GEF-8 REQUEST FOR CEO CHILD ENDORSEMENT/APPROVAL

TABLE OF CONTENTS

GENERAL CHILD PROJECT INFORMATION 3

Project Summary 3

Child Project Description Overview 4

CHILD PROJECT OUTLINE 7

A. PROJECT RATIONALE 7

B. CHILD PROJECT DESCRIPTION 42

Institutional Arrangement and Coordination with Ongoing Initiatives and Project 77

Table On Core Indicators 87

Core Indicators 87

Key Risks 89

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES 92

D. POLICY REQUIREMENTS 94

Gender Equality and Women's Empowerment: 94

Stakeholder Engagement 94

Private Sector 95

Environmental and Social Safeguards 95

E. OTHER REQUIREMENTS 95

Knowledge management 95

Socio-economic Benefits 96

ANNEX A: FINANCING TABLES 96

GEF Financing Table 96

Project Preparation Grant (PPG) 96

Sources of Funds for Country Star Allocation 97

Focal Area Elements 97

Confirmed Co-financing for the project, by name and type 97

ANNEX B: ENDORSEMENT 98

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s): 99

ANNEX C: PROJECT RESULTS FRAMEWORK 99

ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG) 103

ANNEX E: PROJECT MAP AND COORDINATES 104

ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS DOCUMENTS INCLUDING RATING 105

ANNEX G: BUDGET TABLE 105

ANNEX I: RESPONSES TO PROJECT REVIEWS 106

General Child Project Information

Child Project Title	
Supporting the Shift to Electric Mobility in Zimbabwe	
Region Zimbabwe	GEF Project ID 11083
Country(ies) Zimbabwe	Type of Project MSP
GEF Agency(ies) UNEP	GEF Agency Project ID
Project Executing Entity(s) Ministry of Transport and Infrastructure Development (MTID) of Zimbabwe	Project Executing Type Government
GEF Focal Area (s) Climate Change	Submission Date 8/28/2024
Type of Trust Fund GET	Project Duration (Months) 48
GEF Project Grant: (a) 2,000,000.00	Agency Fee(s) Grant: (b) 180,000.00
PPG Amount: (c) 50,000.00	PPG Agency Fee(s): (d) 4,499.00
Total GEF Financing: (a+b+c+d) 2234499	Total Co-financing 7,100,000.00
Project Sector (CCM Only) Transport/Urban	

Rio Markers

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Principal Objective 2	No Contribution 0	No Contribution 0	No Contribution 0

Project Summary

Provide a brief summary description of the project, to offer a snapshot of what is being proposed. The summary should include: (i) what is the problem and issues to be addressed? ii) as a child project under a program, explain how the description fits in the broader context of the specific program; (iii) what are the project objectives, and if the project is intended to be transformative,

how will this be achieved? and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. (max. 250 words, approximately 1/2 page)

In Zimbabwe, the transport sector is a major contributor to GHG emissions, driven by rapid urbanization and increased motorized travel in cities like Harare, Bulawayo, and Mutare. The vehicle population surged from 300,000 in 2010 to over 1.58 million in 2023, with most being imported, reconditioned units, further contributing to increased emissions.

In 2022, with support from UNEP's CTCN, Zimbabwe's government developed a National Electric Mobility Policy and Roadmap, targeting 17.9% EV sales by 2035. However, progress has been limited. This GEF project aims to accelerate electric mobility in Zimbabwe to reduce GHG emissions, improve air quality, and increase transportation efficiency. As part of UNEP's Global E-mobility Programme, it focuses on four key components: 1) strengthening the institutional framework for electric mobility, 2) demonstrating the feasibility and benefits of electric mobility in public transport, 3) scaling up demonstrations through supportive policies, regulations, and financing, and 4) addressing environmental impacts, including battery and vehicle end-of-life management, and integrating electric mobility with renewable energy expansion. Gender issues are significant in Zimbabwe's transport sector, with women facing challenges related to safety, access, and mobility. A gender analysis and action plan are detailed in Annex K.

This project is expected to transform Zimbabwe's transport sector by promoting electric mobility, providing better public transportation, and supporting the country's NDC targets with direct and indirect (respectively 533,191 tCO_{2eq} and 1,241,010 tCO_{2eq} between Year 2029 and Year 2039) GHG emissions mitigation in Zimbabwe's transport sector..

Child Project Description Overview

Project Objective

Accelerating the introduction of electric mobility in Zimbabwe with a focus on reducing GHG emissions, improving air quality and the environmentally sound management of EV waste.

Project Components

Component 1: Enabling framework for integrated electric mobility systems

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
320,000.00	200,000.00

Outcome:

1. The Government of Zimbabwe promotes integrated electric mobility systems through the enhancement of national coordination, knowledge management, communications, capacities and the endorsement of an updated gender responsive e-mobility roadmap

Output:

1.1. A national inter-sectoral coordination platform and thematic technical working groups (TWGs) on e-mobility are established and meet on a regular basis

1.2. The National e-Mobility Policy Roadmap is updated to include targets, demand-side, supply-side and gender-responsive policy measures, and is submitted to the Cabinet for approval

1.3. A national and public online knowledge management repository on e-mobility is created, operationalized and maintained

1.4. A gender-responsive national communication plan on e-mobility is developed and communication campaigns are conducted to highlight the outcomes of the e-bus pilot and the advantages of e-mobility in Zimbabwe

1.5. A national gender-responsive capacity building plan on e-mobility is developed and implemented, including national trainings and participation in the events organized by the Global E-Mobility Programme

Component 2: Electric mobility systems demonstration

Component Type	Trust Fund
Investment	GET
GEF Project Financing ($)	Co-financing ($)
884,000.00	200,000.00

Outcome:

2. Public transport operators take steps towards the scale-up of integrated electric mobility systems based on the evidence provided by the e-bus pilot project

Output:

2.1. A conceptual design and feasibility study for a e-bus pilot project are developed and presented to key stakeholders

2.2. A gender responsive implementation plan for the e-bus pilot project is developed, including the definition of pilot locations, and specifications for EVs and charging infrastructure

2.3. Technical, operational, and managerial staff of the bus operating company are trained across e-bus life cycle stages and change management is prepared

2.4. The e-buses are procured, and pilot project is implemented, results are collected and disseminated to the government and public transport operators

Component 3: Scale-up and replication of integrated electric mobility systems

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
337,000.00	5,800,000.00

Outcome:

3. The government of Zimbabwe adopts policies, regulations, and standards and endorses a financing scheme to accelerate the introduction of integrated electric mobility systems in the country

Output:

3.1. A comprehensive legal framework (including policies and regulations) and legislation on EV classification, registration, authorization, and technical inspection is developed and submitted to the Cabinet for adoption

3.2. A regulatory package on charging infrastructure covering minimum standards, technical specifications, technical approval and installation and building codes is developed and submitted to the government for adoption

3.3. An assessment of public charging infrastructure needs for the city of Harare is conducted and discussed with municipal and governmental stakeholders, including recommendations on potential business models and charging stations locations

3.4. A market study on local EV supply chains is developed and discussed with national manufacturers / assemblers, including technical support requirements and estimated investments

3.5. An investment plan and a financing mechanism are developed to support the uptake of recommendations of the e-mobility roadmap (output 1.2) for upscaling of EVs and EV charging infrastructure in Zimbabwe

Component 4: Long-term environmental sustainability of integrated electric mobility systems

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
200,500.00	150,000.00

Outcome:

4. The Government of Zimbabwe takes steps to ensure long-term environmental sustainability of integrated electric mobility systems, including EV and battery end-of-life

Output:

4.1. An impact assessment of EV charging on the national grid and estimated energy capacity needs (with a focus on renewable energy) is carried out and discussed with energy sector stakeholders

4.2. A legislative and regulatory framework for the environmentally sound management of end-of-life EVs and batteries (collection, re-use, recycling, re-integration into value chains and safe disposal) is developed and submitted to the Cabinet for approval.

4.3. A scheme to operationalize the environmentally sound management of EV batteries (collection, re-use, recycling, re-integration into value chains and safe disposal) is developed, discussed with national stakeholders (including local vehicle dealers and waste handlers) and submitted to the government for endorsement

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)

88,000.00	125,000.00

Outcome:

5. Project is effectively monitored and evaluated

Output:

5.1. Monitoring and evaluation products are delivered

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
Component 1: Enabling framework for integrated electric mobility systems	320,000.00	200,000.00
Component 2: Electric mobility systems demonstration	884,000.00	200,000.00
Component 3: Scale-up and replication of integrated electric mobility systems	337,000.00	5,800,000.00
Component 4: Long-term environmental sustainability of integrated electric mobility systems	200,500.00	150,000.00
M&E	88,000.00	125,000.00
Subtotal	**1,829,500.00**	**6,475,000.00**
Project Management Cost	170,500.00	625,000.00
Total Project Cost ($)	**2,000,000.00**	**7,100,000.00**

Please provide Justification

N/A

CHILD PROJECT OUTLINE

A. PROJECT RATIONALE

Describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Since this is a child project under a program, please include an explanation of how the context fits within the specific program agenda. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

A1. Global environmental problem

Overview

Climate change is no longer a distant prospect; it is an immediate and pressing global challenge. Increasingly frequent extreme weather events, such as flooding, droughts, wildfires, hurricanes, and heatwaves, have captivated the world's attention. In response to the increasingly evident signs of climate change, governments worldwide have announced new and revised nationally determined contributions (NDCs) to achieve the temperature goal of the Paris Agreement. However, a recent report by the United Nations Framework Convention on Climate Change (UNFCCC) indicates that these updated NDCs and announced pledges for 2030 are expected to have only a limited impact on global emissions. The report suggests that there is only a 5.3% likelihood of achieving emission reductions by 2030 relative to 2019 levels. Furthermore, there is a 50% chance that limiting the temperature rise to 1.5°C or even 2°C by the end of the century will prove unattainable unless immediate, substantial, and widespread reductions in Greenhouse Gas (GHG) emissions are implemented[1][1].

According to the International Energy Agency (IEA), global energy-related CO_2 emissions experienced a 1.1% increase in 2023, amounting to 410 million tonnes (Mt) CO_2eq, and reaching a new peak of 37,400 Mt CO_2eq or 37.4 billion tonnes (Gt) CO_2eq [2][2]. Over the past decade, these emissions have risen by an average of 0.5% annually.

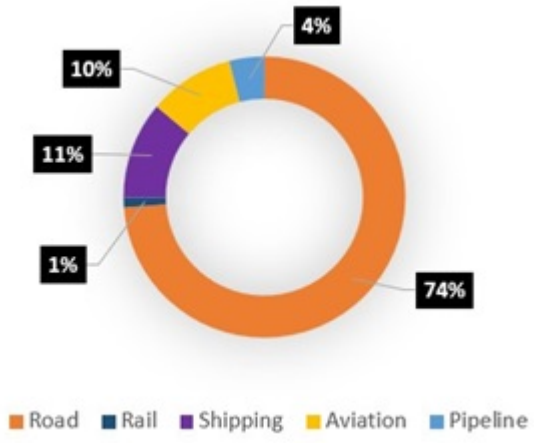


Figure 1. GHG Emissions Transport Sector, 2022

Transportation serves as a crucial aspect of both individuals' daily lives and the global economy. However, it also significantly contributes to climate change through GHG emissions. Mobility across land, air, and sea

remains heavily reliant on fossil fuels, resulting in approximately 240 Mt of CO_2 emissions in 2022-23[3][3]. Most of these emissions stem from road vehicles, as shown in Figure 1. To achieve the Net Zero Emissions (NZE) scenario by 2050, emissions from the transportation sector must decrease by 25% by 2030, translating to an annual reduction of 3%[4][4].

National context

Zimbabwe is a landlocked country and has a population of roughly 14.9 million, with 32% residing in urban areas, spread across 390,757 square kilometers. This translates to a population density of ~43 people per square kilometer. Given this distribution, an efficient transport sector is fundamental for economic growth by facilitating the movement of people and goods. Zimbabwe transport sector is service sector market. Transport services accounted for 35.78% of Zimbabwe's service imports (Balance of Payments) in 2020, according to the World Bank collection of development indicators. These figures, compiled from officially recognized sources, highlight the significant role of the transport sector in Zimbabwe's economy. The data, including actual values, historical records, forecasts, and projections, were sourced from the World Bank in June 2024[5][5].

The Zimbabwean government views the transport sector as vital to its National Development Strategy (NDS) for sustainable development and economic growth. The key focus includes upgrading and expanding transport infrastructure (roads, railways, airports) to improve connectivity and trade, enhancing public transport systems to reduce reliance on informal transport, and encouraging private sector involvement for competition and efficiency. Additionally, it promotes sustainable development with environmentally friendly practices, boosts regional integration to enhance connectivity with neighboring countries, and focuses on capacity building through training and technical assistance[6][6].

While the transport sector is poised for improvement, several issues persist. Inadequate investment in public transport has left over half of the population reliant on private transportation services. These led to many private fleets dominating the public passenger transport landscape, operating without fixed routes or standardized fares, leading to inconsistency and punctuality issues. During peak hours, queues on busy routes to townships can extend for hours, hindering access to essential services such as schools, clinics, and employment opportunities, contributing to high rates of absenteeism and school dropouts. With Zimbabwe experiencing high fuel prices, individuals often allocate 20% or more of their income to transportation, yet the quality of services remains minimal, characterized by overcrowded and unsafe conditions. Dependency on imported fuel, reliant on foreign currency, further escalates costs and complicates spare parts procurement for vehicles, amplifying fleet expenses.

The country’s GHG emissions have been primarily driven by the Agriculture, Forestry, and Other Land Use (AFOLU) and energy sector, which together accounted for a significant majority of the emissions in 2017. The country's net GHG emissions in that year were estimated at 35.84 Mt CO_2eq. Under a business-as-usual scenario, these emissions are projected to increase by 110% to 75.4 Mt CO_2eq by 2030. However, with the implementation of mitigation measures outlined in Zimbabwe's revised NDC, emissions could be reduced by 40%, targeting a decrease to 44.7 Mt CO_2eq by 2030. This ambitious goal encompasses reductions across various sectors, including energy, industrial processes, AFOLU, and waste management, demonstrates Zimbabwe's commitment to contributing to global climate efforts despite its relatively small share of global emission.

Poverty remains a significant barrier to gender equality in Zimbabwe. As of 2017, 71% of the population lived below the poverty line, with stark disparities between rural and urban areas—86% of the rural population, including 52% of women, were below the poverty line, compared to 37% in urban areas. Between 2011/12 and 2017, extremely rural poverty rose from 30.4% to 40.9%, while urban poverty slightly decreased. Gender-specific indicators also show disparities, with the Human Development Index (HDI) for women at 0.496 compared to 0.535 for men, and men having more years of schooling. These figures highlight the ongoing challenges in addressing poverty and achieving gender parity. Zimbabwe's activity rate[7][7] is 70%, with variations across age and sex categories. Male activity rates consistently surpass those of females across all age groups. For males aged 15-64 years, activity rates range from 33% to 96%, while females in the same age group show rates between 30% and 81%. Among those aged 65 and older, the activity rate is 67% for males and slightly lower at 61% for females.

Transport sector

The main cause of change in atmospheric composition in Zimbabwe are urbanization, motorization, economic activity and power generation using fossil fuels, use of biomass for energy especially for domestic cooking and heating and open burning including vegetation fires and waste burning. These are drivers of emissions of substances into the atmosphere. According to the recent NDC of Zimbabwe, the net GHG emissions for the year 2017 totalled 35.84 Mt CO_2 eq. As shown in Figure 2, the AFOLU sector emerged as the primary emitter, followed by the Energy sector, Waste, and Industrial Processes and Product Use (IPPU). Within the Energy sector, thermal power generation stands out as the largest contributor to GHG emissions, followed by residential activities, road transportation, and other sources[8][8].

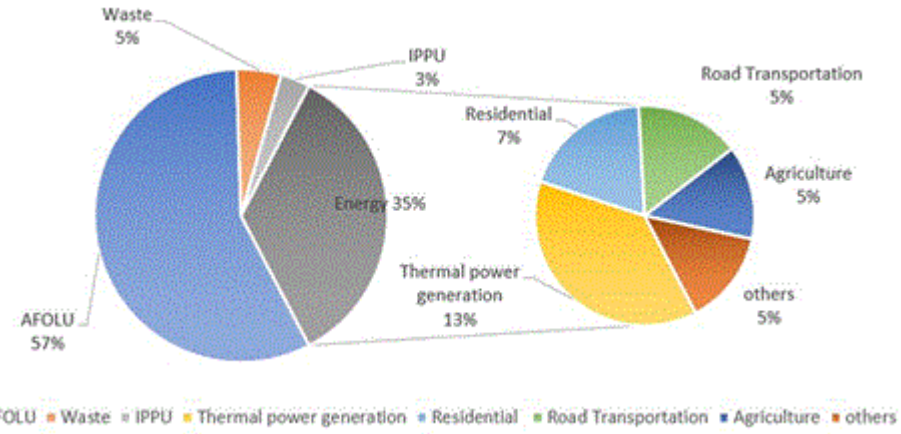


Figure 2. Sector-wise GHG Emissions in Zimbabwe

Zimbabwe's heavy relies on imported commodities, particularly in the automotive sector, exacerbates the country's GHG emissions issue. The majority of vehicles are reconditioned and sourced from developed countries, which are often discarded after reaching the end of their economic lifespan. This disposal practice significantly contributes to increased GHG emissions within the country. Road transport is the main mode of transportation in Zimbabwe, with Harare as a key hub for international routes to neighbouring countries. While road transport remains primary, other modes like air, rail, and water transport also play significant roles, especially in utilizing inland water bodies like the Kariba Dam and the Zambezi River. Zimbabwe has strategically connected its north-south corridor railway with Zambia, Tanzania, and South Africa, aiming to ease the burden of vehicles on the road and reduce transportation costs for businesses[9][9]. Although air, rail, and ferry transport sectors also contribute to GHG emissions, their impact is relatively lower compared to road transport.

A2. Baseline - Zimbabwe's current and future existing efforts

Transport sector

The principal institutions/entities involved in transport sector management is shown in Figure 3:

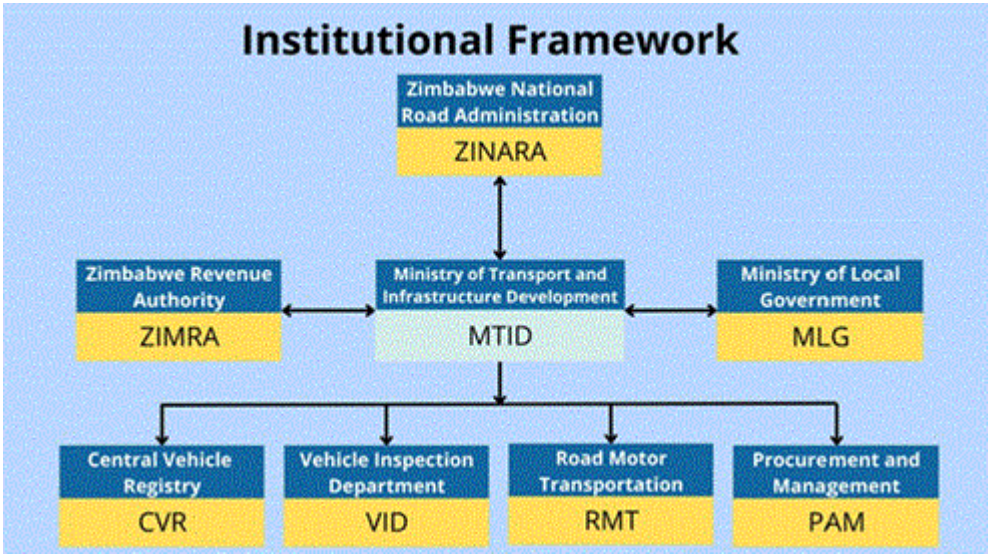


Figure 3. Transport Sector Institutional Framework

1. The **Ministry of Transport and Infrastructure Development (MTID)**[10][10] formulates transport and infrastructure policies; plans, designs, constructs, and maintains road and rail networks; ensures compliance with national and international standards (for example, the SADC transport protocol[11][11]); and approves monitors, evaluates the implementation of turnaround strategies
2. **Zimbabwe National Roads Administration (ZINARA)[12][12]** manages the road fund and allocates funds to various road authorities, including the Department of Roads, Rural District and Urban Councils, and the District Development Fund
3. **Central Vehicle Registry (CVR)[13][13]** facilitates national and cross-border traffic flow, ensuring mobility and accessibility
4. **Vehicle Inspectorate Department (VID)[14][14]** handles vehicle inspection, road maintenance, driver licensing, and road safety policies
5. **Road Motor Transportation (RMT)[15][15]** is responsible for authorizing an operator to run a public transport service
6. **Traffic Safety Council of Zimbabwe's (TSCZ)[16][16]** primary objective is to promote road safety awareness at the same time educate the public on accident prevention strategies and provide guidance for safe navigation by conducting defensive driving courses. Oversight and support for the transportation sector is provided by the MTID, along with other entities including the Zimbabwe National Road Administration, the National Railways of Zimbabwe, and the Civil Aviation Authority of Zimbabwe[17][17].
7. **The Zimbabwe Revenue Authority (ZIMRA)[18][18]** collects revenue, facilitates trade and travel, and advises on fiscal matters, playing a key role in enabling second-hand vehicle imports. The Ministry of Local Governments governs local government operations, including issuing public transport licenses in urban areas.
8. **Ministry of Local Government**: The central body governing the local governments of Towns/ Cities in Zimbabwe. It has an important role to play as the license to public transportation in a city must be issued by the local government of the respective city. Transport vehicles in Zimbabwe are categorized based on mass, with classifications ranging from light vehicles (cars and pick-ups) to very heavy vehicles (multi-axle trucks). The detailed vehicle classifications are provided in Table 1.

Vehicle Class	Description	Type of vehicles in each category
1	1- 2300 kg net mass	Light vehicles (cars and pick-ups)
2/1	2301 - 4600 kg net mass	Medium-size vehicles (mainly lorries and midi buses)
2/2	4601 - 9000 kg net mass	Heavy vehicles (trucks and large-size buses)
2/3	Over 9001 kg net mass	Very heavy vehicles (multi-axle trucks mostly for carrying goods)
3/1	1- 70cm^3 engine capacity	Motorcycles of varying engine and carrying capacities

3/2	Over 70cm^3 engine capacity	Motorcycles with higher engine capacities (large motorcycles and scooters)
4/1	550 kg factory-rated capacity	Motorized transport equipment for factories for heavy lifting like forklifts
4/2	Over 550 kg factory-rated capacity	Motorized transport equipment for factories for more industrial and mining needs
5	Tractors and farm implement e.g., combine harvesters	Tractors (including farm equipment)

Table 1. Vehicle Classification

According to ZIMSTAT's latest transport report published in 2023, Zimbabwe has 1,583,700 (1.58 million units) [19][19] registered motor vehicles in the country as shown in Figure 4. This vehicle stock in the country has increased by 7.3% from 1,467,955 in 2022. The light vehicles (up to 2,300kg) accounted for 76.5% of all vehicles in Zimbabwe, while heavy vehicles of mass 2301-4600 kg comprised 4.1%, mass of 4601-9000 kg represented 5.1%, and mass over 9000 kg made up for 1.4%.

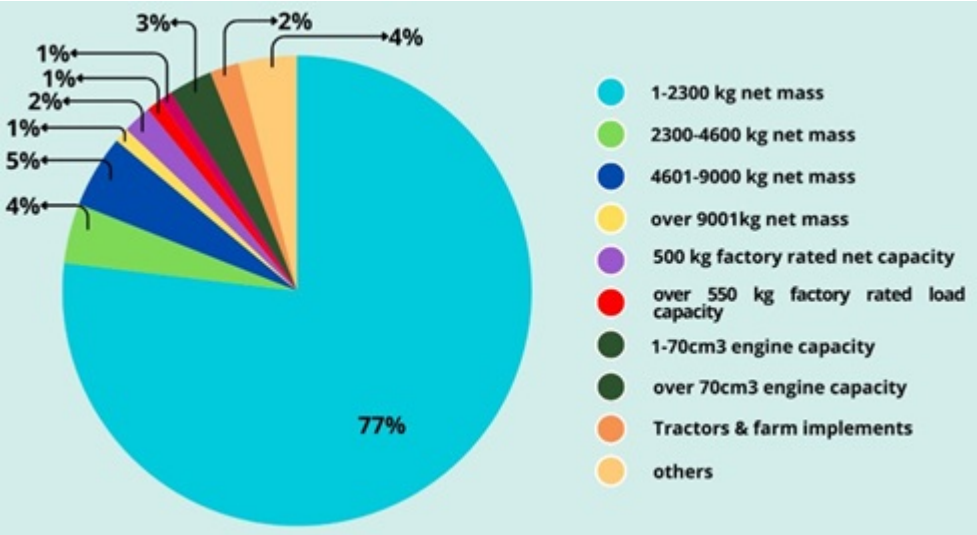


Figure 4. Breakup of Cumulative Vehicle Stock till 2023

Zimbabwe Transport/Mobility Strategy and Key Policies

Zimbabwe, a land-locked nation, recognizes the importance of national and regional transport connectivity to stimulate economic activity and cross-border trade. Despite the previous difficulties with maintaining the road infrastructure, the government is actively working on improving policies and engaging Public-Private Partnerships (PPPs) for transport projects.

Zimbabwe's NDS-1[20][20] 2020-2025 is multi-disciplinary and serves as the country's economic blueprint. The NDS1 of Zimbabwe is a transformative plan aimed at revitalizing the country's transport sector, which has faced significant challenges over the past two decades due to economic difficulties and underinvestment. It

seeks to address the deterioration of transport infrastructure, particularly the over-reliance on road transport, which has stressed the already worn-out road networks. Recognizing the strategic importance of a robust transport infrastructure for enhancing accessibility and promoting trade, the NDS1 prioritizes the rehabilitation and maintenance of the road network. Nearly 93% of the 84,000 km road network is in fair or poor condition. The strategy aims to increase the proportion of roads meeting Southern Africa Transport and Communications Commission (SATCC) standards from 5% to 10% by 2025 and to expand the length of roads in good condition from 14,702 km to 24,500 km.

Zimbabwe's revised its NDC [21][21] in 2021, and it was developed in alignment with the NDS1. It identifies that the energy sector is the second-largest contributor to GHG emissions (after AFOLU). The transport sector is included under energy in NDC, and has following mitigation measures as show in Table 2:

Mitigation Measure	GHG reduction vs 2030 baseline (%)	Absolute reduction 2030 vs baseline (kTons)	Estimated cost (Million USD)
2% biodiesel in fuel by 2030	0.25%	189	74
Transport fuel economy policy / Fuel efficiency improvement 2025-2030: (Motorcycles: 2.2% per year; LDVs: 2.9%/ year; Buses: 2.6%/year; HDVs: 2.5%/year)	0.73%	554	81.39
Public transport: 5% shift from private car to public transport in 2030	0.23%	176	878.86
		TOTAL	**1,034.25**

Table 2. Transport related Mitigation measures under NDC

The following are the various other policies and regulations in the country that support the transition towards low-carbon, sustainable transport infrastructure:

Sr. No.	Name	Last Issued In	Description/ Content
1.	National Transport Masterplan[22][22]	2018	The overall objective/coverage of the document is to prioritize proposals, programs, and projects with high impact as follows: • exploring and encouraging private sector participation • promoting projects supporting mining, industry, agriculture, and tourism sectors • prioritizing projects reducing the cost of goods export and services • supporting local manufacturing Key provisions for road transport sector are:

			• improvement in roads connecting major urban centers, (dualization and rehabilitation) and provision of missing links (new lines) • dedicated mass transit corridors • links to support tourism development • bridge widening, improvement, and replacement One of the short-term goals in the master plan include introducing Electric Vehicles (EVs) for their economic efficiency, low noise pollution and clean technology.
2.	Zimbabwe's Low Emissions Development Strategy 2020-2050 (LEDS)[23][23]	2020	The overall objective of the LEDS is to prioritize proposals, programs, and projects with high impact, as follows: • projects requiring relatively little resources • exploring and encouraging private sector participation • promoting projects supporting the mining, industry, agriculture, and tourism sectors • prioritizing projects that reduce the cost of goods export and services • supporting domestic manufacturing Key provisions for achieving emission targets include: • low-carbon transport systems • implementation of renewable energy and energy efficiency initiatives • climate-smart agricultural practices In the transport sector, mitigation actions include: • reducing the fossil fuel component in the energy mix through blending • reduction in gasoline and diesel consumption • reduction of gasoline and diesel demand by internal combustion engine (ICE) vehicles through the uptake of electric and hydrogen vehicles
3.	Zimbabwe Motor Industry Policy 2017-2030[24][24]		The purpose of this is to promote local assembly and exports of motor vehicles into the region and the rest of the world, in line with the

			Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZIMASSET). • government support – stimulate local demand, export incentives to OEMs, tariff adjustment • control on second-hand imports – Surtax imposition, Conformity to standards and Pre-shipment Inspection, • categorization and regulation of the • motor industry • Development of the motor industry • Value chain and cluster Addressing the issue of variety
4.	The National Vision 2030[25][25]	2022	Among many factors, one factor is Transport Vision 2030 with following focus: • Dualization & Ring-Roads: ○ Dualization of trunk roads ○ Construction of ring-roads around urban centres • Urban Mass Transit System: ○ Re-introduction of efficient Mass transit systems for decongestion ○ Introduction of competent traffic management systems
5.	National Climate Policy (NCP)[26][26]	2021	The policy emphasizes a multi-sectoral approach, involving agriculture, energy, transport, and other key sectors. Within transport, it includes following: • Support the transition to low carbon technologies across various sectors • Promote cleaner fossil fuel technologies and access to clean and affordable energy • Reduction of emissions from vehicles by using EVs, thereby contributing to the country's climate goals
6.	Southern African Development Community (SADC) Industrialization Strategy and Roadmap (2015-2063)[27][27]		The SADC strategy for economic transformation aims at leveraging the region's diverse resources for sustainable economic and social development through beneficiation and value addition • Priority to the efficiency of the present transport corridors to enhance trade and enable alternative transport links • Efficiency of interfacing between the multi-modal transport components
7.	National Biofuels Policy (NBfP)	2019	The policy is structured around four key pillars—economy, agriculture, environment, and society—and covers the time horizon up to 2030, focusing on liquid biofuels in the transport sector. The objectives of the NBfP are: • to introduce biodiesel at a blending ratio of up to 2% by 2030

			• to achieve a consistent and sustainable ethanol blending ratio of up to 20% by 2030 (using sugar cane for ethanol and Jatropha for biodiesel) • to explore the possibility of using other feedstocks for biofuel production • to implement a phased approach to development, starting with the inception phase (2020-2025), followed by the consolidation of the sector (2021-2025), and finally the development of long-term plans (2026-2030) • to improve biofuel economics and remove market inefficiencies • to develop incentive schemes and strategies to overcome challenges to ensure economic viability and sustainability in the biofuel sector

Table 3. Key Policies in Transport Sector

E-Mobility Overview in Zimbabwe

The e-mobility is in very nascent stage in Zimbabwe with very limited deployments, i.e. less than 1,000 however, the exact numbers are not known. It is dominated by micro-mobility modes such as e-bikes (e-2Ws) and e-rickshaws (e-3Ws) as they are seen suitable options for personal travel, small commercial use, small deliveries, and transportation of agricultural produce. These vehicles are particularly ideal for short commuting distances where the average commute is ~15 kms.

The Intermediate Public Transportation (IPT) sector in Zimbabwe is currently fragmented, with many informal taxis (also known as *Mushikashika)*. However, the introduction of e-taxis is being encouraged as a cleaner alternative with lower operational costs, supported by subsidies and tax exemptions. There are around 25 e-taxis in the country, owned and managed by Central Mechanical Equipment Department (CMED), with plans to increase these fleets in future. In the realm of public transportation, the government has initiated the re-formation of the Zimbabwe United Passenger Company (ZUPCO) to include e-Kombis and large e-buses.

The three Ministries namely MRID, 'Ministry of Environment Water and Climate (MEWC)', 'Ministry of Energy and Power Development (MEPD)', supported by UNEP's Climate Technology Centre and Network (CTCN), recently developed a National Electric Mobility Policy and Market Readiness Framework[28][28] and National Policy Roadmap for Electric Mobility[29][29]. This report proposes EV sales target of 17.9% by 2035 in Zimbabwe as shown in Figure 5,

Vehicle Category	Base Year (2020)	Short Term (2022-2025)	Medium Term (2026-2030)	Long Term (2031-2035)
Two-Wheeler	0.0%	20.0%	70.0%	100.0%
Three-Wheeler	0.0%	30.0%	70.0%	100.0%
Four-Wheeler Personal	0.0%	5.0%	30.0%	60.0%
Four-Wheeler Taxi	0.0%	10.0%	35.0%	65.0%
Bus (Intercity)	0.0%	5.0%	20.0%	30.0%
Bus (Intracity)	0.0%	15.0%	70.0%	90.0%
Overall sales target (%)	0.0%	6.0%	33.1%	62.3%
Overall EV mix (%)	**0.0%**	**1.1%**	**6.8%**	**17.9%**

Figure 5. Proposed EV Sales Target for Zimbabwe until 2035

For the public transport, the reports outline plans to pilot and deploy EVs within the fleet operations of the ZUPCO [30][30] and the CMED. ZUPCO is at the forefront of this transition, with plans to deploy electric buses in Harare. The e-bus market feasibility study for Harare was conducted and identifies an initial deployment of 50 e-buses, with a strategy for gradual scaling. This pilot deployment, which is currently underway tendering procedure for the selection of bidder, will help in setting an example for other cities and pave the way for broader adoption of electric buses. The targeted electrification of intracity buses aims to achieve 15% electrification by 2030, with a long-term goal of 16,149 e-buses in Zimbabwe, requiring nearly 4,050 captive chargers to support this fleet.

The MEPD has announced support for the establishment of EV charging infrastructure, with the government's fuel retailing company set to install charging stations at its fuel stations and along major highways. Additionally, the Zimbabwe Electric Utility Company (ZESA) plans to include EVs in its fleet replacement programs and roll out electric charging points across 90 centres nationwide.

The local private sector is also entering the EV space. Vaya, a ride-hailing service owned by Zimbabwe's largest telecommunication company Econet, launched the Vaya EV as part of a premium service offered for passenger and logistical services[31][31]. Mobility For Africa (MFA)[32][32] is a startup piloting electric three-wheelers called Hambas in rural areas to bring solar powered electric transport solutions to women and their families. Agilitee[33][33], a Zimbabwe based car maker has set up an EV assembly plant in Harare and announced its first electric self-charging car. The Zimbabwe Motor vehicle association plans to set up an EV desk to promote local assembly and adoption of EVs.

Key Stakeholders

The e-Mobility deployment involves collaboration among various stakeholders, including national government ministries (transport, energy, waste, financing, gender, and others), provincial/city authorities, private companies, industry associations, civil society groups, and academics. These stakeholders are involved,

directly or indirectly, in implementing the project outcomes. Their roles and responsibilities are outlined in the Table 4

Sr. No.	Institution/ Company Name	Roles and Responsibilities, including towards EV development
1.	Ministry of Transport and Infrastructural Development (MTID)[34][34]	• Responsible for national transport policy and infrastructure development • Develop transport policies, facilitate the integration of EVs into the national transport system, and ensure infrastructure readiness
2.	Ministry of Environment, Climate, and Wildlife (MECW)[35][35]	• Oversees environmental protection and climate policy • Develop EV and battery waste policies, its reuse/ disposal mechanisms, etc.
3.	Zimbabwe Revenue Authority (ZIMRA)[36][36]	• Manages national tax collection and customs processes • Develop and implement tax incentives for EVs importation and adoption • Facilitate streamlined customs processes for EV-related imports
4.	Ministry of Local Government and Public Work[37][37]	• Coordinates local government functions and public works • Ensure local government policies align with national e-mobility goals • Facilitate the development of necessary local infrastructure to support EV deployment
5.	Ministry of Finance and Economic Planning[38][38]	• Oversees national economic policy and budget allocation • Allocate financial resources to support e-mobility initiatives • Develop economic policies that incentivize the adoption of EVs
6.	Ministry of Industry and Commerce	• Promotes industrial growth and trade. • Promote local manufacturing and assembly of EVs • Develop industrial policies that support the growth of the EV sector
7.	Zimbabwe Energy Regulatory Authority (ZERA)	• Regulates the energy sector and ensures energy security • Regulate and oversee the energy sector to ensure a reliable and sustainable supply of electricity for EV charging. Develop standards and regulations for EV charging infrastructure.
8.	Zimbabwe Electricity Transmission and Distribution Company (ZETDC)	• Responsible for electricity transmission and distribution • Ensure the electrical grid can support the increased demand for EV charging
9.	Zimbabwe's Public Service Commission (PSC)[39][39]	• Manages public service employment and resources • Promote the adoption of EVs within government departments

10.	Ministry of Women Affairs	• Supports women's affairs and SME development • Support women and SMEs in the EV sector through training and capacity-building initiatives • Develop programs to increase the participation of these groups in the e-mobility industry
11.	City of Harare[40][40]	• Manages urban planning and municipal services in Harare • Implement local e-mobility initiatives. Develop urban infrastructure to support EVs, including charging stations and designated parking spots
12.	Southern African Development Community (SADC)	• Facilitates regional cooperation and development. Facilitate regional cooperation and harmonization of e-mobility standards. Develop regional policies and frameworks to support the growth of the EV sector
13.	Standards Association of Zimbabwe (SAZ)	• Develop national standards and ensure compliance. Develop and implement standards for EVs and related infrastructure • Ensure compliance with international EV standards
14.	Zimbabwe United Passenger Company (ZUPCO)[41][41]	• Operates public transport services in Zimbabwe as a state-owned company. • Integrate electric buses and Kombis into public transport services, pilot EV public transport projects, and manage fleet operations
15.	Central Mechanical Equipment Department (CMED) Pvt. Limited[42][42]	• Manages government vehicle fleets and mechanical equipment • Manages its own fleet, ICE and EVs. Expanding EV vertical within the company. • May procure EVs for the government department to promote e-mobility
16.	Motor Industry Association of Zimbabwe (MIAZ)	• Promotes and supports the automotive industry • Promote the adoption and use of EVs through various initiatives and partnerships • Develop infrastructure and services that support EV users

Table 4. Key stakeholders their roles and responsibilities

Civil Society Organizations (CSOs) in Zimbabwe advocate for social, environmental, and economic issues, supporting policies and initiatives that promote e-mobility while raising public awareness about the benefits of EVs and sustainable transportation. At a recent event at the University of Zimbabwe (UZ)[43][43], a student showcased an EV Charging Station during the UZ Research Innovation and Industrialization Week, demonstrating how universities are innovating to address future challenges. CSOs and institutes such as the Zimbabwe Environmental Law Association (ZELA), Environment Africa, Clean Energy Zimbabwe (CEZ), and the Zimbabwe Institute of Engineers (ZIE) are expected to further support research in the EV ecosystem and spread awareness to encourage the adoption of EVs among the public.

A few private players are emerging in the country, focusing on the assembly and manufacturing of EVs, and actively promoting the overall sector. Mobility for Africa focuses on providing affordable, sustainable transportation solutions, particularly for rural areas. They specialize in electric tricycles, which are designed

to improve access to markets, healthcare, and education for women and families in remote communities. Vaya Africa, part of the larger Econet Group, offers a range of EVs services, including ride-hailing and logistics solutions, aiming to reduce the carbon footprint of urban transportation. They also invest in the development of charging infrastructure to support their fleet. Agilitee is another key player, known for their innovative approach to e-mobility in Zimbabwe and the broader African market. They manufacture and distribute electric motorcycles and scooters, targeting urban commuters looking for cost-effective and environmentally friendly transportation options.

Social inequalities in Zimbabwe's transport sector have been a topic of concern from decades. Mobility is not gender-neutral, and women and men have different needs, experiences and mobility patterns. During Covid-19, a lot of inefficiencies were found in the way people were commuting. Research publishes by Department of Peace, Security and Society under University of Zimbabwe stated that monopoly in transportation system let to affordable fares for the commuters but at a high cost of human security. There is an extensive need for private players in the transportation system in Zimbabwe.

The root causes of these social inequalities in Zimbabwe's transport sector are also embedded in the country's historical, political, and economic context. The adoption of the neo-liberal ESAP in the 1990s led to the deregulation of the transport sector, which prioritized private over public interests. This shift resulted in the decline of state-owned transport services, like the Zimbabwe United Passenger Company (ZUPCO), and allowed private operators to dominate the market, often at the expense of low-income communities. Furthermore, the rapid urbanization in Zimbabwe, particularly in Harare, has not been matched by adequate urban planning and investment in public transport infrastructure. The growing population in urban peripheries, driven by housing shortages and economic pressures, has outpaced the development of transport services, leading to the current state of transport deprivation. Following are some of the disadvantages around transport in the country:

- Geographical Exclusion: Many low-income residents live on the peripheries of urban centers, such as Harare, where transportation services are scarce and unreliable. The distance from economic hubs, coupled with inadequate public transport, makes it difficult for these residents to access essential services and job opportunities. This spatial segregation make matter worse by limiting their mobility and access to opportunities.
- Economic Exclusion: The cost of transportation in Zimbabwe disproportionately affects low-income households. These families often spend a significant portion of their income on commuting, which limits their ability to afford other necessities. The deregulation of the transport sector, following the Economic Structural Adjustment Programme (ESAP), led to the rise of private transport operators who prioritize profit over equitable service provision, further marginalizing the poor. Fair competition is a key to good service services if the participants are enough exploitation is natural.
- Transport Availability and Quality: The public transport system in urban areas is characterized by congestion, unsafe vehicles, and unreliable service. The dominance of informal transport providers has led to an unregulated transport environment. This situation is particularly challenging for low-income residents who rely on public transport for their daily commutes. The EVs have zero tailpipe emissions providing direct health benefits in the region.
- Infrastructure Deficiencies: Many low-income communities on the outskirts of city areas lack basic transport infrastructure, such as well-maintained roads and adequate public transport facilities. This lack of infrastructure not only makes commuting more difficult but also increases travel time and costs, further entrenching social inequalities.
- Social Exclusion: Due to the factors mentioned above, many low-income residents are socially excluded from full participation in economic and social activities. The inability to access reliable

transport limits their opportunities for employment, education, and healthcare, perpetuating the cycle of poverty.

When developing policies and strategies for EV adoption in Zimbabwe, it is essential to consider the social inequities that exist within the country. This includes ensuring that subsidies, incentives, and infrastructure investments are designed to be inclusive, benefiting all segments of the population, particularly those who are disadvantaged or underserved.

Financing

The National E-Mobility Policy Roadmap study outlines a need for $335 million in financing to achieve approximately 30% market penetration of EVs in Zimbabwe. This financing can include capital subsidies for various vehicle segments, as well as reductions in VAT or customs taxes. Various ministries are expected to play significant roles in implementing these financial measures.

Zimbabwe, Africa's top producer of lithium—a crucial component for EV batteries and renewable energy storage—is encouraging miners to refine the mineral locally to boost the economy. The Finance Ministry has already attracted over $1 billion in investment from Chinese miners, including Zhejiang Huayou Cobalt, Sinomine Resource Group, Chengxin Lithium Group, Yahua Group, Canmax Technologies, and the Tsingshan Group[44][44].

In Zimbabwe, the Infrastructure Development Bank of Zimbabwe (IDBZ) recognizes the pivotal role the transport sector will play in the country's future. Therefore, IDBZ is actively collaborating with various ministries to rejuvenate the nation's transport sector. They are engaged in multiple projects with the National Railways of Zimbabwe (NRZ) and other departments, aiming to revitalize all modes of transport. According to Canadian Pacific Consulting Services (CPCS), which the government commissioned for the National Transport Master Plan, the goal is to create a short-, medium-, and long-term investment plan for sustainable transport infrastructure and services that support growth and wealth creation, emphasizing green and inclusive development. This initiative can benefit from IDBZ's financing to build EV infrastructure along highways and other key areas where EVs are frequently used.

Monitoring and Data Systems

The introduction of Zimbabwe's National Monitoring and Evaluation (M&E) Policy in 2015 marked a significant milestone in addressing implementation challenges through systematic oversight. Spearheaded by a team under the Office of the President and Cabinet, this policy was developed with technical support from the African Community of Practice (AfCOP) Country Coaches and financial backing from the World Bank and African Development Bank, alongside valuable contributions from M&E experts, organizations, and corporates. The Zimbabwe Field Office (ZMFO) actively monitors transportation goals, complemented by internal audit divisions within the Ministry. Additionally, the Directorate of Finance within the Ministry of MTID oversees financial management and reporting for the Transport Master Plan incentives. This office within MTID can be useful in overall project monitoring and effective project management and accountability in achieving its objectives.

Institutional Framework

Zimbabwe's institutional frameworks for the energy sector are designed to foster efficiency, transparency, and accountability while promoting sustainable development. These frameworks include various regulatory bodies, policies, and strategies that ensure effective management and coordination within the sector. The energy sector in Zimbabwe is led by the Ministry of Energy and Power Development and regulated by ZERA, as shown in Figure 6. They oversee the procurement, production, transportation, transmission, distribution, importation, and exportation of energy from any source. It acts per public demand and recognises international standards, ensuring the maximization of access to affordable and environmentally sustainable energy for consumers. Additionally, ZERA promotes coordination and integration in the importation, exportation, and pooling of energy within the SADC and Common Market for Eastern and Southern Africa (COMESA) regions.

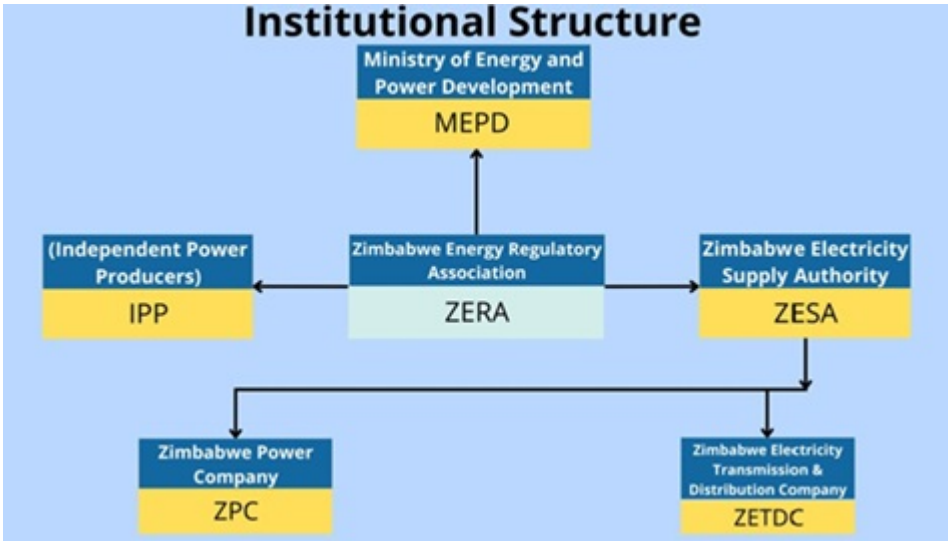


Figure 6. Institutional Structure of ZERA

1. The **Ministry of Energy and Power Development (MEPD)** is responsible for energy-related developments, supervising the performance of the energy utility and its subsidiaries. It handles policy formulation, performance monitoring, and sector regulation, and promotes research, development, and new renewable energy sources.

2. The **Zimbabwe Energy Regulatory Authority (ZERA)** was established by the Energy Regulatory Authority Act of 2011. It regulates the procurement, production, transportation, transmission, distribution, importation, and exportation of energy while developing and enforcing standards, setting energy prices, resolving disputes, and issuing licenses. Additionally, ZERA undertakes infrastructure audits, fuel quality monitoring, price determination, enforcement, and training on the safe use of products.

3. The **Zimbabwe Electricity Supply Authority (ZESA)**, formed under the Electricity Act of 1987, is a vertically integrated parastatal overseeing power generation, transmission, and distribution through its subsidiaries: Zimbabwe Power Company (ZPC), ZETDC, ZESA Enterprises, and Powertel.

4. The **Zimbabwe Power Company (ZPC)** constructs, owns, operates, and maintains power generation stations, currently managing four coal-fired stations (Hwange, Bulawayo, Munyati, and Harare thermal stations) and one hydropower station (Kariba South Power Station).

5. The **Zimbabwe Electricity Transmission and Distribution Company (ZETDC)** handles the system/network operator function for the energy grid, transmitting electricity from power stations, distributing it, and retailing it to end users. ZETDC also engages in regional trade through the Southern African Power Pool (SAPP).

6. There are some **Independent Power Producers (IPPs)** who also operate through production for their own consumption or for trading.

Zimbabwe's energy profile is mainly divided among wood fuel (61%), petroleum (18%), electricity (13%), and coal (8%). Approximately 80% of the urban population has access to electricity while it is only 21% in rural areas.[45][45] The country has an installed capacity of about 2,300 MW, with Zimbabwe Power Company (ZPC), a generation subsidiary of ZESA, owning around 95% of this. More than 50% of electricity is generated from hydropower power while the remainder is from thermal power plants. Bagasse, mini hydropower and small sized grid connected solar systems have an installed capacity of about 130 MW. Against this background, Zimbabwe's power deficit is close to 1,000 MW during peak demand periods and the national electricity utility company complements its suppressed generation with imports of up to 400 MW from its neighbors. It imports about 50 MW from Hidroelectrica de Cahora Bassa (HCB), Mozambique, and around 300 MW from Eskom, South Africa whenever finances allow. This results in periodic load shedding when demand surges. Zimbabwe is also exporting around 80 MW of power to NamPower, Namibia based on a commercial agreement between Zimbabwe Power Company and NamPower.

Energy Sector/ Strategy and Key Policies

The NDS Phase 1 (2021-2025) targets include increasing power supply from 2,317 MW to 3,467 MW, creating an Independent System and Market Operator (ISMO), and constructing an additional 280 km of the electricity transmission and distribution network by 2025[46][46].

The Zimbabwe revised Nationally Determined Contributions (NDC) outline specific targets related to renewable energy and emissions reduction, including reducing transmission and distribution losses from 18% in 2020 to 11% in 2025, expanding solar capacity by 300 MW by 2025, and adding microgrid and biogas capacities. Significant energy efficiency improvements are targeted across various sectors, such as agriculture, commercial, domestic, manufacturing, and mining, aiming for substantial savings. The NDC aims for a 40% reduction in GHG emissions below the projected business-as-usual scenario by 2030, conditional on international support. The mitigation measures for the energy sector are as shown in Table 5.

Mitigation Measure	GHG reduction vs 2030 baseline (%)	Absolute reduction 2030 vs baseline (ktonnes)	Estimated cost (Million USD)
Reduced transmission and distribution losses from 18% in 2020 to 11% in 2025	1.01%	760	1,088.99
Expansion of Solar: 300 MW in 2025	0.61%	460	304.83

Expansion of microgrids: An additional of 2.098 MW of capacity added through microgrids by 2028	0.004%	3.27	2.96
4.1 MW biogas capacity added in 2024		0.01%	9.31
Energy Efficiency Improvements: Agriculture: 12% savings (2030 compared to baseline scenario); Commercial: 16% savings; Domestic: 22.08% savings; Manufacturing: 18.63% savings; Mining: 8% savings	2.72%	2,048	633.91
		TOTAL	**2,040**

Table 5. Energy-Related Mitigation Measures Under NDC

Some of the key policies and regulations in the country that support the transition towards low-carbon, renewable and sustainable energy infrastructure:

Sr. No.	Name	Last Issued In	Brief Description
1.	National Energy Policy (NEP)	2021	The Zimbabwe NEP 2021 provides comprehensive support and strategic planning for multiple renewable energy sources. The objectives of the NEP are: • to promote the development and use of renewable energy sources such as solar, wind, hydro, and biomass, and enhance energy efficiency across all sectors • to improve access to modern energy services in rural and urban areas • to reduce GHG emissions through cleaner energy technologies and practices • to attract investment in sustainable energy projects through incentives for private sector participation • to establish robust regulatory frameworks for the efficient and fair operation of the energy sector • to promote training and capacity-building initiatives for developing local expertise in sustainable energy technologies and management
2.	National Renewable Energy Policy (NREP)[47]	2019	NREP aims to secure long-term energy needs sustainably by establishing market-oriented measures and regulatory instruments for the renewable energy sector. The policy's objectives are: • to install renewable energy capacity of 1,100 MW (excluding large hydro) or 16.5% of total electricity supply from whichever is higher, by 2025 and to achieve an installed renewable energy capacity of 2,100 MW or 26.5% of total electricity supply, whichever is higher, by 2030 • to promote the use of solar, hydro, wind, geothermal, and biomass (including bagasse, biogas, forestry, and sawmill waste) • to install more than 250,000 solar geysers in old (as retrofits) and new buildings by 2030 • to implement additional alternative energy programs, including institutional and domestic biogas digesters, solar mini-grids, and solar water pumping systems • to meet the current and projected energy supply deficit and GHG emissions reduction objectives as per NDCs submissions • to provide guidelines and specific targets/timelines encompassing incentives to encourage investment • to establish procurement mechanisms and mitigate development risks • to promote off-grid technologies and support local manufacturing technologies • to develop an institutional framework and action plan
3.	Vision 2030		The Zimbabwe Vision 2030 provides comprehensive support and strategic planning for multiple sectors, including energy. The objectives of the Vision 2030 energy sector are: • Prioritize optimal power generation from renewable and non-renewable sources • Enhance urban and rural electrification

			• Improve access to modern energy in rural areas • Attract investment through PPPs, joint ventures, and IPPs • Establish robust regulatory frameworks for the energy sector • Promote renewable energy sources like hydro, solar, and wind • Support construction of major power projects (Hwange Thermal, Batoka Gorge Hydro-Electric) • Encourage rural electrification and improve quality of life
4.	Energy Regulatory Act (EMA)	2011	The EMMA of Zimbabwe provides a comprehensive framework for the regulation of the energy sector. The objectives of the Energy Regulatory Act are: • to establish the ZERA • to license and regulate operators in the electricity and petroleum sectors • to ensure fair competition and protect consumer interests • to set and approve energy tariffs and prices • to promote the efficient and sustainable use of energy resources • to oversee the development and implementation of energy policies • to conduct research and promote innovation in the energy sector, and • to enforce compliance with national and international energy standards and regulations
5.	Rural Electrification Act	2002	The Act allowed for the establishment of the Rural Electrification Fund (REF) Board responsible for holding and distributing REFs for all rural electrification projects countrywide. The main objectives and provisions of the Act are: • to allow for the expansion of the national electricity grid to rural government institutions, business centers, and chief's homesteads on a 100% subsidy • to provide a 60% subsidy on other connections • to support decentralized electricity generation using renewable energy

Table 6. Policies for Energy sector Transition

The NREP of Zimbabwe aims to significantly enhance access to clean and affordable energy. The policy targets an installed RE capacity of 1,100 MW by 2025 (excluding large hydro), or 16.5% of total electricity supply, whichever is higher, by year 2025 and 2,100 MW by 2030, or 26.5% of the total electricity supply whichever is higher, by year 2030[48][48]. According to the NREP of August 2019, the country has outlined several initiatives and policy provisions aimed at boosting investment in RE sector. Key points from the policy include:

1. **Incentives for Promoting Investment in Renewable Energy**
    - **National Project Status and Tax Incentives**: Awarding National project status to RE projects to enable exemptions from customs and general excise regulations, allowing developers to import RE systems at competitive rates. Tax holidays and duty-free status for solar projects are also provided.
    - **Prescribed Asset Status**: Encourages investment from pension funds and insurance funds by granting prescribed asset status to RE projects, thereby attracting capital, and enabling the issuance of bonds
    - **Viability Gap Funding**: For off-grid community projects in rural areas to increase electricity access, supported by the REF
2. **Procurement Mechanisms**
    - **Feed-in Tariff (FiT) and Competitive Bidding**: Utilized for different RE technologies, including solar, hydropower, biomass, geothermal, and wind. The policy recommends

competitive bidding for solar Photo-Voltic (PV) and Concentrated Solar Power (CSP) projects and FiT for small hydropower, biomass, and geothermal projects.

- **Standard Bankable Power Purchase Agreements (PPAs) and Request for Proposal (RfP)**: Establishing standard PPAs and RfP guidelines to ensure clarity and attract private sector participation

3. **Addressing Development Risks**
   - **Approval Timelines**: Clear timelines for obtaining necessary consents, permissions, and approvals
   - **Setting Up a Nodal Agency**: To set up Nodal Agency for facilitation of the entire process of obtaining approvals and clearances, and to monitor the progress of RE projects
4. **Promoting Off-grid Technologies**
   - **Incentives and Guidelines**: For the development of off-grid projects, including specific programs for solar water heaters, biogas digesters, solar mini-grids, and solar water pumping systems

These measures are designed to create a supportive environment for renewable energy investment, aiming to increase the contribution of renewables in Zimbabwe's energy mix, improve electrification levels, and promote sustainable development. The various RE projects in the country is shown in Table 7:

Program / Project	Leading ministry / supporting entities	Brief description	Duration	Estimated value (USD)
Renewable Energy Generation Initiatives	Infrastructure Development Bank of Zimbabwe (IDBZ)	The IDBZ will provide loans to boost renewable electricity generation through its projects and collaborations with Independent Power Producers (IPPs) The Bank has identified sites capable of generating 67MW of clean energy and is partnering with several IPPs to ensure citizens have access to clean, modern, and affordable energy by 2030		180 million
Great Zimbabwe Hydro	Minister of State for Masvingo Provincial Affairs and Devolution	The Great Zimbabwe Hydro Project is a 5 MW run-of-river hydro project on the Mutirikwi River in Masvingo province, adjacent to Lake Mutirikwi dam. It will connect to the Zimbabwe national grid The project will reduce CO2 emissions by 15,000 tCO_2e annually, enhance electricity supply, boost renewable energy generation, and create jobs, aligning with Vision 2030 for an eco-friendly economy. Old Mutual Life Assurance Company Zimbabwe Limited has committed US$14.2 million to construct the project	2022-2023	14.2 million
Claremont Upgrade project **Odzi Mini-Hydro project** **Nyakupinga Minihydro project**	Penhalonga Energy	US$ 0.4 Million committed to take capacity of existing plant from 0.2MW to 0.5MW. US$ 1.2 Million committed towards construction of a 0.6MW hydropower plant. US$ 1.4 Million committed towards construction of a 1MW Mini-hydropower plant.		3 million

Tokwe Mukosi Hydropower Project	Public Service Commission (PSC)	US$ 7 Million committed in equity by PSC for construction of a 15MW hydropower plant at Tokwe Mukosi dam		30 million
Centragrid Phase 2	National Social Security Authority (NSSA), African Transmission Corporation (ATC) and Old Mutual	Centragrid Energy Systems Africa operates a solar PV plant in Nyabira. Old Mutual Limited and the National Social Security Authority plan to expand its capacity from 2.5MW to 25MW, including associated transmission facilities. This project supports the government's 2030 target of generating 2100MW (26.5% from renewables) of sustainable energy Funding includes US$21.5 million from Old Mutual Investment Group Zimbabwe (OMIZ) and US$10 million from NSSA for the construction of an additional 23MW solar PV capacity at Nyabira		26.5 million
Expansion of Solar: 300 MW in 2025	Ministry of Energy and Power Development	Expansion of Solar energy is identified as a GHG mitigation measure in NDC and System development plan 2017 to achieve country's GHG targets. The projects aim 460,000 tonnes GHG reduction by 2030 vs 2017 baseline accounting to 0.61% GHG reduction vs 2030 baseline	2025	304.83 million
N/A	InfraCo Africa / Private Infrastructure Development Group	InfraCo Africa has signed an agreement in December 2022 committing US$ 2 million to scale the offering of Mobility for Africa, an electric mobility company delivering affordable, cargo-carrying e-tricycles and solar-powered battery charging solutions for underserved communities in rural Zimbabwe[49][49]		2 million
Renewable Energy Fund	Old Mutual Investment Group, UN SDG Fund and IDBZ	The Renewable Energy Fund, launched in December 2022, is expected to unlock over US$ 30 million, which will be directed towards renewable energy projects in Zimbabwe, to mitigate the country's energy challenges while facilitating an enabling environment for green energy investment		30 million
Expansion of microgrids: Additional of 2.098 MW of capacity added through microgrids by 2028	Ministry of Energy and Power Development	Expansion of microgrids is identified as a GHG mitigation measure in the NDC and Rural Energy Masterplan 2021 to achieve national GHG targets. The project aims for a 3,270-tonne GHG reduction by 2030 from the 2017 baseline, accounting for a 0.004% reduction against the 2030 baseline	2017-2028	2.96 million
Strengthen and Promote Research and Development in the Renewable Energy Sector through capacity building on proposal writing skills, training of trainers on various impacts of climate change on the energy sector at national and subnational levels	MPED, MECW, MWA, Ministry of Health, Ministry of Information ZERA; EMA; NGOs and CSOs; Ministry of Finance; SADC organs	It includes: 1. Training workshops on proposal writing 2. Training on research skills and methodologies 3. Pilot research programs on energy efficiency 4. Innovation trials and research for alternative energy 5. Developing an interface for integrating scientific and indigenous knowledge on climate mitigation and adaptation 6. Establishing climate change focal persons for effective communication to stakeholders	by 2030	120 million

Table 7. Renewable Energy Projects

Monitoring Systems for Energy Metrics

Zimbabwe has established comprehensive systems to monitor energy consumption, RE production, and emissions, as well as tracking progress towards sustainability goals. These systems are supported by a robust policy framework outlined in various national documents.

1. **Energy Consumption and Renewable Energy Production Monitoring** – The MEPD oversees the energy sector, which includes the monitoring of energy consumption and RE production. This oversight involves supervising state-owned enterprises like the ZESA and the Rural Electrification Agency (REA), both of which play critical roles in data collection and reporting. NREP outlines the establishment of a Nodal Agency specifically dedicated to the monitoring and evaluation of renewable energy projects. This agency is responsible for resource estimation, preparing feasibility reports, and maintaining an online platform that depicts the current state of project approvals. Specific programs under the NREP focus on the installation of RE systems, such as solar water heaters and biogas plants. Progress in these programs is monitored through key indicators, including the number of users and reductions in GHG emissions.

2. **Comprehensive Data Systems** – An integrated energy plan is essential for balancing energy demand and supply while considering economic, environmental, and social factors. The proposed Energy Management Act aims to formalize the roles of various stakeholders and establish a legal framework for the collection and analysis of energy data. Additionally, the Development Projects Management Information System (DEVPROMIS) is being developed to enhance transparency and accountability in tracking financial support for energy projects, including those focused on renewable energy and climate finance[50][50].

E-waste management sector

Over the past decade, the electronic industry has seen unprecedented growth worldwide, becoming the fastest and largest growing industry globally. In Zimbabwe also, this surge has led to a significant e-waste challenge, with no standardized policies or regulatory frameworks in place to manage the growing e-waste problem. The lack of structured procedures for discarding lead acid battery waste and other electronic waste is increasingly concerning. Most of the electronic waste in Zimbabwe is not locally manufactured but imported from developed countries, like other SADC nations, Europe, China, and India. Large volumes of electronic gadgets, including TVs, cell phones, fridges, laptops, toys, digital cameras, and other microelectronics, are entering the country. Despite the influx, there is a lack of interest in quantifying these goods and determining the volumes dumped in Zimbabwe.

Zimbabwe's NDS recognizes the growing issue of e-waste and outlines specific measures to address it. As the country embraces digital transformation and the proliferation of electronic devices increases, managing e-waste has become a critical environmental concern. Similarly, Zimbabwe's NDC highlights challenges in waste management, from the waste sector due to increasing volumes of municipal solid waste (MSW) and inadequate waste management practices. Both the NDS and NDC emphasize the need for an integrated solid

waste management plan, promoting waste-to-energy projects, and addressing the critical need for capacity building and investment in infrastructure to manage all types of waste effectively. The NDC also underscores the importance of international support to implement these measures and reduce emissions from the waste sector.

Currently, Zimbabwe has vehicles using lead-acid batteries, which are recyclable, but there is no policy or standard for their management. With the rise of EVs using lithium and other metals, the toxic nature of e-waste, especially batteries, is a significant concern. The e-waste value chain needs rapid development as the country's consumption of electronic items rises. The NDS stresses the importance of collaboration between government agencies, non-governmental organizations, the private sector, and international partners to create effective e-waste management solutions. Investing in infrastructure is important, with plans to establish accessible facilities for the collection, sorting, and recycling of electronic waste nationwide.

The National Clean-up Programme[51][51], launched by the President, promotes a culture of cleanliness across cities and towns, with corporate entities supporting recycling initiatives. However, current legal instruments are unclear on managing electronic waste in Zimbabwe. There is no specific legislation or policy on e-waste management. The Environmental Waste Management Act (20:27) only prohibits the discharge of hazardous substances into the environment but does not specifically regulate e-waste. The Environmental Management Agency (EMA) has policies to deal with hazardous waste, but the existing laws do not address the specific concerns of e-waste, making it difficult to manage effectively.[52][52]

The various policies/acts in the country that support hazardous waste management are shown in Table 8:

Sr. No.	Name	Last Issued In	Description
1.	Environment Management Act (Hazardous Waste Management) Regulations, 2007	2011	These regulations, made under the Environmental Management Act, provide rules for the management of hazardous waste. The main objectives and provisions of the Act are: • to govern the proper handling, transport, treatment, storage, and disposal of hazardous waste • to safeguard both human health and the environment from the potential adverse effects of hazardous waste • to define and classify hazardous waste, providing clear guidelines for its identification throughout its lifecycle • to establish stringent conditions on permits and licensing approval for facilities involved in the generation, transportation, treatment, storage, and disposal of hazardous waste • to ensure safe practices in transportation, encompassing proper labeling, packaging, and documentation • to establish storage and treatment standards to prevent leaks or spills that may pose risks to human health and the environment • to emphasize proper disposal practices, including criteria for selecting and operating disposal facilities • to promote transparency and regulatory oversight through reporting and record-keeping requirements • to ensure compliance through enforcement mechanisms and penalties

			• to create a comprehensive and structured framework to mitigate the environmental and health risks associated with hazardous waste, fostering responsible and sustainable management practices
2.	Environmental Management Act	2004	The Environmental Management Act is a key piece of legislation in Zimbabwe that governs environmental management and conservation in the country. The main objectives and provisions of the Act are: • to establish a framework for the sustainable management of natural resources • to safeguard the environment from pollution and degradation • to formulate a National Environmental Plan • to create an Environmental Management Agency and an Environment Fund • to amend references to intensive conservation areas and committees in various Acts • to repeal the Natural Resources Act [Chapter 20:13], the Atmospheric Pollution Prevention Act [Chapter 20:03], the Hazardous Substances and Articles Act [Chapter 15:05], and the Noxious Weeds Act [Chapter 19:07] • to propose the establishment of the National Environment Council • to establish the Environment Management Board • to set up the Environment Quality Standard and Enforcement Committee

Table 8. Policies for e-waste management

Key projects

Below is a list of key national / regional projects or initiatives the project could benefit from during its implementation.

Program / Project	Leading ministry / supporting entities	Brief description	Duration	Estimated value (USD)	Alignment with project objectives
Off-Grid Renewable Energy Rural Mobility Platform	Ministry of Transport & Infrastructural Development / Mobility for Africa	The project aims to expand an e-mobility pilot in Zimbabwe by providing electric three-wheeled vehicles to rural customers, especially women, through rent-to-own and lease options. Mobility for Africa's e-tricycles, enhanced for local conditions and capable of carrying up to 400 kg, improves market access for smallholder farmers and entrepreneurs. These vehicles use long-life batteries charged by renewable energy. Expected outcomes include reduced greenhouse gas emissions, improved market access, and increased income opportunities for women. The e-tricycles can also power off-grid agricultural appliances, promoting energy use in rural areas.	2021 - ongoing	0.95 M	Increasing the deployment of EV with the use of clean energy. Awareness about EV in rural areas. Promoting Green Energy among locals and about the improvement in public transport services.
ZimTorque provides innovative 'pay as you drive" or credit facility solutions for	ZimTorque	ZimTorque, a used car dealership, offers a 'pay as you drive' credit facility for EVs to boost its adoption by addressing upfront cost challenges. The company has strategic partnerships to enhance its offerings and imports used EVs from the UK and Japan, selling 30 EVs by 2021. ZimTorque planned to set up an EV			Implementation of new financing models for EV adoption. This will help in checking the viability gap for EV adoption in the masses promote 2W EV. Local manufacturing will get the boost.

facilitating EV adoption		assembly plant in Zimbabwe in 2021, aiming to produce 1,000 electric bikes monthly and 2,000 EVs every three months, with EV prices estimated between $15,000 and $20,000. The status of the plant is unknown.			
National Climate Change Learning Strategies, Zimbabwe	Ministry of Environment, Climate, Tourism, and hospitality industry.	The project, under the National Climate Change Learning Strategy, focuses on capacity building and content development to highlight the link between climate change and development in the energy sector. The Strategy's Vision is "A Climate Change Resilient, Literate and Responsive Nation by 2030," with a Mission "To achieve a climate change resilient nation, guided by science, research, education, and communication for decision support." Implemented from 2020-2030 in collaboration with education ministries and coordinated by the Climate Change Management Department. Anticipated outcomes include transformative learning and enhanced climate change mitigation and adaptation through increased public awareness.	by 2030	100 M	Developed through a multi-stakeholder process, the Strategy outlines actions from short to long-term, emphasizing strategic planning and institutional transformation aligned with the NDC and NAP.
Reduced Transmission and Distribution losses from 18% in 2020 to 11% in 2025	Ministry of Energy and Power Development	Reduction of transmission and distribution losses is identified as a mitigation measure in NDC and NDS. This project involves an extensive study of existing energy losses, and the development of suitable technology/ alternatives to increase efficiency. The project aims 760,000 tonnes GHG reduction by 2030 vs 2017 baseline accounting to a 1.01% GHG reduction	2020 - 2025	1,088.99 M	Include Development of Energy Infrastructure in Zimbabwe which will help distribution company in upgrading the existing transmission sector
4.1 MW biogas capacity added in 2024	Ministry of Energy and Power Development	The expansion of solar energy is identified as a GHG mitigation measure in the NDC and System Development Plan 2017 to achieve the country's GHG targets. The project aims to reduce GHG emissions by 9,310 tonnes by 2030 compared to the 2017 baseline, accounting for a 0.01% reduction against the 2030 baseline.	2021-2024	13.33 M	
Waste to Energy	LEDS	Waste to Energy aims at a 1.26% reduction in the GHG emissions by 2030 as compared to the baseline. Moreover, it also targets an absolute reduction of 947 tonnes by 2030 as compared to the baseline. It was assumed that 42% of the methane generated would be collected in 2030 and used for energy production through waste-to-energy projects in the		510.6 M	Management and regulation of e-waste will provide the framework for EV Battery Management and end-of-life for discarded batteries.

		Bulawayo, Harare, Gweru and Mutare metropolitan areas.			

Table 9. Key projects and potential leverage in this project

A3. Barriers

Electric mobility is still in its very early stages in Zimbabwe, despite national e-mobility policy roadmap and e-bus feasibility studies being completed a few years ago. This is due to a variety of barriers, which can be summarized as follows: (1) institutional weakness to implement innovative electric mobility policies for the transport sector; (2) limited technical know-how within the transport operators about the characteristics and performance of EVs; (3) regulatory and technical barriers with limited financial mechanisms to invest in e-mobility sector; and (4) weak environmental quality management, with potentially high environmental and social impact if the transition towards electric mobility materializes.

Barrier 1 – Institutional challenges and co-ordination for enabling electric mobility systems

Zimbabwe's ministries, including Transport, Energy, Environment, Finance, and others, currently lack a clear institutional structure and roles and responsibilities for the development of e-mobility. For example, the country conducted a detailed study on an e-Mobility Policy Roadmap in 2022 and established EV targets, but the necessary legislation is still pending, and it remains unclear which ministry will lead the initiative. According to consultations, the Ministry of Energy and Power Development has been tasked with obtaining cabinet approval. However, due to the absence of national coordination, the status remains uncertain. This issue is compounded by insufficient inter-ministerial communication and collaboration, which are essential for the successful rollout of e-mobility policies and infrastructure. Furthermore, the absence of a dedicated agency or task force to oversee e-mobility development leads to fragmented efforts and delays in decision-making processes.

The country has numerous policies, including the National Transport Plan, NDC, and climate change initiatives. However, these policies do not adequately emphasize e-mobility developments. For example, the country's revised NDC, published in 2021, includes limited transport measures such as fuel efficiency improvements and enhancements to public transport, but it fails to integrate any measures for road transport electrification. This indicates a lack of a long-term vision towards EVs in the country. The absence of e-mobility focus in these key policy documents reflects a broader issue of insufficient prioritization of low-carbon, sustainable transport solutions. Many global countries are setting ambitious targets for EV adoption and integrating these goals into their climate action plans and national policies. By not including road transport electrification in its strategic plans, the country risks falling behind in the global shift towards sustainable transportation.

The country also faces another significant barrier in national capacity for e-mobility development among stakeholders such as policymakers, operators and others. There is a pronounced lack of technical expertise and understanding within these groups, which hampers their ability to create and implement effective policies for the adoption and integration of EVs. Policymakers often lack the knowledge required to appreciate the complexities and benefits of e-mobility, resulting in insufficiently informed legislation and policy frameworks. Similarly, operators in the transportation and energy sectors are not adequately skilled in managing and operating EV infrastructure, including the installation, maintenance, and operation of

charging stations and the integration of EVs into existing transport networks. There is also lack of global/ international exposure to stakeholders of electric mobility

Zimbabwe lacks a communication plan for e-mobility, which poses a barrier to the widespread adoption and understanding of EVs. Without a strategic communication framework, information about the benefits, availability, and operational aspects of EVs does not reach the public effectively. This gap leads to low public awareness and acceptance, stymieing efforts to promote e-mobility. The absence of a targeted communication strategy hinders the ability of policymakers and stakeholders to coordinate their efforts, share knowledge, and advocate for necessary policy changes and investments. Additionally, failing to incorporate gender considerations into communication strategies means missing out on the opportunity to leverage women's participation as consumers, advocates, and stakeholders in the e-mobility sector. The country also lacks well-organized e-mobility knowledge repository which impedes the sharing of insights and innovations that could drive the e-mobility agenda forward. This lack of accessible information can lead to inefficiencies in policy formulation and implementation, as well as slow the adoption of new technologies and best practices.

Zimbabwe has introduced several key policies to promote gender equality and women's empowerment, including the National Gender Policy (2013-2017), which focused on health, education, economic empowerment, and political participation, and the Zimbabwe Gender Commission Act (2016), which established a commission to address barriers to gender equality. The National Action Plan outlines strategies for advancing gender equality in peace and security, while the Zimbabwe Women’s Microfinance Bank supports women entrepreneurs by providing financial services to promote economic empowerment. Despite these initiatives, ongoing efforts are needed to bridge the gap between policy and practice, particularly in ensuring safe and accessible transportation for women.

Barrier 2 – Lack of technical knowledge and implementation of e-mobility projects

E-mobility in Zimbabwe is currently in its infancy, characterized by a limited number of EVs and sparse charging infrastructure (primarily driven by a few private stakeholders). These stakeholders have recently introduced small-scale deployments, focusing on urban centres, but the reach and impact of these initiatives remain minimal. The lack of a robust and coordinated effort from the government has resulted in an uneven and fragmented approach to e-mobility. Despite some private sector enthusiasm, there is a significant lack of evidence pointing to systematic implementation of e-mobility systems across the country. The high cost of purchasing new EVs compared to pre-owned ICE vehicles is a primary deterrent, exacerbated by the absence of government incentives to offset these costs. This is heightened by no relaxation or exemption of import duties of EVs, spare parts, etc. and are taxed at same rate as that of ICE vehicles.

The development of e-mobility in Zimbabwe faces various barriers, starting with the government's limited awareness of global best practices and a lack of understanding about the technology and potential operational savings of EVs. This knowledge gap hinders the formulation of effective policies and initiatives, resulting in very few e-mobility projects being developed in the country. Vehicle operators, including fleet managers and transport companies, also contribute to the slow adoption rate. They are often unaware of the economic benefits associated with EVs, such as lower operational costs compared to ICE vehicles. The savings on fuel, maintenance, and other running costs are substantial, yet these advantages are not well communicated or

understood. Hence, operators continue to prefer ICE vehicles, missing out on the long-term financial benefits of transitioning to electric mobility. The lack of charging infrastructure is another critical issue. The limited number of EVs on the road discourages investment in charging stations, creating a cycle of underdevelopment. Additionally, the technical know-how required to install and maintain charging infrastructure is scarce. There is also a lack of evidence to demonstrate the viability and benefits of these stations, further stalling progress.

Barrier 3 – Regulatory and technical barriers with limited financial mechanisms to invest in e-mobility sector

The country lacks policies and regulations for EV classification and registration, creating hesitancy among key stakeholders such as vehicle manufacturers, importers, and potential buyers. The absence of clear regulations means there is no standardized process for the approval and oversight of EVs, complicating efforts to introduce and manage these vehicles within the existing transportation system. This ambiguity around classification and registration hinders the efficient integration of EVs into the national vehicle registry, leading to delays and additional hurdles for those seeking to adopt this technology. Additionally, the lack of authorization and technical inspection protocols means there are no established safety and performance standards for EVs. This gap increases the risk of non-compliance with international safety norms and can undermine public confidence in the reliability and safety of EVs.

On the charging infrastructure also, there are no standards established that leads to lack of uniformity in the establishment and operation of charging stations. This regulatory gap creates uncertainty operators and are hesitant to commit resources to projects without clear guidelines and assurances of regulatory support. Further, the lack of technical specifications and approval processes complicates efforts to deploy charging stations, as there is no established protocol to ensure their safety, compatibility, and efficiency. There is lack of urban planning and coordination among city authorities which leads to difficulties in designating suitable sites that can cater to high traffic areas and ensure convenience for EV users. Additionally, many potential locations lack the necessary electrical infrastructure to support fast charging stations, further complicating the deployment process. This issue is exacerbated by the city's existing power grid challenges, including frequent outages and inconsistent power quality, which can undermine the reliability of charging services.

One of the primary challenges is the lack of established local manufacturing capabilities for EV components, which necessitates significant initial investment. Setting up production facilities for EV parts, such as batteries, electric motors, and other critical components, requires substantial capital expenditure, advanced technological infrastructure, and specialized skills. The high cost and complexity of establishing these facilities deter potential investors, especially in a market where demand for EVs is still emerging. national manufacturers and assemblers struggle with limited technical support and expertise. The knowledge and skills required to produce/assemble EVs are distinct from those needed for traditional ICE vehicles. There is a pronounced gap in the availability of trained engineers, technicians, and support staff who are proficient in EV technology. This skills deficit hampers the ability of local firms to undertake the production and assembly of EVs efficiently.

Due to limited EV development in Zimbabwe, financing options tailored for EVs have not yet evolved. Financial institutions, including banks and credit providers, have yet to offer specific products or lending schemes for EV buyers and charging infrastructure investors. Leasing options, green loans, and dedicated funds for sustainable transportation projects are scarce. This lack of financing makes it difficult for individuals and businesses to afford the high upfront costs of purchasing EVs and setting up infrastructure. Banks often view EVs as a high-risk investment due to their high purchase price, the early stage of the market, and low adoption

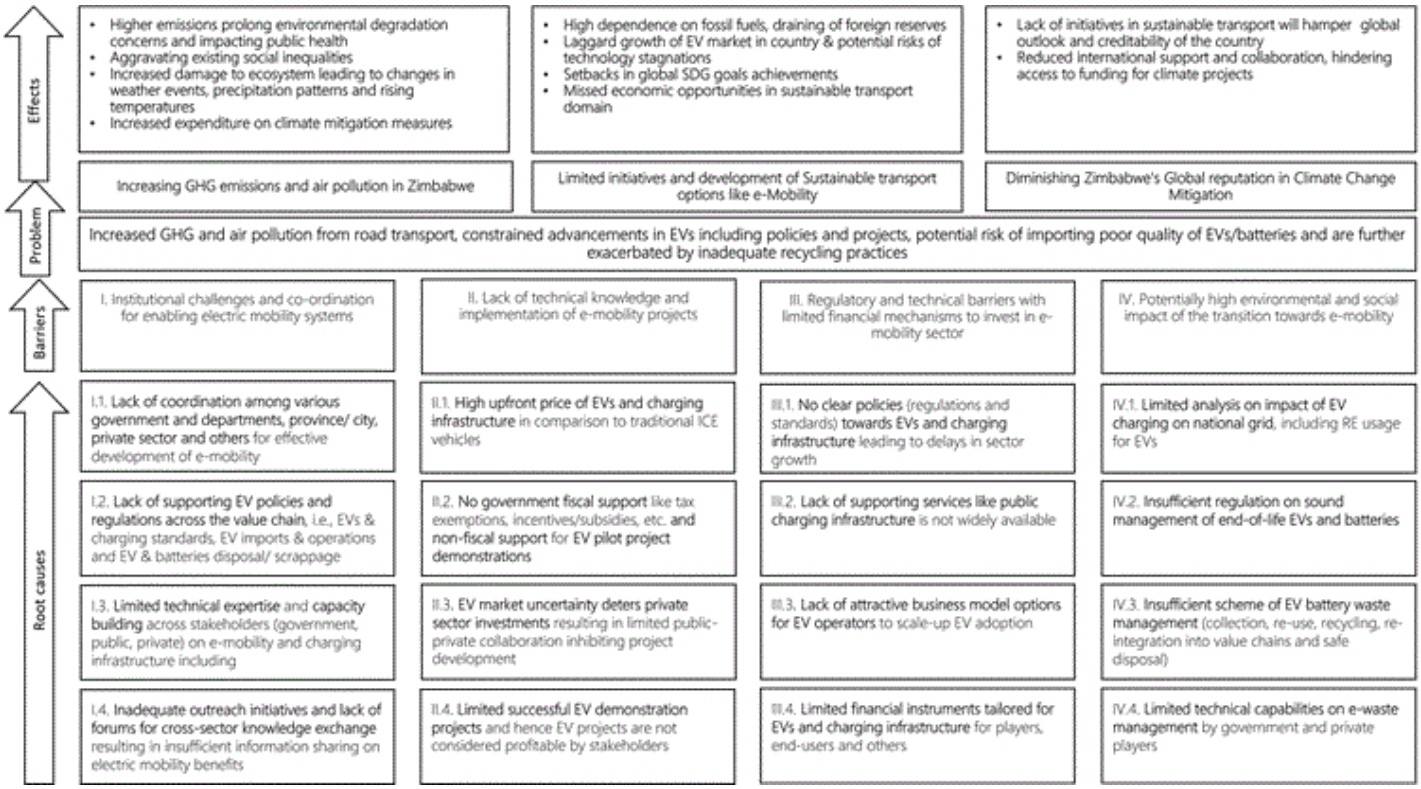
rates, leading to higher interest rates and stringent loan conditions, which deter consumers from switching from ICE vehicles to EVs.

Barrier 4 – Potentially high environmental and social impact of the transition towards e-mobility

Another barrier to the adoption of EVs is the integration of EV charging into the national grid and the associated energy capacity requirements. The existing power grid infrastructure is already under strain, with frequent power outages and supply inconsistencies that challenge the reliable provision of electricity to households and businesses. The EV charging load can increase the demand for electricity, particularly during peak charging times, which could exacerbate these issues. While the current grid can support EV pilot demonstration load, however, the grid capacity will not be sufficient to support the higher EV load (as adoption increases) without substantial upgrades and investments. To meet this, the country would need to significantly expand its electricity generation capacity including developing renewable energy sources, such as solar and wind, to ensure a sustainable and environmentally friendly supply of electricity.

Finally, Zimbabwe is not adequately prepared to handle the waste generated by EVs and their batteries due to the absence of a comprehensive e-waste policy and regulatory framework. It lacks specific guidelines and regulations for the disposal and recycling of EV batteries, which contain hazardous materials that can pose significant environmental and health risks if not managed properly. This regulatory gap means there are no standardized procedures for the collection, treatment, and disposal of battery waste, leading to potential environmental contamination and public health concerns.

Problem tree


Effects
Higher emissions prolong environmental degradation concerns and impacting public health
Aggravating existing social inequalities
Increased damage to ecosystem leading to changes in weather events, precipitation patterns and rising temperatures
Increased expenditure on climate mitigation measures
High dependence on fossil fuels, draining of foreign reserves
Laggard growth of EV market in country & potential risks of technology stagnations
Setbacks in global SDG goals achievements
Missed economic opportunities in sustainable transport domain
Lack of initiatives in sustainable transport will hamper global outlook and creditability of the country
Reduced international support and collaboration, hindering access to funding for climate projects
Problem
Increasing GHG emissions and air pollution in Zimbabwe
Limited initiatives and development of Sustainable transport options like e-Mobility
Diminishing Zimbabwe's Global reputation in Climate Change Mitigation
Increased GHG and air pollution from road transport, constrained advancements in EVs including policies and projects, potential risk of importing poor quality of EVs/batteries and are further exacerbated by inadequate recycling practices
Barriers
I. Institutional challenges and co-ordination for enabling electric mobility systems
II. Lack of technical knowledge and implementation of e-mobility projects
III. Regulatory and technical barriers with limited financial mechanisms to invest in e-mobility sector
IV. Potentially high environmental and social impact of the transition towards e-mobility
Root causes
I.1. Lack of coordination among various government and departments, province/ city, private sector and others for effective development of e-mobility
II.1. High upfront price of EVs and charging infrastructure in comparison to traditional ICE vehicles
III.1. No clear policies (regulations and standards) towards EVs and charging infrastructure leading to delays in sector growth
IV.1. Limited analysis on impact of EV charging on national grid, including RE usage for EVs
I.2. Lack of supporting EV policies and regulations across the value chain, i.e., EVs & charging standards, EV imports & operations and EV & batteries disposal/ scrappage
II.2. No government fiscal support like tax exemptions, incentives/subsidies, etc. and non-fiscal support for EV pilot project demonstrations
III.2. Lack of supporting services like public charging infrastructure is not widely available
IV.2. Insufficient regulation on sound management of end-of-life EVs and batteries
I.3. Limited technical expertise and capacity building across stakeholders (government, public, private) on e-mobility and charging infrastructure including
II.3. EV market uncertainty deters private sector investments resulting in limited public-private collaboration inhibiting project development
III.3. Lack of attractive business model options for EV operators to scale-up EV adoption
IV.3. Insufficient scheme of EV battery waste management (collection, re-use, recycling, re-integration into value chains and safe disposal)
I.4. Inadequate outreach initiatives and lack of forums for cross-sector knowledge exchange resulting in insufficient information sharing on electric mobility benefits
II.4. Limited successful EV demonstration projects and hence EV projects are not considered profitable by stakeholders
III.4. Limited financial instruments tailored for EVs and charging infrastructure for players, end-users and others
IV.4. Limited technical capabilities on e-waste management by government and private players

A4. Project objective

The primary objective of this project is to support Zimbabwe's transition to electric mobility, building on existing frameworks such as LEDS 2020-2050, National Electric Mobility Policy and others. This project seeks to (1) establishment of national inter-sectoral coordination platform and thematic working groups; planning and amendment of e-mobility policy roadmap including the EV target settings, demand and supply measures; knowledge management and communication plan, capacity building of various stakeholders; (2) demonstration of pilot project through electrification of e-Buses by a public operator including data monitoring and collection for results dissemination for further scale-up (3) development of supportive policies, regulations, standards for EVs and charging infrastructure, and a financial investment plan for scale-up and replication; and (4) preparation for the long-term sustainability of electric mobility through the development of a regulatory framework for the environmentally sound management of end-of-life EVs and batteries, and a proposed scheme for battery management.

These actions will be supported by a focus on gender aspects, particularly improving mobility needs for women/females. The project recognizes that women often face unique challenges in transportation, such as safety, reliability, and accessibility concerns. By prioritizing gender-inclusive mobility solutions, the project aims to address these specific needs and promote greater gender equity in transportation. It also intends to address the country’s increasing dependence on high-carbon transport by analyzing and promoting the need of renewable energy for EV charging needs. It also includes enabling the strategy for public charging infrastructure deployments in Harare city thereby promoting EVs.

Cost effectiveness:
The project demonstrates cost-effectiveness by integrating sustainable mobility and energy-efficient solutions, thereby reducing long-term operational costs typically associated with internal combustion engine (ICE) vehicles. By leveraging renewable energy sources such as solar and other to power EV charging infrastructure, the project minimizes reliance on fossil fuels, leading to substantial savings in energy expenses over time. The use of electric buses, which incur lower maintenance and fuel costs compared to traditional diesel buses, further contributes to overall cost reductions. Careful planning and supervision of procurement, installation, and operation processes ensure efficient use of resources, maximizing the return on investment. Moreover, the project's strong emphasis on technology transfer and capacity building equips local stakeholders with the necessary knowledge and skills to maintain and expand these sustainable solutions independently. This approach ensures continued cost savings and promotes the long-term sustainability of the project. The holistic strategy not only addresses immediate cost concerns but also lays the groundwork for a scalable, economically practical, and environmentally friendly urban transportation model.

Socio-economic benefits:
The adoption of EVs in Zimbabwe offers significant socio-economic benefits. It will contribute to reducing air pollution, leading to improved public health by decreasing respiratory/other diseases associated with emissions from ICE vehicles. This reduction in healthcare costs can relieve financial pressure on both individuals and the national health system. Economically, the shift to EVs can decrease the country's reliance on imported fossil fuels, improving energy security and reducing expenditure on fuel imports. The growth of the EV sector can create new job opportunities in manufacturing, maintenance, and the development of charging infrastructure, promoting local skill development and economic growth. Furthermore, the promotion of EVs aligns with global sustainability goals, potentially attracting international investment and support for green initiatives.

Sustainability / resilience of the project's solutions to future changes in drivers:
The project demonstrates robust resilience to future shifts in transport demand and emissions in Zimbabwe by strategically addressing anticipated changes such as economic growth, population increase, and evolving mobility preferences. It proactively accommodates potential shifts towards higher demand for privacy and mobility, and the introduction of more affordable but environmentally detrimental vehicles. Furthermore, the project is aligned with Zimbabwe's energy policy to significantly reduce reliance on imported fossil fuels by expanding renewable energy capacities, thereby enhancing the robustness of the electricity system against climate variability like droughts and cyclones. This transition not only supports the electrification of transport but also reduces the vulnerability of the transport sector to external shocks affecting fossil fuel availability. By integrating electric vehicle technologies, which are inherently more adaptable to climate fluctuations and technological advancements, the project lays a foundation for a resilient, sustainable mobility framework. The establishment of clear policies and regulations will create a framework for consistent implementation, while tailored financial mechanisms can provide the necessary support and incentives for sustainable practices. Capacity building will empower stakeholders with the knowledge and skills needed to maintain these EV initiatives. Additionally, raising awareness among transport consumers through targeted events is vital for educating the public on the benefits of sustainable transport, driving behavioural change, and encouraging widespread adoption to reinforce the project's long-term impact. This comprehensive approach ensures that Zimbabwe's transport system remains sustainable and adaptable, leveraging ongoing capacity building and policy enhancement to maintain alignment with global sustainable mobility trends.

Innovativeness:
This project demonstrates its innovativeness by developing Zimbabwe's first National Inter-Sectoral Electric Mobility Platform and launching a pilot demonstration project in a selected city with advanced sustainable e-mobility technologies. In collaboration with national universities, it will build capacity across the EV ecosystem, enabling a knowledge-rich environment for continuous growth and innovation. Partnering with local manufacturers will strengthen the EV supply chain, facilitating widespread technology acceptance and industry readiness. The project also focuses on developing financing mechanisms for scaling up EVs and charging infrastructure through collaboration with financial institutions, thereby significantly enhancing deployment. The project promotes using renewable energy for EV charging needs and encourages development of regulations and schemes for battery recycling and reuse, underscoring its commitment to pioneering e-waste management in the mobility sector.

Benefits from the Global E-mobility Program:
The GEF-8 Global E-mobility Program will enhance this project by offering support in several key areas: knowledge creation and management, facilitated through a central Integrated E-Mobility Systems Knowledge Hub, where participants can access global knowledge, network, and engage in thematic working groups; a Global Partnership that involves key stakeholders in consultations to develop policy frameworks for managing used EVs and battery end-of-life processes; readiness support to help implement policies, business models, and financing schemes, provided via Regional Support and Investment Platforms; and advocacy and communications efforts to boost global e-mobility adoption, offering access to publications, datasets, case studies, and opportunities to participate in high-level events.

[1] UN FCCC 2023

[2] International Energy Agency (IEA) – Executive Summary, 2023

[3] CO_2 Emissions in 2023

[4] Transport - Energy System - IEA

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-27%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(clean).docx - _ftnref5[5] Zimbabwe transport sector is important for GDP

[6] National Development Strategy

[7] An activity rate is defined as the number of economically active persons in a population per hundred persons in that population.

[8] Zimbabwe Revised Nationally Determined Contribution 2021

[9] Zimbabwe Infrastructure Report, 2019 by AfDB

[10] Ministry of Transport and Infrastructure Development

[11] SADC Protocol

[12] ZINARA

[13] Central Vehicle Registry

[14] Vehicle Inspectorate Department

[15] Road Motor Transportation

[16] Traffic Safety Council of Zimbabwe

[17] ZINARA National Transport Master Plan

[18] ZIMARA

[19] Zimstat latest Transport Statistics Report Q2 statistics

[20] National Development Strategy (NDS-1)

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-27%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(clean).docx - _ftnref21 [21] Zimbabwe Revised Nationally Determined Contribution

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-27%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(clean).docx - _ftnref22 [22] National Transport Master Plan Zimbabwe

[23] Zimbabwe's Low Emissions Development Strategy 2020-2050

[24] Zimbabwe Motor Industry Policy 2017-2030

[25] The National Vision 2030

[26] National Climate Policy

[27] SADC 2015-2063

[28] National Electric Mobility Policy and Market Readiness Framework

[29] National Policy Roadmap for Electric Mobility

[30] Zimbabwe United Passenger Company (ZUPCO)- e-Buses (Target)

[31] Vaya by Econet premium EV service

[32] Mobility for Africa

[33] Agilitee EV startup

[34] MTID

[35] MECTHI

[36] ZIMRA

[37] Ministry of local government and public work

[38] Ministry of Finance and economic development

[39] Zimbabwe's Public Service Commission (PSC)

[40] City of Harare

[41] ZUPCO

[42] CMED

[43] University of Zimbabwe

[44] Zimbabwe Lithium Miners, News Article

[45] Energy Mix Profile of Zimbabwe

[46] Goals from NDS

[47] National Renewable Energy Policy 2019

[48] NREP-GHG emissions

[49] InfraCo Africa invests to scale access to clean transport in rural Zimbabwe – InfraCo Africa

[50] National Energy Policy- Energy Management Act

[51] National Clean Up Programme

[52] E-waste management in Zimbabwe

B. CHILD PROJECT DESCRIPTION

This section asks for a theory of change as part of a joined-up description of the project as a whole, including how it addresses priorities related to the specific program, and how it will benefit from the coordination platform. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the guidance document. (Approximately 3-5 pages) see guidance here

B1. Overview

The project's strategy, designed for Zimbabwe, addresses the four barriers identified earlier, considering ongoing policies and the local socio-economic context. The strategy (i) focuses on addressing the current institutional weaknesses through a dual approach. This involves the top-down institutionalization of the e-mobility policy within public administration, ensuring that the policy is embedded within government structures. Concurrently, a bottom-up approach is implemented, which involves building the capacities of all relevant stakeholders. This includes establishing a robust stakeholder engagement strategy that encompasses knowledge management, communication, and capacity-building initiatives to promote sustainable, low-emission transport systems. Additionally, the strategy emphasizes the active participation of women in the policymaking process, aiming to increase their representation in decision-making roles. By fostering a more inclusive approach, the project ensures that the transition to e-mobility benefits from diverse perspectives and contributes to gender equality in the sector.

The strategy (ii) specifically targets the prevailing practices of public transportation (PT) and fleet operators in Zimbabwe, which are currently hindering the adoption of innovative technologies, including the electrification of the transport sector. The strategy aims to facilitate the integration of e-buses within the public transportation segment by providing targeted support to the largest operator in Zimbabwe. This support is expected to significantly strengthen their efforts towards the electrification of their bus fleet and serve as a model for other operators. By focusing on the largest operator, the project is designed to produce immediate, tangible results that demonstrate the feasibility and benefits of electric mobility. This approach is intended to capture the attention of investors and policymakers, highlighting the advantages of transitioning to electric transportation. Additionally, the strategy aims to enhance social development opportunities by addressing the specific transportation needs of women and other vulnerable groups. This includes creating more inclusive and accessible transportation solutions that consider the unique challenges faced by these groups.

The project strategy (iii) aims to facilitate the scale-up and replication of EVs in Zimbabwe by supporting the development of comprehensive policies and standards for EVs and charging infrastructure. This strategy involves creating robust regulatory frameworks that ensure the safe and efficient deployment of EVs and their associated infrastructure. The project will also work on exploring sustainable business models that encourage investment in EV infrastructure and services (in particular in Harare), as well as supporting the development of a local EV supply chain, ensuring long-term viability and growth of the sector. Finally, the strategy also focuses on developing innovative financing mechanism models that can accelerate the introduction of integrated electric mobility systems. This includes exploring various financing options such as public-private partnerships, government incentives, and international funding opportunities to make EV adoption more financially viable for both consumers and businesses. Relevant stakeholders to mobilize during the project include local vehicle dealers / importers, assemblers, charging operators, local financial institutions and banks. These grassroots (bottom-up) approach aims to broaden the impact of the project demonstration, aid the effective rollout of the national e-mobility policy roadmap, and fast-track the development and application of practical financial mechanisms to support the development of EVs in the country.

Lastly, the project strategy (iv) tackles the new environmental challenges that arise from the electrification of the transport sector, specifically the increased need for recycling and waste management due to new components like lithium batteries and charging devices. This aspect will be supported through: (1) the development of a legislative and regulatory framework for the environmentally sound management of end-of-life EVs and batteries; and (2) the preparation of a national scheme for the environmentally responsible management of end-of-life EVs (EVs) and their batteries, which will cover collection, reuse, recycling, integration back into value chains, and proper disposal. Finally, the project will also assess the impact of EV charging on the national grid and recommendations for increased RE generation and other technological applications (e.g. smart charging, V2G, off-grid applications, etc.).

Approach to knowledge creation and dissemination in Zimbabwe

In Zimbabwe, the approach to knowledge creation and dissemination is structured through the development and execution of a knowledge management plan. This involves compiling reports, conducting workshops, and integrating findings into the project's online knowledge management platform. As part of this plan, the project will also share and exchange insights with the GEF-8 E-mobility Global Platform, allowing it to tap into a broader pool of international experiences, practices, and lessons, as well as contribute its own findings.

All the knowledge generated from this project will be made publicly available on the website, ensuring that everyone can access it freely. Additionally, through interactions with the GEF-8 E-mobility Global Platform, the project will engage in various activities aimed at sharing and transferring knowledge, helping to integrate these insights into local practices effectively.

B2. Theory of change

The project's strategy is summarized in the Theory of Change presented in the figure below. The project design aims to mainstream gender within the entire approach, as detailed in the Gender Action Plan (refer to Annex K). It provides a strategy targeting the government and other key stakeholders (outcome 1), demonstrations of e-bus pilot project (outcome 2), and upscaling & replication (outcome 3) to selected and other bus operators, and EV industry stakeholders that can benefit from the introduction of electric vehicles (EVs) in Zimbabwe. It also addresses the new environmental challenges posed by EVs and management of e-waste (component 4). The upscaling effort is expected to result in mainstreaming necessary policies and regulations for faster uptake of EVs, needs of charging infrastructure, the development of local EV supply chain and financial mechanisms for EVs and charging infrastructure and the continuation and consolidation of environmentally friendly mobility policies and regulatory reforms.

The project's stakeholder engagement strategy includes the mobilization of civil society organizations, especially those supporting gender equality, throughout the project's lifespan, supported by the engagement, consultation, and communication plan. The key expected result of the project is the reduction of GHG emissions from road transport in Zimbabwe. The outputs included in the four project components are related to the root causes identified in the problem tree and are crucial to achieving the four outcomes in correspondence with the four barriers (institutional, technical, regulatory & financing, and environmental) identified in the problem tree. The project's expected outcomes facilitate the transition to four intermediate states: the adoption of strategies, working groups, action plans, and regulations by the government on e-mobility; the recognition to government and operators on EVs through pilot demonstration; the strengthening of the e-mobility market including supply chain in Zimbabwe; and the alignment of end-of-life management of batteries and other e-waste with the principles of the circular economy.

Such intermediate states are possible thanks to the confluence of the project's four expected outcomes with certain assumptions and drivers as described in the figure below. Outcome 1, which involves the government promoting integrated electric mobility systems by enhancing coordination, capacity, planning, and endorsing a strategic vision, will facilitate the adoption and implementation of the policies, strategies, action plans, and regulations delivered by the project, assuming sufficient political support and priority for sustainable mobility, including electrification, is built up. Outcome 2, where the government (takes steps to scale up EVs based on the evidence provided by demonstrations), is expected to provide wider support for policies aiming at transport electrification and improving public transport services. Outcome 3 where the government adopts policies, regulations and technical standards and endorses a financing scheme to accelerate the introduction of integrated electric mobility systems. Outcome 4 is expected to result in the environmentally sound management of electric vehicles and their batteries at their end-of-life, assuming that reuse and recycling networks are developed at the global level, integrating Zimbabwe into these networks.

The four intermediate states mentioned are expected to result in the expanding electrification of the road fleet, particularly within an improved urban public transport system able to attract a growing number of users and reducing reliance on high-emission minibuses (Kombis). For this to happen, two main drivers are necessary: the implementation of urban mobility policies prioritizing public transport and the expansion of electrification trends from polluting old public transport to new efficient means of transport. Success in the public transport subsector is expected to encourage additional vehicle owners, including small fleets and individual private car owners, to adopt EVs, significantly reducing GHG emissions from urban road transport as foreseen by the project.

The project's Theory of Change diagram can be found on the following page.

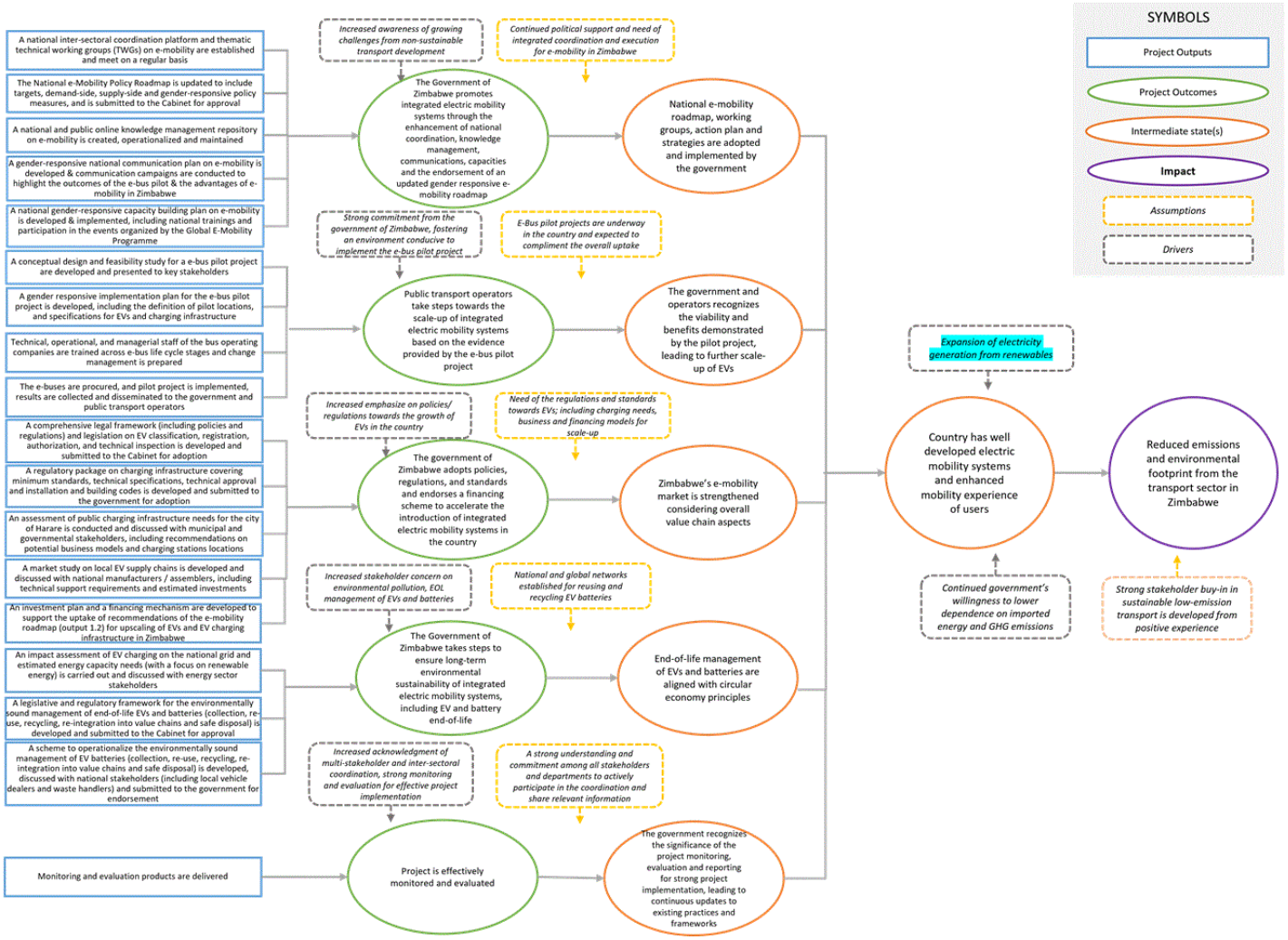


Figure 7 Theory of Change

B3. Project elements

Component 1: Enabling framework for integrated electric mobility systems

This component focuses on strengthening Zimbabwe's commitment to integrated electric mobility systems through a comprehensive enabling framework. It aims to enhance national coordination, amend the e-mobility policy roadmap with gender-responsive measures, and establish a robust knowledge management system. A national inter-sectoral coordination platform along with thematic technical working groups (TWGs) on e-mobility will be established, fostering regular interactions and streamlined policy implementation across multiple ministries. The component also involves the submission of amended national e-mobility policy roadmap for Cabinet approval.

Additionally, a public online knowledge management repository on e-mobility will be operationalized to support ongoing learning and communication, complemented by a national gender-responsive communication and capacity building plan aimed at raising awareness about the benefits of e-mobility. The framework's design ensures that it not only supports the institutionalization of e-mobility but also engages non-institutional stakeholders, thereby enriching the e-mobility ecosystem in Zimbabwe. It also includes the participation of local university for cooperation and content development on the capacity building program.

Main partners and co-financers for this component include MTID, MECW, MEPD, MWA, and MFEP.

Barrier addressed: Institutional challenges and co-ordination for enabling electric mobility systems

Outcome 1: The Government of Zimbabwe promotes integrated electric mobility systems through the enhancement of national coordination, knowledge management, communications, capacities and the endorsement of an updated gender responsive e-mobility roadmap

Output 1.1.: A national inter-sectoral coordination platform and thematic technical working groups (TWGs) on e-mobility are established and meet on a regular basis

This output will focus on establishment of National Inter-Sectoral Coordination Platform and Thematic Technical Working Groups (TWGs) for E-Mobility development in Zimbabwe. These will be institutionalized through an Executive Order / Decree, or other official decisions. The platform will include representatives from relevant ministries (MTID, MEPD, MECW, MLG, MFEP, etc.), municipalities, civil society associations, academia (University of Zimbabwe), and research organizations. These stakeholders will coordinate and guide the policy-making process, facilitate the exchange of knowledge and information, and build consensus on Zimbabwe's long-term e-mobility strategy.

The TWGs are expected to engage with relevant stakeholders and contribute to technical and regulatory requirements in other project activities. The primary support for cabinet approval of the national e-mobility policy will come from TWG-1 (National E-Mobility Policy), led by the MEPD. This will be followed by pilot project implementation from TWG-2 (technical knowledge management, environmental benefits, replication/scale-up), under the leadership of MLG, mainly for component 2. TWG-3 (policies, standards, financial instruments) under the leadership of MTID and MFEP will address e-mobility scale-up-related issues for component 3. Finally, TWG-4 (EVs, batteries) under the leadership of MECW will focus on environmental issues for component 4. This framework provides the necessary conditions for identifying and discussing the lessons learned from project implementation.

The Terms of Reference (ToR) for the coordination platform and TWGs will establish clear guidance on gender mainstreaming and stakeholder engagement, including targets for composition (e.g., aiming for gender parity). The platform and working group stakeholders will meet periodically (at-least twice or thrice a year) to ensure a cohesive and unified approach to implementing Zimbabwe's e-mobility activities. The coordination platform may also consider having a focused engagement with specific groups such as women or disabled people, during some of its sessions during the project. This can be undertaken by collaboration with women-focused advocacy groups or experts making the discussions and project more inclusive.

Under Output 1.1., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
1.1.1	TORs for the national inter-sectoral coordination platform on e-mobility	TORs prepared by PMU and endorsed by MTID and other relevant ministries, with the participation of CSO (e.g., UTGZ)	MTID, MECW, MEPD, MWA, MFEP	PMU, PTC, MTID
1.1.2	TORs for the 4 thematic technical working groups (TWGs) on e-mobility	TORs prepared by PMU and endorsed by MTID, MECW and other relevant ministries, with the participation of CSO (e.g., UTGZ)	MTID, MECW, MEPD, MWA, MFEP, TWGs	PMU, PTC, MTID
1.1.3	Eight (8) meetings of the intersectoral coordination platform on e-mobility (presentation material, report, attendance sheet)	2 official meetings per year, with PMU support. As required, the ad hoc meetings can be organized by coordination platform members.	MTID, MECW, MEPD, MWA, MFEP	PMU, PTC, MTID
1.1.4	Twelve (12) meetings of the TWGs (agenda, report, attendance sheet)	3 official meetings per TWG (one per year) with PMU support, plus ad hoc meetings as decided by each TWG	MTID, MECW, MEPD, MWA, MFEP	PMU, PTC, MTID
1.1.5	Draft Executive Order / Decree for institutionalizing the national intersectoral coordination platform on e-mobility	PMU support to MTID during the process leading to official. Institutionalization	MTID, MECW, MEPD	PMU, MTID
1.1.6	One (1) report on best practices and lessons learned from the Zimbabwe e-mobility project	To submit a report during the last year of the project, based on lessons learned consolidated by PMU, inputs from Ministries, TWGs and information available on the knowledge platform	TWGs, PMU, MTID, MECW	PTC

Table 10 Output 1.1

Output 1.2.: The National e-Mobility Policy Roadmap is updated to include targets, demand-side, supply-side and gender-responsive policy measures, and is submitted to the Cabinet for approval

This output will focus on updating/preparation of the national e-mobility policy roadmap through the recruitment of a technical consultancy firm. The firm in coordination with other ministries will provide expertise on revising the e-mobility policy roadmap (based on an already completed study) comprising of national EV targets, demand-side, supply-side, and gender-responsive measures.

The assessment will include proposing EV targets across vehicle segments (2W, 3W, 4W, Bus, others) and charging infrastructure (AC/DC). It will also propose amendments to a) demand-side policies such as fiscal incentives (subsidies, concessional taxes, etc.) and non-fiscal incentives (streamlined registration, free parking,

preferential access, bank financing, building code amendments, others) b) supply-side policies, such as fiscal incentives (reduced import duties) and other measures like emission norms, revised vehicle classification, charging standards, grid management and tariff revision (with the support of MEPD), repair and maintenance, scrappage including end-of-life management/ measures for EVs and batteries, awareness and skill development) and c) gender-responsive measures will include setting gender-disaggregated targets and considering gender in EV accessibility and charging standards. The final amended e-mobility policy roadmap will be submitted to Cabinet for approval under the leadership of MEPD. The updated National e-Mobility Policy Roadmap will also inform the preparation of Zimbabwe's revised NDC 2030, to emphasize the importance of considering the transport sector's mitigation potential for the country.

The stakeholder's participation in the national e-mobility policy roadmap will be facilitated primarily through TWG-1, the establishment of knowledge management platform, and the communication campaign. This engagement will be consolidated through one design workshop and one validation workshop, with the PMU actively promoting gender parity.

Under Output 1.2., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
1.2.1	Recruitment of an E-mobility Planning, Policy, Standards and Regulations Firm (TORs, call for EOIs, selection committee report, contract, others)	This step will comprise of the preparation of TORs, call for EOIs, selection process through a committee, contract issuance, signature, and inception report. ToR prepared by PMU with UNEP support, asking for a balanced team in terms of international and local team members and gender.	MTID, UNEP	PMU, PTC, NPD
1.2.2	Gaps analysis report on the existing roadmap, with a focus of needs in terms of target setting, demand-side and supply-side policy requirements as well as gender and EWCD-responsive measures	An assessment focusing on gaps in existing e-mobility roadmap study, barriers to implementation and expected amendments in national roadmap considering EV targets, supply and demand measures, current electrical grid management and electricity tariffs (in coordination with the MEPD) and gender aspects (accessible/inclusive EVs for mobility and/or otherwise disabled individuals, women, etc,)	MTID, MECW, MEPD, MWA, MFEP	E-mobility Planning, Policy, Standards and Regulations Firm
1.2.3	One (1) consultation workshop on key findings from the gap analysis report and discussion on amendment of the national e-mobility policy roadmap (presentation materials, workshop reports, attendance lists)	Presentation provided by firm on findings from gap analysis report with all stakeholders. The workshop will include discussion and review of amendments of the national e-mobility policy roadmap for their feedback and further incorporation.	TWG-1, all local stakeholders invited, PMU, MTID, SAZ	E-mobility Planning, Policy, Standards and Regulations Firm
1.2.4	Draft amendment of the national e-mobility policy roadmap, including targets, demand-side, supply-side policies and gender/EWCD-responsive measures	This step will comprise of development of draft amendments of the national e-mobility policy roadmap, based on gap analysis report and insights collected from consultation workshop. The amendment will include revisions of EV target setting, demand-side, supply-side policy measures and gender/EWCD responsive measures.	MTID, MECW, MEPD, MWA, MEFD, TWG-1	E-mobility Planning, Policy, Standards and Regulations Firm

1.2.5	One (1) validation workshop on the amendment of the national e-mobility policy roadmap (presentation materials, workshop reports, attendance lists)	Presentation provided by firm on draft amendment of the national e-mobility policy roadmap to collect national stakeholder's final comments	TWG-1, all local stakeholders invited, PMU, MTID	E-mobility Planning, Policy, Standards and Regulations Firm
1.2.6	Final amendment of the national e-mobility policy roadmap, including targets, demand-side, supply-side policies, and gender/EWCD-responsive measures	Final version of the national e-mobility policy roadmap, including EV targets, demand-and supply-side policies, electrical grid management and electricity tariffs and gender-responsive measures endorsed by relevant ministries at workshop	MTID, MECW, MEPD, MWA, MFEP, TWG-1	E-mobility Planning, Policy, Standards and Regulations Firm
1.2.7	Report on technical assistance provided to support the amended national e-mobility policy roadmap approval process by the government	Approval process led by MEPD, with PMU support. The International Consultant Firm will be involved to support the process and answer any final questions there maybe by from Cabinet members, until final approval.	MEPD, MTID, MECW, MWA, MFEP, TWG-1	E-mobility Planning, Policy, Standards and Regulations Firm, PMU

Table 11 Output 1.2

Output 1.3.: A national and public online knowledge management repository on e-mobility is created, operationalized and maintained

The knowledge management plan (this output) and the national communication plan (output 1.4) are strategically entrusted to a single local consultancy firm to maximize synergies across their implementation. By consolidating efforts, such as aligning content and managing the project's website, the consultancy aims to streamline communication and knowledge dissemination related to e-mobility initiatives in Zimbabwe. The knowledge management plan will guide the PMU in identifying relevant deliverables (for e.g. e-mobility targets and adoption measures in Zimbabwe), extracting key messages/information and lessons learned and storing materials on the website. This knowledge management plan and repository will consolidate relevant information / topics from all project components. This centralized repository will facilitate easy access and dissemination of materials, promoting transparency and collaboration among stakeholders, including engagement with the Global Programme.

A cornerstone of the plan's design is its gender-responsive approach, integrating gender considerations across all phases, from initial material identification through to dissemination strategies. This inclusive approach aims to address gender disparities and promote equitable participation in e-mobility initiatives. Stakeholder engagement is essential to the success of the knowledge management plan. The project stakeholders will actively contribute to and benefit from the knowledge platform, enhancing their understanding and involvement in e-mobility developments through workshops/interactive sessions. To ensure alignment with national policies and seamless integration into governmental frameworks, careful oversight and active engagement by MTID and MECW will be maintained. This will enable effective utilization of project insights by government officials, supporting informed decision-making and policy development in advancing e-mobility across Zimbabwe.

Under Output 1.3., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
1.3.1	Recruitment of a Knowledge Management & Communications Firm (TORs, call for EOIs, selection committee report, contract, others)	This step will comprise of the preparation of TORs, call for EOIs, selection process through a committee, contract issuance, signature, and inception report. ToR are prepared by PMU and pre-screening of local firms with sufficient experience.	MTID, MECW, UNEP	PMU, PTC, PD
1.3.2	E-mobility Knowledge Management Plan (KMP) in Zimbabwe	KMP includes detailed guidance to PMU for identification and transfer to the platform of relevant materials, and dissemination, while assuring gender-responsiveness in the process	MTID, MECW, PMU	National Consultancy Firm for Knowledge Management & Communications
1.3.3	National online knowledge management repository on e-mobility operational	Website should include capacities for KMP and for project's broad communication and dissemination	MTID, MECW, PMU	National Consultancy Firm for Knowledge Management & Communications
1.3.4	One (1) workshop to present the knowledge management repository on e-mobility (presentation materials, report, attendance list)	Presentation provided by 'Knowledge Management & Communications Firm' for validation of the materials selection criteria, platform design and accessibility, as well as gender responsiveness	All stakeholder invited, PMU, MTID	National Consultancy Firm for Knowledge Management & Communications
1.3.5	Three (3) annual reports on the management and update of the knowledge management repository on e-mobility	Draft reports including website statistics to be produced by National Consultancy Firm and validated by PMU	MTID, MECW, PMU	National Consultancy Firm for Knowledge Management & Communications

Table 12 Output 1.3

Output 1.4: A gender-responsive national communication plan on e-mobility is developed and communication campaigns are conducted to highlight the outcomes of the e-bus pilot and the advantages of e-mobility in Zimbabwe

This output aims to develop a gender-responsive national communication plan to advance e-mobility initiatives in Zimbabwe. The plan will encompass strategically designed communication campaigns focused on raising awareness and promoting the broader advantages of e-mobility, specifically highlighting outcomes from the e-bus pilot project implemented under component 2. These campaigns will not only disseminate information but also engage diverse stakeholders, including government officials, private sector entities, and the public. This plan seeks to cultivate a supportive environment for sustainable transportation solutions by highlighting the successful implementation and benefits of e-mobility, particularly through the tangible results observed in the e-bus pilot. Emphasis will be placed on addressing gender-specific considerations to ensure that the benefits and opportunities of e-mobility are accessible and equitable across all segments of Zimbabwean society. This approach is pivotal in promoting inclusive economic and social development while advancing towards a more sustainable future in mobility.

Under Output 1.4., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
1.4.1	Gender-responsive national communication plan on e-mobility in Zimbabwe	This will include the development of national communication plan covering target groups (e.g., gender, age, income, vehicle ownership, education), expected content/ material, communication channels (social media, TV and radio, events, others), and key messages to disseminate	MTID, MECW, MWA, PMU	National Consultancy Firm for Knowledge Management & Communications
1.4.2	One (1) workshop to present and validate the gender-responsive communication plan on e-mobility (presentation materials, report, attendance list)	Presentation provided by 'Knowledge Management & Communications Firm' to validate the content/ materials, target groups including gender-responsive, and overall plan	All stakeholder invited, PMU, MTID	National Consultancy Firm for Knowledge Management & Communications
1.4.3	Gender-responsive communications materials for the awareness raising campaign on e-mobility	Materials to include environmental and economic advantages of EVs, the opportunities for women in the emerging e-mobility sector, and the importance of inclusive infrastructure that supports safe and convenient EV usage for everyone	MTID, MECW, MWA, PMU	National Consultancy Firm for Knowledge Management & Communications
1.4.4	Gender-responsive awareness raising campaign on e-mobility for the general public in Zimbabwe	Awareness campaigns for the general public (including women participation) to promote and support adoption of e-mobility	MTID, MECW, MWA, PMU	National Consultancy Firm for Knowledge Management & Communications
1.4.5	Materials for the communication campaign on the results of the e-bus pilot	Materials to include fact-based experience of pilot project (planned vs. actual), key challenges faced and best practices, others	MTID, MECW, MWA, PMU, ZUPCO, MLG,	National Consultancy Firm for Knowledge Management & Communications
1.4.6	Communication campaign on the results of the e-bus pilot	Communication campaign to relevant stakeholders on e-bus pilot results, thereby promoting scale-up or replication in other cities	All public transport related stakeholders, MTID, MWA, PMU	National Consultancy Firm for Knowledge Management & Communications
1.4.7	Final report on the implementation of the awareness raising / communication campaign	Survey of general public and PT users to assess awareness about campaign completion, including gender aspects of mobility	MTID, MECW, MWA, PMU	National Consultancy Firm for Knowledge Management & Communications

Table 13 Output 1.4

Output 1.5: A national gender-responsive capacity building plan on e-mobility is developed and implemented, including national trainings and participation in the events organized by the Global E-Mobility Programme

This output will focus on development of national gender-responsive capacity building plan on e-mobility aimed at enhancing expertise across various stakeholders/ institutions in Zimbabwe. This initiative encompasses structured national training tailored to address gender-specific considerations in e-mobility, ensuring that participants gain insights into both technical aspects and gender inclusivity in sustainable transportation solutions. The project's capacity building and training activities managed under this output will focus on collaboration with national educational institutions to ensure sustainability beyond the project's duration. Efforts will include establishing partnerships with institutions like the University of Zimbabwe to offer training opportunities in e-mobility. This plan identifies existing capacities that need enhancement and addresses significant gaps hindering e-mobility deployment in the short term, as identified by project stakeholders. Training will target future trainers, equipping them with foundational materials to fulfill their training responsibilities effectively.

The output includes different categories of capacity-building activities: 1) government officials in Zimbabwe undergo training on e-mobility policies, standards, and pilot projects to facilitate the transition, including learning about EV technology, charging infrastructure, financing, regulations, and global best practices, empowering them to lead sustainable transportation initiatives nationwide; 2) government officials receive training on EV import and inspection regulations, encompassing local mandates and global best practices and learn safety standards, emissions requirements, technical specifications, and effective inspection procedures; 3) training for e-waste companies focuses on sustainably reusing and reintegrating EV batteries into the value chain, encompassing battery assessment, testing, refurbishment, and safety protocols, while emphasizing compliance with environmental regulations and recycling best practices; (4) participation in capacity-building activities organized by the Global Programme. The technical contents of the training materials will be prepared by the international consultancy firms relevant for each area as part of their contracts and will be supported by the academic institution selected to oversee the organization of training events.

Specific surveys should be prepared to collect the participants' feedback after each training session. The results of the survey should enable assessing whether or not the participants' capacities have been improved / strengthened. Finally, the surveys should allow gender disaggregation of results.

Under Output 1.5., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
1.5.1	Gender-responsive capacity building plan on e-mobility, including a training-of-trainers approach	Screening and survey of capacity gaps across stakeholders. Survey and analysis of barriers to female engagement in e-mobility technologies. Identification of future trainers by understanding local academic institutions expertise	MTID, MECW, MWA, MEPD, Academic institutions	MTID / University of Zimbabwe
1.5.2	MOU with a university/technical institute for cooperation and content development on the capacity building program	Cooperation with local university focused on the development / review of training materials and inclusion in educational curriculum	Academic institutions, MTID	MTID / University of Zimbabwe
1.5.3	Training content and delivery for government officials (national, provincial/city) on needs (policies, standards, pilots, etc.) of e-mobility transition in Zimbabwe	Contents of training materials provided by international consultancy firm on EV needs comprising of polices, standards, etc. for e-mobility uptake Survey to be conducted after the training to assess usefulness for / satisfaction of participants. Surveys should allow gender disaggregation of results	All invited government stakeholders, academic institution, University of Zimbabwe, PMU	E-mobility Planning, Policy, Standards and Regulations Firm
1.5.4	Training content and delivery for government officials on EVs import and inspection regulations, including global best practices	Contents of training materials provided by international consultancy firm on EV classification and inspection. Hands-on training on inspection via local institute for creating future trainers Survey to be conducted after the training to assess usefulness for /	All invited government stakeholders, academic institutions, University of Zimbabwe, PMU	E-mobility Planning, Policy, Standards and Regulations Firm,

		satisfaction of participants. Surveys should allow gender disaggregation of results		
1.5.5	Training content and delivery for e-waste companies on EV battery reuse and reintegration into value chain	Contents of training materials provided by international consultancy firm on EVs and batteries end-of-life management. Hands-on training of future trainers of MTID and licensed e-waste management companies Survey to be conducted after the training to assess usefulness for / satisfaction of participants. Surveys should allow gender disaggregation of results	MTID, MECW, Local waste handler companies, academic institutions, University of Zimbabwe, PMU	EV and Battery End-of-Life Expert / Firm
1.5.6	Four (4) national peer-to-peer knowledge sharing events / workshops (through various channels across the e-mobility value chain for capacity building of national stakeholders)	Contents of training materials provided by international consultancy firm and academic institution across EV value chain to raise awareness among national stakeholders	All invited stakeholders, academic institutions, PMU, University of Zimbabwe + ad hoc technical expertise from the consultancy firms and university	University of Zimbabwe, MTID
1.5.7	Participation in events, trainings and workshops organized by the Global E-mobility Programme	Participation to be decided by MTID, PMU based on open call for candidates, respecting gender parity	MTID, MECW, MEPD, MWA, MFEP, Local Government, others	PMU, PTC, MTID
1.5.8	Final report on capacity building program on e-mobility	Based on regular surveys to attendants and input from the academic institution, including gender dimensions	MTID, MECW, Academic institutions, University of Zimbabwe, MWA	PTC

Table 14 Output 1.5

-

Component 2: Electric mobility systems demonstration

In Zimbabwe, the electric mobility systems demonstration under Component 2 aims to catalyse the adoption of integrated electric mobility systems in public transport. This component comprises of pivotal demonstrations, i.e. the introduction of 2 electric buses into the fleet of PT operator, serving a strategically chosen route in a selected city, which will be identified through comprehensive feasibility studies as optimal for electric bus operations due to its high commuter traffic and availability of infrastructure. This demonstration will utilize state-of-the-art fleet management and monitoring systems to optimize service efficiency and gather critical data on operational parameters.

Public operators like ZUPCO have already initiated plans to incorporate e-buses into their fleets in the near future, with tenders being floated and results likely to materialize during the life of the GEF project. The pilot deployment of two e-buses under this GEF project is a crucial step in providing operators such as ZUPCO with firsthand experience and reducing the risks associated with future EV investments. Although the limited GEF project's budget allows for only two (2) e-buses, this contribution remains significant as operators are already preparing for a broader transition to EVs. By leveraging existing efforts from public operators, the project will support this transition. Additionally, based on the outcomes of this pilot, stakeholders are expected to proceed with further fleet procurement, as indicated in the co-financing letters.

Gender responsiveness is one additional challenge in this demonstration, and will require careful consideration of women's mobility practices and needs along the pilot route, engagement of female staff in operations, backed with adequate reforms in working conditions and enforcement, and affirmative action from the project to facilitate the access of women to training and jobs related to the pilot, as well as follow up measures for their sustainability after project completion.

The pilot project demonstration is supported by capacity building measures, including the recruitment of an e-mobility technology expert or firm, and targeted training for technical, operational, and managerial staff across various stages of the e-bus lifecycle (output 2.3).

The public transport operator participating in the demonstration with EVs will be selected through an open call and will be requested to operate the 2 E-buses during at least 12 months and to regularly (monthly) report to the project on the energy consumed, mileage travelled, and passengers served by these vehicles and by comparable ICE vehicles, as well as on their maintenance operations.

The business model for the deployment of these 2 e-buses, compensation to operator, and the minimum technical requirements of the EVs serving the route will be established during the feasibility and detailed design studies (outputs 2.1 and 2.2).

This initiative aims to build a strong foundation for scaling up e-mobility in Zimbabwe by demonstrating the feasibility and benefits of electric buses, enhancing gender responsiveness in public transport, and setting a precedent for future government and private sector investment in sustainable transport solutions.

Main partners for this component include MLG, CMED, MTID, MECW, ZUPCO, MEPD and the MWA.

Barrier 2 – Lack of technical knowledge and implementation of e-mobility projects

Outcome 2: Public transport operators take steps towards the scale-up of integrated electric mobility systems based on the evidence provided by the e-bus pilot project.

Output 2.1: A conceptual design and feasibility study for a e-bus pilot project are developed and presented to key stakeholders

An electric bus is very different from its traditional counterparts as it's not just a bus with a different fuel type but a different product altogether. Electric bus operation requires substantive planning as it needs to address issues around range anxieties, charging technologies, availability of charging stations, performance, etc. Several factors need to be considered while planning for effective operation and hence systematic planning undertaking detailed techno-commercial feasibility study is the key.

Prior to the demonstration, a techno-commercial feasibility study will be undertaken in the selected city in Zimbabwe to determine the routes and critical techno-commercial metrics related to the e-buses deployment. A detailed methodology of the feasibility is shown below:

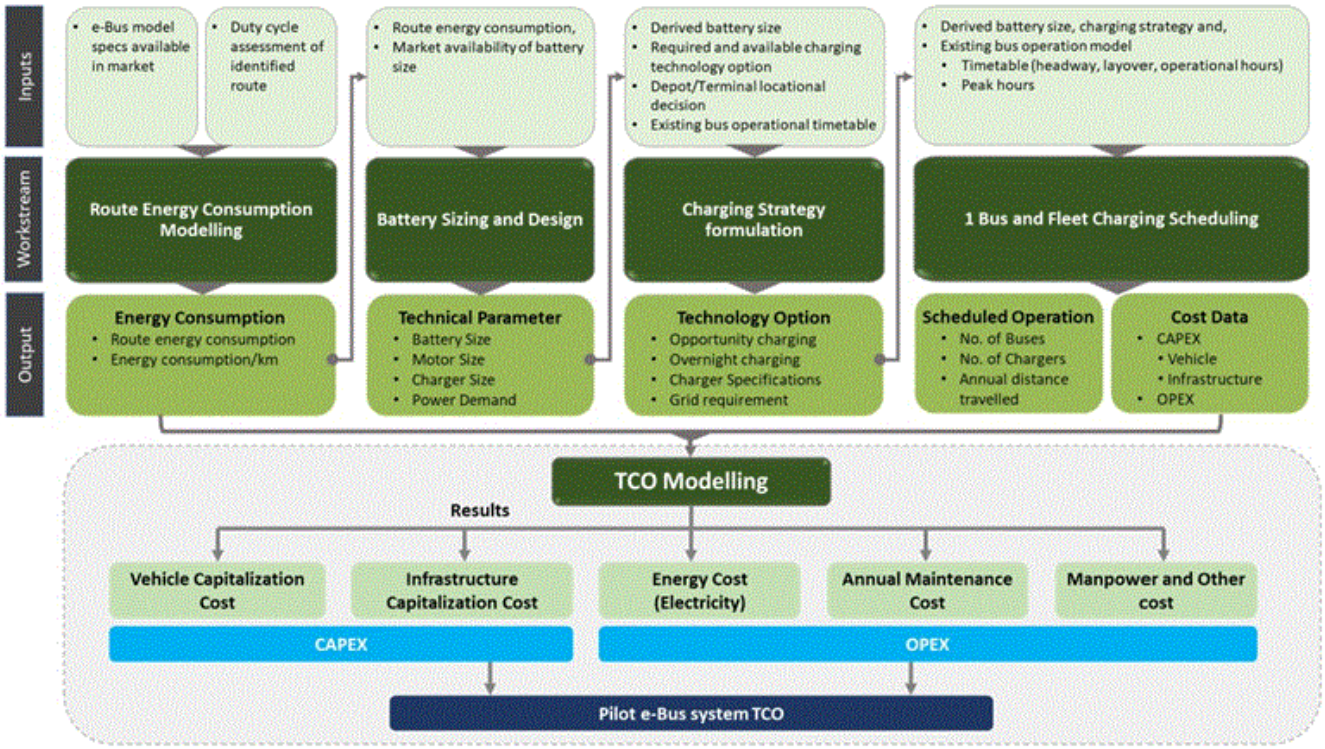


Figure 8 Roadmap of techno-commercial feasibility study

This output will include developing a concept design and feasibility study for e-Bus demonstration for a select city assessing initial parameters like fleet size, first specifications of e-Bus like length, AC/ non-AC, floor height, EWCD features, etc. together with identification of the first depot(s)/ terminals and the potential routes for the demonstration. It will assess and derive its inputs by analyzing existing ICE bus operations and operational requirements through multiple stakeholder consultations. The study will go through iterations along the process and will be updated to move forward with route(s) and depot(s)/ terminal(s) selection. The key technical parameters that could be considered for routes and depot(s)/terminals selection include (i) route length, (ii) stops per km, (iii) average speed, (iv) terrain/slope, (v) disaster vulnerability, (vi) dead miles, (vii)

etc. Along with the technical parameters, economic considerations like number and structure of operators, financial viability for operator, investment potential, etc. and other considerations like environmental impact, government priority, disaster resilience, gender mainstreaming, etc. will play a key role in selection of routes and depot(s)/ terminals.

After route selection, duty cycle (distance, speed, slope, time) assessment for identified routes for peak and non-peak trips using existing ICE buses is done. The performance of e-buses depends on terrain, environmental conditions, driving patterns and other factors. Duty cycle (speed vs time, distance vs grade and passengers) has an important impact on the energy consumption and mileage of all buses and therefore it is crucial important to understand their impact on the performance of e-buses. The duty cycle assessment thus forms a major input for energy consumption modelling. This will be followed by charging strategy including determination of charging location, number of chargers, time required for charging and selection of charging technology, associated grid infrastructure (in coordination with MEPD), etc. for planned number of e-Buses operations including different scenario assessment for overnight and opportunity charging. This assessment will also consider the needs of marginalized groups, in particular women and disabled people, to be streamlined into the design of the e-bus pilot.

Under Output 2.1., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
2.1.1	Recruitment of an E-mobility Technology Expert, Firm	This step will comprise of the preparation of TORs, call for EOIs, selection process through a committee, contract issuance and signature and inception report	MTID, MLG, UNEP	PMU, PTC, PD
2.1.2	One (1) workshop and field visit to consult stakeholders on options for the e-bus pilot (presentation materials, mission report, attendance list)	Design and execute workshop supported by TWG-2 on pilot demonstration, including a focus on gender-responsive design and working considerations	All invited relevant stakeholders (including city officials) through TWG-2, MTID, MLG MWA, CMED, ZUPCO	E-mobility Technology Expert, Firm
2.1.3	Draft conceptual design and feasibility study for the e-bus pilot project, including identification of bus operator, suggestions of routes and location of charging infrastructure, e-bus technology options and financing mechanisms	The conceptual design identifies routes and operators, depot location of charging infrastructure, grid infrastructure requirements (in coordination with MEPD) and analysis its feasibility study for demonstration including financing mechanisms. Gender responsiveness remain at the core of the analysis (gender patterns of use/demand/consumption of public transportation)	MTID, MEPD, ZETDC, MLG, MWA, CMED, ZUPCO, City officials, Private bus operators	E-mobility Technology Expert, Firm
2.1.4	One (1) validation workshop to present the conceptual design and feasibility study, (presentation materials, workshop report, attendance list)	Presentation workshop on feasibility of the e-bus pilot project, the availability of interested operators, and the selection of the preferred route and operating conditions. Gender parity is reviewed and amended.	All invited relevant stakeholders (including city officials) through TWG-2, MTID, MLG MWA, CMED, ZUPCO	E-mobility Technology Expert, Firm
2.1.5	Final conceptual design and feasibility study for the e-bus pilot project	Final version of the feasibility study for the e-bus pilot project including operators, routes, financial mechanisms, and gender-responsive readiness	MTID, MEPD, MLG, MWA, PMU	E-mobility Technology Expert, Firm

Table 15 Output 2.1

Output 2.2: A gender responsive implementation plan for the e-bus pilot project is developed, including the definition of pilot locations, and specifications for EVs and charging infrastructure

This output will focus on development of gender responsive implementation plan for the pilot project based on the assessment in previous output. The primary aim is to make implementing authorities equip with process for the technical specifications required for a tender for electric buses and charging infrastructure while procurement preparation of the performance specifications. The key technical specifications of buses to be evaluated include, (i) AC/Non-AC, (ii) low floor vs high floor, (iii) seating and standing passenger capacity, (iv) type of breaking and suspension system, (v) type of charger, (vi) no. of charger's required (vii) charger protocol for standardization, (viii) charger communication protocol - CCS/CHAdeMO, (ix) motor power, (x) others.

There are various operating business models for e-Buses being adopted globally. These are essentially analysed to set contractual criteria and obligations for service providers while inviting the bids. Example of these models include (i) Gross Cost Contract (GCC) Model - in which the bus is owned and operated by the bus operating companies for a specific rate (e.g. USD/km) and period (ii) Outright Purchase Model - in which the bus operating company purchases the e-Bus and the associated charging infrastructure, and (iii) Battery Leasing - in which the outright purchase model has an option of battery leasing from the battery service provider (iv) others. The operating business models will be selected considering parameters like (i) bus operation mode (ii) funding availability (iii) cost per km versus earnings per km (iv) depot availability (v) ownership of bus (vi) technology (vii) routes and (viii) maintenance of bus and chargers. The role of gender and disabled people mainstreaming (for e.g. women's involvement as technicians, drivers, charging, etc.) for the pilot project will also be evaluated and included in the implementation plan.

Under Output 2.2., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
2.2.1	Draft gender responsive implementation plan for the e-bus pilot, including the definition of procurement and operation modalities, pilot locations, specifications for pilot EVs and charging infrastructure and e-bus pilot data monitoring system	Detailed route, schedules and fleet size for execution of the pilot. Location of grid connection points for charging infrastructure (in coordination with MEPD). Include procurement and business models adoption, operation modalities, technical specifications for EVs and tools / process for data monitoring. Screening of reliable operators. Gender responsiveness and quotas	MTID, MLG, MWA, ZUPCO, CMED, MEPD, PMU	E-mobility Technology Expert, Firm
2.2.2	Two (2) workshops (1 consultation and 1 validation) on the EV public transport pilot implementation plan (presentation materials, workshop reports, attendance lists)	Design consultation and validation workshop on pilot implementation plan with wide local participation. Gender parity and involvement will be evaluated and included.	All invited relevant stakeholders (including city officials), MTID, MLG, MWA, MEPD, ZUPCO, CMED, PMU	E-mobility Technology Expert, Firm

2.2.3	Final gender responsive implementation plan for the e-bus pilot	Final implementation plan of pilot project, including detailed ToR for the selection of PT pilot operator(s)	MTID, MLG, PMU	E-mobility Technology Expert, Firm

Table 16 Output 2.2

Output 2.3: Technical, operational, and managerial staff of the bus operating company are trained across e-bus life cycle stages and change management is prepared

E-bus is an evolving technology and to address the various barriers affecting e-Bus uptake in Zimbabwe, there is a strong need for systematic diagnosis at both supply and demand side. A critical requirement for bus operating company is the sound knowledge of the technical, operational, managerial know-how of the entire e-Bus lifecycle. This output will identify and with the means of training, will bridge the gap between existing technical, operational and managerial acumen of the bus operating company and the required skills for their continuous upskilling, resulting in successful operation of e-Buses.

The design of training needs assessment (TNA) framework across e-Bus life cycle includes seven functions, as shown in following figure:

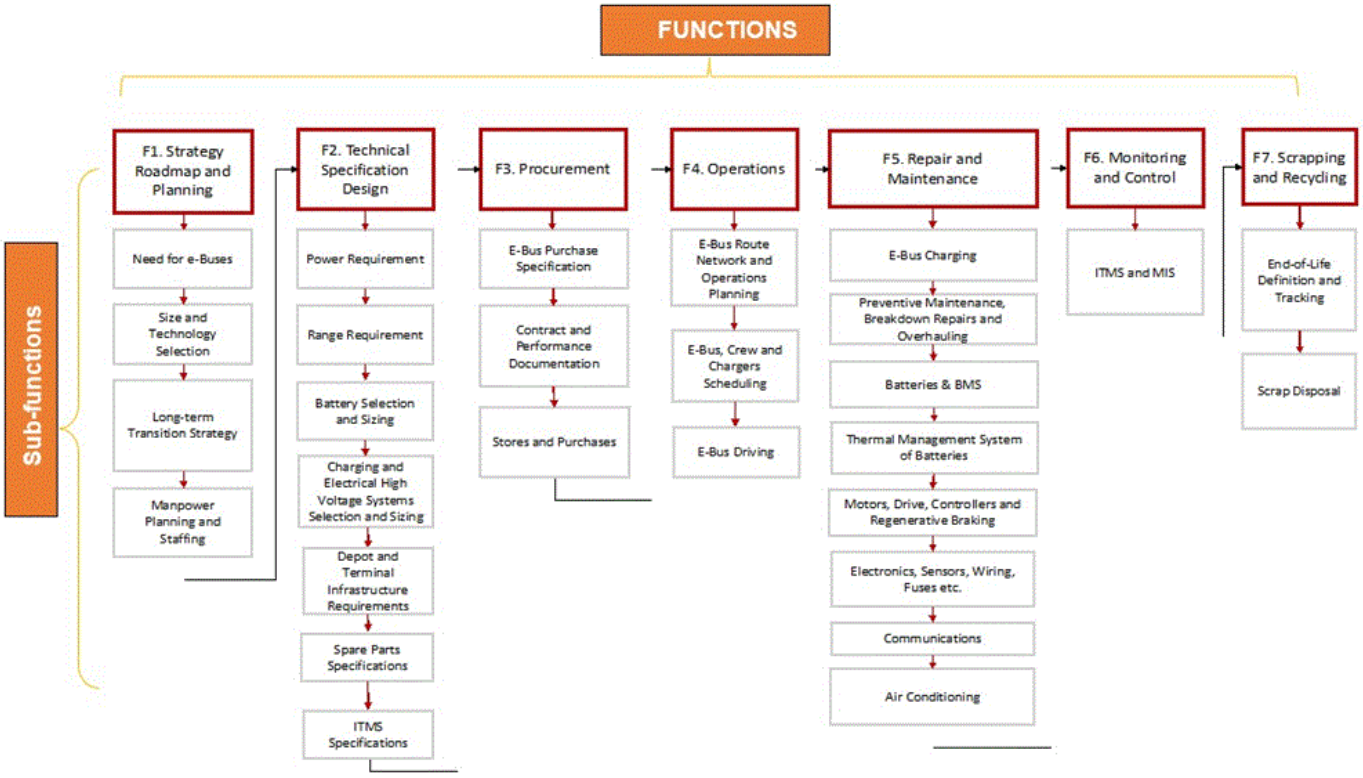


Figure 9 TNA framework across e-Bus life cycle

This output will involve the development of questionnaires for the different staff of the select bus operating company to assess and understand their (i) relevant e-Bus related experiences, (ii) faced issues & challenges, (iii) suggested improvements in planning, deployment, operations, maintenance, (iv) training need requirements, (v) suggestions for new training program, (vi) reference to any good training program and institution, and (vii) any other suggestions. The operators' inputs will be recorded with the help of consultations, and Training Needs Assessment (TNA) areas will be identified.

Based on the TNA, training modules will be developed to equip the bus operating company regarding (i) benefits of EV over ICE, (ii) the technical differences between an ICE Bus and an e-Bus, (ii) the specific risks associated with operating an e-Bus, (iii) best practices to adopt to optimize running of an e-Bus, (iv) practices to follow to ensure minimum wear and tear is experienced, (v) etc. Finally, capacity building institutions will be sourced, and execution will be taken up as an initiative. The performance of the e-Bus training services will also be monitored, thus ensuring the required high e-Bus system performance.

Specific surveys should be prepared to collect the participants' feedback after each training session. The results of the survey should enable assessing whether or not the participants' capacities have been improved / strengthened. Finally, the surveys should allow gender disaggregation of results.

Under Output 2.3., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
2.3.1	Training needs assessment of the e-bus operator's technical and operational personnel across envisaged e-bus life cycle functions and identification of required training modules	An assessment of the e-bus operator's technical and operational personnel across e-bus life cycle functions. It will also include identifying the required training modules based on assessment to ensure comprehensive skill development and operational efficiency of e-buses.	PT operator(s) and their staff, MTID, MLG, ZUPCO, CMED	E-mobility Technology Expert, Firm
2.3.2	Needs assessment report of the e-bus operator with recommendations for 'change management' and identification of required training modules	The assessment report will identify skill gaps and the required training modules of e-bus operator technical, operational and managerial staff to ensure smooth transition and effective change management of the e-bus operations, enhancing overall efficiency and performance	PT operator(s) and their staff, MTID, MLG, ZUPCO, CMED	E-mobility Technology Expert, Firm
2.3.3	Three (3) training workshops for the e-bus operator's technical and operational staff to ensure proper operations and maintenance of the e-bus across their life cycle (training materials, training reports, attendance lists)	Organized and delivered three training workshops based on training modules across various personnels/ staff. Training report prepared, with gender disaggregated attendance lists. A survey should be prepared to collect participants feedback after each training session. Results of the survey should allow to assess whether or not participants capacities have been improved / strengthened. Surveys should allow gender disaggregation of results.	PT operator(s) and their staff, MTID, MLG, ZUPCO, CMED	E-mobility Technology Expert, Firm
2.3.4	Two (2) training workshops for the e-bus operator's managerial staff on 'change management' and transition to 100% EV fleets (training materials, training reports, attendance lists)	Organized and delivered two training workshops for the operator's managerial staff to train them on fleet transition and change management. Training report prepared, with gender disaggregated attendance lists. A survey should be prepared to collect participants feedback after each training session. Results of the survey should allow to assess whether or not participants capacities have been improved / strengthened. Surveys should allow gender disaggregation of results.	MTID, MLG, ZUPCO, CMED	E-mobility Technology Expert, Firm

Table 17 Output 2.3

Output 2.4: The e-buses are procured, and pilot project is implemented, results are collected and disseminated to the government and public transport operators

This output will procure the 2 e-buses and prior to dispatch, they will be inspected at the hardware level and only after thorough checking and approval will they be procured. The procurement of the 2 e-buses will follow a competitive process to ensure transparency and fairness by the public operator. This process will not only allow public operators to choose the most suitable and reliable e-Buses but will also help in setting a benchmark for future procurements. This

would also ensure that the procured buses meet the necessary technical and performance standards. On arrival, test trails will be conducted without any passengers and the performance parameters will be recorded and monitored. These test runs could be done on the actual routes of deployment or other routes as well. Any required change management will be appropriately communicated with the manufacturer and adhered to prior to the start of operations. Finally, this output will include commissioning of the approved e-Buses, along with the chargers, which will be disseminated to the selected city.

One of the key challenges for successful deployment of e-buses is the lack of clarity on the implementation of any corrective measures. This output will deliver a clear organogram mapping the after-deployment roles with the departments responsible for mix fleet operations of e-buses and ICE buses. The departments responsible will be aided with the IT based systems and framework for e-bus performance data collection, monitoring and evaluation. This establishment will help collect the e-bus operational data, monitor, evaluate, and assess performance and implement any correct measure required in a coordinated manner, thus resulting in high efficiency running of the e-Buses and the entire public transport (PT) and commuter experience. Evidence-based learnings will be acquired from the demonstration of the e-buses with respect to different technical and operational parameters. The feasibility of the buses will be evaluated by comparing estimated and actual efforts in terms of finances, work hours, etc. Impact of the demonstrations will be evaluated by studying decrease the GHG emissions and air pollution in the selected city. Parameters like rise in ridership of PT, commuter experience improvement, operating companies experience, electrical consumption / costs and charging patterns, impact on employment in the cities, etc. will be studied and evaluated, and recorded.

Under Output 2.4., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
2.4.1	TORs for procurement of the pilot e-buses, charging infrastructure and data collection / monitoring system	Detailed ToR with technical specifications for procurement of EVs, chargers, and tools for data monitoring	Participating agencies, MTID, MLG, ZUPCO, CMED, PMU	E-mobility Technology Expert / Firm
2.4.2	Procurement of the pilot e-buses, charging infrastructure and data collection / monitoring system (bidding documents, call for proposals, selection process, purchase order, delivery)	Actual completion of the procurement process of EVs, chargers and other equipment/ monitoring systems by the operator	ZUPCO, CMED, PT Operator, MLG, MTID	PT Operator
2.4.3	Report on the technical support for the procurement process of the e-buses, chargers, and data collection / monitoring system	Documentation of supportive activities (briefings, meetings, notes, etc.) managed by the PMU until project approval or completion	MTID, MLG, ZUPCO, CMED, MEPD, PT operator	E-mobility Technology Expert / Firm
2.4.4	Pilot e-buses operations and data collection for a period of 12 months (twelve (12) monthly reports on the operations of the e-bus pilot - 1 per month)	Monthly reports will include surveys on the level of satisfaction of users, with specific surveys designed for female users to understand whether the EV public transport pilot is adapted to needs of women	E-mobility Technology Expert / Firm, PMU	PT operator, PTC
2.4.5	One (1) field visit and workshop to assess and present e-bus pilot operation performances after 6 months (presentation materials, mission report, attendance list)	Field visit and workshop to provide technical advice to the operator based on provisional monitoring data and to engage local stakeholders in the assessment of service provided	Engagement of local stakeholders through TWG-2, PMU, ZUPCO, MTID, MEPD, PTC	E-mobility Technology Expert, Firm
2.4.6	Final report on the results of the e-bus pilot operations, including recommendations for future	Recommendations addressing the pilot operator and other PT operators in city and at the country level as well as local	PT operator, MTID, MLG, ZUPCO,	E-mobility Technology Expert, Firm

	investments towards replication / scale-up	and national authorities on PT sector reforms	CMED, MEPD, City officials, PTC	
2.4.7	One (1) workshop to present the findings and recommendation of the report to government stakeholders and public transport operators (presentation materials, workshop report, attendance list)	Participation facilitated through TWG-2 opened to National government, provincial and local governments and governmental agencies	Engagement of local stakeholders through TWG-2	E-mobility Technology Expert, Firm, PT operator

Table 18 Output 2.4

-
-

Component 3: Scale-up and replication of integrated electric mobility systems

The project's action for scaling up electric mobility systems in Zimbabwe focuses on advancing national policies and infrastructure to foster the widespread adoption of electric mobility through (1) the reform of regulation and framework to facilitate the adoption of EVs beyond early adopters, reaching a growing part of entities and even individuals, (2) development of charging infrastructure standards thereby providing the necessary public and private resources to its implementation, especially in deployment of private and public charging facilities in the country, (3) supported by public charging needs for the capital city including the potential locations, business models, RE integration for EV charging to maximize the environmental benefits from EVs, etc. as it is expected to see major developments in the near future.

Another action for scaling up in this component is to analyse and recommend the way forward for local manufacturing across the EV value chain (including components such as batteries and motors) and to estimate the required investments. Finally, under this component the project intends to develop financial instruments, which could support the modernization and electrification of public transport and other fleets, in close cooperation with the local financial industry.

Participation and stakeholder engagement within this component will be mainly channeled through TWG-3 and materialized in various design and validation workshops. Gender aspects will be relevant especially in public charging, and the access to women to the new financial instruments, as well as in the gender responsiveness to local EV supply chain.

Main partners and co-financers for this component include MTID, MEPD, ZERA, SAZ, MIAZ, ZETDC, MFEP and MWA.

Barrier addressed: Regulatory and technical barriers with limited financial mechanisms to invest in e-mobility sector

Outcome 3: The government of Zimbabwe adopts policies, regulations, and standards and endorses a financing scheme to accelerate the introduction of integrated electric mobility systems in the country

Output 3.1: A comprehensive legal framework (including policies and regulations) and legislation on EV classification, registration, authorization, and technical inspection is developed and submitted to the Cabinet for adoption

This output will commence with the thorough review of current laws, regulations, and operational practices governing ICE vehicles in Zimbabwe, including examining classification criteria, registration procedures, and technical inspection requirements enforced by relevant authorities MTID and their departments. Data will be collected through document analysis, stakeholder interviews with government officials, and automotive industry representatives to assess implementation challenges and compliance issues. This will be followed by global / regional best practices and analysis of policies, regulations, and legislative frameworks with advanced EV adoption and robust regulatory systems. Key aspects such as EV classification criteria, registration procedures, authorization requirements for manufacturers and operators, and technical inspection standards will be evaluated.

Following these assessments, a draft policy, regulatory, and legislative proposal for EV classification, registration, authorization, and technical inspection will be formulated. This aims to integrate findings from the legal framework assessment and benchmarking report into a cohesive framework tailored to Zimbabwe's regulatory environment and EV adoption goals. Recommendations will focus on enhancing clarity, efficiency, and transparency in EV registration and inspection processes, promoting safety standards, and supporting market growth. The assessment study and technical guidance will be carried out by an international consultant and submitted to the government through MTID for official approval.

Under Output 3.1., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
3.1.1	Report on existing legal framework and legislation assessment on ICE vehicle classification, registration, and inspection in Zimbabwe	An assessment of existing ICE vehicle classification, registration and inspection; key gaps/ barriers; roles and responsibilities of key departments / parastatals; and understand the list of documentation/procedures for vehicle registration	MTID, Various departments within MTID	E-mobility Planning, Policy, Standards and Regulations Firm
3.1.2	Benchmarking report on global / regional best practices for legal frameworks (including policies and regulations) and legislations of EV classification, registration, authorization, and technical inspection	The benchmarking of global / regional best practices for EVs classification across vehicle segments, registration procedures, and technical inspection including the procedures and standards. Identify the possible opportunities for Zimbabwe based on benchmarking study	MTID, Various departments within MTID	E-mobility Planning, Policy, Standards and Regulations Firm
3.1.3	Draft policy, regulatory and legislative proposal of EV classification, registration,	Propose legal and legislative framework for EV classification across vehicle segments, their registration process and required set	MTID, Various departments within MTID	E-mobility Planning, Policy, Standards and Regulations Firm

	authorization, and technical inspection for Zimbabwe	of documents, technical inspection including testing requirements, others for Zimbabwe		
3.1.4	Two (2) workshops (1 consultation + 1 validation) on the policy, regulatory and legislative proposal for EVs	1 consultation workshop with relevant stakeholders to understand existing framework and legislation (as part of assessment). 1 validation workshop to review the policy, regulatory and legislative proposal for EVs	All invited stakeholders, PMU	E-mobility Planning, Policy, Standards and Regulations Firm
3.1.5	Final policy, regulatory and legislative proposal of EV classification, registration, authorization, and technical inspection for Zimbabwe	Final legal and legislative proposal of EV classification, registration, authorization, and technical inspection for Zimbabwe	MTID and their departments	E-mobility Planning, Policy, Standards and Regulations Firm
3.1.6	Report on technical assistance provided to support the adoption of policy, regulations and legislations on EVs by the government of Zimbabwe	Quarterly updated list of supportive actions (briefings, meetings, notes, etc.) completed by the PMU until approval or end of project	MTID and their departments, PTC	/ E-mobility Planning, Policy, Standards and Regulations Firm

Table 19 Output 3.1

Output 3.2. A regulatory package on charging infrastructure covering minimum standards, technical specifications, technical approval and installation and building codes is developed and submitted to the government for adoption

This output will involve a benchmarking study of global / regional best practices on EV charging infrastructure, focusing on standards, technical approval processes, and installation protocols by literature review of countries with advanced EV infrastructure. The key practices will be also identified through stakeholder consultations with select international experts to understand their experience and input. The insights gathered will then be synthesized into a detailed benchmarking report, highlighting the most effective and applicable standards and practices. This will be followed by development of draft regulatory package for EV charging infrastructure, including specific standards, technical specifications, approval processes, and installation guidelines tailored to Zimbabwe's context. To ensure these regulations are practical, the development process will involve a gap analysis of current national regulations and extensive consultations with local stakeholders, including government agencies (such as MTID, MEPD, ZERA, ZETDC, SAZ, etc.), private sector entities, and technical experts.

The project will also assess Zimbabwe's existing building codes to identify gaps and opportunities for integrating EV charging infrastructure requirements. This assessment will include a detailed review of current codes and regulations related to urban planning, and others. Successful practices from other countries will guide the proposed amendments, ensuring they are both effective and contextually relevant. The amendments will focus on integrating provisions for EV charging infrastructure, such as dedicated EV parking spaces in buildings. The draft amendments will undergo a thorough review process, involving consultations with stakeholders, and their feedback will be incorporated to prepare the final regulatory package for charging infrastructure. The study and technical guidance will be carried out by an international consultant and submitted to the government through MEPD for official approval.

Under Output 3.2., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
3.2.1	Benchmarking report on global / regional best practices of regulations on charging infrastructure covering standards, technical approval, and installation, and for incorporation of charging infrastructures requirements into building codes	An assessment will be conducted to gather data on standards, technical approval processes, and installation guidelines of charging infrastructure. Key trends and successful strategies will be identified, focusing on global / regional practices including integration of charging infrastructure into building codes	MTID, MEPD, ZERA, ZETDC, SAZ	E-mobility Planning, Policy, Standards and Regulations Firm
3.2.2	Draft regulatory package for charging infrastructure covering standards, specifications, technical approval, and installation for Zimbabwe	Regulations on charging standards (both AC and DC). Screening of standardization needs and prioritization, specifications, technical approval, safety and installations for Zimbabwe. Drafting of standards with higher priority	MTID, MEPD, ZERA, ZETDC, SAZ, Charging operators / players locally	E-mobility Planning, Policy, Standards and Regulations Firm
3.2.3	Draft amendment to building codes to include provision for EV parking space and electrical load provisions for EV charging infrastructure	Revision of 'building code' to include/mandate charging provisions. The code to be reviewed from existing and new building perspective. Amend building code with clear guidelines for setting up charging stations (including minimum space, layout allocation, electrical load requirements / needs, grid connection, and respective adjustment in consecutive land-uses, activities and structures, others)	MTID, MEPD, ZERA, ZETDC	E-mobility Planning, Policy, Standards and Regulations Firm
3.2.4	Two (2) workshops (1 consultation + 1 validation) on the regulatory package and building codes amendment for EV charging infrastructure	1 consultation workshop with relevant stakeholders to understand baseline efforts in charging infrastructure and building codes (as part of assessment). 1 validation workshop to review the regulatory package and building code amendment for feedback/comments	All invited stakeholders, PMU	E-mobility Planning, Policy, Standards and Regulations Firm
3.2.5	Final regulatory package for charging infrastructure and final amendment proposal to building codes	Final regulation for charging infrastructure and building code amendment	MTID, MEPD, ZERA, ZETDC, SAZ, Charging operators / players locally	E-mobility Planning, Policy, Standards and Regulations Firm
3.2.6	Report on technical assistance provided to support the adoption of the EV charging infrastructure regulatory package and the amended building codes by the government of Zimbabwe	Quarterly updated list of supportive actions (briefings, meetings, notes, etc.) completed by the PMU until approval or end of project	MTID / MEPD / ZERA / ZETDC / SAZ / PTC	E-mobility Planning, Policy, Standards and Regulations Firm

Table 20 Output 3.2

Output 3.3: An assessment of public charging infrastructure needs for the city of Harare is conducted and discussed with municipal and governmental stakeholders, including recommendations on potential business models and charging stations locations

Under this output, initially a comprehensive data collection phase will be undertaken and analysis of current EV usage patterns, traffic density, and existing public charging infrastructure. This will help in understanding the current landscape and identifying gaps in the infrastructure. Geographic Information System (GIS) tools will then be employed to map out optimal locations for charging stations. These tools will consider factors

such as accessibility, demand hotspots, and proximity to existing electrical infrastructure, ensuring that the new stations are conveniently located and efficiently integrated into the city's power grid.

Key municipal and governmental stakeholders will be engaged through structured interviews and focus group workshops/ discussions to gather valuable insights and ensure alignment with urban planning objectives and regulatory frameworks. This engagement is crucial for obtaining buy-in from authorities and for incorporating local knowledge and expertise into the planning process. This will be followed by the assessment of various business models for the deployment and operation of charging stations. These models will be evaluated for their feasibility and sustainability, considering factors such as cost, potential revenue streams, and long-term maintenance requirements.

The project will also assess the potential for integrating RE sources (by closely working with MEPD) to meet the growing demand for EV charging. As EV adoption rises, the energy demand from charging infrastructure grows, and if this demand is met through RE sources such as solar, wind, or others, the environmental benefits of EVs are maximized. EVs powered by clean energy reduce reliance on fossil fuels, leading to a reduction in GHG emissions from the transport sector. Scaling up RE for EV charging ensures that EVs are truly zero-emission vehicles, cutting both direct emissions from vehicles and indirect emissions from electricity generation. As such, the public charging infrastructure needs assessment in Harare carried out under this output will contribute to informing the MEPD's up-coming public investments into RE power production to support the country's transition to e-mobility (refer to co-finance letter from the MEPD in Annex H).

The analysis would include gender focus and their potential roles in the deployment of public charging infrastructure. The findings and recommendations will be compiled into a detailed report, which will be presented in stakeholder validation workshop to facilitate discussion, feedback, and consensus-building on the proposed strategies for expanding Harare's public charging infrastructure.

Under Output 3.3., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
3.3.1	Recruitment of an EV Charging, Energy and Electricity Grid Expert / Firm (TORs, call for EOIs, selection committee report, contract, others)	This step will comprise of the preparation of TORs, call for EOIs, selection process through a committee, contract issuance, signature and inception report. ToR prepared by PMU and other relevant ministries (e.g. MTID).	MTID, MEPD, UNEP	PMU, PTC
3.3.2	One (1) field visit in Harare and consultation workshop to collect baseline information (presentation materials, workshop report, attendance list)	Conduct workshop to collect baseline information of public charging stations, grid connection points and loads, key charging players and their issues/ challenges, collect governments inputs, etc.	MTID, MEPD, ZETDC, ZERA, MWA, City of Harare, Wide local participation including through TWG-3	EV Charging, Energy and Electricity Grid Expert / Firm
3.3.3	Public charging infrastructure for Harare needs assessment report, including recommendations on charging station locations, business models and charging infrastructure technology options	Report on public charging infrastructure potential in Harare city including charging station locations, business models, additional energy demand, RE integration options for charging and charging infrastructure technology options	MTID, MEPD, ZETDC, ZERA, MWA, City of Harare	EV Charging, Energy and Electricity Grid Expert / Firm

3.3.4	Two (2) round tables with city stakeholders and EV charging station operators to discuss the deployment of public EV charging stations in Harare	Organize round table discussions with stakeholders for their feedback/ comments on public charging infrastructure report (draft).	Wide participation including through TWG, EV charging operators	EV Charging, Energy and Electricity Grid Expert / Firm
3.3.5	Final report on public charging infrastructure assessment and recommendations for the city of Harare	Final report and recommendations for public charging infrastructure deployment in Harare city, including recommendations on investments into RE power production to meet the growing energy demand.	MTID, MEPD, ZETDC, ZERA, MWA, City of Harare	EV Charging, Energy and Electricity Grid Expert / Firm

Table 21 Output 3.3

Output 3.4: A market study on local EV supply chains is developed and discussed with national manufacturers / assemblers, including technical support requirements and estimated investments

Under this output, a detailed analysis will be conducted to evaluate the strengths, weaknesses, opportunities, and threats (SWOT analysis) within Zimbabwe's existing internal combustion engine (ICE) vehicle supply chain. This comprehensive analysis will consider factors such as current production capacity, the level of technological expertise available, the existing infrastructure, and the skills of the workforce. By identifying these elements, the findings will pinpoint gaps and opportunities in transitioning to local EVs (EV) and component manufacturing and assembly. This will provide a clear picture of the supply chain's readiness to meet the growing domestic demand for EVs.

Following the SWOT analysis, a benchmarking process will be undertaken. This will involve a thorough study of successful policy measures, technical requirements, and industry standards from countries with well-established EV supply chains. The purpose of this benchmarking is to gather insights and best practices that can be adapted to Zimbabwe's specific context. These insights will be instrumental in formulating policy recommendations and technical guidelines that are tailored to the needs and conditions of Zimbabwe. The analysis will encompass an in-depth examination of existing women entrepreneurs and players currently engaged in the e-mobility sector or planning to enter it. This includes those aiming to establish local manufacturing or assembly operations and those intending to join the workforce within these manufacturing setups. The report will also provide an estimation of the investment required to develop a robust local EV supply chain. This estimation will consider various factors such as infrastructure development, technology transfer, and workforce training.

Under Output 3.4., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
3.4.1	Recruitment of an E-mobility Market and Financing Expert / Firm (TORs, call for EOIs, selection committee report, contract, others)	This step will comprise of the preparation of TORs, call for EOIs, selection process through a committee, contract issuance, signature and inception report. ToR prepared by PMU and other relevant ministries (e.g. MTID).	MTID, MEPD, UNEP	PMU, PTC

3.4.2	One (1) field visit and consultation workshop to collect information on existing ICE vehicle market and supply chain (presentation materials, mission report, attendance list)	Conduct workshop to collect baseline information of ICE players/suppliers and their portfolio, key issues in EVs manufacturing or assembly, number of players in the country, government policies/ regulations – existing or planned, etc.	MIAZ, MIC, MM, MFEP, MTID, MWA Wide local participation including through TWG-3	E-mobility Market and Financing Expert / Firm, PMU
3.4.3	Market analysis report of existing ICE vehicle supply chain capabilities, key suppliers, and readiness for local EV and components manufacturing / assembly to meet domestic demand	Screening of local automotive and electric industry. Assessment of local supply chain across the existing ICE and potential EV value chain. Best practices analysis in the region and recommendations for Zimbabwe. Options for government's action and investors' engagement.	MIAZ, MIC, MM, MFEP, MTID, MWA, Local suppliers/ players	E-mobility Market and Financing Expert / Firm
3.4.4	Two (2) round tables with potential EV component manufacturer / assemblers to discuss the development of the local EV supply chain	Organize round table discussions with stakeholders to share findings of supply chain analysis and collect feedback/ comments	MIAZ, MIC, MM, MFEP, MTID, MWA, Wide local participation including through TWG-3	E-mobility Market and Financing Expert / Firm, PMU
3.4.5	Report on local EV and components (i.e. battery, charger) supply chain market recommendations for Zimbabwe, including global best practices benchmarking, policy measures, technical requirements, and estimated investment	Final report on local EV supply chain manufacturing / assembly potential in Zimbabwe	MIAZ, MIC, MM, MFEP, MTID, MWA, Local suppliers/ players	International E-mobility Technology Expert / Firm

Table 22 Output 3.4

Output 3.5: An investment plan and a financing mechanism are developed to support the uptake of recommendations of the e-mobility roadmap (output 1.2) for upscaling of EVs and EV charging infrastructure in Zimbabwe

This output addresses the investment needs for the effective implementation of the national e-mobility roadmap, including (1) the identification of local industrial opportunities for investing in the electric-mobility manufacturing chain, including vehicles, batteries and charging equipment (including RE powered chargers); (2) an investment plan to assess and mobilize the necessary resources for the deployment of electric mobility (including meeting the additional energy demand through the expansion of RE power production) as per the roadmap; and (3) an investment plan for EoL EVs and batteries to address the growing need for sustainable disposal and recycling solutions. These will be addressed through specific technical studies complemented with workshops with interested stakeholders and participation through TWG-3. The engagement of SADC will be relevant for the study on industrial opportunities. Gender will be mainstreamed within this output, so that industrial opportunities are made fully accessible to women and the investment plan actively supports the advance of women in the economy.

The investment plan will contribute to informing the MEPD's up-coming public investments into RE power production to support the country's transition to e-mobility (refer to co-finance letter from the MEPD in Annex H).

The financial mechanisms will be based on the scenarios and guidelines provided by the national e-mobility roadmap. This output will assess priority requirements to identify the most appropriate vehicle categories for electrification, creditworthiness in the industries selected and best international practice, with support from the Global Programme. Financing options will include loans (adapted to the risks and revenue / savings streams associated to EVs), leasing options (including an assessment of the government's policy to expand the

leasing sector within its national plan) and conditions for the attraction of equity risk capital. Women's accessibility to such mechanisms will be explicitly assessed, so that equal access is guaranteed. The financial schemes will be designed and validated through workshops to facilitate stakeholder participation, and procurement guidelines will contribute to overcome the financial barriers involved in the purchase of EVs by creating and strengthening strategies to finance the initial capital cost requirements, enabling the participation and investment of the private sector.

Under Output 3.5., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
3.5.1	Draft investment plan for upscaling of EVs and charging infrastructure in Zimbabwe, based on the recommendations of the e-mobility roadmap (output 1.2) including analysis of financial risk mitigation strategy and potential funding sources and types (grant, concessional loan, etc.)	Best international practice benchmarking on EVs investment with a focus on the region. Identification of targeted consumers (e.g. PT operators, large private fleets owners, others) and vehicle categories for electrification. Investment needs for charging network deployment, government fleet electrification, inspection and control services, expansion of electrical power production (including through RE), maintenance service, battery EoL and others. Funding instruments such as concessional loan, leasing, equity, etc. Recommended instruments and their scope. Gender analysis on differentiated needs for women and to ensure accessibility of opportunities for women.	MTID, MFEP, MECW, MWA, MEPD, Financial Institutions, Banks, PT/ Fleet Operators	E-mobility Market & Financing Expert / Firm
3.5.2	Pre-feasibility study on the deployment of e-minibuses for private operators, including financing needs	The study to include assessment of e-minibuses electrification opportunity including operators and their issues/ challenges, government priorities, pre-feasibility study including operational and financing requirements.	MTID, MFEP, Financial Institutions, Banks, Mini-bus Fleet Operators, Greater Harare Association of Commuter Omnibus Operators	E-mobility Market & Financing Expert / Firm
3.5.3	Two (2) workshops (consultation + validation) on the e-mobility investment plan (presentation materials, workshop report, attendance list)	1 consultation workshop to present international practice and discuss local needs. 1 validation workshop to assess feasibility and interest by potential lenders and borrowers.	MTID, MFEP, MECW, MWA, MEPD, Financial Institutions, Banks, PT/ Fleet Operators, Wide local participation including through TWG-3	E-mobility Market & Financing Expert / Firm
3.5.4	Final investment plan for upscaling of EVs and charging infrastructure in Zimbabwe	Final investment plan for EVs and charging infrastructure in Zimbabwe incorporating inputs/ feedback from stakeholders. The investment plan should have a dedicated chapter on gender-responsive measures to promote investments in EV technologies. The investment plan will also include recommendations for the MEPD to inform public investments into RE power production, to contribute to the growing energy demand from transport.	MTID, MFEP, MECW, MWA, MEPD, Financial Institutions, Banks, PT/ Fleet Operators	E-mobility Market & Financing Expert / Firm
3.5.5	Draft financial mechanism to support electric mobility investments in Zimbabwe for public transport operators and fleet owners	Exploration of financing options including loans, leasing, equity, and other mix/ combination of financial instruments towards EV sector. Understand financiers' investments portfolio in EVs, key issues/ gaps and potential options for investments. Recommendations on preferred instruments and their applicability for EVs electrification.	MTID, MFEP, MECW, MWA, Financial Institutions (e.g. IDBZ, CBZ), PT/ Fleet Operators	E-mobility Market & Financing Expert / Firm
3.5.6	Two (2) workshops to discuss and validate the proposed	1 consultation workshop to discuss financing options with stakeholders. 1 validation	Wide participation including through TWG3	E-mobility Market & Financing Expert / Firm

	financial mechanisms with financial institutions and transport operators / fleet owners (presentation materials, workshop report, attendance list)	workshop on potential one financing options operational.		
3.5.7	Report on the technical support provided to one (1) financial institution in the operationalization on the selected financial mechanism	Quarterly updated documentation of supportive activities (briefings, meetings, notes, etc.) managed by the PMU until project approval or completion	MTID / MFEP / MWA / PTC	E-mobility Market & Financing Expert / Firm

Table 23 Output 3.5

-

Component 4: Long-term environmental sustainability of integrated electric mobility systems

In Zimbabwe, the expansion of EV adoption heralds a crucial phase for environmental sustainability, particularly concerning the end-of-life (EOL) management of EVs and batteries. This issue is gaining importance due to the potential influx of used EVs and their aging battery systems. The country is in process of updating its e-waste management regulations, but still needs support to complement it with detailed official technical guidance, and to develop the professional competencies to implement it. This includes the collection and separation of e-waste and its subsequent recycling or disposal. It is right time to prepare local regulatory frameworks to ensure that used EV batteries will not end up in landfills but will be collected in an organized manner to prepare for subsequent steps. So far, companies and individuals dedicated to the management of end-of-life vehicles do not have the robustness and capacity necessary to address this additional challenge.

It is unclear whether the original EV (or battery) producer will be held responsible for the second-life use of its batteries, or whether this will be left to market forces, due to the relatively high value of some components of the used batteries. It is, however, clear that most of the regulation to be developed in the short term will mainly concern primary markets in Europe, North America and Asia. Extended producer responsibility will most likely not be an efficient tool to regulate second-hand EV end-of-life issues in the Global South. It is therefore of upmost urgency to investigate the options for collection of used EV batteries for re-use, recycling and safe disposal.

Therefore, this component targets the development of strategies to ensure environmental sustainability of the introduction of electric mobility by focusing on two areas, each with one specific output: (1) The implementation of the new legal framework on e-waste management with official technical guidelines in accordance with good international practice, so that it can foster a reliable e-waste collection and management system; and (2) the development of a suitable scheme to operationalize the sustainable management building of batteries at their end of life, including the assessment of the technical and equipment needs of the companies licensed for that activity and the provision of technical assistance to them.

This component will assess the national grid impact based on EV targets by evaluating charging needs, estimating the required numbers and types of chargers, and quantifying infrastructure needs. It will also provide insights on integrating EV charging with renewable energy, storage, and other technological applications.

Main partners and co-financers for this component include MEPD, ZERA, ZETDC, MTID, MIAZ, MECW, EMA, MIAZ and local vehicle and battery dealers/ importers.

Barrier addressed: Potentially high environmental and social impact of the transition towards e-mobility

Outcome 4. The Government of Zimbabwe takes steps to ensure long-term environmental sustainability of integrated electric mobility systems, including EV and battery end-of-life

Output 4.1: An impact assessment of EV charging on the national grid and estimated energy capacity needs (with a focus on renewable energy) is carried out and discussed with energy sector stakeholders

In this output, the focus will be to understand the impact of EV transition targets on the energy grid at the national level. To achieve this, it will assess the charging needs and estimate the required number of various types of EV chargers to meet the projected demand for charging EV fleets. This assessment will include determining the number of charging points, types of chargers needed, technologies of charging points (including fixed battery and swapping options), ideal locations for charging stations, land and electricity requirements, and a time-split of charging during the day to minimize the impact on the grid.

Quantification of charging infrastructure and vehicle charges (by time of day) will allow to assess the electricity grid or network requirements and analyse the potential impact of EVs on the grid infrastructure. This analysis will involve working closely with the local electricity distribution company. Additionally, it will consider vehicle efficiency in terms of kWh per kilometre and other relevant factors to develop a comprehensive analysis of the potential impact of EVs on the electricity grid. Insights will be provided on how (and when) to optimise these recommendations with renewable energy generation, storage to decarbonize or reduce grid impact (dependency) and potential technological applications (e.g. smart charging, V2G, off-grid applications, etc.).

Finally, this impact assessment study will include recommendations for development of future electrical power production capacities (including RE) by MEPD, which will also inform the investment plan developed under output 3.5 of the GEF project.

Under Output 4.1., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
4.1.1	Energy production and electricity distribution / transmission landscape assessment report on existing national capacity / infrastructure	Assess the baseline electricity landscape comprising of generation including renewable energy, transmission and distribution infrastructure. Understand potential plans of investment in electricity infrastructure upgradation.	MTID, MEPD, ZERA, ZETDC	EV Charging, Energy and Electricity Grid Expert / Firm
4.1.2	Impact assessment report on EV charging load (both peak and units) on grid infrastructure and recommendations for future investments, including RE, grid upgrades and potential technological applications (e.g. smart charging, V2G, off-grid applications, etc.)	Assess the impact of EV transition on Zimbabwe's energy grid, evaluating the required chargers, optimal locations, and charging times to minimize grid impact. It will analyse grid infrastructure impact with the local electricity company, considering vehicle efficiency and other factors. Insights on optimizing with renewable energy, storage, and technologies will be provided. The report will include recommendations for development of electrical power production capacities (including RE), which will also inform the investment plan developed under output 3.5.	MTID, MEPD, ZERA, ZETDC, MFEP	EV Charging, Energy and Electricity Grid Expert / Firm
4.1.3	One (1) workshop to present the findings of the impact assessment and recommendation of investments in the energy / electricity sectors (presentation materials, workshop report. attendance list)	Review on findings regarding the impact assessment and feedback from key stakeholders, focusing on grid impacts due to EV charging load, and potential recommendations	MTID / MEPD / ZERA / ZETDC / Local stakeholders through TWG-4	EV Charging, Energy and Electricity Grid Expert / Firm

Table 24 Output 4.1

Output 4.2: A legislative and regulatory framework for the environmentally sound management of end-of-life EVs and batteries (collection, re-use, recycling, re-integration into value chains and safe disposal) is developed and submitted to the Cabinet for approval

This output will undertake a comprehensive assessment of EV end-of-life (EOL) and e-waste management in Zimbabwe, considering the growing adoption of e-mobility solutions. The analysis will cover existing infrastructure, policies, and capabilities, identifying critical gaps and opportunities for improvement to ensure sustainable management of EVs and batteries, prioritizing environmental and public health safety. This will be followed by regional and global benchmarking of best practices and successful policies, legislations, and regulations from countries that have effectively managed EOL vehicles and batteries.

A draft legislative and regulatory reform package will be proposed for the environmentally sound management of EOL EVs and batteries. This package will address essential aspects such as collection, reuse, recycling, reintegration into value chains, and safe disposal, aiming to create a cohesive framework that encourages the responsible handling of EOL materials, minimizes environmental impact, and promotes a circular economy. These recommendations will be integrated into the government's broader initiative to enhance the overall e-waste management system. The assessment study and technical guidance will be carried out by a specialized expert / firm and submitted to the government through MECW for official approval. Support for consolidating the e-waste management industry will include a focus on the role of women in these activities and the need to strengthen gender parity in the sector. Stakeholder engagement

will be facilitated by TWG-4 activities, chaired by MECW. Professional training for e-waste companies will be provided through output 1.5.

Under Output 4.2., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
4.2.1	Recruitment of an EV and Battery End-of-Life Expert / Firm	Preparation of TORs, call for EOIs, selection process through a committee, contract issuance, signature and inception report. ToR prepared by PMU and endorsed by MECW.	MECW, EMA, MIAZ, MTID	PMU (MTID), PTC
4.2.2	Needs assessment report on vehicle EOL and e-waste management in Zimbabwe, with a focus on EOL EVs and batteries	Screening and data collection of the formal and informal e-waste management. Assessment of current regulations and enforcement in the country and the region (SADC). Challenges for EPR implementation. Assessment of needs and scope of official technical guidelines. Roles of women vs. men in EV and EV battery assembly/production.	MECW, EMA, MIAZ, MWA	EV and Battery End-of-Life Expert / Firm
4.2.3	Regional / global benchmarking of best practices for policies, legislations and regulations for end-of-life management of EVs and batteries	Conduct a comprehensive review of internationally used best practices in policies, legislations, and regulations regarding EOL management of EVs and batteries. List of topics to be addressed and priority. Development of guidance for high priority topics.	MECW, EMA, MIAZ, MWA, SADC	EV and Battery End-of-Life Expert / Firm
4.2.4	Draft legislative / regulatory reform package for environmentally sound management of EOL EVs and batteries (collection, re-use, recycling, re-integration into value chains and safe disposal)	This involves the development of regulatory recommendation on EOL of EVs and batteries including collection, reuse, recycling, integration into value chains, and safe disposal	MECW, EMA, MIAZ, MWA, MTID	EV and Battery End-of-Life Expert / Firm
4.2.5	Two (2) workshops on the legislative / regulatory reform package (presentation materials, workshop reports, attendance lists)	1 consultation workshop as part of assessment to understand local landscape. 1 validation workshop with presentation on regulation regarding EOL of EVs and batteries for additional comments/ feedback.	MECW, EMA, MIAZ, MTID, MWA, PMU, Local stakeholders through TWG-4	EV and Battery End-of-Life Expert / Firm
4.2.6	Final legislative / regulatory reform package for environmentally sound management of EOL EVs and batteries (collection, re-use, recycling, re-integration into value chains and safe disposal)	Develop and finalize a legislative and regulatory reform package that integrates global best practices. This package should encompass the entire lifecycle management, including collection, re-use, recycling, reintegration into value chains, and safe disposal.	MECW, EMA, MIAZ, MWA, MTID	EV and Battery End-of-Life Expert / Firm
4.2.7	Report on technical assistance provided to support legislative / regulatory reform approval process	Quarterly updated list of supportive actions (briefings, meetings, notes...) completed by the PMU until approval or end of project	MECW / EMA / MIAZ / MTID / PTC	EV and Battery End-of-Life Expert / Firm

Table 25 Output 4.2

Output 4.3. A scheme to operationalize the environmentally sound management of EV batteries (collection, re-use, recycling, re-integration into value chains and safe disposal) is developed, discussed

with national stakeholders (including local vehicle dealers and waste handlers) and submitted to the government for endorsement

This output provides a scheme to operationalize the environmentally sound management of EV batteries, encompassing their collection, re-use, recycling, re-integration into value chains, and safe disposal. It will include assessment of global models / schemes, providing insights into their implementation and outcomes based on which tailored recommendations for Zimbabwe will be identified. The assessment will also evaluate the current capacities and needs of Zimbabwe's e-waste management sector concerning EV batteries such as existing infrastructure, technological capabilities, workforce skills, and regulatory frameworks and provide a clear picture of the sector's readiness to handle the anticipated increase in e-waste from EVs, ensuring that necessary support and resources are directed where they are most needed.

Based on these insights, the schemes will be proposed for managing EV batteries in Zimbabwe covering their entire lifecycle, focusing on efficient collection methods, potential for re-use in secondary applications, advanced recycling processes to recover valuable materials like lithium and cobalt, and integrating these materials back into local value chains. At the implementation level, it will also include immediate actions that are needed to enhance the technical and operational capabilities of the e-waste management sector to align with strengthened value chains, along with necessary government and financial support.

The review and recommendations on value chains offer a chance to draw insights from other countries on enhancing female participation in this sector. Stakeholder engagement poses challenges due to the substantial informal sector and companies with limited capacities in e-waste management, which will be strengthened by TWG-4 initiatives. MECW's leadership will facilitate discussions on effectively implementing Extended Producer Responsibility (EPR) principles, particularly with car dealers and importers.

Under Output 4.3., the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
4.3.1	Technical report with benchmarking of best international practices in the development of battery re-use / recycling / re-integration into value chains schemes, including recommendations for Zimbabwe	Detailed description of e-mobility value chains. Best international practices in value chain circularity and consolidation (including women's engagement). Opportunities for value chain consolidation in Zimbabwe. Policy recommendations, with a gender focus.	MECW, MIAZ, MWA, MTID	EV and Battery End-of-Life Expert / Firm
4.3.2	Assessment report on the capacities and needs of the e-waste management sector in Zimbabwe to manage EVs batteries	Screening and data collection of the formal and informal e-waste management sector including EVs batteries. E-mobility sector compliance with EPR requirements. Setting up minimum requirements (technical capacities, equipment and facilities) to manage EVs batteries.	MECW, MIAZ, MWA, MTID, Local stakeholders through TWG-4	EV and Battery End-of-Life Expert / Firm
4.3.3	Draft scheme to operationalize the environmentally sound management of EV batteries	Scheme covering technical upgrade and government's inspection needs for (1) EPR implementation and enforcement, (2) local	MECW, MIAZ, MWA, MTID, Local stakeholders through TWG-4	EV and Battery End-of-Life Expert / Firm

	(collection, re-use, recycling, re-integration into value chains and safe disposal)	governments 'empowerment, (3) waste management companies' consolidation and technical upgrade, (4) business model for battery repurposing (5) feasibility study for EV battery recycling site		
4.3.4	Two (2) workshops (consultation + validation) on the scheme (presentation materials, workshop report, attendance list)	1 design and consultation workshop as part of assessment to discuss e-waste management practices and 1 validation workshop to discuss schemes for management of EV batteries	MECW, MIAZ, MWA, MTID, Wide participation of stakeholders, including through TWG-4	EV and Battery End-of-Life Expert / Firm
4.3.5	Final scheme to operationalize the environmentally sound management of EV batteries (collection, re-use, recycling, re-integration into value chains and safe disposal)	Final scheme of EV batteries management across its value chain	MECW, MIAZ, MTID, Local stakeholders through TWG-4	EV and Battery End-of-Life Expert / Firm
4.3.6	Report on technical assistance provided to support the scheme endorsement process	Quarterly updated list of supportive actions (briefings, meetings, notes...) completed by the PMU until approval or end of project.	MECW, MIAZ, MTID, EV and Battery End-of-Life Expert / Firm	PMU
4.3.7	One (1) training workshop to set of government and private entities on EV battery reuse, recycling and disposal management	Workshop to stakeholders on best practices of EV battery reuse, recycling and disposal management and options for Zimbabwe	MECW, MIAZ, MWA, MTID, EV battery practitioners, Wide participation of stakeholders, including through TWG-4	EV and Battery End-of-Life Expert / Firm
4.3.8	Three (3) round tables on the application of EV battery value chain development practices to Zimbabwe (presentation materials, workshop report, attendance list)	Workshop or roundtable format to choose in accordance with expected audience at the time of implementation. Focus on the presentation and discussion of business and investment opportunities.	Wide participation of local stakeholders including through TWG-4. EV battery practitioners. Open to potential investors.	EV and Battery End-of-Life Expert / Firm

Table 26 Output 4.3

Component 5: Monitoring and evaluation

In this component, project monitoring and evaluation will be undertaken in accordance with GEF and UNEP policies.

Outcome 5. The project is effectively monitored and evaluated.

Output 5.1: Monitoring and evaluation products are delivered

Under Output 5.1, the project will be producing the following deliverables:

Code / Ref.	Deliverable statement	Tentative content and required activities / work	Relevant stakeholders	Entity in charge of producing deliverable
5.1.1	One (1) Inception workshop (report, attendance list).	Identification of participants based on stakeholders' engagement plan. Prior hiring of PMU.	All relevant national stakeholders	PTC / PMU
5.1.2	Eight (8) steering committee meetings (report, attendance list).	2 PSC meetings per year (1 every semester) with PSC members.	MTID and other PSC members	PTC / PMU
5.1.3	Progress reports, PIRs and project indicators' monitoring.	Based on monitoring reports and other information provided in the relevant project deliverables.	MTID / UNEP	PTC / PMU
5.1.4	Gender Action Plan and Environmental and Social safeguards monitoring.	The PTC will implement the Gender Action Plan as part of project activities implementation. The PTC will monitor the implementation of the Gender Action Plan Plan (refer to Annex K) to capture the project's gender-specific results and report on it twice a year, as part of the half-yearly progress reports and PIRs. Based on the guidance provided in the project's SRIF (Annex F), the PTC will also ensure the safeguards management plans and all other environmental and social safeguards are implemented and will report on these twice a year, as part of the half-yearly progress reports and PIRs.	MTID	PTC / PMU
5.1.5	One (1) Mid Term Review (optional).	Optional independent review managed by UNEP, depending on the Task Manager's assessment of the level of risk of the project.	MTID / UNEP	UNEP / Mid-term review consultant
5.1.6	Four (4) financial audit reports		MTID / Auditing firm	Auditing firm
5.1.7	One (1) final closure workshop (report, attendance list).	Workshop format to be established at the knowledge management and communications plan.	All relevant national stakeholders	PMU / PTC
5.1.8	One (1) Terminal Evaluation or Review.	Independent evaluation managed by UNEP.	MTID / UNEP	UNEP / Terminal evaluation consultant

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this child project, including framework and mechanisms for coordination, governance, financial management and procurement. This should include consideration for linking with other relevant initiatives at country-level (if a country child project) or regional/global level (for coordination platform child project). If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

Project implementation organogram:

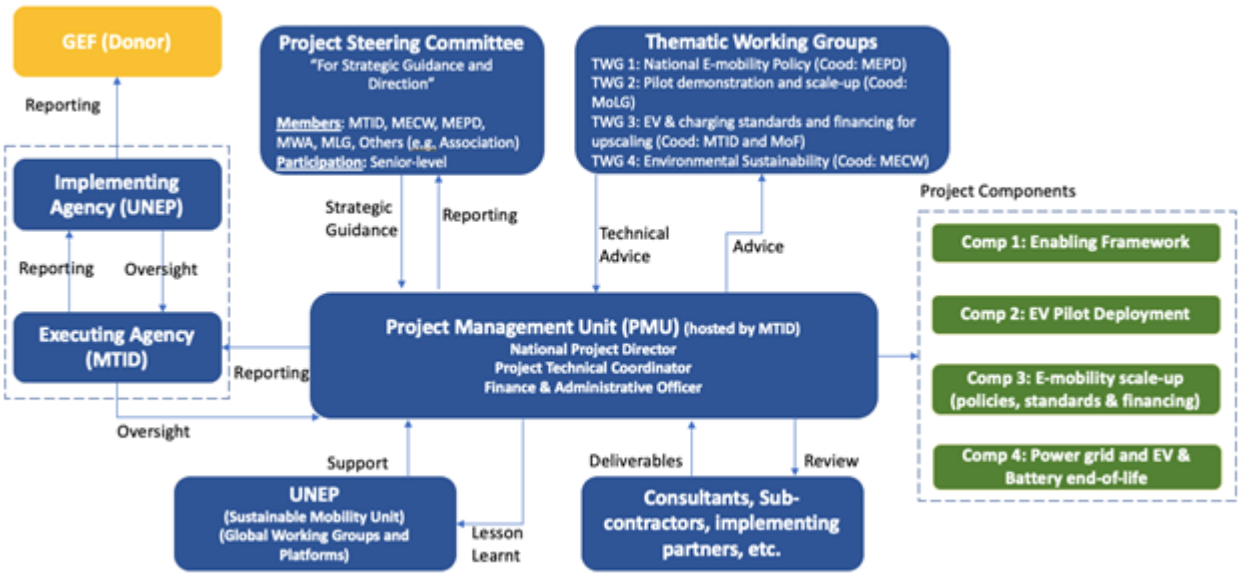


Figure 10 Project implementation organogram

Institutional arrangements:

A Project Steering Committee (PSC) will be established to provide overall guidance and oversee the progress and performance of the project. The PSC will aim to enhance and optimize coordination and contributions from various project partners. It will be chaired by a senior official from Ministry of Transport and Infrastructure Development (MTID) and other ministries which will be part of it are Ministry of Environment Climate & Wildlife (MECW), Ministry of Energy Power Development (MEPD), Ministry of Women Affairs (MWA) and Ministry of Local Government (MLG). The PSC will convene twice per year. The PSC will also oversee adequate gender mainstreaming and the mobilization of gender expertise in relevant project activities, ensuring that environmental and social safeguards are properly monitored.

A Project Management Unit (PMU) will be established within the Executing Agency (EA), the MTID to manage the day-to-day operations of the project. The PMU will consist of a National Project Director (NPD), the Project Technical Coordinator (PTC), and the Financial and Administrative Officer (FAO). The PTC will be responsible for implementing and monitoring the Gender Action Plan in collaboration with the Gender Division (within Ministry of Women Affairs) and ensuring environmental and social safeguards are followed. The PTC will also be the first point of contact for the project's Stakeholder Response Mechanism. The PMU may also include MTID officials as part of their in-kind contribution to project management.

Thematic Working Groups (TWGs) will be formed to facilitate the mobilization of technical expertise and the involvement of interested partners in implementing different project components. The TWGs will provide advice to the PMU, the PSC, and the National Inter-sectoral Coordination Platform on E-Mobility. Participation will be open to interested stakeholders upon invitation or request to the PTC. The TWGs will meet on an ad-hoc basis during project implementation, with secretarial support from the PMU. Efforts will be made to

ensure gender balance and include participation from relevant gender-representative groups, following gender-sensitive deliberation processes. Minutes of each meeting will be prepared and made publicly available on the project's knowledge platform within one month after the meeting. TWGs may decide to keep information confidential on a case-by-case basis, with resource requests considered by the PSC. TWG3 (demonstrations, technical knowledge management, and replication) will include relevant local stakeholders in Harare to ensure that project interventions on e-bus project align with local priorities and needs.

Coordination with the Global Electric Mobility Programme and the Africa Regional Support and Investment Platform will be managed through the PTC. This coordination aims to participate in regional and global activities, exchange materials, and report on progress in relevant global indicators.

Implementation arrangements:

The roles and responsibilities of each body are detailed in the following table:

Body	Composition	Role and description	Frequency of meetings
Project Steering Committee (PSC)	MTID (Chair, National Project Director) MECW MEPD MLG MWA MFEP Transport Associations UNEP	• Oversight of the project progress and implementation of Outputs; • Approve workplans and budget revisions; • Approve management decisions to ensure timely delivery of quality outputs; • Provide overall guidance and strategic direction; • Enhance and optimize the contributions of various partner organizations through coordination of all activities and inputs • The MTID will appoint a National Project Director (NPD) that will act as the PSC Chairperson • The Project Technical Coordinator (PTC) will act as the PSC Secretary The member institutions will need to ensure that at least 50% female representatives are appointed to the PSC.	Twice a year
Implementing GEF Agency (IA)	UNEP	• Ensure timely disbursement/sub-allotment to executing agency based on agreed legal document and in accordance with UNEP and GEF fiduciary standards; • Follow-up with Executing agency for progress, equipment, financial and audit reports; • Provide consistent and regular oversight on project execution and conduct project supervisory missions as per Supervision Plans and in	Periodic meetings (calls) with the EA's Project Management Unit (PMU), at least once per month

		doing so ensures that all UNEP and GEF criteria, rules and regulations are adhered to by project partners; • Technically assess and oversee quality of project outputs, products and deliverables – including formal publications; • Provide no-objection to main TORs and subcontracts issued by the project, including selection of the Project Manager (PM); • Attend and facilitate inception workshops, field visits where relevant, and selected steering committee meetings; • Asses project risks, and monitor and enforce a risk management plan; • Regularly monitor project progress and performance and rate progress towards meeting project objectives, project execution progress, quality of project monitoring and evaluation, and risk; • Monitor reporting by project executing partners and provide prompt feedback on contents of the report; • Promptly inform the management of any significant risks or project problems and act and follow up on decisions made; • Apply adaptive management principles to the supervision of the project; • Review of reporting, checking for consistency between execution activities and expenditures, ensuring that it respects GEF rules; • Clear cash requests, and authorization of disbursements once reporting found to be complete; • Approve budget revision, certify fund availability and transfer funds; • Ensure that GEF and UNEP quality standards are applied consistently to all projects, including branding and safeguards; • Certify project operational completion; • Link the project partners to any events organized by GEF and UNEP to disseminate information on project results and lessons; Manage relations with GEF.	

Executing Agency (EA)	Ministry of Transport and Infrastructural Development (MTID)	• Ensure that the project meets its objectives and achieves expected outcomes; • Ensure technical execution according to the execution plan laid out in the project document; • Ensure technical quality of products, outputs and deliverables; • Ensure compilation and submission of progress, financial and audit reporting to IA; • Submit budget revisions to IA for approval; • Address and propose solutions to any problem or inconsistency raised by the IA; • Bring issues raised by or associated with clients to the IA for resolution; • Facilitate meetings of Steering Committees and other oversight bodies of the project; • Day to day oversight of project execution; • Submit all technical reports and completion reports to IA (realized outputs, inventories, verification of co-finance, terminal reporting, etc.); • Monitoring and evaluation of the project outputs and outcomes; • Effective use of both international and national resources • Timely availability of financing to support project execution; • Proper coordination among all project stakeholders; national parties; • Timely submission of all project reports, including work plans and financial reports, Follow-up with, or progress, procurement, financial and audit reports.	Periodic meetings (calls) with the IA's Task Manager, at least once per month
Project Management Unit (PMU)	National Project Director (NPD)	• Will be a national/governmental officer appointed by MTID • Act as the PSC's Chairperson; • Report to and receive advice from the PSC; • Identify and secure partner support for the implementation of project activities; • Advise on hiring processes. Act as the project's entry point within the government of Zimbabwe	Regular meetings with the PTC, at least twice per month

	Project Technical Coordinator (PTC)	The PTC will be hosted within the MTID premises and have the following duties: • Take responsibility for day-to-day project operations; • Take responsibility for the execution of the project in accordance with the project objectives, activities and budget; • Deliver the outputs and demonstrate its best efforts in achieving the project outcomes; • Coordinate project execution and liaison with national counterparts (relevant ministries, national agencies, private sector, NGOs etc.); • Manage financial resources and processing all financial transaction relating to sub-allotments; • Prepare all annual/year-end project revisions; • Attend and facilitate inception and other workshops and national PSC meetings; • Assess project risks in the field, monitor risk management plan; • Ensure technical quality of products, outputs and deliverables; • Coordinate the project team of consultants and subcontractors; • Coordinate with strategic taskforces (i.e. thematic or technical working groups); • Act as Secretary of the PSC; • Plan and organize the PSC bi-annual meetings; • Periodic reporting to UNEP and the PSC for allocation of the GEF grant according to the approved workplan and budget, in coordination with UNEP and MTID; • Notify UNEP and the PSC in writing if there is need for modification to the agreed implementation plan and budget, and to seek approval; • Address and rectify any issues or inconsistencies raised by the Implementing Agency; • Support compilation and submission of progress, financial and audit reporting to the Implementing Agency; • Prepare, at the end of the project, the project Final Report • Implementation of the project's Stakeholder Engagement Plan and participation strategies. The PTC will also be responsible for implementing and monitoring the gender action plan (Annex K) and the environmental and social safeguards (Annex F) in project implementation, including: • The analysis and action plans on gender and social issues integrated in the documents and materials prepared by the project. • The integration of gender and social issues in the project demonstrations at the various planning and implementation stages (from feasibility studies to monitoring and evaluation). • Estimates of the indicators of the project's Gender Action Plan and of the gender indicators included in the Project Results Framework.	Regular meetings with the NPD, at least twice per month Quarterly meeting with the project's Financial Officer Ad-hoc meetings with project team members (consultants, subcontractors, etc.)

	Administrative and Financial Assistant	The Administrative and Financial assistant will be hosted within MTID and have the following duties: • Budgetary control and processing of all financial transactions • Support to process procurements and other administrative tasks. • Assist in the production of financial reports • Assist with the annual audit exercise / reports • Assist in organisation of events Help in the production of progress reports	Regular meetings with the PTC, at least once weekly
Thematic / Technical Working Groups (TWG)	TWG1: National E-mobility Policy (Cood: MEPD)	• Facilitates and supports the GoZ with competences in the electrification of the public transport sector following overall transport sector • Facilitates the engagement of non-governmental stakeholders in the preparation of the National E-Mobility Policy • Provides advice to the PMU and serves as a participatory channel for deliberation on sustainable mobility and electrification, involving stakeholders as well as individual experts not formally included in the PSC	Ad hoc meetings with the PMU
	TWG2: Pilot demonstration and scale-up (Cood: MLG and MTID)	• Provides technical guidance to the PMU by engaging a wider array of expertise on electric mobility technologies on an ad hoc basis • Supports the adoption of innovative electric mobility equipment and management in Harare • Provides feedback to the electric fleet demonstrations and facilitate the dissemination of their achievements among the research and professional communities • Facilitates wide participation of local stakeholders in the design, implementation, monitoring and evaluation of the project's demonstrations in Zimbabwe, including o Ensuring political buy-in of the local government o Ensuring buy-in of key local stakeholders, including academia, private sector and civil society o Providing guidance for the drafting of technical terms of reference (TOR), reviewing TORs and providing technical input to support their elaboration and finalization o Identifying possible key local partners for project activities o Reviewing and providing technical input to technical documents as related to local project objectives o Ensuring the design of local project interventions is aligned with local priorities o Facilitating the execution of project activities in the local jurisdiction, including the obtaining of local governmental permissions o Facilitating and supporting M&E activities o Supporting communication and diffusion of information on the project with local stakeholders o Serving as a first point for local stakeholders to express grievances who may be adversely affected by the GEF UNEP project. If such	Ad hoc meetings with the PMU

		concerns are not resolved at the local level, such stakeholders may access UNEP's Stakeholder Response Mechanism, operated through the Independent Office for Stakeholder Safeguard-related Response (IOSSR).	
	TWG3: EV & charging standards and financing for upscaling (Cood: MTID and MFEP)	• Provides highly specialized technical expertise and support to the PMU by engaging a wider array of expertise (including academia) on an ad hoc basis • Revises and provides feedback to the project's technical reports or documents on electric mobility financing and policy/standards • Supports the monitoring on the support of the financial sector to transport electrification • Facilitates the liaise of the project with relevant sectoral bodies, such as the Bankers Association of Zimbabwe • Facilitates wide dissemination of available electric mobility financing instruments among the Zimbabwe's financial sector	Ad hoc meetings with the PMU
	TWG4: Environmental Sustainability (Cood: MECW)	• Facilitates the engagement of stakeholders in the implementation and monitoring of the Component 4 activities, addressing the potential environmental impacts of electrification • Facilitates dissemination of results among formal and informal actors in the waste management sector dealing with EOL EV and batteries	Ad hoc meetings with the PMU

Table 27 Stakeholders related project Implementation

Will the GEF Agency play an execution role on this child project?

If so, please describe that role here and the justification.

N/A

Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

Coordination with the Global E-mobility Programme

The GEF-8 Global Child Project "Global Programme to Support Countries to Upscale Integrated Electric Mobility Systems" aims to provide support to countries in several key areas including upscaling of integrated e-mobility systems as well as investment, in addition to establishing a Global Partnership to address key challenges associated with used EVs, end-of-life of EVs, and batteries & circularity. The Global Child Project will add value to Country Child Projects by providing the following support:

- **Knowledge creation and management**, ensuring new global knowledge is created and applied in participating countries, and that decision makers at the global, regional, and national level use knowledge materials developed by the Global Programme's Thematic Working Groups and disseminated through one central Integrated E-Mobility Systems Knowledge Hub:
    - Opportunities to engage with thematic working groups, benefit from networking opportunities and access knowledge products made available through the e-mobility toolbox.

- **Global Partnership on used EVs, EVs and batteries end-of-life & circularity**, ensuring the participation of key stakeholders from national governments, international organizations, academia and private sector associations in a global consultation process to build consensus and a draft policy framework on used EVs, battery end-of-life and circularity:

    - Opportunities to participate in global consultations on good practices, experiences and lessons learned in managing used EVs, end-of-life batteries & circularity, and training for decision makers on EV battery end-of-life management.

- **Readiness support for upscaling of integrated e-mobility systems**, providing the tools and support for participating countries to implement policies, business models and financing schemes to accelerate investment in integrated electric mobility systems:

    - Opportunities to participate in training and access enhanced regional support through the Regional Support and Investment Platforms (Africa, Asia-Pacific, Eastern Europe, Western & Central Asia, Latin America & Caribbean).

- **Integrated electric mobility systems, advocacy, coordination and communications programme**, ensuring wider uptake of electric mobility providing the tools and support for participating countries to promote policies, business models and financing schemes to accelerate investment in integrated electric mobility systems:

    - Opportunities to access Global EV publications, datasets and assessments, relevant case studies as well as expanded e-mobility monitoring frameworks, in addition to participation in high-level events.

The Zimbabwe Child Project will be able to engage in the Global Project activities through the following actions:

1. The *project* will **set aside resources for relevant stakeholders to participate in peer-to-peer capacity building workshops, and regional trainings.** The Zimbabwe Child Project will ensure the engagement (with gender balanced participation) of national and local government officials, academia, private sector and civil society in Global Project activities. This will allow the country to not only learn but also share knowledge with other countries on how to accelerate action towards integrated e-mobility systems. The country will also be able to share the knowledge gained within the country to maximize engagement of a broad set of stakeholders.

2. The *project* will apply knowledge acquired through the Global Project, the thematic working groups as well as the Global Partnership on Used EVs, Battery End-of-Life & Circularity across components,

for instance on developing national e-mobility strategies, business models and financing schemes to accelerate investments in integrated mobility systems.

3. The *project* will **share the national knowledge products developed, experiences, best practices and lessons learnt with the Global Project** particularly from demonstrations and pilots. The Zimbabwe Child project will generate gender-related lessons learnt and success stories from these experiences and share them with the Global Platform for fine-tuning knowledge products, training and for broader dissemination through the "E-mobility Knowledge Hub" as well as through Regional Support and Investment Platforms. The country project will be responsible for tracking the progress of the projects against selected Programme level indicators that the Global Project will compile and disseminate in the programme annual reports.

The *project* will **appoint a country focal point to coordinate activities and ensure the flow of information with the Global Project**. The focal point for the Zimbabwe Child Project will be the National Project Director (NPD) from the Ministry of Transport and Infrastructure Development. This focal point role will facilitate effective and ongoing communication between the Global Project and the country project team, ensuring that necessary actions are well-coordinated and communicated, and information is shared in a timely fashion.

Coordination with ongoing initiatives and projects

This section provides information on on-going initiatives with synergy potential with this project. More information on these initiatives is provided in Table 28.

Project	Objectives and relevance to this project	Intended coordination and synergies
Zimbabwe Renewable Energy Financing Framework[1][53]	Increasing clean electricity generation to meet the growing energy demand, particularly from the rise in EVs	Coordination with MEPD, in the framework of the assessment of renewable energy capacities and expansion needs to cope with transport electrification (Component 4)
UN-Habitat Harare Sustainable City Initiative in Zimbabwe[2][54]	To enhance the experience with EVs the investments in EVs and charging facilities (PV panels, batteries, chargers, etc.) through SIDA founded projects and improve air quality as well as reducing GHG emissions	Coordination with MIC and MEPD, in the framework of this project the city can be evaluated for resilience strategies while laying the work for (Component 3) through investments.
Africa GreenCo Zimbabwe[3][55]	Encouraging private investment in clean electricity generation to meet the energy demands of EVs using PVs.	Coordination with BAZ, in the framework of the assessment of renewable energy capacities and expansion needs to support transport electrification, with a focus on private investment (Component 4)

Project	Objectives and relevance to this project	Intended coordination and synergies
SIDA's work in Zimbabwe [4][56]	Enhance sustainable transport infrastructure to facilitate economic growth and improve accessibility in local communities. They have been supporting MfA for e-bikes.	In the framework of the assessment of expansion of transportation needs to support transport movement between communities, with a focus on private investment (Component 3)
Zimbabwe second Power Project[5][57]	Analysing barriers to electrification and proposing government actions from improving transmission and distribution	The proposals for government actions will serve as input to project components 1 and 3. MPED, ZERA and MFEP will be engaged in several project activities within these components.

Table 28 Project's coordination with on-going initiatives

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-YY%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(track%20changes).docx - _ftnref1[1] SDF FUND for Zimbabwe

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-YY%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(track%20changes).docx - _ftnref2[2] UN Habitat City Harare

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-YY%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(track%20changes).docx - _ftnref3[3] Africa Green Co

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-YY%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(track%20changes).docx - _ftnref4[4] Climate laws

https://unitednations.sharepoint.com/sites/UNEP-CCD-DivisionTeam/CCD%20Repository/Programmatic/Projects-Initiatives/Mitigation-Branch/GEF-GCF-Unit/Projects/3.Ongoing-Projects/MSPFSP/AFR/11083_EM%20Zimbabwe/CEO%20ER/2024-08-YY%20Response%20to%20PRC/11083_EM%20Zimbabwe_CEO%20ED_2024-08-27%20(track%20changes).docx - _ftnref5[5] World Bank project

Table On Core Indicators

Core Indicators

Indicate expected results in each relevant indicator using methodologies indicated in the GEF-8 Results Measurement Framework Guidelines. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

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_2e (direct)	872796	533191	0	0
Expected metric tons of CO_2e (indirect)	2033667	1241010	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_2e (direct)				
Expected metric tons of CO_2e (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_2e (direct)	872,796	533,191		
Expected metric tons of CO_2e (indirect)	2,033,667	1,241,010		
Anticipated start year of accounting	2029	2029		
Duration of accounting	10	10		

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)	42,912,633,562	20,514,214,867		

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)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	600	514		
Male	870	739		
Total	**1470**	**1253**	0	**0**

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

GHG emission reductions:

GHG emissions mitigated have been estimated using the e-MOB calculator developed by the UNEP Sustainable Mobility Unit. Separate estimates have been made for the electrification of buses and cars (LDVs). Primary direct GHG emission reductions are considered only for the lifespan (15 years) of the electric buses directly piloted by the project. Indirect (consequential) emission reductions are estimated considering a reasonable rate of fleet replacement from 2029 (top-down approach). These additional emission reductions are estimated for a 10-year period after the termination of the project. A causality factor of 20% is used to quantify the amount of the benefits obtained as a result of the project execution and its influences (consequential project benefits). 30% of the GHG emission savings mitigated are considered to correspond to secondary direct emissions reduction (due to the policy and replication activities implemented by the project) and the remaining 70% are considered to correspond to indirect emission reductions.

Differences compared to the estimate at the concept note stage are due to the refinement of calculations based on data obtained from Zimstats for the year 2023 and to adjustments made to the benchmark scenario to include gradual e-bus and e-LDV penetration in the baseline.

Direct Beneficiaries:

People benefiting from GEF-financed investments have been estimated including: 1.) Participants in training events and workshops organized by the Global Programme; 2.) Participants in training events and workshops organized by the Zimbabwe project; and 3.) The number of individual users of the piloted electric buses.

The Excel worksheet to support the GHG calculations have been uploaded in the "Documents" section of the GEF Portal.

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Moderate	Assessment: Extreme climate events (particularly floods, rain events) or disasters (earthquakes) can never be fully excluded and could potentially delay execution of some of the project activities. In particular, the charging stations to be installed as part of the project (component 2) can be exposed and vulnerable to the effects of climate change. As such, this risk is considered Moderate. Mitigation measures: In the event of delays due to an extreme weather event, the project workplan can be adjusted to reschedule activities. For the charging infrastructure, the location sites will consider the reliability of electricity supply and climate risks, especially heavy rain and flooding. The pilot project design will also include climate adaptation measures, if deemed necessary.

Environmental and Social	Moderate	Assessment: EVs batteries contain hazardous materials. The end-of-life management and maintenance of EVs will require careful handling. However, considering the limited number of EVs being introduced in the pilot phase of the project in Zimbabwe, the risk is deemed Moderate. Mitigation measures: The generation of waste will be addressed through project component 4, which aims to assist Zimbabwe in developing a regulatory framework and scheme for the environmentally sound management of end-of-life EVs and batteries. This includes strategies for collection, reuse, recycling, reintegrating into value chains, and safe disposal. Additionally, the project will provide technical assistance to accredited e-waste handlers to enhance their capabilities through training and technical recommendations for upgrading their facilities.
Political and Governance	Low	Assessment: While risks associated with changes in government leadership and priorities cannot be entirely ruled out, the political and governance risk for the Zimbabwe e-mobility project is considered low as the new government is formed in 2023 and expected to continue until 2028. This assessment is based on the substantial level of government stakeholder consultations and the demonstrated commitment during the project's design phase. The project adopts a collaborative approach, engaging with government entities, private sector stakeholders, and civil society to foster support and interest in e-mobility. A comprehensive Stakeholder Engagement Plan (Annex L) is in place, along with effective coordination mechanisms such as a Project Steering Committee (PSC), a national coordination platform, and Technical Working Groups (TWGs). These structures are designed to ensure the institutional continuity of the project, even in the event of political changes. Mitigation measures: N/A
INNOVATION		
Institutional and Policy	Moderate	Assessment: The current institutional and policy contexts in Zimbabwe have been identified as significant barriers to the transition towards e-mobility. However, addressing these challenges is precisely the focus of the proposed project intervention. Consequently, the associated risk is considered moderate. Mitigation measures: Component 1 of the project is dedicated to institutional strengthening in Zimbabwe regarding e-mobility. This will be achieved through the establishment of an intersectoral coordination platform, the formulation of a national strategy, and the enhancement of capacity building and knowledge management. Additionally, under Component 3, a policy/regulatory framework will be developed to promote the adoption of e-mobility within the country. The success of the project will hinge on the government's adoption of these strategies and policies/regulations before the project's completion.
Technological	Moderate	Assessment: The technologies leveraged by the project are well-established globally. In Zimbabwe, the commercialization of EVs and charging infrastructure is beginning, albeit within certain market niches. There has been gradual increase in EVs deployment in the country with players have procured e-Buses also recently, however, the progress is slow. Mitigation

		measures: e-buses demonstrations in component 2 will significantly broaden existing experiences by utilizing technologies that have been validated in other nations. Participation in the Global E-mobility Programme provides access to experienced partners and knowledge necessary to manage technological risks.
Financial and Business Model	Substantial	Assessment: There is a considerable risk that in Zimbabwe, fleet managers and operators from both the public and private sectors may face challenges in obtaining the necessary financial resources to acquire EVs for demonstration purposes. Indeed, Zimbabwe faces significant challenges in EV financing due to the early stage of EV adoption and the lack of economies of scale in the market. Financiers remain hesitant to invest in the sector, as they are not yet confident about the growth prospects and market maturity. Additionally, the absence of robust government policies or a strong push towards e-mobility further complicates the landscape, making it difficult for investors to gauge long-term viability. Public transport operators are expressing interest in introducing EVs to their fleets, recognizing the environmental and operational benefits. However, financing issues, driven by these uncertainties, are delaying the transition, leaving operators unable to move forward with their plans. Mitigation measures: To enhance the flexibility and resilience of the project, it is advisable to involve a diverse array of partners in the demonstration. This includes public transport cooperatives, government agencies, and private corporations. Furthermore, collaboration with the Infrastructure Development Bank of Zimbabwe (IDBZ) can significantly improve the likelihood of successfully conducting some of the demonstrations. As part of project execution under output 3.5, one financial institution is expected to be operationalized for the selected financial mechanism.
EXECUTION		
Capacity	Moderate	Assessment: While the MTID has never executed GEF-funded projects in the past, the ministry has experience in overseeing the execution of several large transport and infrastructure-related development projects. During the project development phase, MTID has demonstrated its ability to coordinate across various government ministries, ensuring integrated action within the governmental framework. As such, the risk associated with implementation capacity is deemed Moderate. Mitigation measures: MTID is already receiving support from other key ministries, such as the MECW, MEPD and others in advancing the e-mobility sector in Zimbabwe. This effort with further institutional strengthening support through this project among ministries aims to create a cohesive and comprehensive approach to developing and implementing e-mobility initiatives.
Fiduciary	Moderate	Assessment: Since the MTID has never implemented GEF funded projects in the past, the fiduciary risk is assessed as Moderate. One of the key Ministries included in PSC is the Ministry of Finance, which has the adequate capabilities and procedures in financial management within Zimbabwe. Furthermore, to enhance the project's financial management and procurement

		activities, an administrative and financial officer will be recruited. Mitigation measures: A due diligence process is being conducted by UNEP on the MTID's financial, administrative and procurement capacities. So far no particular area of concern has been identified. At the beginning of the project, UNEP's Administrative Officer and finance team will organize a virtual training for the MTID's administrative and financial staff on the UNEP / GEF reporting requirements.
Stakeholder	Low	Assessment: The risk linked with engaging stakeholders, such as relevant ministries or entities participating in the pilots in Zimbabwe, is deemed Low. The project has a robust Stakeholder Engagement Plan (Annex L), and the appropriate coordination bodies (PSC, inter-sectoral coordination platform, TWGs, etc.) and financial resources (for workshops, trainings, meetings) to ensure regular stakeholder engagement. Mitigation measures: The project is supported by a comprehensive Stakeholder Engagement Plan (refer to Annex L) tailored for Zimbabwe. Ensure the coordination bodies encompass all relevant stakeholders and meet on a regular basis to generate national ownership of the project and its results.
Other		
Overall Risk Rating	Moderate	Based on the above analysis, the overall risk rating is considered Moderate.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Explain how the proposed interventions are aligned with GEF- 8 programming strategies, including the specific integrated program priorities, and country and regional priorities, Describe how these country strategies and plans relate to the multilateral environmental agreements, such as through NDCs, NBSAPs, etc.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how.

(max. 500 words, approximately 1 page)

Alignment with GEF-8 Programming Directions

This project is fully aligned with the strategy set up in the GEF-8 Programming Directions for the climate change focal area and more specifically to objective 1.3 (scale up zero-emission mobility of people and goods) within Pillar I (Promote innovation, technology development and transfer, and enabling policies for mitigation options with systemic impacts). The project provides an integrated approach to support the transition towards zero-emission mobility which fosters inclusive and gender-responsive decision making and policies in transport electrification. South-south cooperation is facilitated through the inclusion of this project within the UNEP Global Programme on Electric Mobility.

Alignment with national priorities, strategies and plans

The project aligns with Zimbabwe's national priorities, strategies, and plans, reflecting the objectives outlined in Vision 2030 and the National Development Strategy 1 (NDS1), which emphasize infrastructure development and modernization as pivotal for economic growth and improved quality of life. This project supports the key pillars of Vision 2030 and NDS1, focusing on the development of resilient and sustainable transport infrastructure. These determine the importance of transport in driving socioeconomic development and regional integration.

The project is consistent with Zimbabwe's NDCs (2021), particularly in promoting low-carbon and energy-efficient transport solutions. The aim is to reduce emissions in the transport sector by implementing green technologies and shift towards public transport, targeting a significant reduction in greenhouse gas emissions. It aligns with national energy policies aimed at increasing electricity access and reliability while expanding renewable energy generation. The project supports the integration of renewable energy sources for EV charging into the transport sector, which is a critical component of the national e-mobility policy. The project is consistent with National Gender Policy (2013-2017), aimed to achieve gender equality and equity in all sectors of society. Also, it is consistent with National Action Plan that serves as a comprehensive framework detailing the country's objectives, strategies, and measures to advance gender equality and women's empowerment in the realms of peace and security.

The alignment with NTP-2019 is evident in the project's support for the introduction of road taxes, tolls, and vehicle taxes that encourage the adoption of environmentally friendly vehicles. This policy aims to enhance the efficiency and sustainability of the national transport system.

The project is also consistent with the updated National Waste Management Strategy, particularly in addressing the management of electronic waste (e-waste). This includes challenges posed by EV batteries, ensuring that environmental impacts are minimized through effective waste management practices.

Alignment with Zimbabwe’s UNSDCF 2022-2026

The GEF project is aligned with Zimbabwe’s UNDSCF 2022-2026, Strategic Priority 2 “Environmental protection, climate resilience and natural”, and its indicator 2.6: “*Clean Environment: Total Greenhouse gas emissions per year*”.

The project will coordinate regularly with the United Nations Resident Coordinator’s Office and other relevant resident UN agencies to ensure continuous synergies and alignment with the UNDSCF. The UN Resident Coordinator in Zimbabwe will be invited to participate in the inception workshop of the project, and other relevant events organized during the life of the project.

Alignment with UNEP Programme of Work

The GEF-8 Zimbabwe e-mobility project is part of UNEP’s Decarbonization Programme Coordination Project (PCP). This Global Project will directly support UNEP in implementing its Programme of Work through outcomes 1.1,1.2, 1.4, 1.5, 1.6, 1.8 (Climate Action Sub-programme) well as the following indicators (Climate Action):

- Number of national, subnational, and private-sector actors that adopt climate change mitigation and/or adaptation and disaster risk reduction strategies and policies with UNEP support

- Amounts provided and mobilized in $ per year in relation to the continued existing collective mobilization goal of the $100 billion commitment through to 2025 with UNEP support.

Alignment with SDGs

While the Zimbabwe E-Mobility Project primarily aligns with SDG 13 on climate action, it is also aligned with several other Sustainable Development Goals (SDGs):

- SDG 7 on sustainable energy
- SDG 9 on industry, innovation, and infrastructure
- SDG 12 on responsible consumption and production

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed during Project Preparation as per GEF Policy and are clearly articulated in the child Project Description (Section B).

Yes

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

Yes

If the child project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please indicate in which results area(s) the project is expected to contribute to gender equality:

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

Improving women's participation and decision-making; and/or

Yes

Generating socio-economic benefits or services for women.

Yes

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

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during Project Preparation as required per GEF policy, their relevant roles to project outcomes has been clearly articulated in the Child Project Description (Section B) and that a Stakeholder Engagement Plan has been developed before CEO endorsement.

Yes

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 ;

Executor or co-executor;

Other (Please explain) Yes

Private Sector

Will there be private sector engagement in the Child project?

Yes

And if so, has its role been described and justified in section B "Child project description"?

Yes

Environmental and Social Safeguards

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed child project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted and an anticipated timeline for delivery of relevant outputs has been provided. This includes budget for linking with and participation in knowledge exchange activities organized through the coordination platform.

Yes

Socio-economic Benefits

We confirm that the child project design has considered socio-economic benefits to be delivered by the project and these have been clearly described in the Project Description and will be monitored and reported on during project implementation (at MTR and TER).

The adoption of EVs in Zimbabwe offers significant socio-economic benefits. It will contribute to reducing air pollution, leading to improved public health by decreasing respiratory/other diseases associated with emissions from ICE vehicles. This reduction in healthcare costs can relieve financial pressure on both individuals and the national health system. Economically, the shift to EVs can decrease the country's reliance on imported fossil fuels, improving energy security and reducing expenditure on fuel imports. The growth of the EV sector can create new job opportunities in manufacturing, maintenance, and the development of charging infrastructure, promoting local skill development and economic growth. Furthermore, the promotion of EVs aligns with global sustainability goals, potentially attracting international investment and support for green initiatives.

ANNEX A: FINANCING TABLES

GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant($)	Agency Fee($)	Total GEF Financing ($)
UNEP	GET	Zimbabwe	Climate Change	CC STAR Allocation: CCM-1-3	Grant	2,000,000.00	180,000.00	2,180,000.00
Total GEF Resources ($)						**2,000,000.00**	**180,000.00**	**2,180,000.00**

Project Preparation Grant (PPG)

Was a Project Preparation Grant requested? true

PPG Amount ($) 50000

PPG Agency Fee ($) 4499

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	PPG($)	Agency Fee($)	Total PPG Funding($)
UNEP	GET	Zimbabwe	Climate Change	CC STAR Allocation: CCM-1-3	50,000.00	4,499.00	54,499.00

Total PPG Amount ($)	**50,000.00**	**4,499.00**	**54,499.00**

Please provide Justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total($)
UNEP	GET	Zimbabwe	Climate Change	CC STAR Allocation	1,594,210.00
UNEP	GET	Zimbabwe	Land Degradation	LD STAR Allocation	640,289.00
Total GEF Resources					**2,234,499.00**

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing($)	Co-financing($)
CCM-1-3	GET	2,000,000.00	7100000
Total Project Cost		**2,000,000.00**	**7,100,000.00**

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Transport and Infrastructural Development	In-kind	Recurrent expenditures	400000
Recipient Country Government	Ministry of Transport and Infrastructural Development	Public Investment	Investment mobilized	1000000
Recipient Country Government	Ministry of Environment, Climate and Wildlife (MECW)	In-kind	Recurrent expenditures	200000
Recipient Country Government	Ministry of Energy & Power Development (MEPD)	In-kind	Recurrent expenditures	200000
Recipient Country Government	Ministry of Energy & Power Development (MEPD)	Public Investment	Investment mobilized	1000000

Recipient Country Government	Ministry of Local Government, Public Works and National Housing / ZUPCO	In-kind	Recurrent expenditures	200000
Recipient Country Government	Ministry of Local Government, Public Works and National Housing / ZUPCO	Public Investment	Investment mobilized	2000000
Others	UN Habitat	In-kind	Recurrent expenditures	100000
Others	UN Habitat	Grant	Investment mobilized	2000000
Total Co-financing				**7,100,000.00**

Please describe the investment mobilized portion of the co-financing

Ministry of Transport and Infrastructural Development:

The US$ 1 million of investment mobilized is associated with public investments in EVs and charging infrastructure by the MTID through its parastatal Central Mechanical and Equipment Department (CMED). This will contribute to component 3 of the project, on the upscaling on e-mobility in Zimbabwe.

Ministry of Energy & Power Development:

The US$ 1 million of investment mobilized is associated with public investments by the MEPD in the development of renewable energy infrastructure between 2025 and 2028, which shall be used to support the growing energy demand from the developing EVs sector in the country. This will contribute to component 3 of the project, on the upscaling on e-mobility in Zimbabwe.

Ministry of Local Government, Public Works and National Housing / ZUPCO:

The US$ 2 million of investment mobilized is associated with public investment by the Ministry of Local Government through its parastatal ZUPCO, to procure e-buses and charging infrastructure for future scale-up of electric public transport, based on the findings / recommendations from the e-bus pilot project. This will contribute to component 3 of the project, on the upscaling on e-mobility in Zimbabwe.

UN Habitat:

The US$ 2 million contribution is associated with a grant for procuring electric vehicles and charging facilities (PV panels, batteries, chargers, etc.), stemming from the SIDA funded project “Harare Sustainable City Initiative”. This will contribute to component 3 of the project, on the upscaling on e-mobility in Zimbabwe.

ANNEX B: ENDORSEMENT

GEF Agency(ies) Certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
GEF Agency Coordinator		Julien LHEUREUX (UNEP)		julien.lheureux@un.org
Project Coordinator		Joy Makumbe (MTID)		joymakumbe@gmail.com

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Please attach the Operational Focal Point endorsement letter(s) with this template.

Name of GEF OFP	Position	Ministry	Date (MM/DD/YYYY)
Mr. Tanyaradzwa Mundoga	GEF OFP	Ministry of Environment, Climate, Tourism, and Hospitality Industry	3/27/2023

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document. For the Integrated Programs' global/regional coordination child project, please include the program-wide results framework, inclusive of results specific to the coordination child project. For any country child project, please ensure that relevant program level indicators are included.

Objective level indicators

Project Objective	Objective level Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	UNEP MTS PoW Outcomes	Relevant SDG target(s) and indicators
Lasting and significant changes to which the project is expected to contribute	*How contributions to the objective will be measured including quantity, quality, time*	*Initial - Baseline for Objective indicator(s)*	*End of project Target* *Mid-Point Target*	*How the information required to measure the indicator will be collected, when, and by whom*	*Assumptions and Risks that affect objective level*	Primary sub-programme: - Climate Action PoW Outcomes: - Outcome 1A - Outcome 1B	SDG 13: Target 13.2; Indicator: 13.2.1; 13.2.2.
Objective: Accelerating the introduction of electric mobility in Zimbabwe with a focus on reducing GHG emissions, improving air quality and the environmentally sound management of EV waste	Indicator A: Direct Greenhouse Gas emissions mitigated (metric ton of CO2e) (2029-2040).	Baseline A: N/A	Mid-term target A: N/A End target A: 830,234 tCO_{2eq} (by 2040)	Calculation based on UNEP Sustainable Mobility Unit (SMU) Emob calculator at project completion.	Based on adoption of the updated roadmap, and recommended policies / regulation, as well as the finance mechanism. Assumption: adoption of roadmap / policies / regulations by the Government of Zimbabwe		

				Risk: Change in leadership or priorities in the government	
	Indicator B: Number of direct project beneficiaries (disaggregated by sex)	Baseline B: N/A	Mid-term target B: Women: 50 Men: 50 Total: 100 End target B: Women: 514 Men: 739 Total: 1,253	Detailed records / attendance lists of project participants and beneficiaries, structured surveys and questionnaires, field visits, monthly reports of the e-bus pilot project (including number of users)	Assumption: All capacity building events, and training are conducted, and the e-bus pilot is implemented. Risk: Change in leadership or priorities in the government.	

Outcome level indicators

Project Outcomes	Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks
Capacity or behavioral changes to which the project is expected to contribute	*How the outcome will be measured including quantity, quality, time*	*Initial Baseline for Outcome Indicator(s)*	*End of project Target* *Mid-Point Target*	*How the information required to measure the indicator will be collected, when, and by whom*	*Assumptions and Risks that affect processes by which outcomes contribute to objectives*
Outcome 1: The Government of Zimbabwe promotes integrated electric mobility systems through the enhancement of national coordination, knowledge management, communications, capacities and the endorsement of an updated gender responsive e-mobility roadmap	Indicator 1.1: National inter-sectoral coordination platform on e-mobility operational and formally established	Baseline 1.1: No platform exists on e-mobility	Mid-term target 1.1: National inter-sectoral coordination platform on e-mobility meets twice a year, with 50% female participation End target 1.1: The government signs an executive order / decree to institutionalize the national intersectoral coordination	Reports of the national inter-sectoral coordination platform on e-mobility meetings, including gender disaggregated attendance list Signed executive order / decree	Assumptions: Based on ongoing government support and their positive stance during mission visits (both scoping and validation) Risks: Potential lack of support to the e-mobility strategy due to insufficient involvement of seniors within Ministries and key stakeholders or inadequate consideration of the mobility needs of women and socially marginalized groups

			platform on e-mobility		
	Indicator 1.2: Revised national gender responsive E-Mobility Policy Roadmap adopted by the Cabinet	Baseline 1.2: The e-mobility policy roadmap is prepared, however, there have been very limited developments on its approval and implementation (including gender focus)	Mid-term target 1.2: Updated national e-mobility policy roadmap (including gender-responsive) End target 1.2: Yes	Official publication / gazette with the adopted national gender-responsive e-mobility policy roadmap The roadmap must be gender-responsive.	Assumptions: Based on government's willingness towards electrification of transport sector Risks: Potential lack of support to the e-mobility strategy due to insufficient involvement of seniors within Ministries and key stakeholders or inadequate consideration of the mobility needs of women and socially marginalized groups
	Indicator 1.3: # of reports on best practices and lessons learned on e-mobility shared with the Global e-mobility project	Baseline 1.3: 0	Mid-term target 1.3: N/A End target 1.3: 3	Deliverables 1.1.6, 1.4.7 and 1.5.8 of the projects. Submission of the report to the Global Programme.	Assumptions: Best practices and lessons learned are generated early enough so that they can be fed into/included in the support activities by the global programme Risks: N/A
Outcome 2: Public transport operators take steps towards the scale-up of integrated electric mobility systems based on the evidence provided by the e-bus pilot project.	Indicator 2.1: # of public transport operators committed to procure for their operations as a result of the e-bus pilot project	Baseline 2.1: 0	Mid-term target 2.1: 0 End target 2.1: At least 2	The public transport operators (public, private, buses, mini-buses or taxi) have identified and communicated vehicle segment, number of EVs and expected purchase date	Assumptions: the e-bus pilot project is successfully implemented and yields positive results. Quality of equipment, skilled workforce, supportive regulatory environment. Risk: Uncertain economic / financial situation or government commitment may prevent entities to consider fleet electrification
	Indicator 2.2: % of e-bus operator staff affirming the training sessions on operations, maintenance and management of e-bus fleets have improved / strengthened their capacities (disaggregated by gender)	Baseline 2.2: N/A	Mid-term target 2.2: N/A End target 2.2: At least 75%, out of which half should be women	Sex disaggregated survey reports after each training session (as part of deliverables 2.3.3 and 2.3.4)	Assumptions: the training sessions are successfully prepared and implemented. 50% of the trained participants are 50% women. Risks: the training modules are not properly designed.
Outcome 3: The Government of Zimbabwe adopts policies, regulations, and standards	Indicator 3.1: The comprehensive legal framework	Baseline 3.1: No	Mid-term target 3.1:	Official publication / gazette with the approved legal framework (including	Assumptions: Government commitment to integrated electric

and endorses a financing scheme to accelerate the introduction of integrated electric mobility systems in the country	(including policies and regulations) and legislation on EV classification, registration, authorization, and technical inspection is approved by the government		Draft under preparation and review End target 3.1: Yes	policies and regulations) and legislation on EV classification, registration, authorization, and technical inspection	mobility systems, technical expertise and capacity to develop and implement effective policies, regulations and technical standards. Risks: Lack of political will or priority, resistance from industry stakeholders, limited technical capacity, frequent changes in regulatory and policy frameworks.
	Indicator 3.2: The regulatory package on charging infrastructure covering minimum standards, technical specifications, technical approval and installation and building codes is approved by the government	Baseline 3.2: No	Mid-term target 3.2: Draft under preparation and review End target 3.2: Yes	Official publication / gazette with the approved regulatory package on charging infrastructure covering minimum standards, technical specifications, technical approval and installation and building codes	Assumptions: Government commitment to integrated electric mobility systems, technical expertise and capacity to develop and implement effective policies, regulations and technical standards. Risks: Lack of political will or priority, resistance from industry stakeholders, limited technical capacity, frequent changes in regulatory and policy frameworks.
	Indicator 3.3: One financial mechanism to support investments into EVs and charging infrastructure is operationalized with a financial institution	Baseline 3.3: No	Mid-term target 3.3: No End target 3.3: Yes	Publication by relevant banks or financial institutions	Assumptions: Potentially growing financial sector's interest in the transport sector Risks: Negative perception of e-mobility technology and its benefits in the financial sector. Market appetite for cheap second-hand ICE vehicles reduce the public's interest on financial instruments supporting electric mobility
Outcome 4: The Government of Zimbabwe takes steps to ensure long-term environmental sustainability of integrated electric mobility systems, including EV and battery end-of-life	Indicator 4.1: The legislative and regulatory framework on the management of EV and batteries at their end of life is approved by the government	Baseline 4.1: No	Mid-term target 4.1: Draft legislative and regulatory framework under preparation End target 4.1:	Official publication / gazette of the legislative and regulatory framework on the management of EV and batteries by the government	Assumptions: Government commitment to regulations of end-of-life EVs and batteries, technical expertise and capacity to develop and implement effective policies,

			Yes		regulations and technical standards. Risks: Lack of political will or priority, resistance from industry stakeholders, limited technical capacity, frequent changes in regulatory and policy frameworks.
	Indicator 4.2: The national scheme to operationalize the environmentally sound management of end-of-life EVs and batteries is endorsed by the government	Baseline 4.2: No	Mid-term target 4.2: Draft scheme under preparation End target 4.2: Yes	Official publication / gazette with the endorsement of the scheme	Assumptions: Government / Ministry commitment to operationalize sound management of used batteries, technical expertise and capacity to implement the scheme. Risks: Lack of political will or priority, resistance from e-waste handlers / companies, limited technical capacity, frequent changes in regulatory and policy frameworks.

ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

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

Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount ($)		
	Budgeted Amount	Amount Spent To date	Amount Committed
Scoping / consultation workshops with national stakeholders	12,500.00		12,500.00
International E-mobility Expert	24,500.00	22,000.00	2,500.00
International travel costs	8,600.00	8,591.00	9.00
Capacity assessment	4,400.00		4,400.00

Total	**50,000.00**	**30,591.00**	**19,409.00**

ANNEX E: PROJECT MAP AND COORDINATES

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

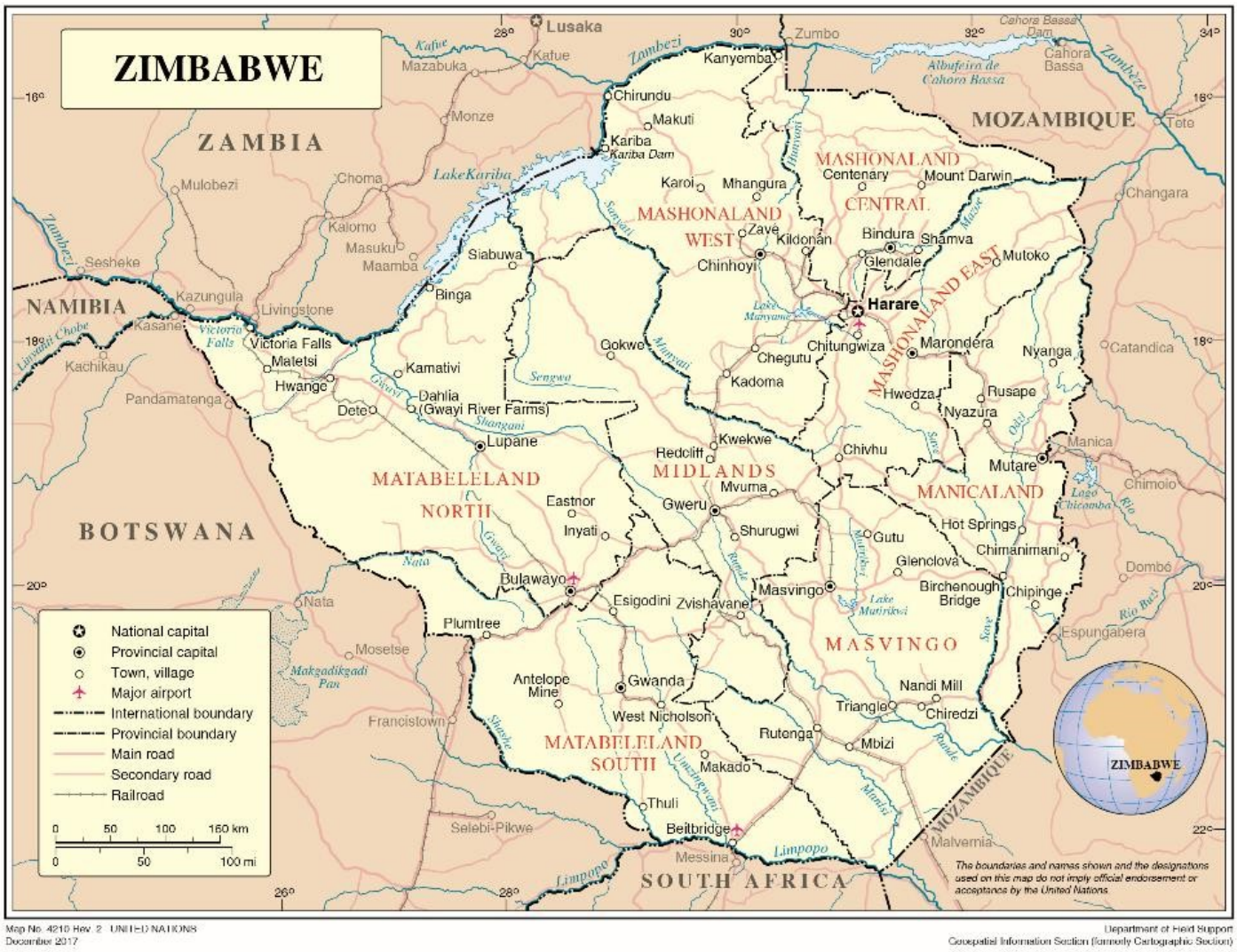
Location Name	Latitude	Longitude	GeoName ID
Harare, Zimbabwe	-17.824858	31.053028	890,299

Location Description:

Capital of Zimbabwe

Activity Description:

Please provide any further geo-referenced information and map where project interventions are taking place as appropriate.



Map of Zimbabwe (Source: https://www.un.org/geospatial/)

ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS DOCUMENTS INCLUDING RATING

Attach agency safeguard datasheet/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts (as applicable).

Title
11083_EM Zimbabwe_Annex F_SRIF

ANNEX G: BUDGET TABLE

Please upload the budget table here.

Zimbabwe e-mobility project – GEF budget

GEF budget category & detailed description	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5 (M&E)	Subtotal	PMC	Total	Responsible entity
02. Goods	**0**	**670,000**	**0**	**0**	**0**	**670,000**	**10,000**	**680,000**	
2 laptops, 1 printer, 1 projector and other ICT equipment for the PMU						0	10,000	10,000	MTID
Investment budget for the pilot e-buses, charging infrastructure and data collection/monitoring system		670,000				670,000		670,000	MTID
04. Grants/Subgrants	**25,000**	**0**	**0**	**0**	**0**	**25,000**	**0**	**25,000**	
MOU with university for cooperation on capacity building programme	25,000					25,000		25,000	MTID
07. Contractual services (company)	**178,000**	**170,000**	**290,000**	**165,000**	**0**	**803,000**	**16,000**	**819,000**	
E-mobility Market & Financing Expert / Firm			120,000			120,000		120,000	MTID
E-mobility Planning, Policy, Standards and Regulations Firm	71,000		125,000			196,000		196,000	MTID
E-mobility Technology Expert / Firm		170,000				170,000		170,000	MTID
EV and Battery End-of-Life Expert / Firm	7,000			120,000		127,000		127,000	MTID
EV Charging, Energy and Electricity Grid Expert / Firm			45,000	45,000		90,000		90,000	MTID
Independent financial audits						0	16,000	16,000	MTID
Knowledge Management & Communications Firm	100,000					100,000		100,000	MTID
09. International Consultants	**0**	**0**	**0**	**0**	**57,000**	**57,000**	**0**	**57,000**	
Mid-Term Review / Evaluation (optional)					22,000	22,000		22,000	UNEP
Terminal Evaluation					35,000	35,000		35,000	UNEP
11. Salary and benefits/Staff Costs	**10,000**	**5,000**	**5,000**	**5,000**	**5,000**	**30,000**	**130,900**	**160,900**	
Finance & Administrative Assistant						0	48,400	48,400	MTID
Project Technical Coordinator	10,000	5,000	5,000	5,000	5,000	30,000	82,500	112,500	MTID
12. Training, Workshops, Meetings	**65,000**	**39,000**	**42,000**	**30,500**	**26,000**	**202,500**	**0**	**202,500**	
Final closing workshop					5,000	5,000		5,000	MTID
Inception workshop					5,000	5,000		5,000	MTID
PSC meetings					16,000	16,000		16,000	MTID
Support to the organization of meetings	12,000	6,000				18,000		18,000	MTID
Support to the organization of trainings	14,000			3,500		17,500		17,500	MTID
Support to the organization of workshops	39,000	33,000	42,000	27,000		141,000		141,000	MTID
13. Travel	**42,000**	**0**	**0**	**0**	**0**	**42,000**	**4,800**	**46,800**	
Travel for participation in Global E-mobility Programme events & workshops	42,000					42,000		42,000	MTID
Travel for the PMU members						0	4,800	4,800	MTID
14. Office supplies	**0**	**0**	**0**	**0**	**0**	**0**	**6,000**	**6,000**	
Office supplies and consumables						0	6,000	6,000	MTID
15. Other operating costs	**0**	**0**	**0**	**0**	**0**	**0**	**2,800**	**2,800**	
Bank charges and miscellaneous						0	2,800	2,800	MTID
Grand Total	**320,000**	**884,000**	**337,000**	**200,500**	**88,000**	**1,829,500**	**170,500**	**2,000,000**	

Please explain any aspects of the budget as needed here

N/A

ANNEX I: 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.

Response to GEF Sec Project PIF/PFD Reviews

	GEF Secretariat Comments (extract of comments to be addressed during PPG)	Response from UNEP
1	Comment: The new working group on financing/financial instruments & models is very welcome and timely. However, the description/plans to engage further the private sector are weak. The PFD states that commercial banks have been consulted and engaged but fails to explain further these consultations and engagement. Additional information would	The development of an innovative financing mechanism is contemplated under output 3.5 in this child project. In this work, financial institutions and private investors will be involved. In parallel, the Global Project will further assist with the development of financing mechanisms (including

	GEF Secretariat Comments (extract of comments to be addressed during PPG)	Response from UNEP
	be welcomed on their potential role under the project, particularly on developing new business models and providing innovative financial instruments.	facilities secured by first loss guarantees) and links to global and regional funding opportunities. -
2	Comment (Re: Component 3.1): While this is cleared for PFD stage, the following request has been included as a point to be further developed during PPG: The share between TA and INV for the GEF component is approximately 24% or 34% depending on is the resources for the Global Child Project, which are 100% TA, are accounted for. **The GEFSEC considers that while there is a strong additionality for the use of GEF resources as TA funds, there is also a strong case to use GEF resources as direct investments to re-risk and incentivize pilot activities. The Lead Agency is encouraged to work with Country Child Projects to increase the share of GEF resources used as INV, where possible, during PPG stage.**	The institutions in Zimbabwe defined during the PPG phase that 63% (i.e. US$ 1,159,500) of GEF resources should be used for TA and 37% (i.e. US$ 670,000) destined to INV (PMC excluded). While the GEF may be well poised to de-risk otherwise risky investments, in this case the priority is in the preceding stage, and the need for increased institutional preparedness and capacities. Through TA, having an enabling framework for e-mobility will then pave the way for heavy INV in key sectors, such as the public transport / government fleets. It is expected that the creation of policies, alliances and instruments for innovative financing for this sector will be conducive to lasting impacts on a larger scale, particularly a reduction in overall GHG emissions.
3	Comment (Re: Gender & Stakeholder consultation): Gender activities will have to be reflected in relevant components in all child projects Relevant Stakeholders have been identified and consulted. However: 2.1: (From PPO) Please include a short description of the approach and efforts to develop a Stakeholder Engagement Plan in the Coordination Child Project before CEO Endorsement	Several gender-related activities are included in relevant components of the country child project, such as the National e-Mobility Policy Roadmap update (output 1.2), the communication plan and awareness raising campaign (output 1.4), the e-mobility capacity building plan (output 1.5) and the implementation plan of the e-bus pilot (output 2.2), so that all these are gender-responsive.
4	Comment (Re: IEA participation in GP): Additional discussions with IEA as partner are strongly encouraged, and GEFSEC would like to be informed about progress on this during PPG.	This comment was addressed by the Global Coordination Child Project (GEF ID 11075).
5	Comment (Re: GEB calculation & POPs) 1. CI.6: Cleared. Additional work needed at PPG stage. 2. CI.9 on C&W Cleared. but GEF SEC is requesting the Agency that during PPG stage inclusion of the newly listed POPs is also investigated.	Initial GHG estimations for Core Indicator 6 were refined during the PPG phase, using the tool made available by UNEP. They will be reviewed at project mid-term and refined if needed. - Regarding the C&W Core Indicators, this comment was addressed by the Global Coordination Child Project (GEF ID 11075), where the impacts are allocated.
6	(Re: Indicators for component 3) Component 3	This comment is addressed below. The revision of the Programme indicators has been coordinated by the Global Coordination Child Project (GEF ID 11075).

	GEF Secretariat Comments (extract of comments to be addressed during PPG)	Response from UNEP
	1. Indicators 3.1, 3.2, and 4.1 could be more specific or relevant to the project outcome. It is recommended to review them. (Cleared at this stage. Comment remains to be addressed at PPG stage.) 2.3 The indicator on #of financiers/Financial institutions are not found, even though the answer below says it was added.	
7	The share between TA and INV for the GEF component is approximately 24% or 34% depending on is the resources for the Global Child Project, which are 100% TA, are accounted for. The GEFSEC considers that while there is a strong additionality for the use of GEF resources as TA funds, there is also a strong case to use GEF resources as direct investments to re-risk and incentivize pilot activities. The Lead Agency is encouraged to work with Country Child Projects to increase the share of GEF resources used as INV, where possible, during PPG stage.	This comment was addressed above (Outstanding comment 2).
8	Some of the indicators presented at PFD approval had room for improvement with a view to be made more specific to the Programme's objective and respective outcomes (including indicators 3.1, 3.2 and 4.1, which only count the # of countries with pilots, not the results of the actions/investments that are generated). A revised results framework should be completed soon in the PPG stage to be adopted by all child projects. The Lead Agency committed to work on this during PPG.	Programme indicators 3.1, 3.2 and 4.1 have been slightly revised to better show their focus. These indicators are mostly for country child projects to account for, facilitated by the global project. In addition, Programme indicators are now shown as 3 groups: those that are the remit only of country projects (such as 3.1, 3.2 and 4.1); those that depend on country /regional inputs and on global consolidation; and those informed only by the global project. This has been helpful for country teams and has facilitated the confirmation of which Programme indicators each country will be contributing to. The way Programme Outcome indicators have been incorporated into this country project is indicated in Annex C, project results framework of the Zimbabwe project.
9	On C&W Core Indicators: GEF SEC is requesting the Agency that during PPG stage inclusion of the newly listed POPs is also investigated	This comment was addressed by the Global Coordination Child Project (GEF ID 11075).
10	On CI.6 (GHG emission reduction): additional work is needed at PPG stage.	This comment was addressed above, in relation to GEBs and GHG calculations (see outstanding comment 5).

Responses to GEF Council and STAP Comments

	GEF Council and STAP Comments	Response from UNEP
1	Papua New Guinea, Solomon Islands, and Vanuatu: Global programs with wide ranges of partners can have their impacts severely diluted in the Pacific. **There are apparent opportunities for linkage to/need to coordinate with USTDA/DFC global programs.**	Comment not applicable to the Zimbabwe project.
2	Germany requests that the following requirements are considered during the design of the final project proposal: • Germany recommends emphasizing how project activities can contribute to **a just transition in the transport sector**, with reference to green job creation, low-income groups, drivers and workers and women's empowerment. • Germany supports a **high level of integration between project activities on e-buses, with the BMZ funded TUMI E-bus Mission**. Germany recommends seeking regular exchanges on project activities for both normative and country-level work. • Germany supports a high level of **integration between project activities on informal transport electrification with BMZ bilateral portfolio**. Germany recommends seeking regular exchanges on project activities for both normative and country-level work. • Germany appreciates the dedicated focus on the introduction of electric bus-rapid (BRT) systems. Germany recommends **close cooperation with bilateral country projects** working on this topic (Kenya, Senegal). • Germany appreciates the stronger focus on financing issues and recommends also a close **exchange with bilateral and multilateral development banks working on the electrification of public transport**. • While Component 1 has clear project outputs, **Germany asks that the overall outcome goes beyond 'national policy frameworks and established roadmaps' to include regional roadmaps.** This will ensure greater applicability, success, and scalability. • Germany appreciates the comprehensive list of stakeholders the projects aim to include. Germany would recommend **a greater understanding/mapping of the growing industry, private sector and private financiers involved in the transformation** and the role they will play in the project activities.	Just transition: This aspect will be covered in national e-mobility strategies which are / will be developed in all GEF-7 and 8 country projects which do not already have such strategies, including in Zimbabwe. This is key for countries to ensure the co-benefits are maximized. The countries will apply the materials developed by the BMZ funded project "E-Mobility as a Driver for Change – Towards a gender transformative and just transition to electric mobility" that will be disseminated by the Global Coordination Child Project. TUMI E-bus mission: TUMI e-bus mission is an integral programme partner, as a co-financier and a member of the steering committee. UNEP's country project Task Managers are in contact with the respective GIZ regional focal points, and no concrete synergies have been identified in the countries at this early stage. Financing: World Bank and UNEP are developing a joint proposal on funding E-BRTs in Africa for submission to GCF. A comprehensive stakeholder map will be developed through the RSIP for Africa, as part of the Global Coordination Child Project (GEF ID 11075). Mapping: Please refer to the Stakeholder Engagement Plan for Zimbabwe in the Annex L. -
3	The proposal **wrongly identified NOx, SOx, and PM as short-lived climate pollutants**. Although these are usually co-emitted with black carbon (a short-lived climate pollutant), they are not classified as short-lived climate pollutants. The primary short-lived climate pollutants are black carbon, methane, tropospheric	This comment was addressed by the Global Coordination Child Project (GEF ID 11075).

	GEF Council and STAP Comments	Response from UNEP
	ozone, and hydrofluorocarbons. It is also essential to note that SOx have a global climate cooling effect, which must be accounted for in projects that simultaneously address short-lived climate pollutants and SOx	
4	Including women or vulnerable groups in this currently male-dominated industry will be vital in fostering equity in e-mobility systems. More details on how this will be done need to be included.	This has been taken into consideration when developing the Gender Action Plan (Annex K) for this Country Project. In addition, this aspect will be addressed in the National e-Mobility Policy Roadmap (Output 1.2) that will be updated as part of the Zimbabwe country project.
5	We recommend the following as the program is further developed: 1. Include activities to undertake analysis of policies across the various economic sectors in each country to identify any incoherence or contradiction to ensure no conflicting policies could hinder the program objectives. 2. Include Figure 2, which is currently missing. 3. STAP encourages the global child project to distill **knowledge and lessons on effectively transitioning to a circular economy across the various targeted sectors** in the program and how policy design can be an effective enabler. 4. Reflect and proactively include **interventions that foster innovation** and consider how to ensure scale-up and catalyze transformational change. 5. Consider adding indicators for **tracking transformational change**. Please see STAP's paper on transformation for more details. 6. Put in place the **provision to track, measure and report these co-benefits**. Please see STAP's paper on incorporating co-benefits in GEF's investments for guidance.	These comments were mostly taken up by the Global Coordination Child Project (GEF ID 11075), with the following applying to this country child project: 1. Intersectoral policy gap analysis will be part of the National e-Mobility Policy Roadmap update (Output 1.2) for Zimbabwe and will include the review of potentially conflicting policies that could affect the project objectives. 4. Innovation is key across all programme components and outputs. For example, in the Zimbabwe country project, innovation in governance is included in component 1, through the setting up of the national inter-sectoral coordination platform on e-mobility (Output 1.1) and a national and public online knowledge management repository (Output 1.3) facilitating the public's access to information; technological innovation is facilitated through component 2, with the piloting of e-buses ; component 3 promotes innovation in the financial sector; and innovation in end-of-life battery management is embedded in component 4. 5. A few indicators in the Global program level results framework do track transformational change[1][58] (particularly indicators 3.1, 3.2, 4.3, 2.2.4 that seek to measure the impact of the program through mobilization of non-program countries as well as additional private sector institutions and financiers); Country child projects will track them during implementation. 6. Indicator 3.1 of the Global Programme level results framework has been revised to explicitly mention that socio-economic and environmental co-benefits generated[2][59] by pilots need to be tracked, measured and reported.

[1] https://www.stapgef.org/resources/advisory-documents/achieving-transformation-through-gef-investments

[2] https://stapgef.org/sites/default/files/2023-06/Incorporating co-benefits in the design of GEF projects_posting.pdf