



TERMS OF REFERENCE (TOR)

BARRIER ANALYSIS FOR THE DEVELOPMENT OF AN ELECTRIC BUS TRANSPORTATION NETWORK IN ZAMBIA

1. Background:

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The Zambian Electric Mobility Innovation Alliance (ZEMIA) has been established with the mission of supporting the adoption, development, and growth of the electric mobility (EV) ecosystem in Zambia. ZEMIA aims to foster innovation by creating a business-friendly environment and advocating for favorable public policies. Funding for this initiative has been secured from the Leapfrogging to E-mobility Acceleration Partnership (LEAP) Fund, a program under the Drive Electric Campaign—a global philanthropic effort to expedite the shift towards clean transportation.

2. Objective:

ZEMIA has allocated funding for a comprehensive barrier analysis to facilitate the development of an EV bus transportation network. A parallel engagement will be focused on techno-socioeconomic analysis, with this engagement subsequently drawing out regulatory aspects. This engagement is divided into two phases:

Phase One: The primary goal is to establish an enabling framework for integrated mobility systems. The outcome of this phase will include identifying key barriers obstructing the growth of the EV bus transport network. This information will contribute to the development of a detailed roadmap for overcoming these barriers.

Phase Two: Building upon insights from key stakeholders, this phase involves updating and reissuing the barrier analysis to further support and enable the expansion of the public bus transportation network.

3. Scope:

This project entails conducting a thorough barrier analysis to enable the development of an EV bus transportation network in Zambia. The analysis is structured across two phases, focusing on identifying and addressing barriers within the regulatory, economic, technological, infrastructure, and social domains. Phase one emphasizes the creation of an enabling framework, while phase two involves refining the analysis based on stakeholder consultations. The outputs of this engagement will form the basis of a comprehensive Roadmap undertaken in 2024.

4. Proposed Methodology:

The barrier analysis utilizes a robust methodology to pinpoint and prioritize barriers hindering the successful adoption of electric buses. This involves employing multi-criteria decision tools such as the Weighted Sum Method and Analytic Hierarchy Process (AHP) for barrier ranking, concentrating



on regulatory, infrastructural, social, economic, and policy-related challenges. This analysis lays the foundation for subsequent efforts aimed at building an integrated mobility framework.

4.1. Literature Review and Benchmarking:

- Conduct an exhaustive review of international best practices in energy and transportation, with a focus on regulatory frameworks for EV bus networks.
- Compare Zambia's current regulatory landscape with global benchmarks to identify gaps and opportunities for enhancement.

4.2. Stakeholder Consultation:

- Engage key government stakeholders to gather insights, understand challenges, and collect feedback on existing regulations and policies.

4.3. Barrier Analysis and Prioritization:

- Conduct a comprehensive analysis of barriers related to regulations, policies, economic, infrastructure, investment and social barriers concerning electric public transportation.
- Utilize multi-criteria decision processes (e.g., AHP) to rank and prioritize barriers based on impact and feasibility.

4.3.1. Barrier Identification:

- Categorize barriers into regulatory, policy, economic, technological, infrastructure, investment and social factors.
- Develop a comprehensive list of barriers within each category.
- Validate identified barriers through expert interviews and workshops.

4.3.2. Barrier Ranking:

- Establish a hierarchical structure of barriers and sub-barriers using AHP.
- Prioritize barriers based on impact, feasibility, and urgency through pairwise comparisons.
- Calculate weights for each barrier based on AHP.

4.3.3. Weighted Sum Method:

- Assign category weights from AHP results.



- Assign scores to identified barriers within categories based on severity, potential for improvement, and mitigation cost.
- Calculate weighted sum for each barrier, yielding a comprehensive ranking.

4.3.4. Barrier Enablers:

- Identify potential enablers for top-ranked barriers.
- Develop strategies and recommendations for addressing these enablers.

4.4. Preliminary Pathway:

- Devise a preliminary action plan for addressing top-ranked barriers and enablers in the short, medium, and long terms.
- Prioritize short-term actions for immediate impact, followed by medium and long-term strategies.

4.5. Regulations Review & Assessment:

- Evaluate international safety standards, licensing, certification processes, and propose regulatory alignment.
- Investigate emission standards, noise restrictions, waste disposal regulations, and their implications for EVs.
- Review electricity pricing, grid connection standards, renewable energy policies, and efficiency standards.
- Examine building codes, electrical safety standards, and accessibility for charging stations and depots.
- Assess data protection and privacy laws for digital infrastructure in public transport.
- Analyze public procurement policies and criteria for public transport, including partnerships.

Applicants are welcome to propose an alternative methodology to achieve the objectives and aims of the work package with proper justification/rationale (including GANTT Chart and costs).

5. Project Timeline

- Experts Selected: 15th September 2023
- Engagements Finalised and Expected Start Date: 29th September 2023
- Expected Completion Date: 15th April 2023



6. Key Deliverables:

1. Barrier Analysis Report (Phase One): A comprehensive report detailing the current transportation landscape, identified barriers, and prioritized recommendations to enable the development of the EV bus transportation network.
2. Stakeholder Consultation Report (Phase One): A report summarizing the insights and feedback gathered from key stakeholders within the government during the consultation process.
3. Preliminary High-Level Roadmap and Capacity Building Plan (Phase One) based on perceived gaps
4. Updated Barrier Analysis Report (Phase Two): A revised and updated barrier analysis report, incorporating feedback from stakeholders and additional insights gathered during Phase Two of the project.
5. A Regulatory Assessment Report based on 4.5 above (Phase Two)..
6. Presentation of Findings (Both Phases)

Table 1: Showing summary deliverable description and expected delivery date

Deliverable	Description	Format	Expected Due Date
1. Preliminary Report	Barrier Analysis Report (Phase One): A comprehensive report detailing the current transportation landscape, identified barriers, and prioritized recommendations to enable the development of the EV bus transportation network.	Word (with an excel toolkit)	Wednesday 22 nd November 2023
2. Stakeholder workshop	Stakeholder Consultation Report (Phase One): A report summarizing the insights and feedback gathered from key stakeholders within the government during the consultation process.	Hybrid workshop (virtual and in person)	Tuesday 5 th December 2023
3. Report (Phase One)	Preliminary High-Level Roadmap and Capacity Building Plan (Phase One) based on perceived gaps	Word	Tuesday 12 th December 2023
4. Report (Phase Two)	Updated Barrier Analysis Report (Phase Two): A revised and updated barrier analysis report, incorporating feedback from stakeholders and additional insights	Word (with an updated excel toolkit)	Wednesday 28 th February 2024



	gathered during Phase Two of the project.		
5. Report	A Regulatory Assessment Report based on 4.5 above (Phase Two).	Word	Friday 29 th March 2024
6. Presentation/Workshop/Report	Presentation of Findings (Combined Phases) & Capacity Building Update. This should also include handover of complete project data package from inputs to outputs and respective toolkits	Summary Video, Virtual workshop, Word and Data Pack	Monday 15 th April 2024

7. Expertise:

Applicants are free to decipher relevant expertise (i.e., Policy Research Expert, Regulatory Expert, Environmental and Sustainability Expert, Energy Expert, Communications Expert, Electric Mobility Expert, Sustainable Transportation Expert etc.) based on their own understanding of the terms of reference (TOR). However, this must be explicitly indicated in the expression of interest with a relevant experience of not less than 4 years.

8. Budget:

The total budget for this workstream is \$10,000 USD for Phase **One**, and \$4,000 for Phase **Two**. Contracts with experts or consultants are to be issued on a fixed fee basis.

Please take into consideration: ZEMIA is prepared to supplement any budget necessary for organizing workshops to disseminate findings and for conducting capacity-building or awareness-raising initiatives. Should such activities be deemed necessary, applicants should specify the anticipated costs along with the reasoning behind these costs. Costs linked to surveys will not be covered by ZEMIA as a supplementary cost.

9. Other Key Information

9.1. Application:

To apply, please follow the instructions below:

1. Send your expression of interest to zambiaemobilize@zemia.org no later than 11th September at 5pm CAT.
2. Alongside your expression of interest, interested consultants or experts must provide supporting documentation. This may include, but is not limited to, resumes of the project implementation team and evidence of previously undertaken similar or relevant research projects.
3. Please ensure that you submit three separate files, as outlined below: i. **Expression of Interest:** This document should be signed and initialed on each page, and presented in PDF



format. ii. **Filled Application Form:** Complete the application form, sign it, and submit it in PDF format. iii. **Support Documents:** Combine all relevant supporting documents into a single PDF file.

Please be aware that late submissions will not be taken into consideration. Under no circumstances will extensions be granted.

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Your adherence to these application guidelines is greatly appreciated.

9.2. Selection Process:

Upon successful application, the following steps will ensue:

- i. **Project Kick-Off Meeting:** A project kick-off meeting will be convened, providing the potential successful candidates with the opportunity to delve into project details. Scheduled shortly after project inception/launch, this meeting will facilitate a discussion around your expression of interest and your proposed approach for effective project delivery. You will need to demonstrate to ZEMIA that your chosen methodology is likely to yield the desired outcomes. ZEMIA reserves the right to request reasonable modifications to the project plan.
- ii. **Work Package Delivery Agreement:** A work package delivery contractual agreement will be sent to you. It is mandatory that you review, sign, and promptly return this agreement.
- iii. **Additional Financial Documentation:** If requested, any supplementary financial documentation should be diligently completed and returned within the stipulated timelines.
- iv. **Project Cost Review:** A thorough examination of your project cost plan and breakdown will be conducted to ensure alignment with the principle of value for money.
- v. **Queries and Clarifications:** Should you have inquiries regarding the terms of reference, project particulars, or financial matters, please direct these to the provided ZEMIA project email: zambiaemobilize@zemiam.org.

These steps collectively constitute the process following the successful selection of your application. Your cooperation in adhering to these procedures is greatly valued.

9.3. Financial Arrangement:

Compensation for successful projects will be disbursed as outlined below:

- An initial payment of 20% will be made upon the signing of the contract. This payment will be allocated towards reporting stage 1.
- 30% will be released upon submission of the Draft Report.



- 30% will be released upon submission of the Final Report.
- The final disbursement of 20% will be made upon the approval of the Phase Two Report.

Please take note that when submitting invoices to the Zambian Electric Mobility Innovation Alliance (ZEMIA), the stated amount must be expressed in United States Dollars (USD). Additionally, include pertinent details of the designated bank account for the transfer. Should your account be unable to accept USD, please be aware that conversion costs may apply.

Your comprehension and adherence to these financial procedures are greatly valued.

9.4. Project Reporting:

Throughout the project, you will be required to adhere to the following reporting guidelines:

- Regular Progress Updates:** Regular updates must be provided to showcase the alignment of progress with the anticipated milestones of the work package. A milestone reporting document will be disseminated by the project's commencement date. Expectation includes two reporting stages.
- Final Project Completion Reporting:** Following the conclusive completion of the project, you must complete a final reporting form. This form should concisely summarize the principal discoveries, outcomes, and contributions, supplementing the deliverable guide previously outlined. This final reporting should be presented in straightforward and accessible language.

It is noteworthy that the release of the grant payment hinges upon the endorsement of the final outputs, as delineated in the delivery contractual agreement. Your commitment to complying with these reporting parameters is greatly appreciated.

For any inquiries or clarifications, contact zambiaemobilize@zemias.org