

Terms of Reference (ToR)

Prepared by ICLEI Africa



on behalf of the **Rwanda Green Fund (RGF)** and
Rwanda Development Bank (BRD)



Development of a comprehensive technical sector study on the international, African and Rwandan electric motorcycle (e-moto) sector and provision of technical guidance to the E-Moto Project Team.

ICLEI Africa issues this ToR on behalf of the implementation organisations for the **Accelerating the deployment of e-motos in Rwanda project (E-Moto Project)**, which is funded by the **Mitigation Action Facility** and implemented by the **Rwanda Green Fund (RGF)** and the **Rwanda Development Bank (BRD)**, with technical support from ICLEI Africa and the **Global Clearinghouse for Development Finance (GlobalDF)**.

ToR issued: 27 March 2025

Indicate interest to bid by: 3 April 2025

Submission of bids: 16 April 2025 (Central African time)

Estimated project implementation period: May – September 2025

Please email your interest in bidding, questions, and proposals to Kennedy Kanyiha (kennedy.kanyiha@iclei.org), copying Dr. Simon Sizwe Mayson (simon.mayson@iclei.org) and Dr. Barbara Samuels (barbara@globaldf.org).

Please indicate your interest in submitting a bid and any questions by April 3, 2025. Responses to queries will be shared with all interested parties that have submitted interest in bidding. Bids will still be accepted if interest is not indicated. However, interested parties must accept that they may not have received responses to questions submitted.

ICLEI Africa reserves the right not to appoint a Service Provider in relation to this procurement process.

The Rwanda E-Moto Project is funded by:



On behalf of

Supported by:



on the basis of a decision
by the German Bundestag



1. Introduction

ICLEI Africa issues this ToR on behalf of the implementation organisations for the **Accelerating the deployment of e-motos in Rwanda Project** (E-Moto Project), which is funded by the Mitigation Action Facility and implemented by the Rwanda Green Fund (RGF) and the Rwanda Development Bank (BRD), with technical support from ICLEI Africa and the Global Clearinghouse for Development Finance (GlobalDF).

The purpose of this Terms of Reference (ToR) is to secure the services of a suitably experienced, qualified, credible, and mission-aligned Service Provider to conduct two streams of work:

1. Develop a comprehensive technical sector study on the international, African and Rwandan electric motorcycle (e-moto) sector relevant to evaluating the economic fundamentals of the Rwandan e-moto sector and the creditworthiness of its participants.
2. Provide technical guidance to the E-Moto Project, including regulatory and policy analysis, capacity building and training, a risk management plan, and a cost-benefit analysis.

2. Project background

African cities are experiencing rapid growth, accompanied by an increased demand for public transportation services. In East Africa, traditional motorcycle taxis, also known as moto-taxis, are a vital and rapidly growing form of affordable transportation. Motorcycles are the dominant mode of public transportation in Rwanda, accounting for 55-60% of the total vehicle stock on the road, with the number of licensed moto-taxis increasing at a higher rate than other forms of transportation.¹ The popularity of motor-taxis is primarily due to their limited availability of mass public transport, their low cost, and the ability to provide reliable point-to-point connectivity over all road types.

The 2022 Shell Electric Vehicle Sub-Saharan Africa Study underscores the strong economic fundamentals for the significant growth of the e-moto sector in Rwanda and other African markets, stating:

Recent analysis focusing on five sub-Saharan African countries (Ethiopia, Kenya, Nigeria, Rwanda, and Uganda) suggests that sales of electric vehicles (EVs) in these countries could reach 340–820 thousand units in 2025, growing to ~3.8–4.9 million units by 2040. Most of these sales will be E2Ws due to their low charging requirements, high fleet turnover, and lifetime cost competitiveness. This suggests that 4-8% of the vehicle parc (total stock of vehicles on the road) in these five countries will be electric by 2030, growing to ~25-35% by 2040.²

In terms of the Rwandan e-moto market, recent estimates indicate that there are approximately 110,000 motos in Rwanda, 70,000 being moto-taxis. Around 30,000 motos are currently operating in Kigali, with around 25,000 registered for commercial use.³ Most of these vehicles are internal combustion engine (ICE) motorcycles. With Kigali's population growth averaging more than 3.2%

¹ Gustavsson, M., F. Bergk, H. Helms, M. Linden, M. Jamet, R. Ruberambuga and C. Wallmark. "Electric Mobility in Rwanda. Background and Feasibility report", Final Report, Sustainable Mobility and Rapid Transport (SMART project), FORNERWA, Government of Rwanda, Kigali, 15 December 2019.

² Shell Foundation, "Financing the transition to electric vehicles in sub-Saharan Africa," January 2020, pages 11-12.

³ Based on interviews with RURA and MININFRA.

annually in recent years, the expected increase in the motorcycle market poses significant environmental, economic, and social risks. In response, the Rwandan government has passed regulations prohibiting the registration of ICE e-moto taxis in Kigali, effective January 2025.⁴ The SMART project report recommended that Rwanda should aim for 30% electrification of motorcycles by 2030. (ibid) The government of Rwanda has progressively issued regulation aimed at a faster transition through decarbonising their transport sector by reduced reliance on fossil fuel-powered vehicles⁵. Other key regulations include the elimination of import tariffs and supporting the e-waste sector, for example, by the Ministry of Trade and Industry providing permission to the key waste company in Rwanda, Enviroserve, to collect, free of charge, all e-waste materials from government institutions.

The Mitigation Action Facility (formerly NAMA), supported by donor partners, has approved the Rwanda government E-Moto Project, which aims to increase the large-scale adoption of e-motos, reducing GHG emissions, and delivering development co-benefits such as increased female participation in the e-moto sector. **The primary objective of the E-Moto Project is to significantly increase the supply of e-motos and their demand through technical assistance and two financial instruments: a first loss facility for lenders to e-moto manufacturers and a fund providing subsidies to disadvantaged e-moto taxi operators. The key project outcome is the decarbonisation of a significant transport modality in Kigali, enabling post-project implementation throughout the country.**

As of January 2025, Phase 1 of the E-Moto Project is underway, establishing the required technical advisory, staffing, coordination mechanisms, and the two finance mechanisms. Phase 2, the actual project implementation, if approved, will commence on 1 January 2026 (Phase 2).

The core approach to the implementation of the E-Moto Project was defined through a two year project development programme funded by the Mitigation Action Facility from 2021 – 2022 (Detailed Preparation Phase – DPP) by the implementation partners and their technical partners in consultation with other Rwanda government ministries and agencies, Rwanda e-moto manufacturers, e-moto taxi organisations, commercial banks, micro-finance institutions, development partners, waste providers (Enviroserve), and other key organisations, enabling the development of extensive assessments and financial and carbon emission models.

DPP project documents will be made available to the Service Provider. They will cover the following aspects of the Rwandan e-moto sector and the design of the E-Moto Project:

- Underlying economic market fundamentals of the Rwanda e-moto sector;
- Key stakeholders and their potential roles in the E-Moto Project;
- Development of E-Moto Project mechanisms such as E-Moto Steering Committee, E-Moto Technical Hub and E-Moto Partnership Group to improve technical capacity, public-private coordination, and to enable cultivation of e-moto demand, an enabling environment (regulations, policies, laws, etc.), and increased finance/risk mitigation;

⁴ See the Rwanda Parliament article: [“Topical question: MININFRA explained the decision to ban new petrol-powered taxi motorcycles,”](#) January 7, 2025; and the New Times article: [“Rwanda to halt registration of petrol motor-cycles in 2025,”](#) November 4, 2024.

⁵ Bajpai, J. and Bower, J. “A road map for e-mobility transition in Rwanda,” April 2020, page 2.

- **BRD-led Financial Mechanism, which includes an E-Moto Credit Enhancement Facility** managed by the E-Moto Finance Advisory Team, to increase the finance for e-moto supply and charging stations and unlocking finance for e-moto manufacturers through structured financial techniques and credit enhancements such as first loss;
- **RGF-led Financial Mechanism, which includes a Rebate Scheme which increases** the ability of disadvantaged e-moto taxi providers (including women) to buy/lease e-motos through targeted subsidies;
- A financial model documenting the underlying assumptions on the use of the two e-moto financial mechanisms and how to leverage 7+ times the Mitigation Action Facility grant by mobilising both private and public finance;
- Greenhouse Gas (GHG) Mitigation Potential Model, which estimates the direct and indirect GHG mitigation impacts from the project; and
- Log frame and other key assessments (e.g., market barriers, development benefits).

The above project documents and assessments have not covered the international and regional e-moto sector and implications for the Rwandan e-moto sector.

The extensive existing E-Moto Project documentation will be provided to the Service Provider at project inception to enable the leveraging of work done to date in the cost-effective development of a relevant and credible technical e-moto study, supporting the mobilisation of additional finance.

3. Key definitions used in this ToR

- **Service Provider:** A Service Provider is **a single organisation or a consortium of experts and/or organisations** partnering to deliver the ToR deliverables.
- **Project partners:** The project partners referred to in this Terms of Reference (ToR) include the Rwanda Green Fund (RGF), the Development Bank of Rwanda (BRD), relevant National Ministries and agencies, technical support organisations such as ICLEI Africa and GlobalDF, private sector entities, and other organisations cited in the E-Moto Project documents.
- **E-Moto sector participants:** E-moto manufacturers, e-moto taxi operators, providers of finance, and providers of integral technical inputs and services (charging stations, batteries, technology, waste disposal, etc.).
- **Finance and risk mitigation providers for Rwanda e-moto sector participants** include Multilateral Development Banks (MDBs), bilateral development partners, climate funds, guarantors, and providers of other credit enhancement instruments, as well as commercial banks, microfinance institutions (MFIs), asset-backed financiers, equity funds, and foundations.

4. The scope of the E-Moto Technical Study

The study will be a public document provided to public and private entities interested in providing finance and/or risk mitigation to Rwanda e-moto participants, to be used in their internal credit due diligence processes and evaluation of the creditworthiness, financial viability, and sustainability of e-moto participants, based on sector fundamentals and prospects.

Key factors defining the need and focus of the study include the following:

- Best practice worldwide is for due diligence processes of financial institutions to include a mandatory sector-based assessment conducted by a credible third-party expert that substantiates the financial, economic, and political assumptions in the projected financial model used by the financial institution or its risk mitigation provider.
- Financial institutions in both the public and private sectors are especially wary of default and delay risk of e-moto participants as the international, regional, and Rwanda e-moto sectors include start-up initiatives in a rapidly evolving market with limited or no track records of profitability encompassing risks related to competition, technology, policy and regulatory frameworks, changing demand, foreign exchange risk for foreign denominated transactions, and sector consolidation (i.e. “winners and losers”), among other risks.

Targeted e-moto sector participants include **e-moto manufacturers and e-moto taxi operators, as well as providers of integral technical inputs and services (charging stations, batteries, technology, waste disposal, etc.)**.

Targeted finance providers for Rwanda e-moto sector participants include **the full range of potential providers from the public sector to the private sector as well as providers of risk mitigation** (MDBs, bi-lateral development partners, climate funds, guarantors and providers of other credit enhancement instruments, commercial banks, MFIs, asset-backed financiers equity funds, foundations, etc.). The type of support can include **grants (both non-reimbursable and reimbursable), debt (concessionary and non-concessionary), equity, and risk mitigation (such as first loss, partial credit, political guarantees, liquidity facilities, foreign exchange facilities, demand guarantees, tenor extensions, etc.)**. All providers of finance and risk mitigation have credit due diligence requirements and require independent assessments to support their evaluations of risk.

The study will also be used to update the assumptions in the existing E-Moto Project documents and models, including those related to finance and carbon emissions. The study can be utilised in international, regional, and Rwandan forums on climate action and sustainable development, including those related to Rwanda’s Nationally Determined Contribution (NDC) and the annual United Nations Climate Change Conferences (COPs).

As explained in the ToR introduction, the technical study needs to provide financial providers with a credible assessment relevant to their credit due diligence processes related to providing finance and/or risk mitigation support for participants in the Rwandan e-moto sector.

Therefore, the study should cover key risks and factors, documenting them with credible evidence and citing relevant sources. The E-Moto Project team will provide background information, sharing their extensive analysis of the Rwanda e-moto sector, and coordinate any required remote interviews with Rwanda entities. **No field research is required.**

Key analysis to be considered and modified as needed in consultation with the E-Moto Project team includes the following:

4.1. Overview of international e-moto market structure, fundamentals, and outlook of the international e-moto sector and implications for the Rwandan e-moto sector, which must include:

- **Key drivers of growth and economic fundamentals**, including alternative business models, costs, technology innovation to improve creditworthiness and performance, government policies and incentives, battery prices, fuel prices, environmental concerns, opportunities for job creation including a focus on women participation in the sector, improved health and other social benefits, safety and ease of use, etc.
- **Key risks and mitigants**, including the advantages and disadvantages of alternative approaches (charging solutions, levels of vertical integration, geographic segmentation of manufacturing, assembly, battery inputs, etc.)
- **Industry structure, strategies, and partnerships, including key Original Equipment Manufacturers (OEMs) expanding into African e-moto markets** and their partnerships with local e-moto assemblers and battery providers, key factors driving market entry decisions, structure of international-national partnerships and respective roles, economies of scale and segmentation of markets in creating e-motos (alternative approaches to sourcing parts and batteries, different levels of vertical integration, reliance on technology providers, etc.)
- Assessment of future development prospects and winners and losers.
- Key factors in the international e-moto sector that are likely to affect the development and structure of the African and Rwandan e-moto markets. Examples include:
 - How could developments in the international e-moto sector (size, growth trends, projections, etc.) and key players potentially affect entries in the African and Rwandan e-moto market? What are the risks and opportunities?
 - How could e-moto technology, including advancements in battery technology and charging models, potentially expand market opportunities in Rwanda? What are the risks and opportunities?
 - How could best practices of national policies and regulations related to increasing national e-moto markets, including safety and emissions standards and best practices for incentivising their demand and supply, potentially affect the Rwandan market? What are the risks and opportunities?
 - How can global best practices in e-moto technologies, including charging infrastructure, financing approaches for developing charging infrastructure, and business models for deploying e-motos, be utilised in Rwanda? What are the risks and opportunities?
 - What **evidence substantiates the economic fundamentals for e-moto suppliers and operators?** For example, e-moto demand is strong, given the increased profitability of e-motos over ICE-motos, such as 30-60% lower annual maintenance costs. Charging solutions can mitigate the risk of range anxiety. Additionally, e-moto manufacturers and battery/charging station providers can achieve profitability.
 - Other factors that need to be considered.

4.2. Overview of regional African e-moto market structure, fundamentals, prospects and implications for the Rwandan e-moto sector, which must include:

- What are the regional factors affecting the prospects of suppliers to Rwandan e-moto participants, including market developments, sector economic fundamentals, technological innovations, and national enabling environments?
- How might the market dynamics of the East African region, particularly in Kenya, impact e-moto suppliers in the Rwandan market?
- Given the expansion of e-moto participants (manufacturers, financiers, waste providers, etc.) in East Africa (especially Kenya), what are the challenges and opportunities for the e-moto ecosystem for e-moto supply and adoption, including the waste ecosystem?
- Other factors to be assessed.

4.3. Given the above international and regional factors, a detailed assessment of the Rwandan e-moto landscape⁶ and how sustainability, creditworthiness, and increased supply and demand of e-moto taxis can be achieved. This assessment must include:

- Updated overview of the Rwanda e-moto sector, including the number of e-motos in circulation, existing charging infrastructure, government initiatives, growth trends, potential new markets, and projections/demand forecasting. This overview also examines key factors that will drive market growth and address barriers to adoption, as well as the potential rate of transition. Key focus areas (that can be refined in coordination with market participants and finance providers) include:
 - The market size of the e-moto sector, the affordability of e-motos for operators, policies that will drive e-moto adoption in Rwanda, battery standards that could be adopted, and the legality of tracking/ disabling systems.
 - A demand survey covering individual riders and cooperatives.
 - A comprehensive cost comparison of e-motos and ICE-motos that encompasses the entire value chain, including acquisition, maintenance and repair, insurance, availability of spares, resale value attributes, and more.
 - Information on e-moto suppliers/ manufacturers that identifies the challenges they face and possible solutions.
 - Updated assessment of market growth potential for e-motos considering:
 - population growth and increasing demand for sustainable transport solutions;
 - multiple uses of e-motos as taxis for transport, deliveries, government services, etc.;
 - impact of government regulations and incentives;
 - transportation needs and existing modes, including the size and role of e-motos in Kigali's public transport system (including modal split);
 - demand for last-mile connectivity;
 - potential transport substitution (e.g. buses and bicycles);
 - commuting patterns; and

⁶ Including vertically integrated companies, assemblers, providers of charging stations and batteries, e-moto operators etc.

- Additional issues identified.
- Updated assessment of the viability and sustainability of Rwandan e-moto manufacturers and their market approaches (including battery charging solutions) in light of international e-moto technology, including advancements in battery technology and charging models that could expand market opportunities.
- Assessment of Rwandan physical and institutional infrastructure given international e-moto best practices in terms of existing capacity, reliability, geographic distribution, and deficits of charging stations, the electricity grid, and charging infrastructure.
- Updated assessment of affordability and cost of ownership of e-motos and ICE-motos, breaking out purchase price, operating cost, and total cost of ownership (TCO).
- Assessment of the availability and affordability of financing options per market, including consideration of government incentives and consumer willingness to pay, as well as economics of moto-taxi operators.
- Updated assessment of the risks affecting the financial viability and creditworthiness of e-moto participants, breaking down the level of risk and mitigants.
- Assessment of Rwandan national, city and multi-level governance policy and regulatory frameworks given international best practices with a focus on how current policies impact the supply and demand of e-motos, especially in Kigali.
- Assessment of the Rwandan and Kigali-specific waste ecosystem, including the management, second life and recycling waste solutions for internal combustion engine motos (ICE-motos) and e-motos given international best practices, identifying key players in the sector, and their challenges, business models, financial needs, recycling solutions, and required funding/ technical partners.

5. The scope of the technical guidance given to the E-Moto Project Team

A second deliverable of the Service Provider is to provide guidance aimed at enhancing the effective functioning of the Project's E-Moto Technical Hub tasked with managing the E-Moto Project and providing technical and facilitation support, including supporting the effectiveness of the Project's two financial mechanisms: the Rebate Scheme and the E-Moto Credit Enhancement Facility (E-CEF).

The range of internal guidance from the Service Provider must include the following:

- Regulatory and policy analysis: Evaluate current policies and identify potential regulatory hurdles, providing recommendations for adjustments that can facilitate market growth for e-motos.
- Capacity building and training: Support in designing training workshops and materials that enhance the understanding and skills of local stakeholders regarding the e-moto ecosystem and sustainable business practices.
- Risk management plan: Create a detailed plan that identifies, quantifies, and outlines strategies for mitigating various risks associated with the implementation and sustainability of the E-Moto Project.
- Cost-Benefit Analysis: Conduct a detailed cost-benefit analysis for e-moto participants, considering upfront costs, long-term savings, and potential income increases for operators.

The above guidance from the Service Provider will enhance the ability of the E-Moto Technical Support Hub to provide effective policy advocacy and capacity building, including supporting the Ministries of Infrastructure (MININFRA) and Environment (MOE), and the Rwanda Utilities Regulatory Agency (RURA) in their evaluation and implementation of policy measures related to ICE-motos, providing the technical analysis required for the formulation of informed actions. Inputs from the Service Provider will also enhance the effectiveness of the E-Moto Technical Hub in designing its market cultivation activities, such as organising workshops and providing an online operator platform and toolkit on “how to access finance for e-moto lease/ purchase.”

6. Service Provider requirements

The Service Provider must meet and provide evidence of the following requirements:

- Strong track record of developing credible international (and preferably regional) studies on the electric vehicle sector. *Please submit copies of the reports.*
- One or more experts with 5+ years of experience in developing independent studies for financial providers. *Please submit copies of reports or a summary of the report(s) that clearly outline the objectives, contents, and intended users.*
- One or more experts that hold 5+ years of experience in providing ToR-related policy guidance and capacity-building activities.
- One or more experts with 5+ years of demonstrated experience in assessing the electric vehicle sector, preferably with a focus on emerging markets.

7. Proposal submission requirements:

Technical Proposal including:

- The Service Provider’s experience to date in developing related studies as defined in the ToR, noting those studies provided to meet due diligence requirements of financial institutions. *Please include a table listing prior studies related to the electric mobility sector, providing links to documents with client names, responsible managers, and contact information.*
- The Service Provider’s experience in providing related policy guidance and capacity-building activities, as outlined in the ToR. *Please include a table listing prior policy and capacity-building activities in the electric mobility sector, providing links to relevant documents that include client names, responsible managers, and contact information.*
- Statement of existing knowledge of the international, African and Rwandan e-moto sector, demonstrating through related activities, assessments, and studies.
- Proposed E-Moto Technical Study outline.
- Proposed activities related to providing the technical support requested.
- How your prior experience provides a basis for success in implementing the tasks as outlined in this Terms of Reference (ToR).
- Additional information and data required by the tasks outlined in this Terms of Reference (ToR), along with proposed approaches for obtaining the necessary information, data, and analysis.

- CVs of experts with their designated roles in fulfilling the ToR tasks, listing their relevant experience.
- A work plan for delivering the tasks as per this Terms of Reference (ToR).
- Examples of report formatting: Please provide copies of prior reports that are relevant for how you envision the formatting of the E-Moto Technical Study and the deliverables related to the internal guidance to the E-Moto Project team.
- In line with South Africa's Broad-Based Black Economic Empowerment Act no. 53 of 2003 ("B-BBEE Act"), South Africa-based service providers should include a B-BBEE certificate when submitting their technical proposals.

Financial proposal (in Euros) including:

- A clear depiction of the experts that will be utilised and on what tasks, with their rates (daily/ hourly) and the number of days/ hours per expert, per task, linked to the technical proposal work plan. *Please note that we expect delivery of this ToR to require approximately 110 expert days, with a 70:30 split between the E-Moto Technical Study and the E-Moto Project Team guidance, respectively.*

No travel is required.

8. Evaluation

Proposals will be evaluated based on the following criteria:

Bids will be assessed based on the demonstrated understanding of the Terms of Reference (ToR) and the work required to deliver the assignment, as well as the qualifications and experience of the service provider, team composition, relevant experience, proposed methodology, and the financial proposal detailing the budget breakdown.

9. Submission process

Please submit your application to Kennedy Kanyiha (kennedy.kanyiha@iclei.org), with Dr. Simon Sizwe Mayson (simon.mayson@iclei.org) and Dr. Barbara Samuels (barbara@globaldf.org) copied, by the end of the day Central African Time on **16 April 2025**.

Please use the subject line: ***'Service Provider: MAF E-Moto Project Proposal'*** when submitting your proposal.

ICLEI AFRICA RESERVES THE RIGHT NOT TO APPOINT A SERVICE PROVIDER IN RELATION TO THIS TERMS OF REFERENCE.

- For more information on the E-Moto Project, see: [Rwanda - Accelerating the deployment of E-motos - Mitigation Action Facility](#)
- For more information on ICLEI Africa, see <https://africa.iclei.org/>