



## REQUEST FOR PROPOSAL

### TERMS OF REFERENCE (ToR) FOR CONSULTANCY SERVICES TO CONDUCT A MARKET STUDY ON E-MOBILITY IN MOZAMBIQUE – AUGUST 2024

#### 1. The AECF

The AECF is a leading development finance organization that supports businesses to innovate, create jobs, and leverage investments to build resilience and sustainable incomes for rural and marginalized communities in Africa. AECF's goal is to bridge the investment gap between early-stage enterprises and business maturity for entrepreneurs serving the poorest communities.

The AECF provides patient capital to SMEs contributing to poverty reduction, gender equality, climate resilience and food security across Sub-Saharan Africa (SSA) through various financing instruments, which include grants (matching performance-based or result-based), zero-interest loans, guarantees, and working capital facilities. AECF's financing products are supplemented by three additional growth support services to improve the viability and sustainability of our investees, namely, (i) Advisory Services to improve investee internal capabilities (ii) Investment Support in raising commercial capital in significant volumes, and (iii) Knowledge and Insights for learning and evidence gathering for policy influencing and advocacy.

The (?) AECF has successfully implemented programmes across 26 countries in SSA, supporting over 510 enterprises, raising US\$ 450 million in funding for programmes, leveraging \$838 million in additional capital, and impacting 33 million lives.

The AECF 2021-2025 strategy's objective is to build resilience and sustainable incomes for rural and marginalized communities in Africa. Through catalytic funding, the AECF surfaces and supports the commercialization of new ideas, business models, companies, and technologies designed to increase agricultural productivity, expand energy access, and alleviate poverty while also addressing the cross-cutting themes of women and youth.

#### 2. Mozambique Energy Transition

Mozambique is at a pivotal stage in its energy transition journey. The country is actively pursuing sustainable energy solutions to meet its growing energy demands while minimizing environmental impacts. Through the recently approved Energy Transition Strategy, Mozambique places significant emphasis on e-mobility as a key component of this transition which presents opportunities for reducing greenhouse gas emissions, improving air quality, and enhancing energy security.

The Energy Transition Strategy (ETS) - Resolução n° 61/2023 - provides key pillars and initiatives which encompass Road Transport Decarbonization. Under pillar 4, it emphasizes the adoption of electric vehicles (EVs) and vehicles using bio-combustibles for private and commercial road transport, including the development of infrastructure for EV charging, the establishment of a comprehensive value chain and a network of EV charging stations across urban and rural areas to facilitate the use of EVs .



### 3. Mozambique E-Mobility Context

Mozambique's energy transition strategy strongly focuses on transforming the transport sector through e-mobility and the adoption of clean energy solutions. By prioritizing the electrification of urban transport, road transport decarbonization, and the development of supportive infrastructure, the country aims to reduce its carbon footprint and promote sustainable development.

Mozambique's strategy aims to transition its entire transport sector from a reliance on petroleum-based fuels to more sustainable and environmentally friendly alternatives. This includes a broad adoption of EVs, biofuels, and other forms of clean energy for transportation.

In the realm of e-mobility in Mozambique, a thorough comprehension of its dynamics is indispensable for strategic business planning and policy formulation. Central to this understanding is the careful balance between the importation of EV components and the adoption of local production and assembly capabilities.

This balance not only influences market competitiveness but also shapes the landscape for investment and regulatory frameworks which requires a detailed assessment of factors such as cost-effectiveness, supply chain resilience, technological readiness, and regulatory compliance.

### 4. Overview of the E-Mobility Facility

#### a) Context

The Government of Mozambique recognizes the potential of e-mobility to contribute to its sustainable development goals. However, the e-mobility sector will require strategic investments, robust policy support, and the development of local capabilities to thrive. To respond to the above, it is envisaged the need of creating of a dedicated E-Mobility Facility. This facility is described in detail below.

#### b) Objective and premise of E-Mobility Facility

The primary objectives of the E-Mobility Facility would be to:

- **Facilitate the adoption and integration of e-mobility solutions in Mozambique:** Promote the widespread use of EVs and other e-mobility solutions across various sectors. Emphasize the importance of the use phase by considering how electricity will be produced and its connection to the grid, addressing the marginal effects of increased electricity demand.
- **Support the development of local production and assembly capabilities for e-mobility products:** Reduce reliance on imports and foster local industries by developing local production and assembly capabilities for e-mobility products whilst ensuring accurate assessment of the environmental impact of the alternative products being replaced.
- **Promote investment in e-mobility infrastructure and services:** Ensure the necessary support systems are in place for sustainable growth by promoting investment in charging stations and other e-mobility infrastructure.
- **Enhance the regulatory and policy framework:** Create a conducive environment for the e-mobility sector, by developing specific policies that include potential taxes on carbon, subsidies for fossil-free electricity, and other incentives for manufacturers and consumers. Set standards for vehicles and charging infrastructure and implement measures to ensure environmental sustainability.



- **Consider import tariff reductions or exemptions:** demonstrate to key stakeholders the importance of facilitating the entry of necessary technologies and components by piloting import tariff reductions or exemptions to support the development of the e-mobility sector.

The objective of the consultancy, described below, is to gather comprehensive data on the mobility sector in Mozambique, identifying opportunities within the e-mobility sub-sector. This data will inform the final design of the facility, shaped by extensive research, market analysis, and stakeholder consultations

### c) **Structure of the E-Mobility Facility**

The E-Mobility Facility would be structured into three components:

1. **Financial Support:** This component will provide financing options for both small, medium and large investments in e-mobility. It will be designed to attract and leverage additional funding from private and public sources, accompanied by relevant technical assistance to the selected recipients. Co-financing from the recipients will be required to ensure their commitment and to leverage additional resources.
2. **Technology Promotion:** This window will focus on promoting e-mobility technology including electric vehicles (affordable EVs, bicycles, three-wheelers) including energy efficiency solutions (solar-powered charging stations, battery swapping stations, mobile charging units and others) with the aim to increase awareness and adoption of e-mobility technologies among businesses and consumers.
3. **Skills Development:** This window will aim to build local capacities and skills related to e-mobility technologies. It will include training programs, workshops, and partnerships with educational institutions to ensure that the workforce is equipped to support the e-mobility sector. Sida is currently funding GeraSol project which will provide certified training to 3,000 young people, identify and match 2,000 young people to roles and jobs in the renewable energy sector and hence a natural venue for the trainings mentioned above.

Across all three windows, the facility shall also focus on providing value addition in thematic issues including Policy and Advocacy interventions with a focus on policies and regulations that supports Government's fast track implementation of pillar 4 under the ETS.

### d) **Implementation approach**

The implementation of the E-Mobility Facility will involve a combination of direct investments, technical assistance, and policy support. The facility will collaborate with various stakeholders, including government agencies, private sector companies, international development partners, and non-governmental organizations. This collaborative approach will ensure a holistic development of the e-mobility ecosystem. Key aspects of the implementation approach will include:

- **Establishing a Governance Structure:**
  - Create a governance body to oversee the facility, including representatives from key stakeholder groups to ensure diverse input and accountability.
- **Developing a comprehensive monitoring and evaluation framework:**
  - Implement a robust system to track progress and measure the impact of initiatives, ensuring transparency and continuous improvement.



- **Facilitating knowledge sharing and capacity building:**
  - Organize workshops, seminars, and partnerships to enhance skills and share best practices within the e-mobility sector.
- **Aligning Investments with National Priorities and Sustainable Development Goals:**
  - Ensure that all investments support Mozambique's national priorities and contribute to achieving sustainable development goals.

#### e) **Strategic Partnerships for Catalytic Co-Investment**

To enhance the impact of the E-Mobility Facility, we will prioritize establishing strategic partnerships with value chain commercial players and investors. These partnerships will be crucial for catalytic co-investment, leveraging development finance to attract private sector engagement. Key strategies will include:

- **Partnership Development:**
  - Initiate collaborations with commercial actors across the e-mobility value chain, fostering an environment conducive to joint investment and development
- **Embedding Sida Funds as Seed/First Loss Layer:**
  - Utilize Sida funds as a foundational layer to de-risk investments and encourage commercial players to participate. This approach will mitigate initial risks, making it more attractive for private sector entities to enter the market.
- **Targeting Different Stages of the Value Chain:**
  - Address various stages of the e-mobility value chain, from production and assembly to infrastructure and services, ensuring a comprehensive development strategy.

#### f) **Target beneficiaries and geographical scope**

The target beneficiaries of the E-Mobility Facility will include local businesses, entrepreneurs, and consumers in Mozambique. The facility will aim to create opportunities for small and medium-sized enterprises (SMEs), stimulate local innovation, and provide consumers with access to affordable and sustainable transportation options.

The geographical scope of the facility will cover mostly urban areas, with a focus on Nampula and Zambezia provinces and surrounding regions, which have significant potential for e-mobility adoption. Urban areas will benefit from reduced air pollution and improved public health, while rural areas will gain access to reliable and sustainable transportation solutions, enhancing connectivity and economic development.



## 5. Overview and purpose and of the assignment

AECF is seeking a consultancy firm to conduct a comprehensive feasibility study on e-mobility in Mozambique. The study will provide insights into:

- Comparative analysis with other more mature e-mobility markets in Africa such as: Ampersand (Rwanda), Roam, m-Kopa and Mobious Motors (Kenya), Ecomobility and GridCars (South Africa), SolarTaxi and Kantanka Automobile (Ghana), Streetsmart and MAX (Nigeria), e-Mobility and ZIMOCO (Zimbabwe).
- The feasibility and economic viability of importing e-mobility products versus local production and assembly.
- A life cycle costing (LCC) of e-mobility products that will compare the total costs of locally produced versus imported products, focusing on financial aspects such as purchase, operational, and end-of-life expenses.
- The sustainability and long-term prospects of the e-mobility sector in Mozambique.
- Include concrete recommendations and an action plan for tackling the mobility pillar of the Mozambique Energy Transition Strategy, and with specific interventions for supporting the ascent e-mobility market segment

### a) Specific Objectives

- **Comparative Analysis with regional and other African Markets:**
  - Compare the fundamentals of the Mozambique market with more mature e-mobility markets in Africa (examples provided above).
  - Identify e-mobility sector best practices, challenges, and successful strategies from top e-mobility markets in Sub-Saharan Africa (SSA).
  - Provide insights on the fiscal and regulatory frameworks in leading African e-mobility markets.
- **Importing versus Local Production and Assembly:**
  - Assess the current state of regulations and applicable taxation of e-mobility imports in Mozambique versus local production and recommend regulatory improvements.
  - Identify the threshold volume where local assembly or partial local production becomes economically viable.
  - Analyze the cost-benefit implications of local versus imported e-mobility products.
- **Life Cycle Costing:**
  - Conduct a life cycle costing (LCC) of e-mobility products to identify improvement opportunities and provide insights into the financial implications of locally produced versus imported products
  - Analyse the total cost of ownership, including initial purchase price, operational costs (e.g., energy, maintenance), and end-of-life disposal expenses, to highlight the most significant cost drivers and avoid sub-optimization.
  - Assess key factors influencing overall costs and offer recommendations for cost optimization, thereby informing decision-making and enhancing understanding of the entire value chain. .



- **Sustainability of the E-Mobility Sector:**

- Analyze the current policies and regulatory framework supporting and/or hindering e-mobility in Mozambique (sector specific as well as importation duties and taxes)
- Assess the potential for scaling up e-mobility solutions sustainably.
- Identify key stakeholders and their roles in the e-mobility ecosystem.

## 6. Scope of work

The consultant will provide an in-depth analysis of the e-mobility market in Mozambique, including penetration levels and market dynamics. This analysis should encompass:

- Comparative insights from other African e-mobility markets.
- Market segmentation by vehicle type, application, and customer type.
- Current penetration levels of e-mobility technologies across different regions.
- Key players in the e-mobility market and their market share.
- Assessment of adoption of e-mobility technologies and infrastructure in key locations (Nampula, Quelimane) including a basic assessment of electrical capacity for charging in key rural locations.

### a) Comparative Analysis with Other African Markets

The consultant will provide a comparative analysis of Mozambique's mobility sector with other more mature e-mobility markets in Africa. This analysis will highlight best practices, challenges, and strategies that have been successful in other markets.

The consultant shall specifically:

- Compare the fundamentals of the Mozambique market with those of top e-mobility markets in Sub-Saharan Africa (SSA).
- Identify what is working and not working in these markets.
- Analyze the fiscal and regulatory frameworks of leading e-mobility markets in SSA.
- Provide guidance and recommendations based on these comparative insights.

### b) Market Segmentation and Status of E-Mobility

The consultant will provide an in-depth analysis of the e-mobility market in Mozambique, including penetration levels and market dynamics. This analysis will encompass an understanding of various market segments and their characteristics. The consultant will explore different vehicle types, applications, and customer types to determine the current landscape of e-mobility with a focus in Nampula and Zambezia.

The consultant shall specifically:

- Segment the market by vehicle type, application, and customer type.
- Assess the current penetration levels of e-mobility technologies across different locations.
- Identify key players in the e-mobility market and their respective market shares.
- Assess the adoption of e-mobility technologies and infrastructure in key locations (Nampula, Quelimane) including a basic assessment of electrical capacity for charging in key rural locations.



### **c) Importing vs. Local Production and Assembly**

Analyze the balance between importing e-mobility products and developing local production and assembly capabilities. This analysis will help determine the economic viability and strategic benefits of localizing e-mobility production.

The consultant shall specifically:

- Assess the current state of e-mobility imports and local production.
- Identify the threshold volume where local assembly or partial local production becomes economically viable.
- Analyze the cost-benefit implications of local versus imported e-mobility products.
- Map out the supply chain for imported and locally produced e-mobility products.
- Identify cost structures and economic viability thresholds for local production and assembly.
- Provide recommendations for optimizing the supply chain to support local production.

### **d) Life Cycle Costing**

Conduct a comprehensive life cycle costing (LCC) analysis of e-mobility products. This analysis will compare the total costs of locally produced versus imported products, and between different imported products, focusing on financial aspects such as purchase, operational, and end-of-life expenses. The analysis will consider the electricity production during the use phase, including whether the electricity is generated from fossil fuels or fossil-free sources, and address the waste phase in the absence of a system for e-waste management.

The consultant shall specifically:

- Conduct a life cycle costing (LCC) of e-mobility products, comparing the costs associated with locally produced versus imported products.
- Evaluate the financial aspects, including initial purchase price, operational costs (e.g., energy, maintenance), and end-of-life disposal expenses including detailing the financial requirements for charging stations and maintenance, which is particularly important in a context where cost considerations are paramount.
- Include cradle-to-gate analysis for the manufacturing phase of e-mobility products, focusing on environmental impacts from materials extraction to the factory gate.
- Include an evaluation of the electricity mix in each province to account for variations in energy sources and their impact on lifecycle costs and environmental outcomes.
- Identify key factors, absence of a system for e-waste management, influencing the total cost of ownership and provide recommendations for cost optimization.
- Detail the financial requirements for charging stations and maintenance, emphasizing cost considerations crucial for decision-making and infrastructure planning.

For an effective Life Cycle Costing (LCC) analysis of e-mobility products, the consultant shall:

- Clearly define the lifecycle stages, including acquisition, energy use, maintenance, and disposal.
- Categorize all cost components, such as initial investment and ongoing expenses.
- Use accurate data from e-mobility providers and apply financial analysis techniques to assess total costs.
- Conduct sensitivity analyses to understand the impact of cost variations.
- Ensure transparent reporting of all findings and assumptions to support informed decision-making.



**e) Sustainability of E-Mobility Sector**

Assess the sustainability of the e-mobility sector in Mozambique. This assessment will focus on the existing policies, regulatory framework, and potential for scaling up e-mobility solutions sustainably. The consultant will also explore potential partners and funding sources that could contribute to the development of the e-mobility facility.

The consultant shall specifically:

- Analyse the current policies and regulatory framework supporting e-mobility in Mozambique.
- Assess the potential for scaling up e-mobility solutions sustainably.
- Identify key stakeholders and their roles in the e-mobility ecosystem.
- Explore potential partners and sources of funding that could contribute to the e-mobility facility.
- Provide recommendations on structuring the e-mobility facility to maximize its impact and sustainability



## 7. Deliverables and duration

The following deliverables and tentative timelines are expected:

Deliverable	W 1	W 2	W 3	W 4	W 5	W 6	W 7	W 8	W 9	W10	W11	W12	W13	W14	W15	W16	W17	W18
Contracting and kick off meeting	█																	
Inception report and relevant data collection tools	█	█																
Data and Analysis of the e-mobility market status and key findings		█	█	█	█													
Market Segmentation and Status Report				█	█													
Data and Analysis of the importing vs local production					█	█	█											
Importing vs. Local Production Analysis						█	█	█										
Life Cycle Costing Report							█	█	█	█	█	█	█	█	█			
Sustainability Assessment Report														█	█			
Validation workshop presentation and workshop report																█		
Final report																	█	█

The assignment is expected to require 440 man-days within a period 17 weeks with a mix of senior experts, junior experts and enumerators.



## 8. Qualifications

AECF is seeking a consultancy firm with the capacity to deploy a team comprising an appropriate mix of engagement leader, senior experts, junior experts, and enumerators. The firm is expected to meet the following criteria:

Registered and based in Mozambique and meeting all statutory requirements.

- At least 8-10 years of practical experience in conducting market assessments, surveys, stakeholder and data analysis, stakeholder consultations, human-centered design, and program design in the development sector, preferably in Mozambique.
- At least 5 years' experience and expertise in financial analysis and life cycle costing (LCC), with a strong background in technologies and sustainability assessments.
- At least 5 years' experience in development management and/or monitoring of RE/EE programs in Sub-Saharan Africa, preferably in Mozambique.
- An in-depth understanding of the RE/EE industry, including the regulatory and policy environment in Mozambique.
- Fluency in Portuguese and English

## 9. Reporting

The consultancy firm/team will report to the Senior Portfolio Officer.

## 10. Proposal submission

Interested and qualified consultancy firms are invited to submit their proposal(s) comprising the following:

- a) A technical proposal, max 15 pages (excluding annexes)
  - An understanding of the consultancy requirements.
  - Methodology and work plan for performing the assignment.
  - Detailed reference list indicating the scope and magnitude of similar assignments.
  - Relevant services undertaken in the past five (5) years.
  - Letters of references from 3 previous companies/assignments
  - Registration and other relevant statutory documents (this applies to Institutional consultants).
- b) A financial proposal – template attached
  - Financial proposal clearly showing the proposed team member, roles, and proposed days and the proposed professional fee (daily rate and total amount per team member). The financial proposal shall also include an indication of reimbursables (travel, communication e.t.c).
  - Note that the team members, man-days and rates used in this template are generic for illustrative purposes. Please adapt accordingly.

## 11. Pricing

The consultant shall submit a financial proposal indicating an all-inclusive daily rate for the anticipated period of assignment as well as the anticipated reimbursables.



## 12. Evaluation Criteria

An evaluation committee will be formed by the AECF which will include employees. All members will be bound by the same standards of confidentiality. Bidders should ensure that they fully respond to all criteria to be comprehensively evaluated. In deciding the final selection of a qualified bidder, the technical quality of the proposal will be given a weighting of **70%** based on the evaluation criteria below. Only the financial proposal of those bidders who qualify technically will be reviewed. The financial proposal will be allocated a weighting of **30%** and the proposals will be ranked in terms of total points scored.

NO.	CRITERIA FOR ASSESSMENT	Weighted Award
<b>A.</b>	<b>TECHNICAL PROPOSAL</b>	<b>70</b>
<b>1.</b>	<b>An understanding of the terms of reference</b>	
1.1	Demonstrate understanding of the assignment and expected outcomes.	5
1.2	Demonstrate relevant experience to undertake the given assignment (8-10 years)	15
<b>2.</b>	<b>Methodology and work-plan that will deliver the best value on the assignment</b>	
2.1	Methodology and delivery approach of undertaking the assignment in the provided timelines.	15
2.2	Demonstrate relevant services provided in the last three years with sample of work.	10
2.3	Provision of registration documentation and other relevant statutory document.	5
2.4	Geographical Reach: Demonstrate relevant geographical experience, knowledge and reach to effectively carry out the assignment.	5
<b>3.</b>	<b>Qualification and Experience</b>	
3.1	Qualifications and competence of the key staff related to the study Bidders must provide descriptions and Documentation of staff/teams' technical expertise, experience, and assignment to the task	15
<b>B.</b>	<b>FINANCIAL PROPOSAL: Clarity, relevance, reality to market value/ value for money of cost for the assignment (inclusive of any applicable tax, reimbursables and travel).</b>	<b>30</b>
	<b>Total Score</b>	<b>100</b>



### 13. Application

The AECF is an Equal Opportunity Employer. The AECF considers all interested candidates based on merit without regard to race, gender, color, national origin, religion, sexual orientation, age, marital status, veteran status, disability, or any other characteristic protected by applicable law.

- AECF invites qualified consulting firms to send a proposal to [aecfprocurement@aecfafrica.org](mailto:aecfprocurement@aecfafrica.org) , clearly marked “**TERMS OF REFERENCE FOR CONSULTANCY SERVICES TO CONDUCT A MARKET STUDY ON E-MOBILITY IN MOZAMBIQUE**” to be received no later than the **18<sup>th</sup> September 2024, by 5.00 pm East Africa Time (GMT +3)** addressed to: **The AECF, Procurement Department.**
- All clarifications and/or questions should be sent to [aecfprocurement@aecfafrica.org](mailto:aecfprocurement@aecfafrica.org) **by 13<sup>th</sup> September 2024, 5.00 pm East Africa Time (GMT +3)**

### 14. Disclaimer

AECF reserves the right to determine the structure of the process, number of short-listed participants, the right to withdraw from the proposal process, the right to change this timetable at any time without notice and reserves the right to withdraw this tender at any time, without prior notice and without liability to compensate and/or reimburse any party.