active fleet in Sri Lanka. Component 2 is delivered through 3 outputs in the CEO Endorsement Request. Output 2.1 will design a city-based EV ecosystem and produce detailed business plans for each pilot demonstration Output 2.2 will procure and implement the pilot demonstrations with substantial co-financing from private sector, Output 2.3 will develop scale up and investment plans for these pilots and facilitate their wider replication in other cities.</p> <p>Component 3 in the concept note had two outputs. One focused on national capacity building for e-mobility and the second on knowledge management to scale up e-mobility. These outputs remain intact in the CEO ER with an added output 3.3 on sharing knowledge and experience with the Global Electric Mobility project.</p>	<p>The Outputs in Component 1 were reformulated to accommodate stakeholder opinion on the professed need for a long-term strategy (LTS) for e-mobility in the country to support government's low carbon transport ambitions and strengthen the inter-ministerial coordination mechanism already established for e-mobility promotion. This overall plan will encompass the different e-mobility options and EV types, and financing mechanisms for different EV systems.</p> <p>The LTS and the inter-ministerial coordination committee (IMCC) developed under the Output 1.1 will deliver the results intended through implementation of Outputs 1.1, 1.2 ad 1.3 of the concept note.</p> <p>The changes to Component 2 have been explained in detail above. The three outputs of Component 2 will design, implement and scale up electric mobility pilots focused on 2-and 3-wheelers by developing a city-based EV ecosystem providing the necessary policy instruments for battery management, charging infrastructure etc.</p> <p>There are no changes to results of expected Outputs 3.1 and 3.2, except that they have been re-worded to reflect the logic of the project's focus on a long-term strategy and action plan, implementation and monitoring. Output 3.3 was added to facilitate increased coherent coordination, capacity building and knowledge/experience exchange between the global project and its child projects in different countries and the Sri Lanka e-mobility project.</p>

Subject of change	Changes proposed at CEO Endorsement	Rational for changes
Global Environmental Benefits	PIF: Total Direct: 502,299 tCO ₂ e Indirect: 1,169,188 tCO ₂ e Endorsement: Direct 575 tCO ₂ e (by 2026) Direct Secondary:3,668,396 tCO ₂ e (by 2036) Indirect: 8,559,898 tCO ₂ e (by 2036)	Pilot focus has changed from E- busses to E2Ws and E3Ws. Emission reduction per vehicle is less compared to busses but the active vehicle fleet is large for 3Ws and 2Ws.
Geographical Target	The project's pilot demonstrations? geographical focus has shifted from the commercial capital of Colombo City to the provincial capital of Anuradhapura.	Geographical focus on Anuradhapura is as a result of the city being the primary focus of a new urban development plan for both its commercial area and the sacred city which is of immense archaeological and cultural value. This provided an opportunity to show case integration of E-vehicles in the new sustainable development plan and also leverage the potential for leverage through the government's plan to replicate the new sustainable urban development in other cities.
Executing Agency name	The Ministry of Mahaweli Development and Environment is now renamed as the Ministry of Environment with the changes to the ministerial portfolio introduced after the general elections in August 2020	The environment-related departments and functions of the Ministry, including its role as the GEF OFP remains the same. The Air Resources Division and Climate Change Division of the MoE will be primarily responsible for the implementation of the project
Co-financing amount	Concept Note: 5,875,000 CEO Endorsement: 25,695,000	At the concept stage, the co-financing committed was mainly public sector investments in the e-bus fleet. As described previously, the introduction of e-buses to the public bus fleet is yet in the conceptual stage. The co-financing at CEO endorsement is drawn from public sector projects for transport and urban development and private sector investments in EV fleet and associated infrastructure. Around 85% of the co-finance is public investment and in-kind contribution for transport and urban infrastructure development.

1b. Project Description

- a) 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 and 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. Most of the anticipated growth will take place in low and middle-income countries. By 2050, two out of three cars will be in operation in developing countries. This means that achieving global climate targets will require a shift to zero emission mobility in all countries, including low and middle-income ones.

The increase in the number of vehicles will also come with an increase in associated air pollution. The pollution from vehicles is mostly due to discharge such as CO, unburnt hydrocarbons (HC), Lead (PB), Nitrogen Oxides (NOx), Sulphur Oxides (SOx) and Suspended Particulate Matter (SPMs). Vehicles in major metropolitan cities are estimated to account for 70% of CO, 50% of HC, 30-40% of NOx, 30% of SPM and 10% of SO2 of the total pollution load of the cities. These high levels of pollutants are major causes for respiratory, cardiovascular and other air pollution-related ailments.

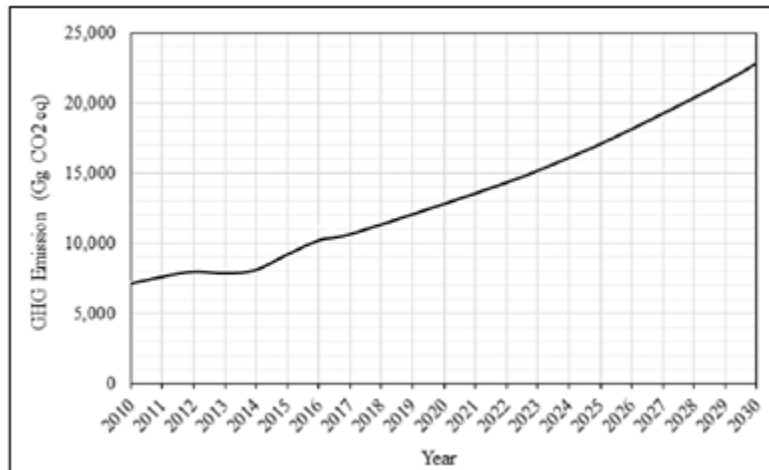


Figure 1: Estimated GHG Emissions from 2010-2030 in the Transport Sector

The Transport sector is one of the biggest contributors to the energy demand growth in addition to the power sector (coal-fired power generation), industries (steel, cement, aluminum, etc.), forestry and others. Over the past decade, transport's GHG emissions have increased at a faster rate than any other energy sector. The transport sector produced ~8.0 GtCO₂e of total emissions in 2016 (71% higher than 1990) and hence was responsible for approximately 25% of total energy-related CO₂ emissions. Road transport accounts for about two thirds of the total transport emissions. The share of road transport emission increased by two percentage points to 74%^[1] in 2019; while contributions from other modes of transport remained unchanged. Without implementing sustainable mitigation policies, transport emissions could increase at a faster rate than emissions from the other energy end-use sectors and reach around 12 GtCO₂e^[2] by 2050^[3].

Electric Vehicles (EVs, pure electric, plug-in-hybrid) have emerged as viable alternatives to Internal Combustion Engines (ICEs) vehicles and there are rising in deployments over the last few years. In

2018, there was nearly 310 million EV stock on-road (including 2Ws, 3Ws, cars, buses, and trucks), of which e-2W formed ~84%, e-3W 13% and e-cars 1.6%. Various countries like the United States of America (USA), China, India, Canada, Japan, and others, and the European Union (EU), have built targeted EV Mission Programs and driving increased EV adoption through policy, supply fiscal incentives, demand subsidies, standardization, government procurement, encouraging private investments and many other interventions.

The National Context

Sri Lanka's total emissions and carbon footprint is quite small with per capita emissions of around 1.02 tonnes/per person[4] and its development pathway has remained low-carbon-intensive. Sri Lanka is cited as a rare example of a country that has achieved both high human development and managed to keep CO₂ emissions well below the long-term average needed to contain global warming targets of the Paris Agreement[5]. However, the island nation is highly vulnerable to climate change impacts on both human and natural ecosystems that affect economy, society, and the environment. These will challenge the achievement of the 2030 Agenda for Sustainable Development and Sustainable Development Goals (SDGs). Sri Lanka has become a signatory to the Paris Agreement on Climate Change and submitted its revised Nationally Determined Contributions (NDCs) to the UNFCCC in July 2021, committing to reduce its current emissions and become net zero carbon in energy generation by 2050.

The transport sector is the highest contributor to total GHG emissions in Sri Lanka. This share has grown over the years at a faster rate than the growth of total emissions. Between 2000 ? 2010 GHG emissions of Sri Lanka grew by 29.2%, whereas that from the transport sector increased 38.3% (Second National Communication to UNFCCC). The analysis undertaken by experts in preparing the Third National Communication to UNFCCC (yet to be submitted) projects GHG emissions from transport sector to be the around 22 million tCO₂e by 2030 (Figure 1). Thus, reduction of GHG emissions in the transport sector is a high priority for climate actions in achieving the commitments to the Paris Agreement and the goal of Net Zero Emissions by 2050.

Policy interventions related to EV technology is not new to Sri Lanka. Fiscal incentives (2014-2016) for electric and hybrid vehicles (light duty, 4-wheel vehicles) saw a growth in the car segment, resulting in approximately 5000 e-vehicles by March 2021. The concessionary taxation and 0% duty made Sri Lanka a ready market for used Japanese electric cars. However, the majority of the EVs imported during this period of concessionary taxation, now face operational viability issues due to lack of battery replacement/management solutions. Electric two-wheelers (E2Ws) form the remaining EV fleet with a total registration of around 3,000 units. Some E2Ws are used for delivery purposes. The number of electric three-wheelers (E3Ws) registered in the country is insignificant (less than 50) due to the low level of commercialization. However, technological developments are being made by private sector in three wheelers due to the high market share in the country.

The present situation of Sri Lanka's EV market remains unsatisfactory and growth is stagnant. The market has stagnated, and even retracted, due to several barriers that continue to hinder EV uptake despite the initial supportive incentives. The investment in charging infrastructure too has not grown, and has become a retardant to the growth of EV segments. The root causes and barriers for the above-mentioned issues, which the project will address, are described below.

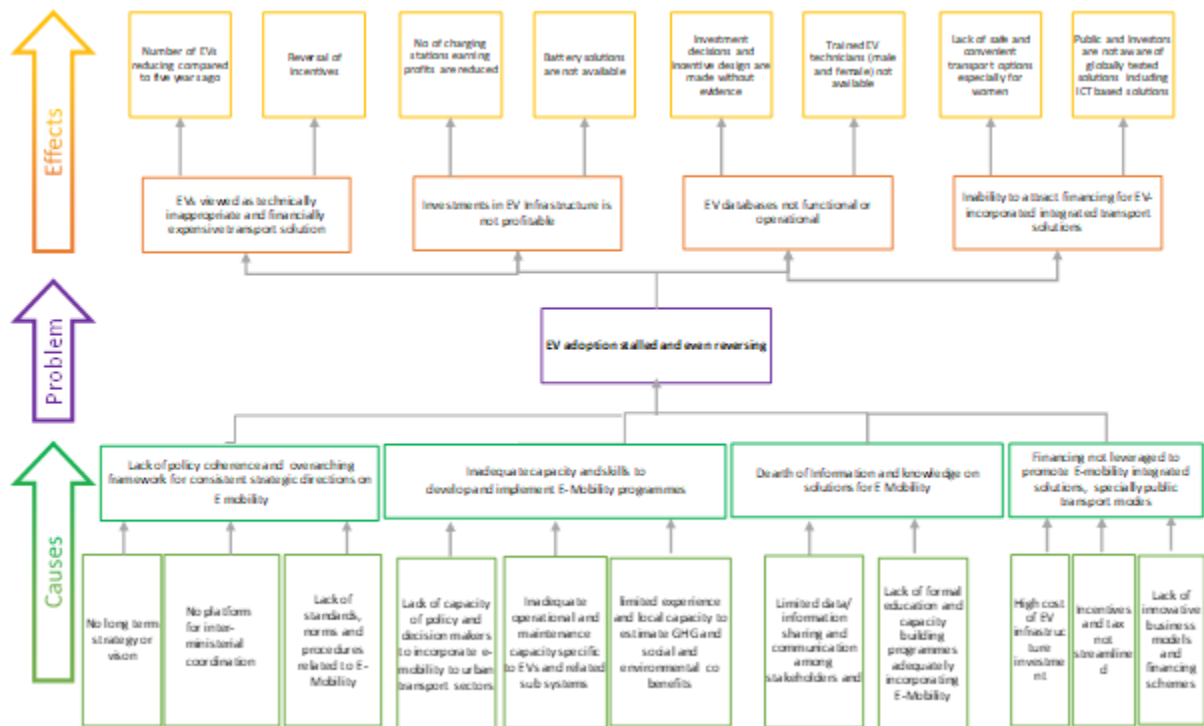


Figure 2: Root causes of the problem and barriers to change

The four main root causes, with associated barriers, currently impeding EV scale up and uptake in Sri Lanka are listed below.

Root Cause 1: Lack of coherent Policy and regulatory framework and coordination amongst policy makers as e-mobility sector increases the policy risks of the investors and financing entities

Electric mobility uptake in transportation sector is governed by several sectoral policies and regulatory frameworks through ministries and regulatory agencies that are currently not in sync on the policy objectives of increasing EVs. The lack of an institutional home for electric mobility and an intra-governmental coordination mechanism has led to a situation that policy and regulatory frameworks of agencies are not working towards a common objective, and transport sector development is not integrated into national or local development agendas including land use or city planning. Further, there is no effective platform for stakeholders, particularly private sector organizations to engage with and contribute to the sector development planning and implementation. This has hampered investments in new electric mobility projects. Further, integration of electric mobility concepts into the transport sector is constrained by the absence of an approved national transport policy that lays emphasis on environmentally friendly and low carbon transport options for future sector development. The absence of a policy framework has hindered the formulation of strategies and actions for systematic integration of electric mobility into the national transport system, despite ambitious NDCs set out in the country's resubmission in 2021.

Key barriers that prevent addressing the above root cause are:

Barrier 1: The lack of a long-term vision, strategy, and coordination mechanism to achieve policy objectives

The Draft National Transport Policy (DNTP) is still not approved and therefore, there is no overarching policy framework to bring coherence to the different policies and regulations governing the sector. During the PPG consultations, the project development team and the MoE met several potential investors and local innovators whose investment plans depend on a coherent policy position and approach. However, many investors were challenged by lack of clear regulations governing the sector and the lack of coordination between agencies that sought to promote EVs and set up EV charging networks, and others that regulated its impacts such as battery disposal/recycling. Absence of a long-term strategy to promote EVs has several negative impacts on the growth of electric mobility in Sri Lanka. This includes impeding the development of a coherent policy and regulatory framework which supports clear long-term ambitions. It prevents understanding and addressing the missing elements that are required to reduce the risks to investors. This is aggravated by lack of clear institutional ownership of electric mobility aspirations and a functioning coordination mechanism among various ministries with mandate in this field.

Barrier 2: Lack of supportive regulations, norms, standards, and guidelines to steer EV transformation

Except for tax and import duty concessions, there is a dearth of supportive regulations, policies, procedures, standards for various aspects of EV technology and charging infrastructure, which are required to provide clarity to investors. For example, in the absence of a clear policy and regulatory framework for battery imports and management, the unavailability of battery replacement in country has resulted in some EVs being converted into ICEs. Specific issues pertaining to the lack of norms, standards and guidelines are encountered in the following areas:

- Registration of locally manufactured EVs and certain categories of imported EVs
- Importation of batteries (new and used)
- Reuse, recycling, and safe disposal of batteries
- Conversion of existing internal combustion engine (ICE) vehicles to electric
- Consumer tariffs for EV charging
- EV charging infrastructure and renewable energy and ICT integration
- Fiscal policies and financial instruments.

In addition, other important barriers that needs to be considered in developing a conducive policy and regulatory environment:

- Lack of ICT-incorporated solutions in the transport sector in general, and in the electric mobility market, in particular to make technology more user-friendly.

- Lack of supportive environment for innovations, product development, manufacturing, and local value -addition. This could help reducing the costs of transformation to EVs.
- Lack of consideration for gender and other disadvantaged groups? needs in the transport sector could undermine developing socially inclusive electric mobility options.

Root cause 2. Limited capacity and skills to design, develop and implement policy and regulatory framework, and electric mobility programmes

The multi-disciplinary nature and involvement of a wide range of stakeholders imply that development and implementation of programmes and projects for the electric mobility transformation demand a diverse range of competencies (awareness, knowledge, skills, and attitudes/values) for different levels of staff (strategic, tactical/ functional, and operational) of actors and other stakeholders. Some of these capacities and skills include lack of experience and capacities for strategizing, planning, operationalizing, and maintaining integrated transport solutions incorporating electric mobility constrains the anticipated transformation towards low carbon transportation and net zero emissions. Although, awareness and generic competencies on electric mobility concepts are seen, specific capacities and skills required to develop and operationalize comprehensive and integrated solutions to suit local circumstances are yet to be perceived.

Key barriers that prevent addressing the above root cause are:

Barriers 3: Limited exposure and knowledge among policy makers on the full range of issues and related policy/regulatory solutions to provide an enabling framework

Public sector institutions including the Ministry of Transport (MoT), agencies governing sectors such as tourism, urban development and city planning, and local authorities lack understanding of the possibilities and opportunities of integrating EVs into the current urban/sub-urban transportation networks. There is a lack of knowledge and experience with EV eco-systems and their benefits. Due to the low level of exposure to EV solutions and integrated EV ecosystems, there is a dearth of technical competencies to develop the required standards, regulations, technical specifications, and guidelines for procuring, operating, and maintaining electric mobility systems and components. The capacity to assess GHG reduction in EV systems is not locally available. This impacts on competencies to address the issues described in Barrier 2 on the lack of standards, guidelines, and norms to steer the sector. Technical knowledge on appraising and valuing of social and environmental attributes, performances and impacts of electric mobility programmes and projects is limited. This includes capacities for MRV (monitoring, reporting and verification) of any e-mobility initiative from a climate change perspective.

Barrier 4: Limited or no trained technicians to facilitate installation and servicing of EV and EV infrastructure

Shortage of trained local mechanics and technical staff specialized in different technological areas within the key sub- systems such as vehicles, batteries, charging infrastructure, renewable energy

integration and ICT to operate and maintain EV fleets will impact investor confidence and the emergence of EV-integrated business models.

Barrier 5: High cost of EVs and lack of incentives continue to hold back investment

The local experience so far signifies that for private sector investors, the business case for electrified public transportation is not viable without subsidies on both capital costs and some operational expenditures (batteries for example). There are opportunities to incorporate rooftop solar and Time of Use meters for domestic charging units, but more awareness and supportive promotion from Ceylon Electricity Board is required. Two and three-wheeler EVs are competitive in the current market but the lack of workable business models such as battery swapping, hinders faster uptake. There are no models demonstrating EV-incorporated planned urban or transport system or hub connecting different transport modes, providing the last-mile connectivity or as a viable, emission-free option for tourism or other value chains. This has led to a lack of understanding/ appreciation at the policy level of the long-term cost-benefit of e-mobility and environmental and social co-benefits derived from increasing e-mobility in the transport in the transport mix.

Barriers 6: Lack of opportunities and avenues for building necessary capacities among various stakeholders

Electric mobility related skills and capacity building is currently limited to a few specialized course modules in the university system, not widely available even for those undertaking study programmes in Engineering. There are no learning opportunities for public sector officials and private sector investors, that showcase electric mobility integrated urban design or other development programmes (tourism, wildlife viewing etc). The capacities required for electric mobility extend far beyond the technical as described in Barrier 3. Learning and capacity building opportunities for e-mobility, therefore, need to be available for a wider range of actors. These include, but are not limited to urban and city planners, local manufacturers of EVs and components, tourism site planners, tourism operators, investors in charging infrastructure and renewable energy investors. Modalities of capacity building should be through several different avenues that suit these different constituencies.

Root Cause 3. Lack of data and information on EVs and integrated EV ecosystems challenges informed decision-making and investor confidence

Data and information management for knowledge generation and sharing on electric mobility is not adequate or streamlined to create conditions in supporting informed decision-making. Effective data and information management platforms are not visible at national and sectoral levels. Consequently, there is no proper management of transport data to derive information that can be communicated to decision makers for supporting the development of policies, strategies, and action plans. This situation has also resulted in lack of awareness and confidence of investors in electric mobility to invigorate the market. Further, the lack of data and information on transport has become a constraining factor to formulate awareness and education for other stakeholders to support and contribute to the effective implementation of electric mobility programmes. The lack of information on the policies, regulatory and procedures among investors and users also hinders in effective decision making.

Key barriers that prevent addressing the above root cause are:

Barrier 7: Lack of a mechanism to regularly collect and share information & data to support e-mobility decision making

Limited data collection on EVs and their performance characteristics has led to a void in up-to-date and substantive information to make decisions on how to integrate electric mobility more effectively in the transport mix. Further, access to global best practices and solutions for overcoming these challenges are also absent from the larger EV discourse in Sri Lanka. There are no means to exchange information and learn from the experiences of other countries, where e-mobility uptake has been faster and accelerated by proactive policy instruments and fiscal incentives, low-cost technology solutions and the correct integration of renewable energy. The lack of knowledge hinders the development and adoption of innovative solutions on inter-modal transport systems and integrating e-mobility options into urban and spatial planning.

Barrier 8: Absence of a mechanism to create awareness among public officials, private sector investors and the public

There is no systematic process of disseminating information to the public at large on the economic and environment benefits of the EVs or on the different on-going initiatives/pilots to introduce EVs in various ecosystems. One factor for the dearth of information is the lack of a mechanism to capture stories of various EV initiatives and share their successes and lessons learned. This is also because there is a lack of EV pilot projects being implemented in the country. The only available experiences are those of mainly private owners who took benefit of the tax concessions. Even with this category of users there has been no documentation of experiences and viability of using EVs. Another example is the lack of information on charging stations. This creates the perception of lack of charging facilities and thus a negative outlook about EV adoption.

b) Baseline scenario and any associated baseline projects

Road transport accounts for 90% passenger and 95% freight movement in Sri Lanka. Majority of passenger transport is catered to by personal 2-wheel and 4-wheel vehicles (in both urban and rural contexts), followed by paratransit[6] (3-wheel vehicles). Figure 3 shows the share of passenger vehicles in the active fleet.

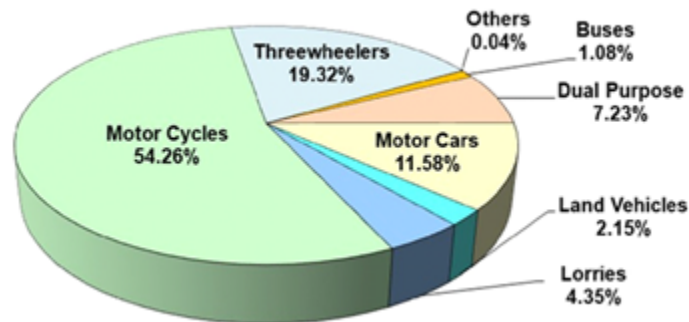


Figure 3: Active Vehicle Fleet in Sri Lanka (2018)[7]

The share of the personal vehicles (2W and 4W) and 3Ws has increased over time. The share of public transport has decreased due to increased economic prosperity in the population as illustrated in Figure 4.

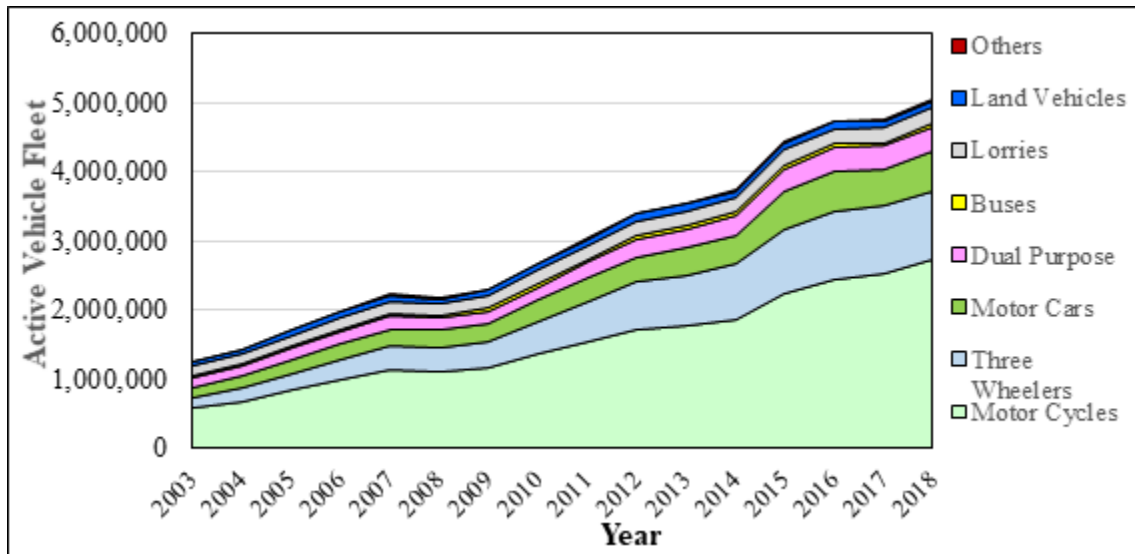


Figure 4: Active Vehicle Fleet Increase in Sri Lanka (2003 - 2018)

The entire bus fleet, and almost all 2 and 3Ws are fossil fuel driven. In the 4W fleet there are a significant number of hybrid vehicles. Due to tax and import duty concessions introduced since 2010, electric and hybrid 4Ws have increased. Despite these concessions, EVs still accounts for less than 1% as of 2020 while hybrid cars account for 25% of the registered cars. Although electric cars received the same preferential taxation, the market peaked around 2017 and then rapidly declined. The preference for hybrid over electric was mainly due to the lack of charging infrastructure in public places as well as the high cost of battery replacement. There has been a lack of investment in charging infrastructure. This is mainly attributed to the lack of a public programme as well as a clear policy framework for enabling investment. Further, due to the lack of public policy on battery imports and sales as well as the small size of EVs, the cost of batteries in Sri Lanka has remained high. This has had an impact on EVs as for most, the time for battery replacement is approaching.

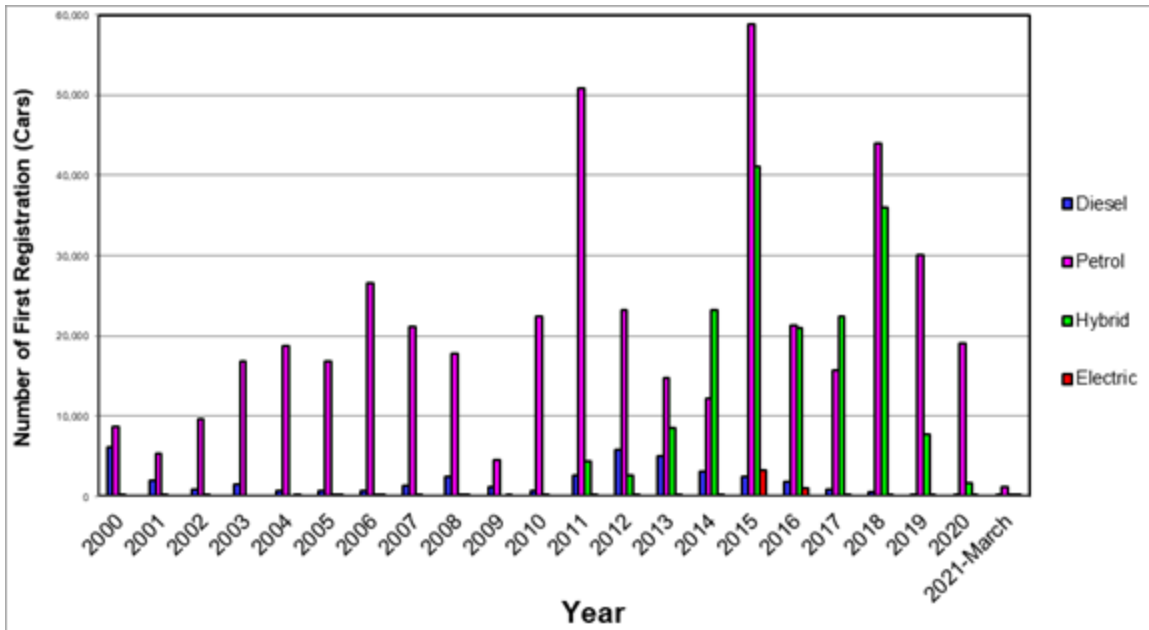


Figure 5: Annual New Vehicle Registration

There are 59 fast charging stations in Sri Lanka, mostly in Colombo and in a few in other major cities. Around 7 of these are operated by the Ceylon Electricity Board (CEB), the state electricity utility company, and others are operated by private sector organizations. The EV club of Sri Lanka has also mapped out existing charging stations which can be found on the link <https://www.evclub.lk/map/>. One private sector company has introduced an app based, un-manned charging facility with an online payment gateway. However, there are no plans from the private sector to expand the network due to the lack of new EVs and the unviability of the existing fleet. Many previously functioning charging stations have either shut down or are functioning at a loss currently. Nevertheless, some local developers of charging stations have started exporting their products to neighbouring countries, having markets with more commercial potential.



Figure 6: Electric Vehicle Charging Stations (Source: EV Club of Sri Lanka)

Policy and regulatory environment for EVs

The country lacks a specific policy framework or strategy for EVs. Several national and sectoral policy and planning documents refer to EVs either directly or indirectly when addressing issues of sustainable development, GHG emissions, air pollution as well as energy security.

National Sustainable Development Policies: The national policy framework *Vistas of Prosperity and Splendour*[8] does not refer to electric mobility but does emphasize the environmental aspects of the transport sector by stressing on an efficient & environment friendly transport network under New Approach in National Spatial System.[9] The National Policy and Strategy on Sustainable Development for a Sustainably Developed Sri Lanka (Draft), proposes the use of alternate fuels and technologies for meeting 10% of the transport energy demand. Specific strategies include promoting electric vehicles (EVs), with special emphasis on using Solar PV based electricity for battery charging.[10]

Transport Policies: Sri Lanka has a transport policy endorsed by the Cabinet of Ministers in 2009. Due to significant changes in the sector since then, the GoSL initiated the revision of the policy which is yet to be approved by the Cabinet of Ministers. The need for a sustainable transport system has been highlighted in the draft policy under 'Energy Efficiency & Environmental Protection' that lists policy directives which can facilitate a better transportation system. The key focus areas of the Draft National Transport Policy (DNTP) on reducing environment and climate impacts are:

- i. Promote the use of energy efficient and less polluting vehicles with higher operational lifetime.
- ii. Promote renewable energy (RE) for transport.
- iii. Recognize the role of para-transit services, in providing last mile connectivity. Facilitate para-transit service providers to deliver services to areas with lower demand. Enhance last mile connectivity with the help of information and communication technology (ICT) tools.

Energy Policies: National Energy Policy and Strategies of Sri Lanka stresses promoting efficient use of energy in all sectors, including transport. It also specifies a set of strategies for transport:

- i. At least 20% of all new light vehicle registrations shall be EVs in 2022.
- ii. Public funded electric charging facilities shall be established. Sri Lanka Sustainable Energy Authority (SLSEA) will encourage the private sector to set up their own charging stations to complement the CEB/ Lanka Electricity Company (Pvt) Ltd (LECO) efforts, by securing fiscal incentives to the industry.
- iii. Encourage gradual diversification of transport energy from present oil dominance to electricity and increase overall conversion efficiency together with the integration of indigenous sources such as solar and wind.

However, the above targets are far from being achieved. The number of new EVs registered in the year 2020 is only 340 (77 cars, 261 2Ws and 2 dual-purpose vehicles), which is 0.17% of the total vehicles registered (202,628).

Efficiency improvements in all the end-use energy sectors including transport is mandated to the Sri Lanka Sustainable Energy Authority (SLSEA), under the SLSEA Act No. 35 of 2007. The development and enforcement of regulations related to energy efficiency (EE) of vehicles is mentioned in the objectives of the SLSEA.^[11] The SLSEA plans to develop a fuel economy labelling scheme for vehicles, which will also include GHG emissions as a factor. This work has not been initiated due to lack of the required expertise in the transport sector within the SLSEA.

Environmental Policies: The National Environment Action Plan (NEAP) 2021 - 2030 proposes the following actions to promote electric mobility:

- i. Improve vehicle efficiency in the transport sector by choosing more efficient technologies to travel, including EVs, Hybrids, and efficient ICEs.
- ii. Promote local value addition/ manufacture of EVs and related components / infrastructure, including a sustainable management system for electric vehicle batteries (reuse/recycle)
- iii. Promote electric mobility as an E3ST system
- iv. Promote the use of renewable energy (RE) (particularly solar PV) for e-mobility
- v. -Introduce a fuel economy labelling programme for road vehicles: (i) Phase 1: LDVs; (ii) Phase 2: HDVs (covering gasoline, diesel and EVs).

The National Action Plan for Air Quality Management in Sri Lanka (CA2025AP) has identified EVs as a key intervention to address the issue. Under the thematic area of Cleaner Technologies, Fuels and Processes it recommends the following:

- i. Provide infrastructure for Electric /Hybrid vehicles.
- ii. Promote electric vehicles for public transport.
- iii. Promote solar energy for electric vehicles

Further, the Cleaner Fuels and Technology Road Map proposes promotion of electric and hybrid vehicles, and railway electrification^[12].

The main legal and institutional framework for environment management in the transport sector is stipulated in the National Environmental Act No. 47 of 1980 (NEA) and subsequent amendments, and the establishment of the CEA to implement the provisions of the NEA. The scope of environment management includes air emissions, liquid effluents, solid wastes, and noise. A series of regulations have been enacted by the government in relation to pollution control through cleaner fuels and vehicles. An important aspect of environmental governance related to e-mobility pertains to the waste

management policy and associated regulations that impact battery management and places restrictions on importation of (used) batteries to Sri Lanka.

Climate Policies: As a signatory to the Paris Agreement on Climate Change, the GoSL has stated its updated NDCs to UNFCCC in September 2021 and presented at COP26. With this submission, the government has pledged carbon neutrality by 2050. To achieve this target, the transport sector needs substantial transformation in many areas, including the mainstreaming of E Mobility. In the updated NDCs, there are 13 intervention areas in the transport sector. The NDCs are expected to result in GHG emissions reduction by 4.0% in the transport sector (1.0% unconditionally and 3.0% conditionally) equivalent to a total of 5,348,000 metric tonnes CO₂ during the period of 2021 - 2030. Further, the updated energy sector mitigation NDCs include a renewable energy (RE) target of 3,867 MW capacity addition by 2030 (which will result in about 50% RE in grid electricity generation). These included Solar 2,000 MW and Wind 800 MW. In addition, in the preamble of the updated NDC, the GoSL commits to achieve 70% RE in electricity generation by 2030 and carbon neutrality by 2050 by expanding RE, forestry and reducing emissions from industry, transport and waste. Sri Lanka Sustainable Energy Authority has developed RE project development plan 2022 - 2030, for the above 70% RE target, which indicates a total capacity addition for the period 2022 to 2030 as about 8,560 MW (mainly solar - 4,600 MW and wind - 3,400 MW, Hydro - 475 MW). As such, further enhancement needed towards contributing to the government's policy target of reaching carbon neutrality by 2050. This needs to be considered in the next update of the NDCs by 2025 (for the period of 2025-2035).

The government has made several strong policy statements in support of sustainable transport and alternatives to fossil fuel in the wake of the NDCs. However, the follow up or implementation support in terms of facilitative regulatory framework or incentive policies or programmes to promote sustainable transport options in general or EVs in particular are yet to materialise. This discordance is reflected in the fact that despite the tax and import duty concessions, the import of EVs and Hybrids have declined and investment in EVs and charging infrastructure remains low.

Sustainable Transport in Urban Development: The National Environmental Action Plan (NEAP) of MOE include specific activities related to EST within the thematic area of 'Environment Management of Cities and Human Settlement'. The mandate of city developments lies with the Urban Development Authority (UDA). NEAP has recommended strategies to be implemented through the plans and programmes of the UDA. The UDA is legally empowered to declare urban development areas and develop/implement city plans with appropriate zoning, green areas, regulations to prevent haphazard development, incorporate resilient and green spatial planning and establish environmentally sustainable transport options. Accordingly, the UDA has formulated development plans for several cities with focus on emission reduction and improved environmental quality. This includes walking and cycling lanes for non-motorised transport, increased tree cover or water bodies, efficient public transport, and reduced transport needs (service hubs). The UDA has expressed interest in developing electric, non-motorised, water-based, and other transport options to complement the road infrastructure network, and thereby contribute to overcoming issues such as traffic congestion, air pollution, commuting times etc.

Institutional Arrangements and Coordination among Government Entities

The key government entities related to electric mobility include the Ministry of Transport (MoT), the Ministry of Environment (MoE), the Ministry of Power (MoP), the Department of Motor Traffic (DMT), the Central Environmental Authority (CEA), the Sri Lanka Sustainable Energy Authority (SLSEA), the Ceylon Electricity Board (CEB), the Urban Development Authority (UDA), the Public Utilities Commission of Sri Lanka (PUCSL) and the Sri Lanka Tourism Development Authority (SLTDA). Currently there is no formal coordination mechanism between these.

The Minister of Environment has recently appointed an inter-ministerial committee (IMC) for the promotion of EVs in Sri Lanka through cabinet paper 21/1182/321/010 approved by the Cabinet of Ministers on July 20, 2021. The IMC comprises of representatives from the ministries of Environment, Power, Energy, Transport, Industry and Finance to develop a strategy for EV adoption and promotion. This committee is empowered to develop a strategic plan with the assistance of a Technical Evaluation Committee (TEC). The mandate, though very limited, is challenging in the absence of expertise and experience. These are initial steps in the direction of, both, developing a strategy and an action plan to promote EVs and coordinate the actions of various government entities that have a mandate in this space. IMC has requested this project to support it in its efforts. Further, a sub-committee on "Renewable Energy and Electric Transport Promotion" has also been formed under the Presidential Task Force on "Creating Green Sri Lanka with Sustainable Solutions to Climate Change". This sub-committee has commenced its discussions recently and is yet to come up with specific plans or recommendations.

Energy Policy

The primary objectives of the energy policy are (a) to ensure energy security through supplies that are cleaner, secure, economical, and reliable, and (b) to provide convenient, affordable energy services to support socially equitable development of Sri Lanka. Energy policy looks at the following areas: assuring energy security, providing access to energy services, providing energy services at the optimum cost to the National Economy, improving energy efficiency and conservation, enhancing self-reliance, caring for the environment, enhancing the share of Renewable Energy, strengthening good governance in the energy sector, securing land for future energy infrastructure, and providing opportunities for innovation and entrepreneurship.

Several steps are suggested for enhancing the share of renewable energy. These include:

- i. appointing an advisory committee comprising ministry officials in charge of different line agencies/custodians of land resources
- ii. publishing analysis of the network constraints, dispatch options and resource characteristics
- iii. a comprehensive renewable energy grid integration plan
- iv. implementing a competitive bidding scheme for renewable energy investments
- v. establish an advanced forecasting systems for hydro, solar and wind energy
- vi. offer premium green tariff/green energy certification package

Further, the updated energy sector mitigation NDCs include a renewable energy (RE) target of 3,867 MW capacity addition by 2030 (which will result in about 50% RE in grid electricity generation). These included Solar 2,000 MW and Wind 800 MW.

Women and Transport Sector

2012 National Census reported 51.5% of the population as women, with a gender ratio of 106 women to 100 men. Considerable progress towards gender equality has been achieved over the last several decades, specifically in the areas of education and health, as noted in indicators such as adult literacy, secondary and tertiary education, maternal mortality, and adolescent birth rates. Average life expectancy is 77 years for women and 70 years for men (with some District based disparities). There are however several areas that do not complement the progress achieved. For instance, Sri Lanka has the 14th-largest gender gap in labour force participation globally despite achievements in education. The labour force participation rate of women (35.4%) is half that of men (74.6%). Unemployment rate in 2019 for women stood at 7.4, more than double of that of men 3.3. 'Unavailability of safe transportation facilities to and from work' is highlighted as a key reason for this gender gap in the 2014 Central Bank Annual Report.

With reference to women's leadership and political participation, at present women in Sri Lanka are largely underrepresented in politics. Only 12 out of 225 legislators (5.3%) in the Sri Lankan Parliament are women. This is lower than the average for all developing countries (20.2%). The country ranks 182 out of 193 countries on the Inter-Parliamentary Union (IPU). The representation of women legislators at the national level has never exceeded 7% throughout Sri Lanka's electoral history since 1931.

The Government of Sri Lanka is a State Party to the UN Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) since 1981. Women together with men received the right of franchise in 1931, along with the right to become members of Parliament. The present Constitution of Sri Lanka guarantees equal rights to all its citizens without discrimination on grounds of gender. Sri Lanka has ratified the International Covenant on Economic, Social and Cultural Rights in 1966. These international instruments impose obligations on States but there are lacunae in the incorporation of their provisions in national legislation.

The Women's Charter of 1993 identifies the economic rights of women based on the provisions in CEDAW but has remained a policy document without legal validity. The International Labour Organization (ILO) Conventions that are a part of the international framework for labour rights have not all been ratified or incorporated in national legislation.

The government has expressed its policy commitments to gender equality and women's empowerment in several key documents. The 2020 'National Policy Framework Vistas of Prosperity and Splendour' commits women to be empowered economically and socially and specifies several strategies focusing on the recognition and enabling women's economic contribution. Programmes addressing Women's rights in the areas of Health, Economic Empowerment, Employment, Violence against women, Political representation, Discrimination, Women affected by conflict, Internal displaced women, women in the informal sector and Women Migrant Workers are articulated in the 'National Action Plan for the Protection and Promotion of Human Rights, 2011-2016'.

In consideration of holistic and coordinated planning and financing, the National Planning Department has introduced a 'Project Submission Format' in January 2019. This Format is mandatory for the Government agencies at the national and sub national level in preparing project proposals for appraisal and financing. Section 19 of the Format requires a gender analysis in developing national and sectoral development projects.

The focal ministry for women is the State Ministry of Women and Child Development. Sri Lanka Women's Bureau and the National Committee on Women are statutory institutions under the State Ministry.

Work by the World Bank on the transport sector highlights that inadequate transport systems can restrict women's access to education, economic opportunities and healthcare, and that transport policies need to acknowledge that women and men have different mobility needs and patterns[13]. Transport can also make a big difference in increasing women's productivity and promoting gender equality[14]. Key gender issues identified in research on the transport sector in Sri Lanka include differences in the mobility patterns and related transport requirements, dignity, safety and security, and gender stereotyping in how employment in the sector is organized.

Safety and Security: Transport safety and security are identified as gender-specific issues. Specifically, safety is the top priority for women as a condition for using public transport. Findings of a study commissioned by the United Nations Population Fund (UNFPA), Sri Lanka in 2015 found that 90% of women have been subjected to sexual harassment on public buses and trains. This study also found that incidents of sexual harassment take place on public transport irrespective of travel distances and that incidents are more prevalent during peak hours when public transport modes are more crowded. Sexual harassment in public transport is among the key deterrents that restrict movement of women for economic opportunities.

Employment in the sector: Transport is traditionally considered as a male-dominated sector, both from an employment point of view and for the values it embodies[15]. On the question of women's employment in the transport sector, ILO states transport jobs are well paid, rewarding and offer long term career opportunities, few women are employed in these jobs and some positions fall below the standard of decent work. Workplace violence is identified as one of the barriers to women working in the transport sector. The primary causes of women's low participation in the transport sector are identified as: (i) working conditions (including the time and place of work), and (ii) gender stereotyping[16]. The share of women employed in the transport sector vary by country. The ratio reported in Sri Lanka (2007) is 6.5 % women in transport, storage, and communications of 33.1 % women in the labour market[17]. By occupation category there are more women employed in the transport and freight handlers' category, compared to the categories of controllers and technicians, deck crews, and related workers.

In Sri Lanka, transport planning and implementation is not informed by gender considerations and a gender analysis of the issues in an adequate manner. Women are considered as beneficiaries of transport developments with the assumption that their mobility issues will be reduced by easier access to transport. However, women's needs have not been a major factor in transport planning[18]. The

draft National Policy on Transport[19] has incorporated issues of harassment faced by women, differential transport needs and targeted pricing in its policy directives (see Table 2 below).

Table 2: Gender related policy directives in the Draft National Policy on Transport (DNTP)

Draft National Transport Policy
Key Challenges in the Transport Sector The increasing trend of women subjected to harassment in public transport.
Policy Principles: Increase Safety & Security Transport services to be safe, comfortable, and reliable. Provide a safe environment for women, children, elderly and differently able people in designing transport infrastructure.
Policy Directives: <ul style="list-style-type: none"> - Improve accessibility, equity, and affordability of public transport services. - Improve access and minimize walking distances to stops and terminals. - Vehicles and other infrastructure at public transport facilities should be easily accessible to all users, irrespective of age, gender, or ability. - Ensure the transport needs of all, including children, women, sick, differently able and elderly are adequately addressed. - Set up of effective pricing methodology and identify any subsidy needs to targeted areas/groups.

Women and transport in urban settings: Women living in urban settings balance multiple roles: employment/income generating activities, household activities and childcare. Women usually are the last to have access to modes of personal transport. While public transport is the commonly available option, limitations of timing and inability to combine multiple trips (often required in performing multiple roles) and the cost appear to be challenges for women. Therefore, a significant share of women in urban areas tend opt for more flexible and affordable options in 2 and 3 wheelers. It is noted that women in urban areas use 2 and 3 wheelers for transporting children to school, as well as for tuition classes and extracurricular activities. This aspect of travel itself involves multiple trips a day. Often travels are combined to accomplish multiple tasks, including traveling to work and /or income generating activities such as food businesses (snacks/lunch packets) and to transport material for home-based business purposes. Three wheelers also often serve as a first and last mile connectivity to public transport. Personal two wheelers give relatively more independence to women, also helping with more efficient time management, in the context of accomplishing multiple tasks with a single trip.

During the lock down and limited mobility periods of the COVID-19 pandemic, there was a steep increase in demand for 2 and 3 wheelers for service delivery purposes. Women specifically made use of this service for acquiring household necessities in addition to delivery of food items by those who were engaged in small scale food businesses.

Baseline Projects

As mentioned earlier, though policy makers and the government have identified EVs as an important intervention to address air pollution, energy security and GHG emissions, programmes currently being implemented in the country to support these steps are very few as summarized in Table 3.

Table 3: Baseline Projects related to E-Mobility

Project and Institution	Status
SLTB project to introduce 50 electric busses (Budget 2018)	The electric bus programme initiated with the involvement of the Ministry of Transport (MoT) has been aborted due to very high initial costs / lack of financial resources. The MoT has now prioritized importation of luxury ICE buses over EVs.
At least 25 new public electric vehicle charging stations with DC rapid charging capability will be established at strategic locations by the CEB and LECO by 2020	Presently, the number of charging stations operated by CEB is 5 and it is planned to install 10 more stations within this year.
Ministry of Environment initiated a project on converting 2-stroke three wheelers to electric.	However, this initiative did not move ahead due to several factors raised by several government authorities involved. The concerns were: 1. The 2-stroke three-wheelers are too old and will become obsolete quickly. 2. The conversion cost will be considerably higher compared to the value of the vehicle itself 3. The chassis of the vehicle is too old and not strong enough to accommodate the modifications required in conversion and 4. importantly the government's long-term vision of entirely phasing out 2-stroke three wheelers
Global Green Growth Institute (GGGI)	GGGI will aid in assessing financially and technologically feasible sustainable transportation solutions including electric buses and develop an inclusive electric mobility strategy and investment plan for selected secondary cities. GGGI will work on five selected corridors in Colombo for this purpose. The project will integrate this work in the strategy and action plan prepared under component 1.
Urban Development Authority and AFD (French Agency for Development) funded Anuradhapura Integrated Urban Development Project (AIUDP) USD 65+ million 2017-2023	The project is jointly funded by GoSL and a loan facility from the French Government to improve the Anuradhapura city as a provincial capital that sustains tourism, commercial and residential activities. The project has five objectives: 1. Improving urban drainage to reduce flood risks, 2. Improving urban mobility ? improving access, circulation & traffic management, 3. Public space upgrading ? enhancing and improving quality of public space and tourism sites, 4. Capacity building for asset owners for sustainable management of infrastructure finance, and 5. Feasibility studies/plans for sewerage & wastewater management. Under the second objective the project will invest in transport facilities, address urban traffic issues, and develop cycling tracks and shuttle services for tourists and visitors to the Sacred City. The GEF project will build on this initiative to integrate EVs in the objective 2. This is also the co-financing provided for the project.

- c) Proposed alternative scenario with a description of project components, outcomes, outputs and deliverables

Electric mobility is a key component of an Environmentally Sustainable Transportation (EST) system as prioritized in national policies on climate change, energy, and transport by the Government of Sri Lanka. Further, the government's pledge at the COP 26, reflected in the preamble to the NDCs, to achieve carbon neutrality by 2050 implies the need for transformational change in the transport sector, which is the largest GHG emitting sector in the country. Thus, promotion of low carbon transportation and electric mobility, together with decarbonization of electricity for charging, is a critical element of achieving the NDCs target and the carbon neutral zero target. To support the GoSL to achieve these ambitions, the GEF project would address a number of the barriers set out in Section 1b above through three outcomes/ components that are closely interlinked through their deliverables. The project's overall objective is to enable electric mobility to take centre stage in Sri Lanka's low-emission and environmentally sustainable transport system. The project is aligned with the Global Electric Mobility Programme's Theory of Change.[1] As such, the project will aim to reduce the GHG emissions from the transport sector and support NDC implementation.

Due to the project implementation the following changes are expected by mid-term:

- i. An effective operational inter-ministerial coordination ensures coordinated and effective implementation of the well-articulated long-term strategy (LTS) and mid-term action plan (MAP) resulting in scaled up EV adoption to achieve NDC and Carbon Neutral target of the government.
- ii. Well-articulated LTS and MAP enables private sector investments in facilitating the use of EVs and creating charging infrastructure, local component manufacturing, and servicing infrastructure.
- iii. Experience of pilots in implementing EV projects and charging infrastructure provides practical experience and knowledge to public and private actors in scaling up investments.
- iv. Capacity in human resources for identifying and developing innovative solutions, servicing the EV infrastructure, and information on the benefits of the EVs enable improved cost effectiveness of EVs and transformation to zero emission vehicles.

The above outcomes will be achieved through following 3 components.

Component 1 will build the policy and institutional framework required for e-mobility uptake in Sri Lanka. This component responds to several barriers described in Section 1b, including the lack of a long-term strategic plan, the lack of a coordination mechanism that brings together the different ministries and agencies in the sector, and lack of guidelines, standards, and supportive regulations for e-mobility uptake. This component will result in the government adopting a long-term strategy (LTS) and medium-term action plan (MAP) for e-mobility and operationalizing an institutional coordination framework to implement the LTS and MAP as well as steer e-mobility investments. Component 1 will

support the Government in developing and implementing a suite of policies, regulations, and standards that enables clear signals and incentives to public and private actors in the EV space. This covers regulations and standards for importing and operating electric vehicles, policies, and incentives for local manufacturing for components of electric vehicles, batteries, charging infrastructure, etc.

Component 2 will address the key challenge of the lack of experience in e-vehicles and charging infrastructure in different vehicle segments. The current efforts have seen focused on private four-wheeler EVs facilitated by reduced taxes for import. However, there has been no introduction of EV 2/3 wheelers or public buses which have a larger impact on GHG emissions. A set of pilots introduced in Component 2 will demonstrate the viability of electric 2/3 wheelers for last mile connectivity and localized delivery services as well as work with UDA in the city of Anuradhapura to demonstrate the use of EVs integrated with the local transport ecosystem to address air pollution and create green transport zone. The pilots will also integrate new charging infrastructure to demonstrate technical and financing requirements and approaches. The pilots will be a public-private partnership to create suitable conditions for private sector investments to scale up EVs in Sri Lanka. The experiences and lessons learned will be used for shaping the regulatory and policy framework that enables private sector engagement.

Component 3 invests in increased capacity and knowledge that will facilitate scaling up of the demonstrated pilots. Outputs under this component will develop and deliver a comprehensive training programme, improving skills and capacity for electric mobility integrated city planning. It will enable EV-related outreach and awareness, promoting better understanding of EVs and their potential among policy makers, private sector investors and the public. The Component is designed to address barriers 6 and 7 pertaining to the lack of skills and knowledge that hold back the market shift towards EVs and accelerated integrated solutions for low-carbon electric mobility. Component 3 will also pave the way to learn from and share best practices with the Global EV Programme (GEVP). A knowledge platform will be developed to support decision makers and investors access EV related information. This platform will support overcome barrier 1 by providing the required data and information for evidence-based decision making at policy level; and barrier 2 by providing feedback on guidelines, standards, and amendments to regulations to support EV uptake.

The project components, especially the long-term strategy and the pilot EV ecosystem, will be developed in an inclusive manner to ensure benefits are equitably shared by all groups, while specifically addressing inclusion of women, the elderly, and others vulnerable segments of society (EWCD integration).

The project will support the systematic integration of electric mobility into transport systems and city planning, in line with the LTS and MAP, focused on 2-and 3-wheel vehicles where the potential for scaling-up is greatest.

Outcomes and Outputs

Component 1: Strengthening the Enabling Environment

Outcome 1 A national inter- ministerial coordination mechanism; a long-term strategy and a MRV system; and, regulations, policies and technical standards supporting the adoption of EV technologies sector is adopted and implemented by GOSL for promoting EV in the transport sector.

A fully operational and inclusive inter-ministerial coordination mechanism that engages all the key stakeholders enables effective implementation of the measures to speed up the uptake of EVs and creation of the charging infrastructure that integrates renewable energy use for charging. The interventions and actions to scale up EVs by the government are guided by the LTS and MAP adopted by the government, developed through inclusive consultation with all stakeholders. The regulatory and policy framework adopted by the government provides clarity for users and investors in the EV and charging infrastructure domain and provides the necessary incentives to effect a transformation of the transport sector towards sustainable zero emission vehicles in line with the government's Carbon Neutral goal.

The outcome will be achieved through the following two outputs. The outputs will build on learning/knowledge materials from GEVP - specific policies, regulations, standards, fiscal measures, and other local and national incentives. The implementation of these outputs will be co-financed by the Ministry of Environment's support to the inter-ministerial coordination committee (IMCC) and University of Moratuwa's contribution to the development of public sector electric mobility options in the LTS and MAP.

Output 1.1 Institutional coordination mechanism, LTS and MAP to promote low-carbon electric mobility developed

The output will address two key barriers ? lack of well-defined long-term strategy to achieve scale up of EV use in the country and absence of structured coordination among various government ministries and departments to synchronize and synergize their actions to ensure maximum impact.

The institutional coordination mechanism will build upon the existing IMC appointed by the Minister for Environment through Cabinet Paper 21/1182/321/010 on July 20, 2021. The current mandate of the IMC is limited to developing a strategy for electric mobility with the assistance of experts appointed by the committee. The project will support an expanded role for an IMCC to oversee the development and implementation of the LTS and MAP.

The project will support preparation of the structure and the terms of reference of IMCC covering;

- i. The ministry that will lead the IMCC.
- ii. The membership of IMCC based on the mandates of the different government bodies with respect to transport sector development and issues connected with electric mobility.
- iii. Composition and TOR for establishing Technical Advisory Committees (TAC): a pool of technical experts to provide the IMCC with the necessary technical advice on different EV issues as well as incorporate EWCD concerns to the long-term strategy. The TAC will engage stakeholders from

academia, private sector, civil society, and development partners to obtain feedback and ensure their participation in the process of developing the LTS and MAP.

- iv. The TAC will also engage necessary supporting bodies, such as Chartered Institute of Logistic and Transport Sri Lanka (CILTSL) and Sri Lanka Energy Managers Association (SLEMA), to provide data, information, technical analysis etc.
- v. The project will support the establishment of several Technical Expert Groups (TEGs) to oversee the production of guidance material and regulations for key areas that require urgent attention to implement the LTS and MAP

The structure of the permanent IMCC will be developed based on assessment of similar coordination mechanisms established in the country and adopted by other countries for programmes with multiple mandated authorities. The project will coordinate closely with the GEVP to seek best practices for the IMCC. A draft structure will be prepared based on the above analysis for consultations with stakeholders. This will be prepared within the first four months of the project commencement. The project will establish the technical sub-committees to finalize the different project outputs, including the outline of the LTS and MAP.

The process of developing the institutional framework will be under the supervision of the IMC. The finalization of the IMCC draft for approval by the Government shall consists of the following key steps:

- i. Organized focus group discussions with all the key stakeholders to discuss feedback and suggestions for improving the draft
- ii. Validation workshop on revised draft with all stakeholders to get final feedback and inputs for finalizing the structure
- iii. Submission of the finalized structure of IMCC to the IMC for recommendation to the cabinet of ministers for approval

The project will facilitate the approval of the IMCC by the government and issue the necessary directive for constitution of the IMCC and its supporting bodies to operationalize the IMCC.

The output will also use GEF funds to support development of the LTS and MAP. The LTS will cover ten-year period from 2026 ? 35. This will consider the work undertaken and completed by the project and other ongoing work in the country on promoting electric mobility transformation. The LTS will be complemented by a five-year MAP for 2026 ? 30. The long-term strategy will support the transport sector contributions to the next update of NDCs to be submitted by the country in 2025 for the period up to 2035.

The LTS and MAP will cover public and private road passenger and freight transportation. It will address all areas of EV transformation such as vehicles, batteries, charging infrastructure, renewable energy integration and ICT. It will also address workforce requirement; capacity needs to develop human resources and approaches for providing training. The strategy will also analyse the financing

requirements and develop strategies for increasing financing to the EV and charging infrastructure development. The LTS will also set out the sequencing of the strategic actions and develop KPIs including a monitoring system for reviewing progress in implementing the LTS. The LTS will be revised at end of 2030 considering the implementation of the MAP and the developments in the field of the EVs to make it current and relevant. The process will include development of MAPs for period 2031 ? 35. The LTS and MAPs will be owned by the IMCC.

The MAP, based on the LTS, details the priority actions over the period 2026 ? 30, i.e., actions beyond those covered by the project as detailed in the remaining output. The action plan will include:

- i. Set of specific activities in relation to vehicles, batteries, charging infrastructure, renewable energy integration, ICT and social inclusion for a priority sequence of sub-sectors on electric mobility transformation
- ii. Budget and potential financing for each activity
- iii. Capacity requirements and training plans
- iv. Data management and communication
- v. Responsible agency and collaborative agencies
- vi. Specific mid-term targets and relevant KPIs for the above activities, align with those in the long-term strategy including a monitoring framework.

The development of the LTS and the MAP will be based on the following assessments:

- i. An assessment of the transport sector developments to establish a baseline scenario for growth in transport demand by segments, vehicle population by category, demand for fuels etc.
- ii. An assessment of the electricity sector, including renewable energy development, to establish GHG emission factors of grid electricity.
- iii. An impact assessment of the baseline scenario on energy consumption, GHG emissions, air pollution, and other socio-economic factors.
- iv. Development of alternative scenarios based on national policy targets, international commitments, and their level of progress with particular emphasis on their implications to EV penetration, renewable energy penetration and grid infrastructure development by 2035.
- v. Assessment of impacts of transport sector development and use on Gender and EWCD to identify strategies for ensuring equitable benefits and inclusive growth of EVs.
- vi. An appraisal of policy and regulatory environment good practices applied in different countries for the promotion of electric mobility transformation (covering development policies and sectoral policies related to transport, energy, environment etc.)

Project funds will be used to engage a group of expert consultants or institution(s) to support the development of LTS and MAP. This group of experts will include expertise in gender mainstreaming and social inclusion to ensure that policy reflects the gender gaps highlighted in the assessments above. These experts/institutions will work under the TEGs established as part of the Institutional framework to ensure participation and inputs from all stakeholders. Focus group discussions with all the key stakeholders will be held during the process of development to ensure wide ownership among stakeholders. A validation workshop on the draft will be held with all stakeholders to get final feedback and inputs for finalizing the LTS and MAP before submitting to the IMC for its endorsement and submission for cabinet approval. The LTS and MAP will be made available on the EV web platform created (as part of Component 3). Communication on the LTS and MAP will be designed and implemented to inform all the stakeholders whose participation in effectively implementation are required.

The key deliverables of the output are:

1.1.1. Institutional arrangement, including IMCC, TAC, supportive TEGs, members of these groups, TORs for IMCC, TAC and TEGs endorsed and operationalized by the Government

- a. Drafts prepared and shared with stakeholders for consultation, covering the different bodies, their membership, TORs, and the process of consideration of issues and recommendations to appropriate authorities.
- b. Focused group meetings organized to get feedback on the drafts
- c. Validation workshop organized with stakeholders under the guidance of IMC to finalize the drafts for submission to IMC for endorsement and submission to the Cabinet of Ministers
- d. Support provided to the Cabinet in considering and approving the Institutional Framework, including legal drafting of directives to operationalize the institutional framework.

1.1.2. LTS and MAP prepared in consultation with the stakeholders.

- a. Draft LTS and MAP prepared covering aspects as detailed in paragraphs above for consultation with the stakeholders
- b. Focused group meetings organized to get feedback on the drafts
- c. Validation workshops organized with stakeholders under the guidance of IMC to finalize the drafts for submission to IMC for endorsement and submission to the Cabinet of Ministers
- d. d, Support provided to the Cabinet in considering and approving the Institutional Framework, including legal drafting of directives to operationalize the LTS and MAP.

Output 1.2. Guidelines and regulations developed to effectively implement the LTS and MAP for electric mobility transformation

This output will address the barriers no. 2 and no. 3 on the lack of standards, policies, and regulations for EV importation, manufacture, registration and importantly, EV battery management. This output will support in reducing policy and regulatory risk as well provide certainty to investments by private and public in EVs and charging infrastructure. This output will support the following aspects to address the policy/regulatory gaps:

- i. Policy and related procedures for vehicle and battery importation (led by the Department of Motor Traffic)
- ii. EV registration system and procedures (led by the Department of Motor Traffic).
- iii. Policy framework, based on local manufacturing infrastructure and capacities, to promote local manufacturing of equipment and components (led by the Ministry of Industries), including:
 - a. Guidelines for evaluating local value addition;
 - b. Policies for providing incentives based on local value addition in registration and taxation on import of raw material and components; and
 - c. Fiscal and financial incentives for increasing local value addition.
- iv. Regulations and guidelines for sound EV battery management and importation of new and used batteries for different EVs and EV uses (current and proposed) in Sri Lanka (led by the Ministry of Environment). This will include policy, regulations, and procedures for:
 - a. Reuse (second life);
 - b. Recycling and safe disposal; and
 - c. Importation of new and used batteries.
- v. Standards, policies, and regulations for facilitating the creation of EV charging infrastructure (led by the Ministry of Power), covering:
 - a. Standards for EV chargers;
 - b. Dedicated electricity consumer tariff structure for EV charging and renewable energy integration (in particularly solar PV) including tax concessions for importation and specific feed in tariff schemes (net metering, net accounting, and net plus);
 - c. ICT integration and different business models for charging infrastructure operation; and
 - d. Guidance for inclusion of charging infrastructure as a regulatory requirement of city planning and urban land use development.

vi. Energy Efficiency/Carbon emission labelling programme for vehicles to support the mandate of the Sri Lanka Sustainable Energy Authority (SLSEA) and the Sri Lanka Standards Institution (SLSI). The output will also prepare labelling and implementation roadmap for stagewise enforcement including, options of voluntary and mandatory schemes and communication plan for the awareness of the stakeholders.

The work will be undertaken through the relevant TEGs proposed under the IMCC (Output 1). A team of experts hired by the project will work under the supervision of these TEGs and prepare the drafts. These TEGs will be led by government ministries/departments that have the primary mandate to undertake the respective tasks. It will also include the relevant stakeholders whose full cooperation and participation will be important in successful adoption and implementation of the policy and regulatory framework.

The project will use the tools boxes developed by the GEVP to inform the work of the deliverables.

The outputs will be submitted through respective mandated Government entities for adoption by the government. Project will support the preparation of legal documents and notes for facilitating the process of adoption of the deliverables. The formal approval process of these outputs include conducting mandatory public consultations where concerns and inputs of different stakeholder groups including CSOs, women organizations will be solicited to ensure that gender and social inclusion concerns are integrated and adequately addressed in the standards, guidelines etc.

The output deliverables are:

- 1.2.1 EV importation regulation and process map (to include taxes, duties and tariffs) adopted by Finance Ministry/ Department of Customs.
- 1.2.2 EV registration standards and process map adopted by the Department of Motor Vehicles.
- 1.2.3 Guidelines and policy framework of local EV manufacture (focusing on E2W and E3W).
- 1.2.4 Guideline for ICE to EV conversion.
- 1.2.5 Regulation for battery importation and management endorsed by CEA.
- 1.2.6 Guidelines for local manufacture of EV batteries.
- 1.2.7 Tools, technical standards, and specifications for RE and ICT integration into EV charging infrastructure.
- 1.2.8 Energy efficiency labelling for EV (all light duty vehicles) adopted by SLSEA.

Component 2: Technology, investment and PPPs demonstrated for electric mobility transformation

Outcome 2. Increased investments and adoption of EV for 2-3 wheelers by private sector enabled through demonstration of pilots

Component 2 of the project will demonstrate a city-based EV ecosystem. This includes new technology options and new business models for EV-integrated urban spaces, by supporting investments in new EVs and associated infrastructure. Due to the risks associated with new technology and innovation, investment in electric mobility need to be supported with sustainable business models and by development partners with access to global financial sources. The Component therefore addresses barrier no. 5 on the lack of investment in EV technology and capacity gaps for EV integrated planning and technical skills described in barriers no. 4 and no. 6.

During the PPG several urban and transport development plans at different localities were considered. After stakeholder consultations and considering the required public sector co-financing availability, demonstrating spatial planning for an EV ecosystem was selected as the most viable pilot, leveraging the investments in planned urban development through the proposed Anuradhapura Sacred Area Infrastructure Facility Development Project Phase ? I of the UDA. The design of this pilot EV ecosystem will focus on selection of an appropriate technology mix, identification of routes and networks, operation and service types, and selection of charging infrastructure.

The country has very limited experience with EVs (limited to private four-wheel EVs primarily). The implementation of the proposed pilots will provide the necessary experience of designing, financing, and operating different types of EVs and charging infrastructure. The project will create the necessary knowledge and confidence among public and private sector in increasing investments in EVs and EV infrastructure. The increased investments in the EV space results in economy of scale and facilitates growth of the ecosystem to support the expansion of the EV deployment, EV services, EV financing, charging infrastructure creation. The example deployments in Anuradhapura will influence increased integration of EVs and EV charging infrastructure in other cities by the UDA and local authorities.

Output 2.1: EV Integration plan, including identification of pilot sites, for ASA developed

The project will support UDA to introduce EVs in the city of Anuradhapura, an ancient capital of Sri Lanka, and now the capital city of the North Central Province. The ancient monuments and Stupas (some of the largest in the Buddhist world) still remain in the Sacred City area of Anuradhapura. The city sits in the agricultural and archaeological heartland of the country as shown in Figure 7. Anuradhapura is important as a tourist destination that draws large numbers of local and international visitors. It is a bustling commercial hub, especially for goods and services between the north and the south. It is also a major site of worship for Buddhist pilgrims. Current resident population in the urban area is around 0.25 million and is expected to double by 2030. Further, it caters for tourists throughout the year, peaking around June, requiring enhanced transportation and accommodation services. There is also a need to manage the air quality to conserve the archaeological monuments within the sacred area.

The UDA has developed an integrated urban development plan for the Anuradhapura city with the objectives of improving the comfort and safety of residents and tourists, promoting the Sacred City area as a cultural and heritage centre with appropriate eco-friendly infrastructure. The project named the Anuradhapura Integrated Urban Development Plan (AIUDP), is a Euro 62 million project funded by AFD and the Government of Sri Lanka. One component of this plan covers transport and visitor-related infrastructure development within the sacred area and a sub project titled ?Anuradhapura Sacred Area

(ASA) Infrastructure Facility Development? has been initiated to implement it. Under this plan, the ASA will be developed as a limited private vehicle area zone to minimize congestion, air pollution from vehicular emissions and the impact of the air pollution on the archaeological sites. The UDA is developing a multi-modal transport hub (train, bus, and private taxis) in the commercial area and improving connectivity between the sacred area and these transport hubs. Through this plan, the UDA intends to disincentivize the use of private ICE vehicles within the ASA by providing improved parking facilities and last mile transport options to access and travel within the ASA. This includes bicycles, shuttle buses and more 3-wheel taxis available for tourists. This will provide the necessary impetus to introduce electric mobility as an environment friendly transport solution through the GEF project. ASA includes non-motorized transport infrastructure for people to move around in the area on foot or bicycles. An E-bike sharing system will be implemented in ASA supported by ICT solutions for efficient operations. The E-bike sharing system will be co-financed by private sector technology providers and tourism operators.

The GEF project will work with the UDA to integrate electric mobility solutions into the AIUDP. GEF Project will support UDA in developing plans based on the AIUDP to create the EV infrastructure to facilitate last mile connectivity and tourism related transport connecting the sacred area and peripheral parking/ public transport hub facilities. This will include:

- i. Identifying arterial routes from peripheral parking facilities to transport nodes within ASA through EV 2Ws and 3Ws;
- ii. Identifying locations for establishing Charging Infrastructure (CI) both at peripheral parking facilities and transport nodes within AIUDP;
- iii. Identifying location to install Renewable Energy (RE) infrastructure for CI; and,
- iv. Locations for establishing E-bike docks based on the Non-Motorized Transport (NMT) network plan for the ASA area.

In developing the EV integration plan within the AIUDP, the gender expert, embedded in the pilot design team, will assess the plan from the perspective of ensuring locations and facilities that enable easy access and useability by men, women, children as well as the elderly and the disabled. Specifically, it will assess the use of EVs within the ASA areas for men, women, children as well as the elderly and the disabled to easily access all the sites within AIUDP.

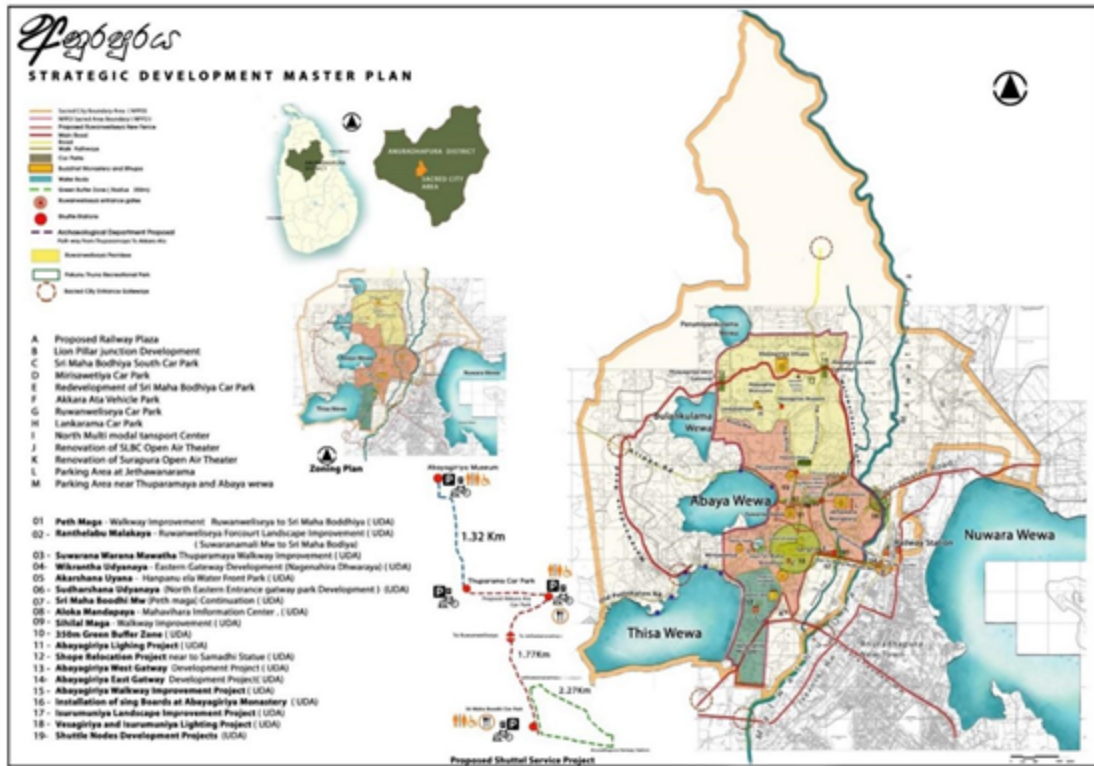


Figure 7: Map of the Anuradhapura Integrated Urban Development Plan

The deliverable for the output is:

2.1.1 EV integration plan for ASA including identifying routes for introducing EVs, location of CI, locations for e-bike sheds along the NMT infrastructure, which enable noise free, pollution free, and easy access to sites within ASA for men, women, children, including elderly and disabled.

Output 2.2: Pilot EV technologies for E2Ws, E3Ws and E bicycles, renewable energy-integrated charging infrastructure, battery management and ICT options designed and implemented

The GEF project will support the design and implementation of 3 pilots in the city of Anuradhapura. The pilots will demonstrate use of EV 2/3Ws for tourism last mile connectivity and local delivery services. The focus is on 2/3Ws as this has a great potential in the short to medium run, create greater visibility impact and greater impact on addressing GHG emissions. The pilots will use both new EVs as well as retrofit existing ICE 3Ws to assess the viability of retrofitting 3Ws as opposed to procuring new EVs. Many ICE 3Ws are used in Sri Lanka and retrofitting may provide a more viable option until the market for new EVs develop.

Pilot 1: The last mile connectivity pilot for visitors to ASA will be implemented with UDA. GEF funds will be used to subsidize the purchase of 3W EVs and E bikes. In partnership with UDA, project will develop a mechanism to invite participation in the scheme to own and operate the 3Ws. Discussions were held with private sector companies that are in the business of selling EV3Ws and undertaking

conversions (Vega Innovation Pvt Ltd, SL Mobility, David Peiris Motors). Private sector companies will provide technology solutions, locally assembled or retrofitted vehicles and financing to the participants in the scheme. UDA will provide special licensing for operations within the ASA as well as preferential parking slots for these vehicles. UDA will also establish charging infrastructure through its own financing in partnership with other agencies.

Pilot 2: The home delivery system pilot will work with the supermarket and food chains in the city of Anuradhapura to introduce the use of EV 2/3Ws. GEF funds will support 30% of the cost for EV2/3Ws, the balance would be contributed by the owners of the EV 2/3ws. Discussions were held with LAUGFS and Cargills, who have agreed to participate in the pilot. They will install the necessary CI in their parking spaces. Discussions were also held with government departments and the UDA to assess the possibility of incentivizing supermarkets and food delivery services in establishing the CI. These companies will also prioritize use of EV 2/3Ws to deliver the goods. Project will also develop a financing scheme for the purchase/conversion of EVs with the participation of banks, LAUGFs and Cargills. This will enable access to finance as well as create learning for the banks in financing EV technology.

In total about 100 E2W (including those modified for delivery services), 20 retrofitted 3Ws to EV, and 80 new E3Ws will be supported by the project. The project will also explore the possibility of battery swapping models to test the operations. GEF funds will finance 30% of the costs the remaining being financed through loans by the owners.

The project will use business models and financing options developed by the GEVP and adapt them to the country requirements.

Pilot 3: GEF project will also support the design and implement of an E-bike sharing scheme for visitors to ASA, building on the UDA's plan to create NMT infrastructure. The project will closely work with the UDA as the public sector partner. The E bike docking and sharing system will be operated by private sector partners. Local community organizations promoting low carbon lifestyles will work with tourism operators to promote the E-bike system. UDA will support necessary infrastructure including space for bicycle docks and cycle lanes and Charging Infrastructure (CI). 10 bicycle docks, each with 10 E-bikes will be set up and maintained by local councils or private sector partner. GEF funding (USD 34,200) will be used to procure the E bikes, docking system, and setting up the sharing platform. The project will support the design of the e-bike sharing system, in terms of pricing, and operational details such as location of the bicycle docks. Users can rent a bicycle from the dock using a mobile app. The mobile app will allow reserving bicycles ahead of time. Consumer handling will be via the online tool including payments. Docks will provide secure storage for bicycles including extra space which can be rented for personal bicycles. Discussions were held with ThermalR Industries (Pvt) Ltd, and Vega Innovations Pvt Ltd in participating and supporting the project. The project will also assess the viability of the scheme and develop a model for part financing of the e-bikes by the private sector. The project will ensure that the e-bikes used can be handled by all groups of people despite gender or age.

The GEF project will identify specific locations from those where CI will be established in Anuradhapura to install solar PV panels for providing electricity to CI. Ceylon Electricity Board (CEB)

will be a key partner in this endeavour. GEF funding (USD 90,000) will be used to support the solar PV integration. The objective is to assess the viability of Solar PV system integration with CI. The systems will also be connected to grid as a backup. This will also provide the necessary data to the CEB in developing its strategy and plans for the use of Solar PV for CI, as one of the priorities of the government is to substitute imported fossil fuels for electricity generation.

Further, this project will develop ICT solutions for customer service including charging station availability, option for reservation and electronic payments, unmanned self-service charging operated through apps. ICT solutions are inherently inclusive and are capable of effectively addressing gender issues identified in the analysis in Section 02. In Sri Lanka, ICT s have become more accessible to both women and men over time and the use of mobile phones and associated social media applications by women is on the rise. IT-based responses to COVID pandemic-related lockdowns, including online procurement of food and essentials, and use of smart phone to deliver school education etc, necessitated the use of such media and especially among women/mothers. While there is no apparent and specific gender based barriers to access ICTs, targeting and promotion must be incorporated in rolling out pilots for e-mobility solutions to engage more interest from female clients.

Ten charging stations will be supported in the Anuradhapura EV ecosystem catering to light duty EVs (E2W and E3W as well as E4W).

The GEF project will support designing of all the pilots including the technical specifications of the EVs, CI, ICT requirements, financing structure, and preparing the necessary partnership frameworks for public-private partnership to operationalize the pilots.

The experience gained from the pilots will be documented to capture the financial viability and environmental benefits. The knowledge will be used for creating material for communication among all the key stakeholders to enable wider awareness and encourage scaling up. The design of the EVs will be evaluated to assess their socio-economic impacts as well as inclusivity. Specific actions will be integrated in design to ensure benefits for EWCD. The Output will use the financing and business models for 2/3Ws developed by GEVP as well as the financing of CI.

The **deliverables** of this Output are:

- 2.2.1 Design of the pilots and signed agreements with public and private agencies to operationalize each pilot, including measures to ensure benefits to women and disabled;
- 2.2.2 Operationalization of pilots for last mile connective and delivery systems in Anuradhapura City based on deliverable 2.2.1, including the CI;
- 2.2.3 Tourism friendly E bike system operational in the ASA;
- 2.2.4 ICT systems developed for management of the CIs and use of CIs by customers;
- 2.2.5 Installation Solar PV integrate CI infrastructure with at least 10 charging stations; and,
- 2.2.6 Pilot experience and benefits documented for communication and awareness creation.

Output 2.3 Scale up strategy formulated for electric mobility

This output supports the scaling up of successful pilots. Based on the experience of designing and implementing pilots, the GEF project will support replication in other cities/districts working closely with the UDA and the private sector actors operating supermarkets and food delivery services.

The UDA plans to address air pollution and congestion challenges in cities across the North Central Province using the AIUDP model. The EV experience will be used to develop a model that can be replicated by the UDA in these cities. The urban development strategy revolves around creating zones that restrict the use of private vehicles, restrict use of highly polluting vehicles and creating NMT infrastructure, especially in congested areas of the city. Replication support will entail developing guidelines for best practices in integrating EV into urban plans. This includes identifying locations for CI, identifying potential sites to use solar PV for electrification, E-bike sharing schemes, building public-private partnership for financing the investments etc. It will identify incentives and regulations to enable EV integration. The project will identify 5 other cities to apply the guidelines, and will support dialogues with development partners and other financing entities to solicit support in the implementation of EV pilots using the guidelines and documentation as evidence.

To scale up the use of E2/3Ws for the delivery of goods to households, the documentation of the pilot in Anuradhapura will be utilized to create dialogues with supermarkets and food delivery chains. This will create awareness of the benefits, the investment required and viability of such models. These dialogues will be used to identify potential investment projects in at least 3 supermarket and food delivery chains in multiple locations across Sri Lanka. The project will also facilitate dialogue between supermarket and food delivery chains, private sector entities producing E2/3Ws and the Government in identifying modalities of cooperation and financial/fiscal incentives to support such a change.

In addition, the project will support discussions with Green Climate Fund (GCF) in financing large scale investments through public-private partnerships based on the success of the pilots. The project will fund the development of an investment proposal concept for discussions with GCF. The concept will also be used for holding discussions with other development partners, including ADB and World Bank, on identifying possibilities of financial support for replication.

The pilot experience will be presented at the regional forums of the GEVP. in order to seek support from the Asia Investment Platform of the GEVP for investment in the e-mobility scale up concept.

The **deliverables** of this Output are:

2.3.1 Dialogues conducted with the private sector actor and development partners in 5 other cities to replicate the GEF pilot

2.3.2 Dialogues held with supermarket, food delivery chains and the Government to identify replication of the EV based delivery model in multiple other locations with 3 private sector partners, dialogues with the E2W and E3W producing/importing companies and government sector to identify government incentives for investments by supermarkets and food delivery chains.

2.3.3 GCF investment concept proposals developed based on implemented pilots and dialogues organized with GCF and other development partners, including ADB and WB, to facilitate financing of scaling up.

Component 3: Knowledge and capacity to support low-carbon, e-mobility strategies

Outcome 3: Sustainability is ensured by adoption of lessons learned, awareness and peer to peer exchange at national and regional level

The project-generated knowledge and experiences, the technical assistance and material received from the Global Programme, and continuous information exchange amongst stakeholders results in higher awareness and knowledge of benefits of EVs among the stakeholders. This leads to more favourable decisions on EV use. The new capacity created among policy makers and results in better policy and regulatory environment for EV uptake as well as enhanced servicing of the market. This results in lower cost of owning and operating EVs, in faster uptake of EVs, successful implementation of the LTS and MAPs and progress towards achieving the Net Zero Emissions target.

This component will facilitate the above outcome through three major interventions. First, the component will support creation of a knowledge platform, linked to the GEVP knowledge platform, that enables both effective dissemination of knowledge and information as well as interaction among the stakeholders. Second, the component will support capacity building among a wide range of stakeholders that enables better and informed decision to facilitate EV uptake. The capacity building efforts will use the tool boxes and materials prepared by the GEVP and adapt them to the country context as needed. Finally, the component will support the participation of key stakeholders in the regional and global events as well as capacity building events of GEVP to train and inform key stakeholders of the country.

Output 3.1 EV Knowledge and stakeholder interaction platform established, and communication strategy developed to facilitate communication and interaction among all stakeholders

The output addresses the key barrier on lack of easily and transparently available information and knowledge on EVs to facilitate decision making by stakeholders. The output will establish a knowledge and stakeholder interaction web-platform; knowledge and information platform (K&IP) owned and managed by IMCC and hosted on a government IT platform. This platform will have following key functions:

- i. Act as a portal for all rules, regulations, and procedures for e-vehicles. All recommendations and technical guidelines developed through the project's Output 1.2 will be available through this ICT-based knowledge platform.
- ii. Provide information on government programmes, government incentives and other programmes to promote EVs in Sri Lanka.
- iii. Provide an online forum to elicit feedback from EV stakeholders to provide user perspective to the IMCC for decisions/ strategy development.
- iv. Provide links to the discussions and decisions of the IMCC.

v. Provide links to knowledge products produced through the project as well as knowledge products developed through other initiatives for promoting scaling up for EVs.

vi. Host the data to track the progress of LTS and MAP implementation as well as information on the impacts on environmental and economic benefits of EV transformation. This will be based on the data collection framework as well as assessment methodology prepared with support of the Project. This will include tracking the key milestones and performance indicators of the LTS and MAP. The platform will also enable data entry by other stakeholders to enable crowdsourced data.

The platform will be developed in partnership with Information and Communication Technology Agency (ICTA), the lead agency in Sri Lanka for implementation of information and communications technology (ICT) initiatives by the Government. Partnership with ICTA will help to provide linkage with other government e-initiatives on sustainable transport and e-mobility. Further, this partnership will help to sustain this platform after the exit of the GEF project.

The output will also support development of a communication strategy to create increased awareness on EVs and project work. The communication strategy will include public awareness campaigns based on the experiences of the pilots and economic/environmental benefits of the EV user. Focus will be on engaging with national and local media to prepare and disseminate stories based on work undertaken by the project and e-mobility pilots. To support the communication strategy, targeted communications material will be developed. The communication strategy will ensure that the concerns and inclusion of EWCD segment of society are addressed. The communication strategy will leverage government channels as well as civil society organizations.

The platform design and communications strategy will be developed through consultation with key stakeholders.

Key **deliverables** of the output are:

3.1.1 Knowledge platform designed and established using government IT infrastructure to provide information on: government policies, regulations, incentives; knowledge products; IMCC decisions; as well as interactive forum for stakeholder feedback.

3.1.2 Communication strategy prepared considering the requirements of EWCD and partnerships created to implement the strategy.

3.1.3 Communication material developed for use in mass campaigns to promote EVs, including media stories on the pilots as well as other outputs of the project such as interviews with prominent personalities on EVs. This will include short video stories that could be shared through the platform and social media.

Output 3.2 Programme developed and implemented for creating long term capacity to support the implementation of LTS and MAP.

This output will support the development of training programmes for different stakeholder segments to address the key issue of human capacity that is a barrier to faster scale-up of EVs.

Based on the assessment undertaken at the PPG stage the output will support two levels of immediate capacity requirement: capacity among the policy makers and planners to develop and execute policies,

regulations, standards etc. for facilitating uptake of EVs; and technical capacities along the EV value chain.

The output will use the toolboxes developed by GEVP on:

- i. Best practice policy briefs for light duty vehicles
- ii. Interactive tools to estimate and compare total cost of ownership
- iii. Different charging solutions (overnight charging vs. battery swapping) including operating environment considerations and business models
- iv. Financing options for E2& E3Ws including best practices, and taxation instruments
- v. Business models for the use of E2Ws & E3Wsin fleets
- vi. Policy briefs on public charging infrastructure roll-out strategies and regulatory measures
- vii. EV battery life cycle, repurposing and end-of-life options including recommendations to improve sustainability
- viii. EV charging loads assessment tool to estimate the impact of e-mobility strategies on national and local power supply grids etc.

The capacity building for policy makers will be designed in close consultation with the IMCC and Government stakeholders such as UDA, MoT and MoE. This will include capacity building of urban planners to integrate EVs into the urban development plans. The training modules will also include EWCD integration in the policy, regulatory framework, and EV planning in urban areas to ensure that EWCD community concerns are well understood by policy makers and taken into their decision making. Along with policy makers it will also cater to the professionals in policy advisory organizations, universities, research organizations, etc. The capacity building programmes will be designed and anchored in the state government institutions to make it available on a continuing basis.

To develop required human resources to support TLS and MAP, the global training material will also be used to prepare course material for Master levels programme at a national university. The work will be undertaken in partnership with the University of Moratuwa. The programme will be included in appropriate study programs at the University.

The second focus of output will be on developing technical training material for trained service providers across the EV value chain. This will cover EV servicing, battery servicing, CI installations, conversion of ICE to EVs, etc. The training programmes will be developed in collaboration with the Tertiary and Vocational Education Commission. (TVEC) and delivered through technical training institutes.

The required curricula will be developed with the technical inputs from the different sub-committees in Output 1.2. The curriculum developed will be signed off by the sub-committees and endorsed by the IMCC.

The project would actively promote women's increased participation in technical aspects of training and capacity building. This will be achieved by allowing a 30% of all training programmes for women

and developing communications and outreach material that specifically target women, to deliver on the gender action plan detailed below, this Output will focus on the following key gender-integration activities.

- i. Developing skills of women as commercial drivers and service/ maintenance technicians for E2Ws, E3Ws and charging infrastructure in select cities (Anuradhapura and cities selected for scale up). The project will conduct skills training for women for potential employment opportunities in the sector. A total of 20 women will be trained in relevant skills such as commercial drivers, service technicians, and in operations and maintenance work of EV fleets in Anuradhapura City through the pilots implemented.
- ii. Strengthening the technical capacity of women project staff by encouraging them to participate in technical trainings and capacity building activities. This will enable the women staff to enhance their technical skills which would be crucial for their future career growth.
- iii. Building gender-specific capacity of project staff and technical subcommittees for gender/ EWCD integration through workshops. This will build capacity of project staff on gender issues in the sector, and strategies and good practices for gender mainstreaming. Project staff will be oriented on gender-based violence and prevention of sexual harassment in the workplace.

Building on the rapid capacity gap assessment undertaken at PPG stage and the capacity building support during the project, a comprehensive assessment of capacity needs will be undertaken in context of the LTS and MAP developed in component 1. The Strategy will consider the immediate requirements that are addressed by the project and outline the focus for LTS and MAP period.

The **deliverables** of the output are:

3.2.1 Capacity building programme, including training material, developed and anchored at state institutions for policy makers and professionals working in the field of sustainable low/zero emission transport covering: best practices for policies, regulations, taxation, etc.; financing and business models; CI infrastructure planning; and sustainable management of batteries.

3.2.2 Course curriculum at Master's level developed in partnership with the University of Moratuwa covering policy, planning and analytical tools for EVs and plans of its integration in appropriate stream finalized.

3.2.3 Training programme for technicians along the EV value chain developed in partnership with TVEC and operationalized.

3.2.4 Training workshops for EV owners and technicians participating in creating CI in pilot projects as well as 100 technicians in Anuradhapura conducted (30% women).

3.2.5 A comprehensive capacity building roadmap to supplement the LTS and MAP developed in year 1 of the project. The roadmap will include separate training plans for the three segments detailed above (technical and vocational/ planning and implementation and EWCD integration).

Output 3.3 Participation in GEVP events and training programmes

The GEVP will undertake several events for information dissemination and training of country level professionals. This will cover light duty EVs, EV 2/3ws, Battery management, CI, CI integration with grid, RE use for charging, etc.

The GEVP will organize global and regional events for peer-to-peer exchange. IMCC members and key policy makers will participate in these events to learn from experience of other participating countries and share the experiences of Sri Lanka. This includes:

- i. Training on the use of the knowledge products provided by the Global Programme
- ii. Use of tools for the planning, implementation, and analysis of e-mobility demonstration projects
- iii. Guidelines and model policies for the sustainability of e-mobility, including the integration of renewable power and battery end-of-life aspects
- iv. Regional meeting of Investment Platform on actionable knowledge and information & data shared. Match-making of EV industry (supply side), local e-mobility service providers (demand side), and country project development teams facilitated

In collaboration with GEVP training programmes, experts will be invited to conduct training workshops for policy makers and professionals in Sri Lanka to cover the topics included in the capacity programme developed under Output 3.2. 3 Such training programmes of 2 -3 days each will be conducted over the course of the project and will be aligned with the relevant outputs so that the training can help develop better deliverables. 25% of the seats for the training programme will be reserved for women. Further, the training programme will include assessment of considerations for EWCD to ensure equitable benefits.

The project will enable participation of policy makers and professionals in all the webinars conducted by the GEVP. The webinars will also be recorded and made available on the K&IP established under Output 3.1.

The **deliverables** of the output are:

- 3.3.1 Training programmes (3 in number) for policy makers and professionals organized in collaboration with the GEVP conducted with minimum 25% women participants.
- 3.3.2 Participation in regional and global events organized by GEVP
- 3.3.3 Participation in GEVP Webinars facilitated for policy makers, professionals and other relevant stakeholders.
- 3.3.4 Good practices, cases studies and lessons learned shared with Global Programme.

- d) 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 breakthroughs', through CCM 1-2 'Promote innovation

and technology transfer for sustainable energy breakthroughs for electric drive technologies and electric mobility?.

The overall objectives of the project are (1) to reduce GHG and air pollutant emissions (2) to address the energy security issue by reducing fuel import and associated costs through the accelerated introduction of electric mobility in Sri Lanka. It will support the government to establish an institutional architecture, strengthen policy/regulatory framework, build capacity in stakeholders along the value chain and showcase the integration of EVs and charging infrastructure in Sri Lanka through the pilots.

The proposed project's outputs and outcomes are in tandem with the GEF's climate change mitigation global focus areas mentioned above and the Global project to support countries with the shift to electric mobility (GEF ID 10270). Table 4 outlines the alignment of Sri Lanka project framework with the global project:

Table 4: Alignment with the Global Programme

Sri Lanka Project outcome	Sri Lanka Project Outcome level indicators	Global level Outcome level Indicators
Outcome 1: The government establishes an institutional framework and adopts a long-term strategy (LTS) together with a midterm action plan (MAP) for the promotion of low-carbon electric mobility, facilitating effective implementation of increased e-vehicles and associated infrastructure.	Indicator 1.1 ? Institutionalization of EV is significantly improved through strengthened coordination and a national strategy	Indicator 3.1: Number of countries with an improved institutional framework and a strategy to promote the uptake of low-carbon electric mobility
	Indicator 1.2: Number of policies, regulations, and other facilitative decisions that enhance country preparedness for EV scale up	Indicator 3.3: Number of countries that have improved preparedness to accelerate market transformation towards low-carbon electric mobility
	Indicator 1.3: Number of measures adopted for long term environment sustainability of low-emission EVs	Indicator 3.4: Number of countries with measures in place to ensure the long-term environmental sustainability of low-carbon electric mobility
Outcome 2: Investment in EVs and EV charging infrastructure scaled up through learned experience of implemented pilots	Indicator 2.1: Number of concepts and agreements for scale up of pilots	Indicator 2.1: Number of countries using services and knowledge products offered by the Support and Investment Platform
	Indicator 2.2: Number of evidence generated of the technical, financial, and environmental benefits of low-emission EVs.	Indicator 3.2: Number of countries with nationally generated evidence of the technical, financial and/or environmental benefits of low-carbon electric mobility

Outcome 3: New knowledge generated and shared among users accelerates shift towards EVs	Indicator 3.1: Number of persons accessing information and knowledge produced by project and Global Programme	Indicator 4.1: Number of countries generating and sharing best practices and other lessons learned on low-carbon electric mobility with the global programme
	Indicator 3.2: Number of training programmes established to develop capacity	
	Indicator 3.3: Number of policy makers/professionals and technicians trained	

- e) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Baseline

Sri Lanka's transport sector is beset with several critical challenges. Decline of public transportation availability, questionable quality and reliability of public transportation and rising incomes have led to a sharp increase in private vehicle ownership of which the majority are 2-wheel and 3-wheel vehicles. Total number of registered vehicles have increased from under 1.3 million in 2003 to 5 million in 2018 of which 2- and 3-wheel vehicles constitute 54% and 19% respectively. Other than busses, 3-wheel taxis represent the main public transport mode in the country.

Sri Lanka's transport sector is largely based on internal combustion engine which uses imported petroleum fuel that contributes to air pollution. Increasing private vehicle ownership too has contributed to increased congestion leading to reduced average speeds of traffic in urban areas. Trends over the last three decades show that the percentage share of transport sector on energy demand has been increasing. This poses issue of energy security as the country relies heavily on imported fossil fuels, with transport sector accounting for 70% of imported oil. Without oil reserves, the country is highly vulnerable to global oil price fluctuations as is being experienced today due to the market volatility post Covid-19.

Sri Lanka is also rapidly urbanizing. Urban growth is most evident in the Western Province which holds around a third of the country's population and 90% of its industrial activities. Urban agglomeration is experienced in all provincial capitals which draw migrants from outlying rural areas due to improved schooling, medical, employment and income opportunities. With urban growth and rise in private vehicle ownership, air quality has deteriorated rapidly across the country. Air pollution attributed to transport fuel and traffic congestion in cities, have been blamed for the rise in respiratory illness and poor air quality in Colombo city and many peripheral towns, and some provincial capitals such as Kandy, Kurunegala.

The dual issues of air pollution and energy security in transport sector are a key challenge for sustainability. This is highlighted in the government's policy framework 'Vistas of Prosperity and Splendour', the Clean Air 2025 Action Plan and the Nationally Determined Contributions (NDCs)

under the Paris Agreement. Following COP-21 Paris in 2015, Sri Lanka's NDC has identified transportation as one of the priority sectors.

In 2010, the transport sector accounted for about 51.2% of the total GHG emissions. Transport sector emissions have grown at a faster rate than cumulative emissions, and the trend shows a continued increase due to a lack of sustainable alternatives. Sri Lanka's updated NDCs submitted to UNFCCC in September 2021, outlines 11 key actions relating to transport. Promoting environmentally friendly transport options including electric mobility options for public transportation and alternatives for private vehicles with internal combustion engines.

Numerous efforts have been made by the government and the Ministries of Transport, Energy, and Finance to promote low-emission transportation including hybrids and electric vehicles. Generally, it is considered that EVs are three-to-five times more energy efficient than conventional vehicles with internal combustion engines. Electric vehicles combine with increased renewable energy supplies to the grid or charging infrastructure, reduces dependence on oil imports. With zero tailpipe emissions, EVs are well suited to address air pollution issues, especially in urban areas. Increasing e-mobility in association with a progressive increase in low-carbon electricity generation can deliver significant reductions in GHG emissions from road transport relative to the current practice. Other benefits include, reduction in noise pollution, ease of maintenance especially for women EV owners, potential for local industrial development in battery technology, local fabrication of vehicles etc.

Electric and hybrid penetration into 4W market has been rapid due to tax and import duty concessions by the government since 2010. Yet, electric cars account for less than 1% of the total number of cars registered between 2000-2021, hybrid vehicles on the other hand enjoy a larger market penetration and accounts for over 25% of the registered cars. In the smaller vehicle categories (2 and 3 wheelers) around 3000 electric two wheelers have been registered. However, many electric vehicles may not be in the active fleet due to issues with battery viability and lack of charging infrastructure. The Ministry of Transport notes that there has been a recent shift towards electric vehicle ownership due to the concessionary tax structure. The Electric Vehicle Owner's Club notes believes that there are around 7000-9000 fully electric vehicles in the country although some may not be road worthy currently. Although daily driving distances in Sri Lanka are relatively low, the subjective perception of lack of a public charging network generates anxiety and insecurity to potential electric vehicle users. There are 53 electric vehicle charging stations in Sri Lanka with capacities ranging from 10 to 55kW as of February 2019. It is not clear of all these charging stations are currently operational. According to the CEB, only one of their seven installed charging stations is running at profit.

Electric busses and other passenger transportation vehicles (dual purpose vehicles) have not entered the market. For many years, Sri Lanka's Ministry of Transport has prioritized electrification of the railway- at least the most congested routes which require high speed connectivity during rush hours. Detailed feasibility studies have been conducted for railway electrification, but the high cost of investment and lack of private sector participation has hindered the implementation of these plans. The wider adoption of EVs remains compromised due several reasons. Despite the tax reduction favouring EVs over conventional vehicles and hybrids, the market peaked between 2015-2017 and had declined considerably. This is mainly due to a lack of operational viability given the low number of charging stations available and the cost of battery replacement. The high cost of ownership is directly linked to

the cost of the on-board battery. In modern EVs today, the cost of the battery is 25-50% of the entire cost of the vehicle. Replacing batteries in EV vehicles have proven problematic on many fronts (due to environmental legislations, customs duties, and high cost of replacement through agents). Local manufacture of batteries has been tried but not scaled up commercially yet. Systems such as battery swapping, battery banks, battery leasing/pay-as-you-go models have not been introduced to the local market although tried elsewhere in the region.

The Government has announced their interest to promote EVs and has even established an inter-ministerial committee for this purpose. However, there is no clear long-term strategy to spearhead its implementation. States have defined their EV policies, but the on-ground implementation is lacking. There is no clear target for production, sales of EVs have stagnated after the initial surge in 2015-2016 due to the non-viability of batteries and lack of battery management options. Due to lack of model availability, awareness of EVs and its features, consumers are hesitant to buy EV. Further, limited access to finance due to perceived risks with the EVs limits the faster uptake. This again leads to lower adoption of EVs. Additionally, inconsistent policies are adding up to delayed decisions. The government will continue to provide limited support due to its budgetary limitation and a more fragmented implementation of various measures. Lack of information and expertise among the policy makers is likely to result in an adhoc and piecemeal approach to address policy and regulatory bottlenecks and less than effective implementation. This will result in slower uptake which coupled with the perceived risk of financing institutions is unlikely to slowly change visibility and perceptions of e-vehicle consumers.

Alternative Scenario

The project builds on the government and private sector efforts by investing in actions that address policy, regulatory and funding gaps. This will address the barriers/ existing issues (detailed in baseline section) where the government support is absent for the lack of a coherence strategy and plan to support scaling up of the use of e-vehicles in cities. The project will create conditions and demonstrate options for city authorities and city planners to incorporate electric mobility infrastructure into urban development plans, thereby encouraging and attracting more private investments in EVs and public confidence in investing in EVs. This is expected to create momentum and rapid increase in the scale of demand for EVs and stimulate investments in EV manufacture, battery management, charging stations with renewable energy and associated infrastructure that will enable faster transformation across the country.

GEF resources will be utilized to overcome barriers such as the lack of policy coherence and coordination between multiple agencies in government, and between government and private sector. The project will enhance the scope of the recently established IMC, develop a LTS and MAP, review and revise existing regulations that prohibit EV expansion and introduce new standards and guidelines required for more effective EV manufacture and EV registration. The GEF funds will support a review of regulations and taxation that inhibit investments in EVs, battery management or charging infrastructure. The long-term strategy will support NDC achievement to guide the actions of all policy makers at tiers of the government.

The Government of Sri Lanka pledged at the COP26 to achieve carbon neutrality by 2050. To achieve this, a transformational change is required for the transport sector, which is the largest GHG emitter in the country. This would mean promotion of low carbon transportation and electric mobility, together with decarbonization of electricity for charging. Against the backdrop of government policy commitment and private sector interest in investing in e-mobility, this project will design and implement e-mobility pilots for the largest vehicle segments in the active fleet- 2-and 3-wheelers and introduce novel E-bike sharing system for urban areas. GEF funds will support the Urban Development Authority establish and demonstrate a functioning EV ecosystem that integrates intelligent and climate resilient urban and mobility options in Anuradhapura city, which will be one-of-a-kind pilot in Sri Lanka. This geographically defined, city-based EV ecosystem will effectively showcase technical solutions, public-private partnerships and viable business models, creating the momentum for EV scale up in other cities in the country.

To address baselines issues round transport safety, accessibility etc. for elderly, women, children and the differently abled, GEF resources will be used to design pilots that are gender sensitive and inclusive. The pilots will demonstrate practical approaches to build-in safeguards for elderly and disabled and ensure gender concerns are addressed in the design and implementation.

The project will amend existing regulations and develop new standards, as required, for reuse and recycling of Lithium-Ion battery (LiB) and leading to new options for second life for these batteries as well as investments in the recycling of batteries. This has been the most contentious issue holding up the EV market expansion in the last few years. In addition, the project will support the development of standards for battery swapping especially two-wheelers and three-wheelers to enable a business model of batteries as a service and this, in turn, will make EVs more viable commercially by lowering the initial acquisition cost. Two-and-three-wheeler local manufacture options will also be considered to bring down the cost of EVs. Demonstrating integration of renewable energy into the EV infrastructure, especially off-grid or solar supported charging stations will help to bring down emissions of the EV system even further.

GEF support through demonstration will provide the much-needed evidence to local operators, service providers and manufacturers to expand their business operations. The barriers on supply side of limited models and makes will be resolved through GEF and co-finance pilots of e-2&3-wheel vehicles. Due to these pilots, more demand of different and newer models of EVs will be encouraged. The enabling environment that will be facilitated by the project will assist to realize the alternative scenario wherein a significant proportion of vehicle population in the near is foreseen to include low emission options (E2W, E3W, etc.). The demonstration and enabling policy framework will de-risk the investments and encourage private sector participation. With the facilitated market transformation from using conventional internal combustion engine to low carbon vehicles, significant energy savings and energy cost savings from the transport sector will be realized, as will be the co-benefit of reduced negative environmental and health impacts.

GEF resources will support data collection and streamlining of data and knowledge sharing through a project-supported platform that will provide evidence for e-mobility related decision-making and enable EV users, investors and the all stakeholders to access information and provide feedback on e-mobility related guidelines, standards, norms and regulations. The project will support the development

of measurable, reportable, and verifiable (MRV) system to measure, track and assess the benefits/ impacts of the proposed transport options. This increased information and its tracking on use of sustainable low-emission transport modes will create greater awareness of benefits in policymakers and users to continuously integrate new and emerging sustainable and low-emission transport options. The MRV system will also support in reporting on NDC implementation.

The project is supported by the global project and will benefit from the knowledge and technology transfer enabled through this. The global knowledge management component and the regional platform approach seek to bundle demand in the region and thus reduce incremental costs:

- i. 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.
- ii. Investment risk for demand-side ? bundling for e-vehicles for demonstration in a certain region can lead to lower vehicle prices.
- iii. 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.

The project will be supported by partners providing co-financing both in-kind and investment mobilized. The summary of the secured co-financing through the endorsement from the partners is shared in the table below. The project will support the development of measurable, reportable, and verifiable (MRV) system to measure, track and assess the benefits/ impacts of the proposed transport options. This increased information and its tracking on use of sustainable low-emission transport modes will create greater awareness of benefits in policymakers and users to continuously integrate new and emerging sustainable and low-emission transport options.

Table 5: Co financing

No.	Co-finance partner	Nature of co-finance	Total in US\$	Description of co-finance contributions (in line with co-finance letters received from partners)
	Name	Type		
01	Ministry of Environment	In-kind	500,000	Recurrent expenditures for coordinating the activities including the conduct of meetings and consultations
02	Ministry of Transport	In-kind	3,400,000	Recurrent expenditure for coordination activities and operation and maintenance of the infrastructure developed by UDA
03	ThermalR Industries (PVT) Ltd	Equity Investment	125,000	Investment for E-bicycles and charging decks
04	Urban Development Authority (UDA)	Public Investment	5,500,000	Related Transport Infrastructure Development

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

Total estimated GHG emissions from Sri Lanka are 21,630 ktCO₂e[1]. The transport sector is the highest contributor to total GHG emissions in Sri Lanka. This share has grown over the years and at a faster rate than the growth of total emissions. Between 2000 ? 2010 GHG emissions of Sri Lanka grew by 29.2%, whereas that from the transport sector increased 38.3% (Second National Communication to UNFCCC). The analysis undertaken by experts in preparing the Third National Communication to UNFCCC[2] (draft) projects GHG emissions from transport sector to be the around 22 million tCO₂e by 2030. Thus, reduction of GHG emissions in the transport sector is a high priority for climate actions in achieving Sri Lanka's commitments to the Paris Agreement and the goal of Net Zero Emissions by 2050.

The result of the pilot demonstration project (E2Ws and E3Ws) is expected to lead to 575 tCO₂e of Direct GHG emission reductions through 2025, during the project implementation period. Through secondary direct emission mitigation 3,668,396 tCO₂e emission reduction is expected by 2036[3]. These reductions are based on the impact of the pilots and scaling up strategy in component 2 (direct) and policy and regulatory framework adopted as developed under component 1(secondary direct). A e-mobility scenario is developed which takes into account the impact of project interventions (secondary direct), the moment created by project interventions (indirect), and due to global shift in vehicular technology. As per the e-mobility scenario the share of E2Ws gradually increases from 1% in 2022 to 30% by 2035; E3Ws from 1% in 2022 to 35% in 2035. The reduction is cumulative total of 30,570,735 tCO₂e GHG emission reductions by 2036 compared the BAU scenario is attributed to secondary direct, indirect and other factors. A 40% causality factor is considered to estimate the secondary direct and indirect GHG emissions reduction in road transport sector, with a further split of 35:65 between secondary direct and indirect impacts of project.

Table 6: Global Environmental Benefits

Total top-down emission mitigation potential, tCO₂	
Total direct emissions mitigation 2023 - 2036, tCO ₂ e	3,668,971
Direct emission mitigation from demonstration 2023 - 2025, tCO ₂ e	575
Secondary direct emission mitigation 2023 - 2036, tCO ₂ e	3,668,396
Indirect emission mitigation 2023 -2036, tCO ₂ e	8,559,898
Total project related emissions reductions, tCO ₂ e	12,228,869
Total GEF investment, USD	1,096,789
GEF efficiency USD/ Total direct emissions mitigation 2023 - 2036, tCO ₂	0.30

GEF efficiency USD/ Total project related emissions reductions, tCO2	0.09
Total top-down energy savings potential, MJ	
Total direct energy savings 2023 - 2036, MJ	40,449,254,110
Direct energy savings from demonstration 2023 - 2025, MJ	6,343,487
Secondary direct energy savings 2023 - 2036, MJ	40,442,910,623
Indirect energy savings 2023 -2036, MJ	94,370,174,647
Total project related energy savings, MJ	134,819,428,758

g) Innovativeness, sustainability and potential for scaling up

The proposed project is innovative, sustainable, and its potential for scaling up is high as it deals with two-and-three wheelers which are the most common modes of transport in Sri Lanka. Currently, EVs account for a very low share of the vehicle fleet. Given the environmental benefits, the ability to significantly contribute to the reduction of air pollution and economic benefits on TCO (Total Cost of Ownership) basis, there is a large potential for EVs, especially EVs that can support food/grocery delivery, tourism and provide last mile connectivity in urban landscapes. Large-scale use of electric vehicles in the country can significantly reduce the pressure on foreign exchange for oil imports and contribute to overall energy security.

Innovativeness:

The project will build on the initial efforts of innovations introduced by the private sector and encourage more gender-sensitive and ICT-based solutions for e-mobility in Sri Lanka. Currently private sector companies have developed new technologies for unmanned charging stations, contactless payments through mobile apps, EV user platforms and social media groups to share information, novel locally manufactured E-bike Sharing Systems, E2W and E3Ws. Innovations and ICT solutions designed by companies like Vega Innovations, SL Mobility and ThermalR Industries have won awards and these locally developed solutions and technologies have been 'exported' to other countries including neighbouring India. These include E3W design, proprietary battery cells and unmanned charging stations supported by mobile applications.

The project will promote ICT solutions for several EV applications and infrastructure such as mobile apps that have route plans and schedules for taxi hiring, E-bike rentals etc. Further the project will promote ICT-enabled services at charging stations including locating nearby charging stations, the type of interface that is supported, booking appointments for charging, self-charging and online payments. Stakeholder surveys revealed that, to be sustainable, charging stations must be unmanned (i.e., self-service) complemented with electronic payment. All charging stations will be OCPP (Open Charge Point Protocol) compliant, thus enabling the networking and remote management of the devices in a

state-of-the art manner). In addition to charging, ICT will enable services such as battery swapping and battery leasing as well as tracking of batteries over their lifetime until disposal.

ICT opportunities integrated into the city development plan will include differentiated parking for e-vehicles (eg. rent parking space privately), specialized taxi services, designated routes that allow only E-bikes and small EVs or other low emission transport/walking and parking concessions for EVs.

ICT-based innovations will be introduced to streamline the decision-making process (data sharing and knowledge platform) and ICT-based features for EV infrastructure including those that support livelihood options (food & grocery delivery/ e-bikes for tourism/ E3W taxis for last mile connectivity) and safety & convenience for women, elderly and disabled (including apps or systems that link to vehicle trouble shooting or to emergency contacts at the Police).

Designing e-mobility demonstrations around urban development and city planning will be a driver for transforming the EV landscape in Sri Lanka. This will be a first-time pilot of an e-mobility eco system integrated into an urban development plan, and implemented with city authorities, private sector, and community. Integrating e-mobility with the planning of emerging cities which allows space for creative solutions for urban problems such as unavailability of transport options, lack of parking, traffic congestion and deteriorating air quality. The project will leverage partnership with the UDA to scale up this city-based EV ecosystem in other cities in the country, but especially in provincial capitals and peripheral cities that are still at an early stage of urbanization.

Other key innovation is targeting commercial fleet across E2W and E3W as the driver for transformation with private sector businesses such as supermarkets, restaurants, tourism, and travel operators strengthens and increases utilization rate of this segment. Further, there will be discussions with banks on providing financial solutions and assistance for procuring EVs and setting-up related supportive services such as charging stations, renewable energy generation or battery recycling centres. The focus is on structuring financing and developing commercial finance-based business models that lead to easier replication and form the basis for scaling-up strategies.

Environmental Sustainability:

Sri Lanka's rapidly urbanizing and congested cities face numerous environmental problems. Deteriorating air quality is a key issue. The implementation of electric 2W and 3W replacing existing and future ICE fleet run on petrol and diesel will result in reduction in air pollution and emissions. The introduction of EVs into the active fleet also enables phasing out of fossil fuel use in economy and reduction in transport sector GHG emissions. This has economic benefits of saving foreign exchange in constrained and challenged post-Covid economic situation. The project will develop working synergies with other ongoing/planned projects around clean energy. While planning charging network for cities, this project will look for avenues to integrate solar generated charging stations into city planning, which can feed to the energy requirements for electric vehicles.

This project will support development of methodologies for GHG calculations in the transport sector setting up of baselines and periodic estimations and measurements to assess impact from EVs. This will support the implementation and measurement of progress towards the NDCs and provide the

information for policy makers on environmental benefits and enable the IMCC to develop evidence-based interventions to promote e-mobility.

Li-Ion battery disposal has been a contentious environmental issue in Sri Lanka. The project will support the government to review the existing policy and regulatory framework for battery importation, re-use and recycling of batteries to ensure effective use of resources, minimize waste and introduce environmentally safe disposal of batteries that cannot be reused.

Sustainability of market development after the project:

The project is directly supporting the mandate of the IMC, constituted by the MOE, and thus shows a high level of ownership by the government. IMC will also work as the PSC of the project and facilitate the consideration and adoption of the LTS, MAP and the legal framework, which is key to sustainability of the intervention beyond the project duration. Further, building on the IMC, the project will strengthen the institutional coordination by enhancing it to a permanent IMCC.

The project addresses the key barriers impeding the accelerated adoptions of EVs in Sri Lanka. These are, the lack of policy and regulatory coherence, a long-term strategy and plan, and an institutional coordination mechanism to support the transformation, lack of technically-sound and financially viable business models, the lack capacities for planning, implementing and monitoring modern EV ecosystems and the stifled investment and financing environment for e-mobility infrastructure. The project by addressing these four main barriers that affect the transition to sustainable low-emission transport system enables a long term sustained transformation and increased public and private financing flows for e-mobility and low-emission transport.

The project will develop a much-needed long term strategy (LTS) which will complement the commitments in the NDCs and support Sri Lanka's stated ambition to move towards a zero-emission economy by 2050. The developed of this will be led by IMC established by the Government and is part of its mandate. This strategy and the associated MAPs will be adopted by the government form the basis of transformation. The strengthened IMCC, enhanced IMC established with support from project, will improve coordination across different government agencies and enable synergistic implementation of policies, amended regulations and guidelines for accelerated growth in e-mobility, especially urban e-mobility. The knowledge and data generated through implementing of pilots and generating new standards, guidelines will be widely shared and available for the inter-ministerial coordinating committee to make informed and evidence-based decisions and to influence private sector investment, especially banking sector financing decisions.

A key element of the project is the development of guidelines and standards to address technical and regulatory barriers including EV importation and registration, EV local manufacture battery reuse and recycling, EV local manufacture and registration and charging infrastructure tariffs and operational procedures. There will also be guidelines for integrating EVs into urban planning and addressing EWCD concerns within an integrated urban development landscape. Additional to this, through this project, battery standards for electric vehicles, including ones for retrofitting, battery swapping, and battery leasing will be developed and notified by the Government gazette for adoption by industry.

Further, the IMCC established through a decree of the Cabinet will support the implementation and monitoring of the LTS and Mid-term Action Plan which together will contribute to the country's ambition of achieving net zero emissions by 2050. The IMCC's enhanced mandate will ensure that the guidelines and standards and revised regulations developed through project support will be available for adoption through gazette notification by the relevant Minister and through awareness campaigns targeting EV manufacturers, EV and EV component importers and EV users. The IMCC will have discussions and round tables with financial institutions for lending EV business models across various segments of passenger mobility and goods delivery. This will be important interventions for long term sustainability of low emission transportation after this project. The demonstration projects would provide the necessary visibility to these options to end-users. Public awareness campaign around the demonstration projects is aimed at creating higher buy-in and behaviour change. This building of public support will create the demand for sustaining and scaling up these actions post project.

Another important element supporting sustainability is the establishment of a Measurement, Reporting and Verification (MRV) system. The MRV system will provide the necessary data to track the progress of the transformation which will help evidence-based planning and public awareness activities. These data will be made available through the Knowledge and Data Platform to support wider access to information. The Project will engage with the Climate Change Division (CCD) of MOE, which is responsible for reporting to the UNFCCC, in developing the MRV framework which should complement efforts to monitor the progress of NDCs.

Finally, as explained in the section on private sector engagement, the project will facilitate renewed and re-invigorated engagement of the private sector by addressing barriers that have stifled the interest and investment that initially propelled the EV market. With a long-term strategy and adoption of guidelines and standards to streamline the process, a more conducive regulatory environment and demonstration projects with start-ups to create private sector interest in the transformation which will help sustain the activities post project. Mechanisms to leverage private sector expertise are very important to improve the penetration of EVs. The involvement of the private sector allows minimizing bottlenecks by pioneering in advanced technology, efficient operations, and improved service delivery. Since electric mobility is still evolving, the sector requires collaborative industry action between all stakeholders.

Potential for scaling-up:

The project focuses its efforts in two distinct directions: one at national level targeting policy coherence, coordination and the regulatory processes and the next is at city level is through demonstration of EV fleet projects and development of associated charging infrastructure plan. Through the proposed pilots, innovative partnerships and mechanisms for financing viable business models will be explored to help scale up e mobility. These experiences will be scaled up through replication in other cities.

The focus on commercial fleet use across 2W and 3W targets an important early adopter segment and has significant scale up potential. Further, 2Ws are the largest vehicle segment in Sri Lanka and the project enables making EV 2W competitive with ICE thus opening significant a segment for transformation. This segment is also not heavily dependent on public charging infrastructure.

The potential for scale-up also hinges on the commitment and co-financing received of public sector agencies including the Urban Development Authority, Ministry of Power and Energy, Ministry of Transport and Ministry of Environment who have incorporated e-mobility into their policies and programmes and will significantly contribute to the LTS for e-mobility and also the adoption of new standards/guidelines and amended regulations supported by the project. The UDA plans to replicate the low emission vehicle zones in other cities to reduce congestion. The pilot in partnership will demonstrate the viability of EV strategy and project will support UDA in replicating this in at least 5 other cities. The project pilot model will also be integrated into the tools for urban development planning thus enabling scale up through urban development plans prepared by UDA for other cities. Further, the project will work with the supermarket and food delivery segment to scale up the pilots in the focus city and other cities of the project. The project will develop investment programme in component 2 which will be used to dialogue with development partner and with the investment platform to finance the strategic areas LTS will identify strategic intervention areas for financing and scaling up EV use. This will be complemented with the MAP actions on financing scale-ups.

The project endeavours to establish connection with Government and Industry stakeholders, especially to resolve the current lack of confidence among investors due to the policy discordance. The project will enable data and information sharing across government and industry, enable EV users and industry to provide feedback to the IMCC and facilitate exchange of best practices and continuing innovations and improvements for higher EV deployments. The platform will help institutionalize knowledge around EVs and increasing its reach and impact beyond pilots implemented in Anuradhapura City. The platform will have interactive content to also collect end user's survey response and feedback around EVs experience and deployment and this can be used for attracting more users on the platform. This feedback and the data generated through the piloting process will support evidence for national and city-based decisions on EV adoption. Involvement of financial institutions and the Sustainable Banking Network to design and roll out innovative lending packages for e mobility will remove the key barrier for large scale scale-up of e mobility in Sri Lanka and support indigenous companies to provide technology solutions to other countries in the region.

[1] <https://data.worldbank.org/indicator/EN.ATM.CO2E.KT?locations=LK>

[2] as of March 2022, yet to be submitted to UNFCC

[3] based on the E-Mob Calculator

[1] TOC is included in the GEF 7 Global Programme document available on GEF public data base.

[1] International Energy Agency (IEA) ? CO2Emissions Statistics

[2] [1 GtCo2e=1000 MtC02e=1,000,000 KtCO2e](#)

[3] Intergovernmental Panel on Climate Change (IPCC) Transport Report, 2018

- [4] Calculated on the basis of total emissions in the 2010 GHG Inventory of the Third National Communication (draft) excluding LULUCF
- [5] https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- [6] transportation services that supplement fixed-route mass transit by providing individualized rides without fixed routes or timetables
- [7] [Economic & Social Statistics of Sri Lanka 2020, Central Bank of Sri Lanka](#)
- [8] <https://www.treasury.gov.lk/national-policy>
- [9] https://www.treasury.gov.lk/national-policy#policy_6
- [10] MOT, ?Overview of the ministry of Transport?, Ministry of Transport, April 2021 , Available on https://www.transport.gov.lk/web/index.php?option=com_content&view=article&id=7&Itemid=119&lang=en
- [11] <http://www.energy.gov.lk/index.php/en/about-us/the-future>
- [12] A Road Map for Cleaner Fuels and Vehicles in Sri Lanka, 2014
- [13] <https://www.worldbank.org/en/topic/transport/publication/gender-and-transport>
- [14] <https://unece.org/gender-and-transport>
- [15] <https://unece.org/gender-and-transport>
- [16] ILO, Working Paper No. 298, Promoting the employment of women in the transport sector - Obstacles and policy options, 2013
- [17] ILO, Working Paper No. 298, Promoting the employment of women in the transport sector - Obstacles and policy options, 2013
- [18] Asian Development Bank, Country Gender Assessment Sri Lanka - An update, 2015
- [19] *ibid*

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



Table 7: Geo Coordinates

Demonstration sites	Latitude	Longitude
Railway Station	8.346160392282092	80.41068599264278
Entrance to Scared City 1	8.320789220207264	80.38985059306091
Entrance to Scared City 2	8.321988814752428	80.38339183371558
Entrance to Scared City 3	8.341096904957523	80.38014099642723
Entrance to Scared City 4	8.359790082353083	80.37202999648387
Entrance to Scared City 5	8.355946380363669	80.41676509387494
Arpico	8.318262628420928	80.39969966426295
Cargills 1	8.331978216101083	80.40920541308081
Cargills 2	8.340852751796184	80.41111514575928

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

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

The Global Programme is based on the following four components:

Component 1: Global thematic working groups and knowledge materials

- Component 2: Support and Investment Platforms
- Component 3: Country project implementation
- Component 4: Tracking progress, monitoring and dissemination

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

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

Figure 9: Global E- Mobility Programme Monitoring Framework

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

For this purpose and whenever applicable, the global level indicators highlighted in green are translated into a country-level indicator in the Project Results Framework located in Annex A of the present CEO Endorsement Document. During project implementation, the Ministry of environment will be requested to report against the indicators of the country Project Results Framework (Annex A) on an annual basis, during the PIR process, in addition to the usual GEF Core Indicators (mentioned at the top of the table above).

At the global level, a steering committee led by the United Nations Environment Programme will coordinate and monitor the implementation and the outputs of the GEF 7 Electric Mobility Programme.

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

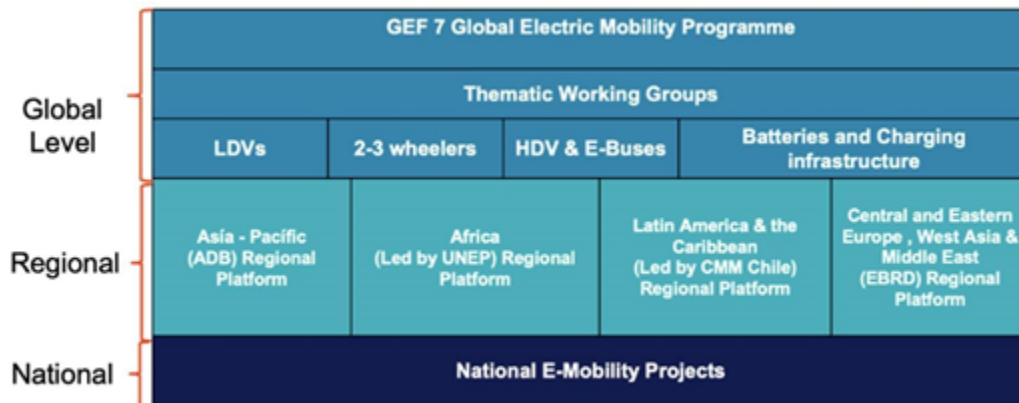


Figure 10: Structure of the GEVP

The coordination between the global programme, 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 Support and Investment Platform will interact with and support participating countries in the region to link with each other through the following activities:

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

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

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The key stakeholders to be involved in the project are summarized below.

Table 8: Stakeholder Engagement Plan

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
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Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
Government/ Semi Government Stakeholders	Ministry of Environment	<p>Ministry of Environment is the GEF Focal Point and would be the project's National Executing Agency. The Ministry is responsible for the management of the environment, land, forests, water, air, biodiversity, and minerals. The Ministry prepares policies related to climate change, air quality, waste management, natural resources management, biodiversity conservation and forestry in Sri Lanka. As the focal point to the UNFCCC, the Ministry revised and submitted the NDCs to the Paris Agreement in July 2021. Ministry of Environment has recently established an Inter-Ministerial Committee (IMC) by Cabinet Paper 21/1182/321/010 approved by the Cabinet of Ministers on 20th July 2021 to promote electric vehicles and will take the lead in coordinating among the different government and non-governmental agencies.</p> <p>MoE also has projects and programmes with which the project will closely collaborate, such as:</p> <ul style="list-style-type: none"> - The low emission development strategy supported by Global Green growth Institute (GGGI) - Climate Smart Cities Programme by CTCN - NDC costing exercise undertaken by the NDC Advance a technical assistance programme by ADB 	<p>The Ministry will be the National Executing Agency and will lead project implementation. The project's technical and operational units will be overseen by the Air Resources Division of the Ministry. The Ministry will convene the IMC which will provide overall guidance to the National Strategy and Action Plan.</p>
	Ministry of Transport and State Ministry of Vehicle Regulation, Bus Transport Services and Train Compartments and Motor Car Industry	<p>The Ministry of Transport (MoT) sets the transport policies and long-term programmes. MoT has a number of institutions that will closely liaise with the project to deliver all its Components - the Department of Motor Traffic; and Sri Lanka Transport Board. Ministry will lead efforts in integrating electric mobility for other modes of transport.</p>	<p>The Ministry of Transport will provide technical oversight and implementation coordination to the project's intended outputs which will be closely aligned to the national policy vision, strategic objectives and long-term goals of the sector.</p>

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	Ministry of Power, and State Ministry of Solar, Wind and Hydro Power Generation Projects Development	The Ministry of Power is the central ministry responsible for formulation and implementation of policies, programmes, and projects pertaining to power and energy. The ministry will be key to providing the required electrical infrastructure for charging stations and setting standards and guidelines for such centres. As such the Ministry will be a key agency in the inter-ministerial committee.	Agencies under this Ministry will be involved in delivering outputs Components 1 and engaged in designing and delivering pilot projects under Component 2 in the context of charging infrastructure development and renewable energy integration through Ceylon Electricity Board and Sustainable Energy Authority.
	Ministry of Finance	The MoF is responsible for developing and executing Sri Lanka's public finance policy, economic policy and long-term planning. The Ministry has promoted EV adoption by introducing supportive taxation regimes and reviewing the import and customs restrictions for battery and EV component importation. The Ministry has also introduced and promoted new financing mechanisms including low-interest loans for solar power.	The Ministry will primarily contribute to Components 1 and 2 particularly for developing integrated fiscal policies for electric light-duty and heavy-duty vehicles (buses) and as well as 2- & 3- wheelers. The Ministry will also develop fiscal policies enabling the development of charging infrastructure and integration of renewable energy.
	Ministry of Women and Child Development	The Ministry is responsible for women and child welfare issues and development of policies in this regard.	The Ministry representative will be part of the IMCC/PSC to provide inputs and advice on gender issues.

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	Urban Development Authority	<p>Principle planner and developer of urban areas in Sri Lanka. The UDA declared urban development areas are generally planned to have integrated services, land use zoning and mapping. The UDA has the authority to enforce its urban plan to ensure the well-being of residents and commuters.</p> <p>The UDA currently implements the Anuradhapura Integrated Urban Development Plan (AIUDP) which will provide the project with opportunity to integrate electric mobility options to the planned transport related improvements to this provincial capital.</p>	<p>The UDA and specifically the AIUDP project under the UDA will engage with the project to demonstrate the systematic integration of e-mobility options within the AIUDP facilitating a new visitor experience and enabling e-mobility infrastructure availability in the improved transit hubs and re-developed parking lots. The UDA will play a key role in the developing and supporting replication plans for other cities/provincial capitals following the model developed in the AIUDP.</p>
	Public Utilities Commission of Sri Lanka and Ceylon Electricity Board	<p>The PUCSL is the national regulator and licensor for the electricity sector (in addition to other public utilities) in Sri Lanka.</p>	<p>The Commission will contribute to setting standards and regulating the fee structure for charging stations under Component 1 & Component 2</p>
	Sri Lanka Sustainable Energy Authority	<p>SLSEA's mandate is to develop the national policy on energy, and implement policy for renewable energy, energy efficiency and conservation.</p>	<p>SLSEA will play a major role in developing policies and measures for integrating renewable energy into the charging network. SLSEA will also contribute to Component 1 in the development of national strategy and roadmap for electric mobility in Sri Lanka</p>

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	National Transport Commission	National Transport Commission (NTC) is responsible for the management of inter provincial public transport and regulating the fee structure, safety issues and quality of service for public bus services	The NTC will be a key agency in the IMCC and support with the setting and adoption of standards and guidelines in Output
	Sri Lanka Transport Board	Sri Lanka Transport board is the state-run public transport service provider. The SLTB provides bus transportation services in all districts and towns, often providing connectivity to remote areas and school bus services.	The SLTB will be a key agency in in relation to integrating E Buses for public transport.
	Department of Motor Traffic	Department of Motor Traffic is the organisation responsible for registration of all vehicles including EVs in Sri Lanka. The department sets the standards and issues guidelines for moto vehicle registration and any new vehicle type approvals will have to be obtained from this Department.	Department will support the project by the registration and approvals for EVs both in Component 1 and 2.
	Central Environment Authority	Principle regulator for environmental management in Sri Lanka and responsible for implementing the waste policy. The CEA sets the guidelines for battery and electronic waste management and hence will influence the EV battery management/ second life/recycling solutions designed by the project	The CEA will play a key role in the battery management aspects of Component 1 and 2.
	Sri Lanka Institute for Development Administration (SLIDA)	SLIDA develops and conducts training and capacity building programmes for the administrative service officers at national, district and other levels of government. Developing joint programmes on technical subject matter such as e-mobility with universities or technical agencies (Ministry of Environment/ Transport) is possible	SLIDA will engage with the project?s Component 3 to deliver training programmes to government officials at national and local levels
	Information, Communication, Technology Agency (ICTA)	The national information and communications agency provides guidance and standards for public sector ICT solutions and data sharing platforms. Any data sharing mechanism needs to be approved by the ICTA and whetted for technical and procedural compliance to the existing legal framework around official secrets/ right to information etc.	ICTA will provide the necessary guidance to develop and roll out the interactive platform for data and knowledge sharing on e-mobility in component 3.

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
Private Sector Stakeholders	SL Mobility	Private sector company engaged in producing/converting electric 2- and 3-wheel vehicles and charging infrastructure.	Company will act as a project partner in Component 2 by providing E3Ws, E2Ws and charging infrastructure.
	Codegen/Vega	Private sector company engaged in producing/converting electric 2- and 3-wheel vehicles and charging infrastructure.	Company will act as a project partner in Component 2 by providing E3Ws, charging infrastructure and renewable energy integration
	Nevorp Motors	Private sector company providing EV battery management and recycling options	Company will act as a project partner in Component 2 by providing E2Ws and battery management solutions
	David Pieris Motor Company	Private sector company importing electric 3 wheelers	Company will act as a project partner in Component 2 by promoting and providing E3Ws and E2Ws to the market.
	LAUGFS Holdings Limited	Private sector company currently engaged in LP (liquid petroleum) distribution, supermarkets and fuel stations. The company is interested in expanding EV charging infrastructure and introducing EVs to their grocery delivery chain	Company will act as a project partner in Component 2 by acting as a centre for EVs charging infrastructure and delivery services.
	GOEV	Private sector company providing EV battery management and recycling options	Company will act as a project partner in Component 2 in battery management aspects. It will also be part of the Component 1 technical groups to provide inputs for battery management policies and regulations.

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	Ceylon Motor Traders Association	The Motor Traders' association is Sri Lanka's premier association for trading companies that import vehicles for the local market. Sri Lanka does not have any local production of vehicles, therefore all vehicles available in the market are imported.	The Motor Traders Association will be vital for scaling up efforts on e-mobility in the country and will contribute technical inputs to all Components. It will be invited as member of the Technical Committee.
Financial Sector Stakeholders	Sustainable Banking Initiative of the Bankers Association of Sri Lanka	The Sustainable Banking Initiative of Sri Lanka Banks' Association (SLBA-SBI), a voluntary private sector-led initiative which engages some 25 private and state banks in Sri Lanka, has been established with the aims to enhance the sustainability performance in Sri Lanka's banking sector including on lending, operations and governance. SLBA-SBI was involved with the development of Roadmap for Sustainable Finance and also represents the committee comprising of regulators and representatives from the financial sector constituted to support the implementation of the action plan.	The SLBA-SBI will collaborate in implementing Component 1 on developing sustainable financing instruments to support the LTS. It will contribute to Component 2 on developing financing instruments to assist the private sector technology providers/entrepreneurs as well as the individual owners of EVs in procuring vehicles.

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	Central Bank of Sri Lanka	<p>The Central Bank of Sri Lanka (CBSL) published a Roadmap for Sustainable Finance in Sri Lanka in 2019 with the aim of providing guidance and support to financial institutions to effectively manage environmental, social and governance (ESG) risks associated with projects they finance and increase support to businesses that are greener, climate-friendly and socially inclusive. One specific objective is to facilitate green/climate finance products and services innovation to mobilize predominantly private capital for sustainable investment. The International Finance Corporation (IFC) is supporting the Central Bank to develop a green taxonomy to rate and prioritise projects with a view to help create market ecosystem for green bonds/loans. The draft scope covers number of priority macro-sectors, including energy and transport.</p>	<p>The Central bank will support the project to develop sustainable financing instruments for the e-mobility LTS and MAP, as well raise financing for scaling up the pilots implemented in Component 2. The Central Bank will be a target audience for the lessons and best practices dissemination of the project. This is expected to inform and influence the development of sustainable financing instruments through the green taxonomy project to promote e-mobility options in Sri Lanka.</p>
Development Partners	<p>UNDP</p> <hr/> <p>ADB</p> <hr/> <p>USAID</p> <hr/> <p>GGGI (Global Green Growth Institute)</p>	<p>These development partners are committed to supporting the GoSL achieve sustainable development goals and targets as well as green recovery from Covid-19. The development partners are either implementing or developing sustainable energy related initiatives and transport related initiatives.</p> <p>UNDP is seeking to support the implementation of a NAMA (Nationally Appropriate Mitigation Actions) in the transport sector which involves electric bus rapid transit in urban areas; ADB will support the Ministry of Transport to explore ways of converting its public bus fleet to EVs in the future, while USAID is rolling out a programme of support to produce electric 3 W and convert the existing fleet in Sri Lanka.</p> <p>USAID, AFD and GGGI have on-going projects that support low-carbon transport, improving transport facilities and urban traffic management in provincial capitals, and supporting the electrification of public transport facilities.</p>	<p>These agencies will support scaling up efforts on e-mobility in the country specially in public transport sector. AFD and GGGI projects are of particular significance to this project. The Euro 62 million AFD project with the Urban Development Authority will improve urban transport facilities including cycling lanes and multi-modal transit hubs in Anuradhapura, which is a provincial capital of Sri Lanka. This provides the project with a well development infrastructure investment that allows the integration of electric mobility options. The GGGI's initiative to facilitate</p>

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	AFD (French Agency for Development)		the adoption of sustainable public transport services for low-carbon city development with the Ministry of Transport plans to introduce low-carbon and smart (IT incorporated) public transport solutions to congested bus routes connecting the capital city with suburban centres. The plan includes a feasibility study and business case for electric busses on at least 7 routes connecting the city and peripheral urban centres. A development partner committee will be set up as part of institutional arrangement. They will be regularly consulted with and specifically on component 2 scale up activities.
Civil Society Organisations	SLEMA	SLEMA conducts programmes on topics ranging from Energy Efficiency,	These organizations/civil
	EV Club		

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
and Professional Bodies	Clean Air Sri Lanka	<p>Renewable Energy, Energy Planning and Management, and Energy and Environment. They disseminate information about new techniques and technological advancements in Energy Conservation and Demand Management. SLEMA conducts trainings on energy auditing, holds public lectures and forums, dissemination of energy related information.</p> <p>The EV Club of Sri Lanka is an association of EV users who have their own WhatsApp group and web platform. The EV club connects mostly E 4-wheel users/owners and charging station operators</p> <p>Clean Air Sri Lanka is a long-time partner of UNEP in developing clean and efficient fuels and vehicle policies in Sri Lanka. The organization can spearhead efforts to involve civil society and seek inputs for all the Components. Civil societies will also play a major role in awareness and outreach.</p>	<p>society groups can support efforts to improve technical outreach and awareness through their respective membership. They will provide platforms for consultations, participation in pilot project design and play major role in awareness and outreach in Component 3. These groups will be also engaged in technical working groups where there reach and area of expertise is relevant.</p>
Training and capacity building institutions	SLIDA	<p>SLIDA conducts series of capacity building/training programmes for public sector officers at national, provincial and district level covering:</p> <ol style="list-style-type: none"> 1. Induction Training of All Island Services (under the Ministry of Public Administration and Management) 2. Mandatory Capacity Building Programmes for All Island Services 3. Short Term Training Programmes for managerial cadres in the public sector, 4. Customized Training Programmes: On request by external organizations SLIDA conducts customized training programs for the staff members of these organizations. <p>There are few programmes related to Environment Management.</p>	<p>SLIDA will engage with the project's Component 3 to deliver training programmes to government officials at national and local levels</p>

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	Sri Lanka Energy Managers Association (SLEMA)	SLEMA conducts programmes on topics ranging from Energy Efficiency, Renewable Energy, Energy Planning and Management, and Energy and Environment. They disseminate information about new techniques and technological advancements in Energy Conservation and Demand Management. SLEMA conducts trainings on energy auditing, holds public lectures and forums, dissemination of energy related information.	.
	Sri Lanka Institute for Local Government (SLILG)	The Institute focuses on capacity building of officers in the Provincial Councils and Local Authorities including municipal and urban councils in Sri Lanka with a view to ensuring good governance. This capacity building generally focuses on aspects such as organizational management systems and development training.	SLILG will be engaged in the project as a training and capacity building partner in Component 3
	Town Planners Association	The Institute of Town Planners Sri Lanka (ITPSL) established a Parliament Act No 23 of 1986 is the professional body responsible for enhancing the Town Planning Profession in Sri Lanka. The Institute was brought into existence to promote the modern city planning as a profession and to enhance the standard of the profession in keeping with global trends and developments in this field. The Institute also plays a lead role in expressing its professional opinion on matters directly and indirectly concerned with urban and regional development of Sri Lanka and has offered its advice and services to the Government, Semi Government Institutions as well as Provincial and Local Authorities	ITPSL will be engaged in the project as a training and capacity building partner in Component 3
Stakeholders on gender and social issues	National Committee on women	These organisations work on and advocate gender related development issues focusing on gender gaps in environmental and development policies and programmes in the country.	These organization can support efforts to involve civil society relating to gender and social inclusion, especially disability enclosure issues in all the Components. Representative of National Committee on Women will be invited to participate in
	Centre for Women's Research Sri Lanka (CENWOR)		
	UN Women Sri Lanka		
	Janathakshan GTE limited		

Main stakeholder group	Name of Stakeholder	Existing activities with potential to be leveraged	Content engagement, contributions to the project (identified by Component)
	Integrated Development Association (IDEA)		Technical Committee.
	SLYCAN Trust		

Stakeholder identification and engagement during proposal development was through a series of bilateral or small group discussions mostly conducted through online forums/platforms. Government, non-government, academia, interest groups and private sector were consulted during the PPG period from April to November 2021.

Stakeholder identification and engagement during proposal development was through a series of bilateral or small group discussions mostly conducted through online forums/platforms. Government, non-government, academia, interest groups and private sector were consulted during the PPG period from April to November 2021.

Government stakeholder meetings:
April-July 2021

Table 9: Government Stakeholder Meetings-I

1.	Mr. N.B. Monti Ranatunga	Secretary, Ministry of Transport
2.	Mr. Rifa Wadood Ms. Sarathanjali Manoharan Ms. Thiris Inoka	Director of the Air Resources Division of the MoE Deputy Directors of the Air Resources Division of the MoE
3.	Mrs. K. A. C Karunarathna Mr. B. M. Ifthikar	Director Planning of the National Transport Commission (NTC) Director Operation of the NTC
4.	Eng. Roland Comester Eng. Devaka Manoj	Deputy General Manager of the CEB Engineer Research and Development, of the CEB

5.	Eng. Ranjith Sepala Mr. H. K. Wickramasinghe	Chairman SLSEA Deputy Director General (Strategy) of the SLSEA
6.	Mr. Kanchana Siriwardena Mr. Dileepa Karunaratna	Director ? Tariff & Economic Affairs of the PUCSL Assistant Director ? Tariff & Economic Affairs
7.	Mr. Upul Jayampath Mr. Lesen Bannaheka	Assistant Director-Technical of the DMT Senior Examiner of the DMT
8.	Major General (Retd.) Udaya Nanayakkara	Chairman of the Urban Development Authority

On 19th July 2021, the Ministry of Environment called a meeting of a number of related GoSL agencies to discuss the project. The PPG team presented the project design and elicited responses and comments from the participants. The list of participants were;

Table 10: Government Stakeholder Meetings-II

1.	Mr. Rifa Wadood	Director Air Resource Management and National Ozone Unit, MoE
2.	Ms. Indoka de Alwis	Policy Director, Ministry of Industries
3.	Mr. Gunasinghe	Director General Ministry of Transport
4.	Mr. Chanaka Jayawardena	SLTB
5.	Ms. Sarathanjali Manoharan	Deputy Director, Ministry of Environment
6.	Mr. Chaminda Punchibandara	Assistant Director Ministry of Transport
7.	Mr. K. Sushanthan	Sri Lanka Railway
8.	Ms. Gayani	National Physical Planning Department
9.	Ms. M.K. Prabodhini	Assistant Director (Technical) State Ministry of Urban Development Waste Disposal and Community Cleanliness
10.	Mr. Nadeeka Amarasinghe	Assistant Director, Sustainable Development Council
11.	Mr. Nanda Senarathne	Development Officer Ministry of Energy
12.	Mr. Nadeeka Amarasinghe	Assistant Director, Sustainable Development Council

13.	Mr. Nanda Senarathne	Development Officer Ministry of Energy
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Several private sector stakeholder meetings were organized by the PPG team from April to September.

Table 11: Private Sector Stakeholder Meetings

1.	Mr. Saliya Rajakaruna Mr. Rifkhan Siddeek Mr. Venura Dissanayake	Chairman Managing Director Engineering Manager	SL Mobility an electric vehicle and component retrofitter and importer
2.	Dr. Beshan Kulapala	Director	Codegen/Vega Innovations, a company that wants to promote local manufacture of EVs and currently runs ChargeNet Sri Lanka's contact-less charging service operated through mobile app
3.	Mr. Sujeeva Premaratne	Chief Executive Officer	GoEV, a company that managing charging Infrastructure
4.	Mr. Yasendra Amerasinghe Mr. Charaka Perera	Chairman Vice Chairman	Ceylon Motor Traders Association

Development Partners

Table 12: Development Partner Stakeholder Meetings

1.	Asian Development Bank	Mr. Aruna Nanayakkara- Transport Specialist
2.	United Nations Development Programme	Dr. Buddhika Hapuarachchi Policy Specialist and Team Leader, Climate and Environment Team Mr. Sampath Ranasinghe Programme Coordinator (Energy & Waste), Climate and Environment Team Mr. Suranga Karawita Technical Specialist (Energy & Waste), Climate and Environment Team Mr. Gayan Subasinghe Technical Coordinator

3.	Global Green Growth Institute	Maricor Muzones Changsun Jang Eileen Hur
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Civil Society Organisations (CSO), including on gender issues

Table 13: CSO Stakeholder Meetings

1.	Prof. Attalage, Past president, Mr. Nimal Perera, Past president, Mr. Chamila Delpitiya, Board member	Sri Lanka Energy Managers Association
2.	Mahisanka Abeywikrama Co-founder	EV Club
3.	Mr. Channaka De Alwis President Ms. Vijitha Weerasinghe CILTSL Transport Sub Committee Dr. H.R. Pasindu Land Transport Sectional Committee Ms. Harshani Member Mr. Upaliece Guewardena Treasurer	Chartered Institute of Logistic and Transport
4.	Ms. Vositha Wijenayake	Sylcan Trust

An online meeting of the following gender related organisations and experts was held on 28th of April 2021.

Table 14: Gender Related Stakeholder Meetings

1.	Ms. Manel Jayamanne	Executive Director, National Committee on women
2.	Ms. Leegani Wanasundera	Centre for Women's Research Sri Lanka (CENWOR)
3.	Ms. Esther Hoole	UN Women Sri Lanka
4.	Mr. Goothami Chanrarathne	Janathakshan GTE limited
5.	Mr. Mamiz MUSAFAER	Integrated Development Association (IDEA)
6.	Ms. Sureka Perera	UNDP
7.	Ms. Vositha Wijenayake	SLYCAN Trust

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

Stakeholder engagement and inter-ministerial coordination is a critical deliverable of this project. The Inter-ministerial Coordination Committee (IMCC) chaired by the Ministry of Environment (MoE) will function as the project's steering committee and guide the project implementation in line of the government's ambition to promote low-carbon electric mobility in the country. Private sector associations such as Ceylon Motor Traders Association especially importers of 2-and 3-wheel vehicles, SLEMA, ICTA and EV Club will be invited as observers to the IMCC. The project steering committee will meet twice annually to oversee the development of the e-mobility strategy and action plan and standards, guidelines, and norms for electric mobility. The IMCC will monitor the progress of the GEF project outcomes, including the development of knowledge platform which will enable wider stakeholder participation in the decision-making process.

There will be a technical advisory committee (TAC) to advise the IMCC on e-mobility related technical issues drawn from academia, civil society, and private sector. The TAC will have experts in EV manufacture, battery management, gender and social inclusion, urban planning and transport policy. The TAC will be constituted as a permanent body by the Minister for Environment and will convene quarterly and as required by the IMCC. TAC will include representations from Government, Private Sector, Financing Sector, Academia/Research, and CSOs specially those working in the field of gender and inclusive growth.

The e-mobility knowledge platform, developed as part of Component 3 activities, will provide a platform for stakeholder engagement when established at the end of Year 1. Additionally, as part of the proposed work plan and the activities/deliverables, various key stakeholders (including Private Sector and Civil Society) will be consulted and engaged through stakeholder consultation workshops and meetings as required specially to validate the guidelines, standards and norms for e-mobility developed in Component 1.

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Gendered mobility patterns/travel requirements:

The differences in travel requirements and patterns in Sri Lanka reflect gender division of labour between women and men, and the related functional, social, and cultural roles and expectations. It is observed that women's mobility patterns are more diverse than that of men. Travel needs of women often are a combination of trips to meet economic and household needs and family visits, accommodating multiple and often conflicting needs of work, household, and childcare. Research findings indicate that higher share of women's trips are for household and family needs, including trips to collect water and fuelwood, to take children to school, to bring children and other family members to health centres, and to make visits to family members. Another consistent pattern is that women's journeys tend to combine multiple stops for different purposes[1]. Therefore, women's travel needs should be catered to specifically, with enough non-peak hour transport to attend to family needs and care giver roles. Transport related needs of urban women should be specifically investigated since the socio-economic contexts, livelihood, and caregiver roles they can significantly differ from rural.

Women and transport in urban settings

Women living in urban settings balance multiple roles: employment/income generating activities, household activities and childcare. Women usually are the last to have access to modes of personal transport. While public transport is the commonly available option, limitations of timing and inability to combine multiple trips (often required in performing multiple roles) and the cost appear to be challenges for women. Therefore, a significant share of women in urban areas tend to opt for more flexible and affordable options of 2 and 3 wheelers. 2-wheeler ownership among women has significantly increased over the last decade due to improvement of economic status and income levels, and the parallel depletion of quality of public transportation. Urban and semi-urban women in Sri Lanka have limited access to school bus services, child care, etc. and use 2 and 3 wheelers for taking children to school, as well as for tuition classes and extracurricular activities but also for other household and social needs such as marketing, banking, medical and social networking. This aspect of travel itself involves multiple trips a day. Many women are seen using 2- and 3- wheelers for livelihood related travel (selling homemade products/ accessing banks/as delivery riders). 2 wheelers specifically give relatively more independence to women, also helping with more efficient time management, when it comes to attending to multiple tasks during a single trip. The number of women using this mobility option to carve out livelihood by serving as riders for food and grocery delivery services has increased

during the Covid-19 lockdowns in Sri Lanka. 3 wheelers also often serve as a first and last mile connectivity to public transport.

Economic and Employment aspect:

As mentioned in the women and transport sector (section 1b), Female labour force participation is significantly low compared to that of men in Sri Lanka despite achievements in female secondary and tertiary education. 'Unavailability of safe transportation facilities to and from work' as a key reason for this gender gap is highlighted in the 2014 Central Bank Annual Report [2]. Facilitating transportation of goods for livelihoods purposes of women is a key aspect that needs attention in transport planning, which has not been given due attention hitherto. Costs of transport is another important consideration in the gender dimensions of transport, since overall income levels and access to resources are comparatively lower for women.

The transport sector offers many employment opportunities, both in the public and private sectors; in professional, managerial, and skilled jobs; in construction and maintenance of infrastructure; in the provision of transport services; and in the sale, repair, and maintenance of motorized and nonmotorized vehicles[3]. However, women's economic engagement in the sector as operators, drivers, engineers, and leaders is extremely low. While availability of comparative data is limited, according to the Department of Census and Statistics, data from the 2019 labour force survey shows that 9.2% of employed men in Sri Lanka work in 'transportation and storage,' but only 0.6% of employed women are in this sector[4]. The percentage distribution of female/male worker representation in the sector is 3.4% women workers to 96.6 % men. In the introduction of Sustainable Transport programmes this is an aspect that require attention and affirmative action. Skill development and employment opportunities should be proactively considered.

Safety aspect:

An important transport safety aspect for women is personal safety, i.e., ability to travel without fear of harassment. It is reported that in Sri Lanka, 90 percent of women using public transport have experienced sexual harassment, but only 4 percent of these women sought police assistance[5]. Recent research by OXFAM confirms that just 8 percent of women and girls in Sri Lanka seek help from law enforcement when facing sexual harassment on public transport, while 82 percent of bystanders say they rarely intervene when they witness abuse[6]. A combination of measures consisting of public awareness and practices, safety assurance measures in transport in planning, and law and order measures are required to address this issue. For instance, encouraging women to come forward and report, building awareness of the public to defend the victim through proportional programmes can be considered under public awareness. Transport planning measures can include installing panic buttons in public transport, infrastructure for pregnant and feeding mothers, facilitating seat reservation for women in long distance travel.

E mobility ? scope and gender aspects

Global demand shows positive trends in all modes of electric vehicles according to the 'Global Status Report' of Sustainable, Low Carbon Transport (SLOCAT) and Climate Change[7]. As of 2019, 18% of

the world's buses were powered through electric sources and around one-quarter of all motorised two wheelers worldwide were electric in 2020. The indication is that ??Leapfrogging to electric mobility in Africa, Asia and Latin America can bring significant benefits to local environments and economies??.

Collective action directed towards women's mobility has significant potential to enhance the use of sustainable mobility options and to help achieve low-carbon mobility targets. There is observation that due to limited access to transport resources, women are also more likely to use more sustainable forms of transport[8].

It is commonly observed that women have preference for green and clean technology and the additional safety offered by e-vehicles. In the international body of literature women are recognized as being more likely to adopt sustainable travel behaviours than men[9]. Some of the key issues highlighted in a research based on a survey by Cleantechnica 2021[10] for promoting the use of electric vehicles specifically for women include: convenience of vehicle charging, with home charging option as a great selling point for women who tend to value safety and convenience; absence of gasoline fumes in charging; greater affordability due to lower total cost of ownership because of cheaper fuel cost and fewer repairs. The research recommends engagement of more women in the electric vehicle industry to promote and use of electric vehicles.

Overall, from a gender perspective, there are number of key advantages for women to have preference for e vehicles:

- Women can drive and operate electric vehicles easily
- Less repairs and ease of maintenance
- No need of visits to fuel stations
- Charging is easily manageable, specially for 2Ws.
- Less noise and no emissions, therefore environmentally friendly

Specific actions that project will undertake to ensure that gender issues are integrated in the deliverables and outputs of the project are as follows:

Table 15: Gender Action Plan

Outcome	Gender Actions	Indicators	Means of verification	Responsible entity
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Outcome	Gender Actions	Indicators	Means of verification	Responsible entity
Outcome 1	<p>1. Representation of women in the institutional arrangements to ensure women's perspective influences decisions making, including representation of organization, government, and civil society, working on women and inclusive development issues.</p> <p>2. LTS and MAP prepared and adopted by the Government specific strategies and actions to ensure equitable benefits for women and social inclusion with.</p> <p>3. The policy/regulatory framework designed to encourage women's participation in the EV transformation process by addressing including through specific incentives (e.g., tax incentives, easy access to financing, etc.)</p>	<p>1. At least 40% of women representation in the Institutional arrangements.</p> <p>2. At least one member in IMCC/TAC from State Ministry of Women and Child Development a known expert in gender and social inclusion.</p> <p>3. Strategy includes specific target: at least 30% women user of EV s as well as service providers.</p> <p>4. Approved LTS and MAP has clear actions and targets for promoting gender and social inclusive EV transformation, including KPIs for tracking effective implementation.</p>	<p>Adopted Institutional Arrangements framework</p> <p>Approved LTS and MAP</p>	<p>National Project Director/ Project Manager</p>
Outcome 2	<p>All Pilots implemented will be designed to promote participation of women as end users and service providers.</p>	<p>5. At least 30% of the users of the pilots are women.</p> <p>6. 25% of service providers are women.</p>	<p>--Impact assessment report from the pilot demonstrations, using sex-disaggregated data collected.</p> <p>-Project Progress Reports</p>	<p>National Project Director/ Project Manager</p>

Outcome	Gender Actions	Indicators	Means of verification	Responsible entity
Outcome 3	<p>1. EV training programme will incorporate: -Resource material will include issues, barriers, and solutions, including specific policy instruments, to address barriers for women? -Include Women resource persons for training -Specific efforts made to provide training to women</p> <p>2. Knowledge platform includes gender related aspects of transport and e mobility</p> <p>3. Communication strategy includes specific actions to create awareness among women</p> <p>4. Engagement of women resource persons will be ensured in the data sharing platform</p> <p>5. Success stories of gender integration, women?s livelihood development, women?s empowerment from the demonstrated models</p>	<p>7. One training resource prepared on addressing women and social inclusion issues, barriers, and solutions.</p> <p>8. 30% training participants are women</p> <p>9. One sub-section in knowledge management platform established to highlight women and social inclusion related information and feedback</p> <p>10. At least 2 documented success stories of gender integration from the pilot demonstrations used in the campaign</p>	Project Progress Reports	National Project Director/ Project Manager

Proposed Gender Action Plan considers following assumptions:

- There will be consistent policy level commitment to address the issues of safety, and other mobility issues faced by women in meeting their transport needs
- There will be sufficient outreach and conducive environment to encourage and engage women in the transport based entrepreneurial activities
- There will be adequate and reliable infrastructure support to encourage and build confidence of women to own and operate e vehicles.

Specific indicators to track the implementation are included in the project result framework (see Annex A).

[1] *ibid*

[2] Central Bank of Sri Lanka Annual Report 2014, (Prices, Wages, Employment and Productivity) page 95

https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/annual_report/2014/en/8_Chapter_04.pdf

[3] Asian Development Bank, Sri Lanka: Gender equality diagnostic of selected sectors, 2016

[4] Department of Census and Statistics. 2020. Sri Lanka Labour Force Survey. Annual Report 2019. Table 6

<http://www.statistics.gov.lk/LabourForce/StaticInformation/AnnualReports/2019>

[5] <https://economynext.com/sri-lanka-women-workers-challenged-by-family-attitude-transport-harassment-75956/>

[6] <https://www.oxfam.org/es/node/10868> and www.sayenoughtoviolence.org

[7] ?Global Status Report, 2nd edition, SLOCAT Transport and Climate Change

<https://tcc-gsr.com/wp-content/uploads/2021/06/Slocat-Global-Status-Report-2nd-edition.pdf>

[8] *ibid*

[9] https://civitas.eu/sites/default/files/civ_pol-an2_m_web.pdf

CIVITAS-Cleaner and better transport in cities, Policy Note

Smart choices for cities Gender equality and mobility: mind the gap!

[10] <https://cleantechnica.com/2021/05/02/electric-cars-what-do-women-want/>

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

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

Elaborate on private sector engagement in the project, if any

Private sector plays a key role in the e-mobility landscape in Sri Lanka. The PPG phase determined that despite government ambition and intention to promote electric mobility, much of the current investments in e-mobility infrastructure and EVs themselves have been largely driven by private sector. As described in the baseline in 1b and in the innovation section below, private sector has led the initial e-mobility uptake in Sri Lanka and is poised to support the project's objectives for transformative transport solutions integrating e-mobility. The delivery of all three components of the project is dependent on the participation and active engagement of private sector actors in different ways as set out in the below table. Component 1 will engage private sector as observers invited to participate and provide feedback to the IMCC. Private sector experts will be invited to participate in the technical advisory committee especially as experts in EV importation and local manufacture. Private sector associations and financing institutions will be invited to discussion forums convened by the subcommittees producing the standards, guidelines and reviewing the existing regulations etc. Component 2 will be co-developed and delivered in close collaboration with private sector. These will involve technology providers and businesses that leverage EVs for delivery, passenger transit and tourism (see Table 16 below). The business models and scale up plans will leverage and attract investment from private sector companies. Private sector investors will cater to the bulk of the market demand for EVs and associated components, and services such as battery management, recycling, charging stations and renewable energy integration. Component 3 will engage private sector in capacity development, skills enhancement and to deliver the knowledge management aspects of the project. Private sector associations and technology providers etc. will benefit from knowledge exchange between the global e-mobility project and national actors. EV Club, Motor Traders Association and other service provider associations will support co-design and roll out awareness campaigns to overcome public and policy-maker lack of confidence and trust in EVs and to popularize lessons of the pilot projects implemented in Anuradhapura. During the PPG, the project development team conducted a number of consultations with private sector that could be broadly categorized into the following areas;

Table 16: Project Partners Consultations

CATEGORIES	COMPANIES CONSULTED	ROLE IN PROJECT
EV developers, importers and component manufacturers	SL Mobility, Codegen, Vega Innovations, ThermaIR, Go EV	Supporting in the development of requisite standards and guidelines, co-financing activities in Component 2
Businesses that leverage EVs	Richard Pieris Supermarkets, tourism operators	Co-financing activities in Component 2 and supporting scale up plans

CATEGORIES	COMPANIES CONSULTED	ROLE IN PROJECT
EV associations	EV Club, Ceylon Motor Traders Association, Sri Lanka Energy Managers Association, Sri Lanka Institute for Chartered Logistics	Providing data and information to the knowledge platform development in Component 3. Supporting the training and capacity building activities in Component 3
Financing institutions	Sri Lanka Sustainable Banking Network, Central Bank of Sri Lanka	Providing sustainable financing solutions to implement the pilots in Component 2 and also leverage financing for scale up plans in Component 2

5. Risks to Achieving Project Objectives

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

Table 17: Risk factors for Sri Lanka E Mobility Project

Risk description	Category	Risk Level / Rating	Risk mitigation strategy	By whom

<p>Political Support to promote low/zero carbon vehicles and sustainable transport efforts (Outcome/output level risk):</p> <p>Currently due to economic (high fuel import bill), environmental (air pollution) and international obligations (NDCs and Net Zero goal) Government is prioritizing EV use for transport sector. The continued support will be important to ensure that the coordination mechanism is strengthened, and LTS and MAP, including the legal framework is adopted and implemented by the government.</p>	<p>Political Risk</p>	<p>Low to Moderate</p>	<p>Senior policy makers and key political figures are continuously kept informed and engaged on the project work and its benefits to the country.</p> <p>Senior Experts and policy influencers, who can promote the cause, are included in the TAC.</p> <p>Private sector association who have strong support for EV introduction (Ceylon Chamber of Commerce, EV owners? association, etc.) are fully engaged through representation in institutional structure plus advocacy with the government.</p>	<p>IMCC Chair and TAC Chair with support of NPD/PM</p>
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<p>Ministerial support in adopting and effectively implementing legal framework to promote EVs (outcome/output level risk)</p> <p>Ministries prioritize actions and provide resources (budgetary and human) to effectively implement the actions. This is critical to reducing the policy risk perceived by the non-governmental stakeholders</p>	<p>Institutional</p>	<p>Moderate to High</p>	<p>All ministries with mandate to address the elements of legal framework will be represented at all levels of Coordination mechanism to ensure full participation and ownership. The project deliverables will be finalized in close consultation with all of them.</p> <p>Consultation with each ministry with mandate will be held to ensure they fully understand and endorse the legal framework being prepared.</p> <p>Min of Finance, and Dept. of National Development will be included in IMCC and the technical working groups.</p> <p>Support will be provided to the Ministries to integrate the actions relevant to their mandate into their action plans and annual budgets.</p> <p>Staff of these ministries will be included in all the relevant training events to ensure ministries have trained resources.</p> <p>Technical work will be completed by mid-period of project to provide sufficient time to create ownership and integration of actions by the ministries.</p>	<p>NPD/PM</p>
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<p>Slow Economic Growth (Delivery and Output level risk)</p> <p>Sri Lanka's economy has faced severe setback for three consecutive years. (2019 due to Easter Sunday bombings and 2020 and 2021 due to Covid related lockdowns). This has led to shortage of Forex and resulted in government imposing import restrictions to save the Forex. This may impact the project by affecting the availability of EVs and CIs and also continued economic slowdown may impact the investment sentiments.</p> <p>This may affect the materialization of co-finance from the private sector entities for pilot projects.</p>	Economic	Moderate to high	<p>Liaise with the Government to facilitate the import of the equipment to facilitate the implementation of the pilots.</p> <p>Document the economic benefits of the pilots specifically on saving fuel imports and employment potential and share with the Key government actors to make a case of imports of necessary equipment for EV scale up.</p> <p>Dialogue with private sector to highlight the benefits of adopting EVs in lowering costs of operations.</p>	<p>IMCC Chair with support from NPD and PM.</p> <p>NPD and PM.</p>
<p>Local Capacity to effectively complete the deliverables of the project in timely and effective manner. (Delivery level risk)</p>	Technical	Low to Moderate	<p>Work closely with Global Programme to seek technical expertise in guiding national consultants as needed.</p> <p>Reach out to organizations such as GIZ, GGGI, etc. with presence and work in Sri Lanka to seek technical support.</p>	PM and TM

<p>Delays and challenges in meeting gender targets set out in the gender action plan (GAP) and results framework (Delivery level risk)</p>	<p>Technical</p>	<p>Low</p>	<p>To mitigate this risk, the project design has considered and incorporated several measures. For one, the selection of beneficiaries for the pilot project will be done with the coordination with the local government body through a selection criterion to ensure the participation of women; Secodn, partnering financing agencies have endorsed that specific tools will be introduced incentivizing women?s access to loans and financial incentives to purchase EVs or establish related business opportunities.In addition, it has been noted during PPG that local E2W/E3W developers have already incorporated the women participation in their business models, making vehicle design inclusive in terms of women?s safety concerns, convenience of operation and mobility needs.</p>	<p>PM with support of gender expert and TM</p>
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<p>Covid Pandemic (See details below)</p> <p>With high level of vaccination and booster rate too being high, the internal economy has opened. The likelihood of reverting to shutdowns and severe restrictions is very low. The only aspect that could be affected is travel from outside due to entry conditions.</p> <p>Further, the learning of two years has helped in find alternative approaches to continue with economic activities.</p>	Environmental	Low	<p>Covid protection protocols and procedures developed over the last two year will be applied as and when necessary.</p> <p>International expertise will be used as advisory and for limited duration as well as in activities where long-distance working is possible. National partners will be paired with international experts to address risk of non-travel.</p>	PM with support from TM
<p>Climate Change (see details below)</p> <p>The infrastructure created for Pilot projects is in the interior of the country and has limited impact of climate change. Further, the electricity sector is moving to use of solar and battery thus reducing the climate impacts of electricity supply. More decentralized options to minimize the risk.</p>	Environmental	Low to Medium	Pilots will be designed considering the lifetime of infrastructure created and local anticipated impacts over the lifetime.	This is including in the TOR of the experts hired to prepare and implement the pilots.

COVID risk and opportunity analysis

Sri Lanka has been through four waves of Covid lockdowns from March 2020 to October 2021. These lockdowns have severely impeded movement between provinces and participation in employment and educational activities. In the short term, the COVID-19 pandemic poses several risks, which can negatively affect project implementation. These include:

- Travel restrictions between districts and provinces;
- Restrictions with regards to meetings and meeting size;

- Restricted access to offices;
- Shift of government priorities

Sri Lanka's vaccination rate is quite high. 95% of over 60s are now vaccinated while vaccination rates from 30-60 hover at around 75%. Vaccination roll out for younger age groups, even school children began in August 2021. 85% of the eligible population (over 16) has been vaccinated[1]. Booster dose has been administered to 50% of the over 18 population. To estimate the potential project implementation impacts stemming from the COVID-19 pandemic, two possible scenarios are considered within the section on risks 1. Economic activity resumes with limited restrictions and 2. Severe restrictions re-imposed to fight a new wave

Economic activity resumes with limited restrictions: International travel is operational as of fourth quarter of 2021 with practically no restrictions for vaccinated individuals. Meetings with up to 50 participants are allowed. New working arrangements including part-time telecommuting are fully adapted and cause no additional inefficiencies. Under this scenario, the implementation delays would be minimal less than 3 months from envisaged start up.

Severe restrictions re-imposed to fight a new wave: Travel and meeting restrictions imposed to fight a new wave of Covid: Under this scenario, the start of the implementation would be delayed between 6 and 12 months. While the government has taken steps to re-open borders for tourism and reopen schools, the pandemic is still active with around 700-800 cases reported daily and a death toll of around 300 people weekly.

The government and a number of donors have emphasized green recovery options that would include employment opportunities in EV manufacture, charging infrastructure, battery manufacture and delivery services using EVs (2 and 3 wheels).

The rise of ecommerce options during the pandemic including food and grocery delivery have paved the way for introduction of EVs with novel ICT solutions and solar powered charging infrastructure at supermarket or food chains' outlets. This advantage will be leveraged by the project to introduce EVs, and especially EVs that can be easily used by women riders and disabled, to these already well-established food and grocery delivery networks.

Climate Risk Assessment

Sri Lanka is a tropical island which is currently vulnerable to climate change induced extreme weather events. The country, according to recent analysis (ADB and World Bank 2020, 3rd National Communication 2021, ADB Risk Assessments 2018) will face numerous long-term changes and increased incidence of weather-related hazards due to climate change. These include sea level rise, increased severity of coastal storms, longer dry periods, altered monsoon patterns, flash floods, cyclones and landslides triggered by intense and unseasonal rainfall.

The transport sector, like much of the built infrastructure in the country will feel the effects of climate change from increased frequency of natural disasters such as floods, landslides and storm surges. Sri Lanka

has an extensive road network system (of around 116,700 km) that is well spread throughout the country, but is especially dense in sensitive areas such as the coastal zone and central highlands exposed to storms, flooding and landslides Effects of natural disasters on this sector are well documented through damage assessments for floods and landslides in 2016 and 2017. The total losses and damages incurred to this sector owing to the 2016 floods was calculated at LKR 4.3869 billion (approx. USD \$ 41 million) as per the Post Disaster Needs Assessment report of 2016. Damages to infrastructure was accounted at LKR 4.143 million and losses at LKR 43.5 million. In the 2017 scenario, total damages were found to be comparatively higher at LKR 13.07 billion (approx. USD \$ 65 million). The main aspects of the transport sector that have been identified in relation to damages is infrastructure such as roads, depots, bridges, culverts and interruption of services associated with the private and public buses and trains.

However, these effects are not limited to direct financial losses from infrastructure damage and interruption of service. There are widespread effects on other sectors that rely on a seamless transport system should also be considered exports, logistics, tourism to name a few.

The recorded recovery needs for the transport sector are fairly extensive. The 2016 flood event recorded recovery needs of over USD 20 million, while 2017 it increased to USD 75 million. Recovery needs for roads/transport sector comprised the largest component of the short-term recovery budget in 2016. (60% of the total recovery cost). Clearly the impacts of weather-related hazards will be strongly experienced in the transport sector and associated infrastructure.

(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 project is promoting a sustainable transport infrastructure based on e-mobility, efficient and inclusive public transport and integrated systems for urban transport. The impact of climate risks on the project created infrastructure is the same as those on other built environment infrastructure and transport sector. As mentioned above. Sri Lanka is highly vulnerable climate-induced natural hazards which are predicted to intensify with climate change. Transport infrastructure will also be impacted by sea level rise, increased salinity levels in rivers and higher temperatures impacting passenger comfort and energy consumption. Impact of climate change on urban infrastructure has been assessed by ADB in 2018, and points to risks in terms of flash floods, water shortages and temperature related heat island effects in the country's growing urban landscape.

The GoSL has planned for and in certain instances, put in place policy measures and practical risk management tools to reduce the climate vulnerability of its transport infrastructure which will be the basis of designing the infrastructure in the underlying project. A range of measures have been taken to reduce and prevent the risks of hazardous natural phenomena aimed at identifying, assessing, mapping and preventing hazardous events, as well as developing resilience to them. This includes comprehensive landslide vulnerability assessments in districts identified to be landslide prone and mapped as high risk, setbacks in coastal areas to prevent erosion damage and flood risk assessments in riverine areas.

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

It is clear that the sector will be sensitive to climate induced changes in terms of intensity and frequency of anticipated extreme events. These events will likely have a significant impact on the level of vulnerability of a large extent of road network, settlements and urban infrastructure associated with transport and cause interruption of services.

The coastal road and railway network, especially in the southern route, is highly susceptible to coastal erosion. Many people use three-wheel and small four-wheel vehicles in rural and poorer urban areas to meet transport needs and run businesses. These vehicles are highly susceptible to flood damage. Poor drainage and urban and infrastructure planning have led to more and more urban areas being flood prone. This is especially the case in the urban centres of the Western Province which are generally built on low-lying lands in river deltas

Transport sector is also energy dependent and there are risks associated with interruption to grip transmission due to disasters and disruptions in sustainable energy generation due to longer droughts (affecting hydro power capacities). This is relevant to promoting electric mobility because the systems would be powered by connecting to the grid. In the case of off-grid solar systems, weather related hazards and monsoon pattern disruptions will impede solar generation.*(iii) Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?*

The e-mobility strategy (Component 1) which will establish strategical vision for long-term e- mobility development in the country will take into account identified climate risks when assessing and planning for the development of e-mobility infrastructure, in particular, in urban and suburban areas. This will involve an assessment of climate risks particular to electric mobility associated infrastructure such as off-grid charging stations, safety conditions for electric two and three wheelers during extreme rainfall periods and flooded roads, impacts on the public transportation systems etc.

Also, under Component 2, the pilot projects will each have a rapid assessment of specific climate risks in locating the charging stations and selecting the vehicle models, weather and natural disaster factors will need to be factored in to avoid the damages from floods, landslides and coastal erosion, among others.

Component 3 will integrate into the training programme, modules on climate-proofing road infrastructure in general, and specifically for electric mobility including charging stations. This would entail climate hazard mapping and ensuring such location of the infrastructure which minimizes exposure to climate risks, such as landslides, coastal storms, and flooding.

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

Government has mapped risks in urban settlements and built infrastructure (ADB 2018), a fine-grained assessment of landslide hazard is available for ten districts in the hill country. Development and updating of these hazard and risk maps is an important first step to gather relevant information and inform decision-making. Collaboration will be sought with relevant projects implemented by the Ministry of Environment to assess climate risks and development agencies investing in transport and urban infrastructure.

Disaster and climate risk analysis should be conducted for major transport corridors being planned in Sri Lanka to improve urban-rural connectivity and bring new development investments to rural areas. EIAs for all transport and highway projects to have robust climate risk analysis and risk mitigation measures

Capacity to develop ICT -based early warning systems to increase delivery of timely weather forecasts and road condition information to passengers, fleet owners and drivers

The Government through its own resources and support from international community is already addressing this capacity and information gaps, including the following activities:

- Demonstrating integrated approaches through designing climate smart cities
- Integrating disaster risk assessments in the EIA process for all major road development projects.

[1] Presidential Secretariat, Operation Freedom

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The following organizational chart presents the main constituents, entities, and structure of the project implementation arrangements.

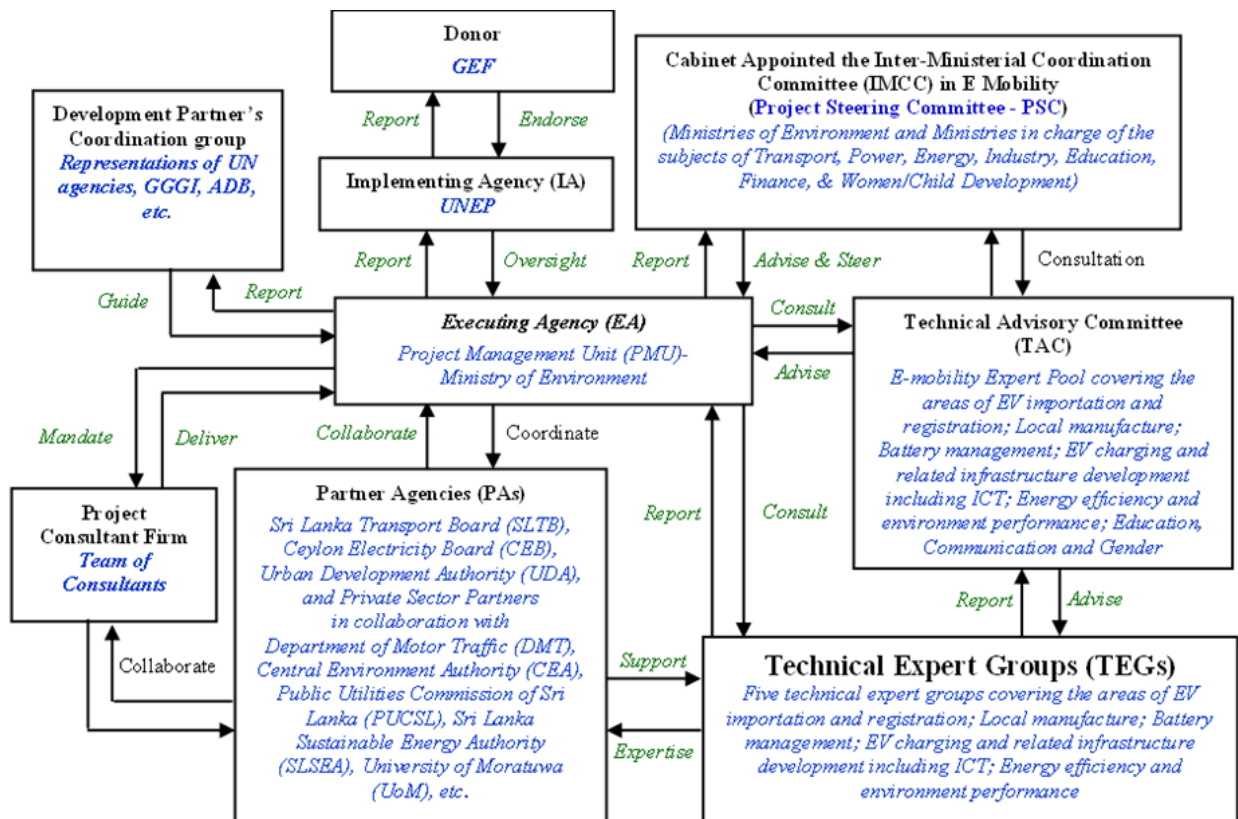


Figure 11: Project Implementation Arrangements

This project is funded by the GEF and co-financed by the Urban Development Authority, Ministry of Transport and private sector companies such as Codegen, Vega Innovations, SL Mobility and ThermalR. UNEP is the GEF Implementing Agency and Ministry of Environment (MoE) will be the project's Executing Agency. MoE is chairing the IMC, which will also act as the PSC of the project. Director, Air Resources Division of the MoE will lead the project as the National Project Director. 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 secretary to the Ministry of Environment and will convene at least once per year. In this project the Cabinet-appointed IMCC will function as the PSC. The composition of the current inter-ministerial committee is limited to Environment, Transport, Power, Energy, Industry and Finance. Under the expanded scope proposed by the project the IMCC will have wider representation from other agencies and ministries overseeing urban development local government representation and, gender and women ministry. Other stakeholders will be invited as observers which will include the private sector industry associations, as well as CSOs/academia/research organizations promoting sustainable transport and expertise in e-mobility.

A **Project Management Unit (PMU)** will be established within Air Resources Division of the MoE to manage day-to-day operation of the project. The PMU will be headed by the National Project Director (NPD) and will include a Project Manager and a Project Assistant to oversee coordination between different agencies & private sector, administration and procurement needs of the project. The PMU will be responsible for hiring and supervising a pool of experts for specific technical outputs related to E-Mobility, including Communications Expert, and a Gender Expert as described below.

The Technical Advisory Committee (TAC) comprising of a pool of experts established to support the IMCC will provide the necessary guidance for project implementation and supported by the technical sub-committees formed under Component 1 to provide direction on resolving the key barriers to the project, and to facilitate the implementation of the project components. The TAC will meet regularly during project implementation to work inter alia on the following topics:

- EV importation and registration
- Local manufacture
- Battery management
- EV charging and related infrastructure development including ICT
- Energy efficiency and environment performance
- Education, Communication and Gender/ Social Inclusion

- TAC will invite members from the relevant government institutions, academia and industry experts.

Five Technical Expert Groups (TEGs) will be established to support the development of guidelines and standards in the areas of EV importation and registration, local manufacture, battery management, charging and related infrastructure development and energy efficiency and environment performance. These will invite members from related regulatory bodies, academia and professional organization as described in Annex K.

Additionally, the National Project Director will be responsible to coordinate with the key stakeholders (as mentioned in the organigram above) on output basis, which will ensure seamless coordination and progress towards achievement of the project objectives. The PM and NPD will also liaise with other projects and initiatives of the government, private sector and multi-lateral banks and other programmes for e-mobility or low-emission transport that could evolve during the project implementation.

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

Coordination with other initiatives:

The project team, especially the Project Manager and the National Project Director, will make all efforts to coordinate with related initiatives in government and private sector. The project will establish a Development Partner's Coordination group. The group will meet once or twice a year, preferably in tandem with the PSC meetings to share information and identify opportunities for building on the work of GEF project as well as aligning with the GEF project. This group will include representation of UN Resident Coordinators office or an agency nominated by the UN RC to represent the UN entities. The UNEP representative of the UN Country Team (UNCT) will be regularly informed of the project progress. UNEP UNCT representative is provided inputs for his/her meetings to brief the UNCT on UNEP support to Sri Lanka. This channel shall be used to inform and coordinate with the other UN agencies.

Some of the noteworthy initiatives in the transport/ e-mobility sector which will be coordinated with are;

1) Climate Smart Cities: Climate Technology Centre and Network (CTCN) is helping Sri Lanka to establish a 'climate-smart' city framework in close cooperation with the city stakeholders in the municipality. The first part that was related to development of an urban adaptation action plan on water scarcity and heat stress for Kurunegala has been completed based on pro-bono support from the Government of the Republic of Korea. CTCN is implementing [the second phase of this project](#) that is related to waste, transport and energy management. The Climate Change Secretariat of MoE plans to lead a programme for climate smart cities to transform urban spaces to a more healthy and liveable space. In that respect the ministry has developed a GHG emissions calculator for cities and local governments to analyse and manage GHG sources and sinks, including those related to transport sector. This tool can be used for cities to estimate the impact of e mobility interventions.

2) GGGI's current initiative on facilitating the adoption of sustainable public transport services focusing on buses/public transport efficiency and low-carbon, smart transport solutions will be another key project for coordination. GGGI is working closely with the Government of Sri Lanka (with the Ministry of

Environment and Ministry of Transport) to improve urban transportation systems and options. Coordination with this project will be through the IMCC and the project-initiated Development Partner's Coordination group.

3) ADB is considering the possibility of supporting GoSL to investment in e-busses and electrification of the railways. In the next country programme funding cycle, ADB will likely consider supporting the Ministry of Transport to introduce electric busses. ADB also has a Sustainable Urban Development Project which is an initiative to develop strategic cities of Sri Lanka under Strategic Cities Development Program. This programme is led by the Ministry of Urban Development and the Urban Development Authority and aims to improve urban infrastructure aimed at liveability and climate resilience. The project will coordinate with ADB on these key initiatives through the Development Partner's Coordination group.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is directly supportive of, and consistent with Sri Lanka's national policy priorities and stated policy objectives related to climate change and green development. Specifically, it is consistent with the Nationally Determined Contributions (NDCs), Sustainable Development Goals (SDGs) and the national policies for Environment, Energy, and the Draft National Policy for Transport (DNPT). It is also consistent with the UNSDF (United Nations Sustainable Development Framework) for Sri Lanka and the National Environmental Action Plan (NEAP 2022-2030) for Sri Lanka.

Nationally Determined Contributions (NDCs) under UNFCCC: Reducing emissions from transportation sector is a priority area as transport is a biggest contributor of GHG in Sri Lanka. The NDCs in the transport sector has 12-priority actions, of which six are directly or indirectly related to electric mobility. In the NDCs the government commits to becoming carbon neutral in 2050, and the President's recent policy statement in Parliament reiterated the government's intention to facilitate EV importation through conducive taxation policies.

Sustainable Development Goals (SDGs): The project is directly aligned with SDG Goal 13 "Take urgent action to combat climate change and its impacts". Nonetheless, to a certain extent it is also consistent with Goal 7 "Ensure access to affordable, reliable, sustainable and modern energy for all" (since the project will promote the development of charging stations powered with renewable energy sources), Goal 9 "Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation" (which has a special focus on the transportation sector in the context of Sri Lanka), Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable?", Goal 12 "Ensure sustainable consumption and production patterns" and Goal 5 "Achieve gender equality and empower all women and girls".

National Policy Framework: *Vistas of Prosperity and Splendour*: proposes an efficient & environment friendly transport network and to transforming the country's energy mix towards renewable energy by encouraging rooftop solar systems etc.

Draft National Policy and Strategy on Sustainable Development: has several policy goals and targets that promote clean and sustainable transportation systems and improved cities/human settlements such as

- Policy Goal 7:

Access to affordable, reliable, sustainable and modern energy for all is ensured, while promoting energy efficiency and harnessing own energy sources to reduce external dependency;

Use of efficient technologies/processes and appliances/equipment across all the end-use energy sectors (domestic, commercial, industry, transport); and,

Harness renewable energy resources for thermal energy applications, electricity generation and transport./ By 2030, introduce alternate fuels and technologies for meeting 10% transport energy demand.

- Policy Goal 11:

Cities and human settlements are made inclusive, safe, resilient and sustainable, while ensuring rational, fair and sensible use of land; and,

Promote physical development, sustainable transport systems and infrastructure that are efficient, safe, accessible, and cost-effective and environmentally sound, thus realizing balanced integration of social, economic, and environmental benefits

- Policy Goal 12:

Sustainable consumption and production patterns are ensured, while appropriate practices and lifestyles are integrated at all levels and sectors of economy and society; and,

Introduce emission reduction and pollution control measures for all economic activities, such as building and construction, transport, industry, energy generation, land use, agriculture, tourism, livestock, waste, and households

National Energy Policy and Strategies: This policy explicitly states that at least 20% of all new light vehicle registrations shall be EVs in 2022. Public funded electric charging facilities will be established, and private sector encouraged to set up charging stations to complement the CEB/LECO efforts.

Draft National Transport Policy: This policy, not yet approved, promotes a low carbon pathway for transport development including the use of energy efficient and less polluting vehicles, promoting renewable energy and efficient ICT solutions for increased efficiency of transport systems.

National Policy on Sustainable Consumption and Production for Sri Lanka: Transport is one of the ten thrust themes, in which the policy statement is 'Time, energy, resource efficient, safe and effective transport system for all with minimum health impacts for the society'. It constitutes of ten policy statements and seven policy goals, emphasizing avoid-shift-transfer approach and several elements in

energy efficient sustainable transport systems. Further, transport sector interventions are also emphasized in other thrust themes such as Air and Energy.

The National Climate Change Policy: This policy contains a vision, mission, goal and a set of guiding principles followed by broad policy statements. The direct link with transport sector is under the policy statements in mitigation, which states the promotion of integrated transportation systems, low emission fuels and improved fuel efficiency taking into consideration the long-term sustainability of the existing resources

United Nations Sustainable Development Framework (UNSDF): The United Nations (UN) and the Government of Sri Lanka signed the 2018-2022 UN Sustainable Development Framework (UNSDF), the agreement which pegs UN assistance to Sri Lanka's long-term development priorities, on the 3rd of August 2017. The UNSDF provides the overarching framework for the work of the United Nations in Sri Lanka in line with the national priorities and one of four key drivers is to: Enhance Resilience to Climate Change and Disasters and Strengthening Environmental Management which support low carbon development. Sri Lanka's development partners have supported the government to come up with green recovery strategies for post pandemic economic development which include low carbon development pathways for energy, transport and key economic sectors such as tourism, agriculture and industry.

National Environment Action Plan (NEAP) 2021-2030 (draft): Following actions proposed to promote electric mobility and clean transport modes under the NEAP and the project is aligned with these actions;

- Improve ?Vehicle efficiency? in the transport sector through choosing more efficient technologies to travel, including EVs, Hybrids, and efficient ICEs.
- Promote local value addition/ manufacture of EVs and related components / infrastructure, including sustainable management system for electric vehicle batteries (reuse/recycle)
- Promote electric mobility as an E3ST system
- Promote use of renewable energy (RE) (particularly solar PV) for e-mobility
- Further, the Cleaner Fuels and Technology Road Map proposes promotion of electric and hybrid vehicles, and railway electrification

8. Knowledge Management

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

Knowledge Management (KM) is an integral and important part of the project and Component 3 of the project is designed around sharing, disseminating, and improving the knowledge generated in Components 1 and 2. Knowledge management is an important component of the global programme as well. It strengthens the ability to learn from existing experience and to make this knowledge readily available to wider stakeholders. As part of KM plans, the project will include technology transfer and capacity building

activities; data collection and sharing through novel ICT-based tools and platforms, public awareness and advocacy; and stakeholder consultations & engagement across various outputs.

The project will develop a platform for knowledge and data sharing that will be useful for both disseminating policy/regulatory requirements, standards, and guidelines to the industry and EV users, and to elicit feedback from users to improve systems and policy directions. Generating and sharing data for industry improvement and evidence-based policy making is weak throughout transport sector, and this project will introduce both city-based and national level ICT tools to gather new data on EV usage, battery performance, battery tracking and recycling, charging infrastructure network, energy consumption etc. The platform will contain all the standards, guidelines and regulations that are developed or amended through the technical sub-committees in Output 1.2.

Designing and implementing the EV pilots in Anuradhapura City in Component 2 is expected to generate new knowledge and information. This includes technical knowledge, financial and business models, city planning with e-mobility incorporated, gender and EWCD concerns, and mitigation measures incorporated into the design and rollout of e-mobility pilots etc. These will be documented and included as cases studies on the knowledge platform.

Another important aspect of KM considered in the project is to provide trainings to EV supply side ecosystem. This will include skill assessment for drivers, maintenance technicians (across vehicle segments), financing institutions, etc. and their respective development of training modules. Knowledge management is an important aspect of scaling up these initiatives to other cities and boosting investor confidence. Knowledge management, especially KM focused at building confidence among users, financing institutions and technology investors, business partners will also contribute to sustainability of the e-mobility initiatives beyond the project lifetime.

Table 18: Indicative budget for knowledge products

Outputs	Knowledge products produced by the project (deliverables)	Indicative timeline	Indicative Budget (US\$)
Component 1: Strengthening Enabling Environment			
Output 1.1	Long-term Strategy (LTS) and Medium-term Action Plan (MAP) for electric mobility in Sri Lanka	2023-2024	246,000
Output 1.2	Guidelines, process maps, regulations and policy guidance on EV importation, local manufacture, battery importation, manufacture of batteries, RE and ICT integration into EV charging infrastructure, Energy efficiency labelling for EV etc.	2023-2024	

Component 2: Technology, investment and PPPs demonstrated for electric mobility transformation			
Output 2.2	Design documents for each pilot integrated into the Anuradhapura Integrated Urban Development Plan	2023	126,500
	Case studies and documentation on pilot implementation	2025	
Output 2.3	Funding proposals and investment based on pilot implementation	2025	7,500
Component 3: Knowledge and capacity to support low-carbon, e-mobility strategies			
Output 3.1	Knowledge management strategy	2023	
	Knowledge products to support the pilot implementation such as electronic hoardings, leaflets, social media campaigns and information panels at public places tourist spots.	2024-2025	55,000
Output 3.2	Training and Capacity Building Roadmap	2023	18,000
	Training material on EV technology, gender integration, EV-incorporated urban planning	2024	40,000
Total			493,000

The tools developed, best practices collected, and knowledge generated during the project will continue to be available to country and cities after the project has ended. UNEP, with EC plus partners, will continue with supporting the regional platforms so that these can continue to take the lead in supporting a shift to electric mobility in their respective regions. As non GEF and EC projects will be included in the platforms and the communities of practice from the start of the GEF programme, the platforms will continue after the GEF programme has ended. All knowledge and tools will thus continue to support a shift to electric mobility in these regions.

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.

Furthermore, this project will receive knowledge in the form of trainings, best practices and tools provided by the global electric mobility program. On the other hand, overall lessons from the proposed project will be of substantial value to the global electric mobility program which will disseminate the lessons of Sri Lanka through its regional hubs, which link the global programme activities to the child projects. Linkages to the Global electric mobility program will provide countries a unique opportunity to exchange on-the-ground experiences with electric mobility South to South, North to South and Peer to Peer.

The project will develop a clear communication strategy to support public awareness and advocacy programs to assess end-user's knowhow around EVs, their challenges, its techno-economics, their purchase and usage decisions, willingness to adopt EVs, etc. Basis to this, promotion campaigns/ materials will be designed for capacity building of users to drive EVs adoption (at individual and aggregate levels). These campaigns will incorporate gender sensitive best practices in design, material development and execution. The communication strategy will use the government channels for public awareness creation and leverage its well-established communication platforms. This will be integrated with the government campaigns on sustainable development, climate change and environmental awareness building efforts.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Monitoring and Evaluation (M&E) activities and related costs are presented in the costed M&E Plan (Annex J) and are 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-?-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 Project Manager 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 IMCC which will function as the Project Steering Committee (PSC) and will track project progress and 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 it 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. The TAC will support project monitoring especially tracking

GHG emissions reduction, gender indicators and results and environmental co-benefits of project implementation and scaling up. 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 Project Manager 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 Project Manager 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 GEF Evaluation requirements and UNEP's Evaluation Policy, all GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review.

In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review's performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report.

However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. 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. 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 (or the management-led review) 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 in relation to 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 finalized.

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 finalization 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.

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 the inception workshop and evaluations) is US\$ 40,000.

10. Benefits

Describe the socioeconomic 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 (LDCE/SCCF)?

The introduction and adoption of electric mobility in Sri Lanka with the conducive taxation environment during 2014-2017 opened many new technical livelihood segments including for charging infrastructure, EV servicing and battery recycling. This wave of EVs into the market also created a new market for local innovation and creative solutions with ICT applications to bring down costs and streamline charging infrastructure. However due to the non-viability of battery replacement and the lack of practical battery management options, this market segment is dwindling, and this project would be able to review the interest and investment in EV associated local investment and local production of vehicles by addressing the key barriers. In addition, this will provide a pathway for local EVs and EV-associated innovations (charging infrastructure or patented technology solutions such as E-bike docks) to enter the market around the globe. Secondary market for lithium-ion batteries and recycling Internal Combustion Engine (ICE) vehicles is expected to create employment opportunities in the community. It will substantially reduce the dependency of import of raw materials for production of batteries and vehicles. The policy measures will ensure safety and health of the workers engaged in reuse and recycling of lithium-ion batteries and ICE vehicles.

There are huge benefits to women in terms of the simplicity of technology and the easy maintenance of EVs. Women's groups and women EV users have been clear on their preference to EVs over ICE vehicles and unmanned charging stations with mobile app-based payment. This payment modality is becoming increasingly common in the post-Covid era and the project could leverage the benefit of having a population used to e-commerce to introduce more ICT features to E-mobility ecosystem introduced through the project.

This is expected to result in public infrastructure and service cost savings, consumer savings and affordability ? particularly savings targeting lower-income households who use/own 2-and-3 wheelers.

The project will have direct effects during the project duration and impacts beyond the project duration on the GHG emissions from operation of EVs. The key source of air pollution in transport sectors is due to widespread use of fossil fuel. With increased use of EV based transportation air quality will be improved due to reduction in emissions from pollution sources, arising from adoption of electric mobility, improved policies and enforcement of standards and regulations. Improved air quality will reduce adverse effects on health. It will substantially reduce financial impact on economy. Decreased use of fossil energy resources and its associated benefits will indirectly contribute to generating and sustaining climate change benefit.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
Low			

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

While it is considered to be a low risk project due to the size of the interventions, concerns on SS 2, 3, 5, and 8 were raised. Proactive and attentive responses to these potential risks are recommended. Also GP questions in the Section 3 should be complied throughout the project implementation phase.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex P_signed_EV Sri Lanka SRIF_10651	CEO Endorsement ESS	

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

Project Objective	Objective level Indicators	Baseline	End of project Target	Means of Verification	Assumptions & Risks
To reduce GHG and air pollutant emissions and to reduce costs for fuel import and the related foreign exchange risks through the accelerated introduction of electric mobility in Sri Lanka	Cumulative GHG Emissions Reductions	0[1] ¹	Direct: 575 tCO ₂ e (by 2026) Direct Secondary:3,668,396 tCO ₂ e (by 2036) Total Direct = 3,668,971 tCO ₂ e (by 2036 from E2Ws and 3Ws)	Calculations based on UNEP E-mob Calculator	Assumptions: Government continues to support the project and operationalizes the coordination mechanism, strategy and policy/regulatory package. UDA and private sector actors continued to stay invested in the pilots and vision to increase use of EVs. Risks: - The economic situation in Sri Lanka doesn't adversely impact the interest of government and private sector partners for pilot projects. - improves in Sri Lanka and project time frame is sufficient for adoption of all measures by the Government.
	Increase in share of end-users using EVs	0[2] ²	8% in 2Ws and 3Ws	Government and other statistics published by the Government	
	Direct Beneficiaries of the Project	0	Total: 820,000 Women: 356,000 Men: 464,000	Final Project Report	

Project Outcomes	Outcome/Output level Indicators	Baseline	End of project Target	Means of Verification
<p>Component 1: Strengthening the Enabling Environment</p> <p>Outcome 1: A national inter-ministerial coordination mechanism; a long-term strategy and a MRV system; and, regulations, policies and technical standards supporting the adoption of EV technologies sector is adopted and implemented by GOSL for promoting EV in the transport sector-</p> <p>1.1 Institutional coordination mechanism, LTS and MAP to promote low-carbon electric mobility developed</p> <p>1.2. Guidelines and regulations developed to effectively implement the LTS and MAP for electric mobility transformation</p>	<p>Indicator 1.1 ? Institutionalization of EV is significantly improved through strengthened coordination and a national strategy</p>	<p>Ranking 1 ? No designated institution or coordination body to support and coordinate the planning and implementation of EV measures and a national strategy to guide actions.</p>	<p>Ranking 4 ? Well defined and institutionalized coordination in place with clear mandate and authority to implement national EV strategy.</p>	<p>Government directives and announcements</p>
	<p>Indicator 1.2 - # of women representatives in the Institutional mechanism</p>	<p>0%</p>	<p>40% of women representation in bodies created for coordination of EV transformation.</p>	
	<p>Indicator 1.3: Number of policies, regulations, and other facilitative decisions that enhance country preparedness for EV scale up approved by GOSL</p>	<p>0</p>	<p>5 (Deliverables 1.2.1, 1.2.2, 1.2.4, 1.2.7, & 1.2.8) Strategy includes target of at least 30% women user of EV s as well as service providers. Approved LTS and MAP has clear actions and targets for promoting gender and social inclusive EV transformation, including KPIs for tracking effective implementation.</p>	<p>Government and other statistics published by the Government</p>
	<p>Indicator 1.3: Number of measures adopted for long term environment sustainability of low-emission EVs</p>	<p>0</p>	<p>3 (Deliverables 1.2.3, 1.2.5 & 1.2.6) 1 Policy incentivizing women participation in EV market</p>	<p>Government and other statistics published by the Government</p>

Project Outcomes	Outcome/Output level Indicators	Baseline	End of project Target	Means of Verification
<p>Component 2: Technology, investment and PPPs demonstrated for electric mobility transformation</p> <p>Outcome 2: increased investments and adoption of EV for 2-3 wheelers by private sector enabled through demonstration of in pilots</p> <p>2.1 EV Integration plan, including identification of pilot sites, for ASA developed</p> <p>2.2 Pilot EV technologies for E2Ws, E3Ws and E bicycles, renewable energy-integrated charging infrastructure, battery management and ICT options designed and implemented</p> <p>2.3 Scale up Strategy formulated for electric mobility</p>	Indicator 2.1: Number of concepts and agreements for scale up of pilots	0	3 (Deliverables 2.3.1, 2.3.2 & 2.3.3)	Final Project Report
	Indicator 2.2: Number of evidence generated of the technical, financial and environmental benefits of low-emission EVs.	0	4 (Deliverables of Output 2.2)	Knowledge products produced and made available on Project Knowledge and Information Platform
	Indicator 2.3: Number of women beneficiaries of the pilot projects	0	30% of pilot beneficiaries are women.	Project Reports

Project Outcomes	Outcome/Output level Indicators	Baseline	End of project Target	Means of Verification
<p>Component 3: Knowledge and capacity to support low-carbon, e-mobility strategies</p> <p>Outcome 3: Sustainability is ensured by adoption of lessons learned, awareness and peer to peer exchange at national and regional level.</p> <p>3.1: EV Knowledge and stakeholder interaction Platform established, and communication strategy developed to facilitate communication and interaction among all stakeholders</p> <p>3.2 Programme developed and implemented for creating long term capacities to support the implementation of LTS and MAP.</p> <p>3.3 Participation in GEVP events and training programmes</p>	Ind 3.1: Access to information on Evehicles to all stakeholders, including on EV related genders asepts, enhanced.	0	1 Knowledge Platform on EV information with access to all stakeholders established A section on women and social inclusion aspects created in the Knowledge Platform	PIR and Final Project Report
	Indicator 3.2: Number of training programmes established to develop capacity	0	4 (Technician course for EV services& installing CI; Training Programme for policy makers & Curriculum for University) One training resource prepared on addressing women and social inclusion issues, barriers, and solutions.	Final Project Report
	Indicator 3.3: Number of policy makers/professionals and technicians trained by gender - - -	0	300 (200 men; 100 women)	Final Project Report

[1] EV adoption is minimal and stalled at the moment. The baseline is considered to be zero to indicate the incremental GHG emission reduction from the project

[2] EV adoption is lagging in E2Ws and E3Ws. The baseline is considered to be zero to indicate the incremental benefits from the project

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

Please refer to the separate pdf file which includes all responses to the GEF Secretariat's comments to the PFD.

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:**

Budget class	Budget category description	Budget	Budget Consumed	Budget Committed
010	Staff & Personnel (Including Consultants)	5,000	0	5,000
0101	GHG Estimation International Expert	5,000	0	5000
020	Contract services	45,000	31,500	13,500
0201	Workshops/meetings	7,000	1,100	5,900
0202	Consultancy services for PPG (including National Transport Expert, Policy Expert, GEF Expert, Gender Expert, EV expert and ICT expert from University of Moratuwa)	38,000	30,400	7,600
	Total	50,000	31,500	18,500

Notes: The funds have been spent and the sum of committed funds is awaiting final disbursement pending the final expenditure reports.

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Demonstration sites	<i>Latitude</i>	<i>Longitude</i>
Railway Station	8.346160392282092	80.41068599264278
Entrance to Scared City 1	8.320789220207264	80.38985059306091
Entrance to Scared City 2	8.321988814752428	80.38339183371558
Entrance to Scared City 3	8.341096904957523	80.38014099642723
Entrance to Scared City 4	8.359790082353083	80.37202999648387
Entrance to Scared City 5	8.355946380363669	80.41676509387494
Arpico	8.318262628420928	80.39969966426295
Cargills 1	8.331978216101083	80.40920541308081
Cargills 2	8.340852751796184	80.41111514575928

ANNEX E: Project Budget Table

Please attach a project budget table.

GEF budget category & detailed description	Outcome 1	Outcome 2	Outcome 3	Subtotal	M&E	PMC	Grand Total	Responsible Entity
02. Goods		126,000		126,000			126,000	MOE
Procurement of EV charging infrastructure		36,000		36,000			36,000	MOE
Procurement of solar PV systems		90,000		90,000			90,000	MOE
03. Vehicles		199,200		199,200			199,200	MOE
Procurement of E bike docks		27,000		27,000			27,000	MOE
Procurement of E bike personal		7,200		7,200			7,200	MOE
Procurement of E2W delivery		15,000		15,000			15,000	MOE
Procurement of E2W personal		15,000		15,000			15,000	MOE
Procurement of E3W conversion		15,000		15,000			15,000	MOE
Procurement of E3W new		120,000		120,000			120,000	MOE
07. Contractual services (company)	262,131	105,000	92,500	459,631	35,000	0	493,500	MOE
Final Report				0	5,000		5,000	MOE
Professional fees for the expert team for the design of pilot projects		75,000		75,000			75,000	MOE
Professional fees for the expert team for the development of Long-Term Strategy and Mid Term Action Plan for Electric Mobility and acting as the technical experts to develop guideline and standards in 1.2	262,131			262,131			256,000	MOE
Professional fees for the expert team to develop GCF investment concept		7,500		7,500			7,500	MOE

Professional fees for the expert team to develop Knowledge Platform			25,000	25,000			25,000	MOE
Professional fees for the expert team to develop scale up plan		22,500		22,500			22,500	MOE
Professional fees for Capacity building program and course curriculum at master's level			40,000	40,000			40,000	MOE
Professional fees to prepare the communication strategy and material			27,500	27,500			27,500	MOE
Terminal Evaluation					30,000		35,000	UNEP
07. Contractual services company	0	0	0	0	0	4,950	5,000	MOE
Independent financial audits						4,950	5,000	MOE
10. Salary and benefits/Staff Costs	0	0	0	0	0	36,000	36,000	MOE
Project Manager						36,000	36,000	MOE
11. Salary and benefits/Staff Costs	0	0	0	0	0	18,000	18,000	MOE
Project Assistant						18,000	18,000	MOE
12. Training, Workshops, Meetings	35,000	6,500	74,250	115,750	5,000	0	120,750	MOE
Training programme for technicians along the value EV chain developed in partnership with TVEC			30,500	30,500			30,500	MOE
validation workshop/meetings for LTS and MAPs	10,000			10,000			10,000	MOE
Consultation workshop		3,250		3,250			8,250	MOE
Inception Workshop					5,000			MOE

Participation in GEVP Webinars facilitated for policy makers, professionals and other relevant stakeholders.			3,750	3,750			3,750	MOE
TOT programmes for educationalists and skill development professionals on e mobility areas			25,000	25,000			25,000	MOE
Training programmes for policy makers and professionals			15,000	15,000			15,000	MOE
Validation workshops for pilots		3,250		3,250			3,250	MOE
Validation workshops for guidelines	25,000			25,000			25,000	MOE
13. Travel			31,500	31,500			21,500	MOE
Participation in regional and global events organized by GEVP			31,500	31,500			21,500	MOE
15. Other operating costs	0	0	30,000	30,000	0	35,758	76,839	MOE
Develop communication materials			30,000	30,000			30,000	MOE
PMU communication, rent, equipment rental costs				0		35,758	46,839	MOE
Grand Total	297,131	436,700	228,250	962,081	40,000	94,708	1,096,789	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat

or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).