



Request for Proposals

Technical and Operational Assessment for an Electric Motorcycle Company (EMC) in Kenya

Version 26 February 2026

This document provides an overview of the underlying project relevant to the Subnational Climate Fund (SCF), context on data availability and goals of the mandate, as well as an estimated scope of work requested from the consultant. Final details of the mandate should be covered by the subsequent proposal submitted by the consultant.

1. The Subnational Climate Fund

The SCF is a blended finance impact fund formed to pursue attractive risk-adjusted returns for private investors while generating measurable and certified environmental and social impacts. The Fund is focused exclusively on pursuing investments in mid-size climate infrastructure with nature-based solutions in various developing countries across Latin America and the Caribbean, Africa, the Mediterranean, and Asia. The Fund is managed by Pegasus Capital Advisors, a commercial Private Equity impact fund manager and further benefits from a separate, grant-funded Technical Assistance facility managed by The International Union for the Conservation of Nature (IUCN) and implemented by Catalytic, IUCN, and Gold Standard.

2. Context of the Potential Study Agreement

The SCF is considering a potential investment in the Electric Motorcycle Company (EMC), a Kenyan electric mobility company with operations in Nairobi and surrounding counties. EMC's current activities include local motorcycle assembly, a proprietary charging network, and a lease-to-own financing model targeting boda-boda operators.

This technical and operational assessment is commissioned to validate the assumptions underpinning EMC's prior Feasibility Study against current operational realities — covering manufacturing throughput, cost structures, charging infrastructure performance, and ecosystem scalability. The study will identify where prior assumptions hold, where revisions are warranted, and where residual technical or execution risk remains that is material to SCF's investment decision. Catalytic and SCF will make available EMC's existing Feasibility Study, financial model, and selected operational data to support the assessment. Consultants are expected to validate and, where necessary, complement this data through site visits, management interviews, and independent analysis.

3. Scope of Work for Technical and Operational Assessment

The consultant is expected to assess the technical and operational viability of EMC's business by evaluating its manufacturing performance, charging infrastructure, cost structures, and overall ecosystem feasibility against the assumptions contained in the prior Feasibility Study.

3.1 Manufacturing Assessment

Objective:

Evaluate EMC's current manufacturing performance against prior feasibility assumptions and identify constraints to scale-up.

Activities:

- Actual production capacity and output for motorcycles compared with prior projections (e.g. peak monthly units vs. assumptions).
- Unit manufacturing cost analysis relative to the feasibility model, including labour, materials, overhead, and energy costs (noting Kenya's predominantly renewable energy grid).
- Yield rates, defect rates, rework frequency, and throughput times across key assembly stages.
- Component supply consistency, including battery cells, power electronics, and locally sourced parts; identification of bottlenecks attributable to parts lead times, logistics, quality deviations, or import constraints.
- Labour productivity and skill profiles relative to assumed benchmarks (hours per unit, key skill or training gaps), including:
 - Opex per year at different throughput levels
 - Minimum fixed operating cost required irrespective of sales volume
- Review of the cash conversion cycle and working capital assumptions compared with comparable mobility or assembly businesses.
- Assessment of localisation readiness and assembly line balancing, identifying specific operational constraints to scale-up (e.g. import delays, supplier dependency, line bottlenecks).

This section should explicitly validate whether prior technical assumptions on productivity, cost structure and localisation are supported by realised data.

3.2 COGS Reduction Assessment and Cash Conversion Cycle / Working Capital Management

Objective:

Assess the credibility, drivers and timing of projected COGS reductions and working capital optimisation.

Activities:

- Review of assumptions underpinning step-down in costs, especially high-impact line items.
- Assessment of whether projected COGS reductions are primarily driven by:
 - Volume leverage
 - Supplier renegotiation
 - Design optimisation / redesign-to-cost
 - Localisation of sub-assemblies
 - Assembly efficiency gains
- Clarification of whether cost reduction drivers are:
 - Dependent on sales volume
 - Within EMC's operational control
 - Dependent on external R&D (e.g. battery suppliers)

- Dependent on supplier-side process improvements
- Comparative pricing analysis of EMC's e-bikes vs. other electric bikes and ICE bikes in Kenya to assess parity trajectory and identify acceleration opportunities.

Detailed Bill of Materials (BOM) and Component-Level Review

The study shall include a structured deep-dive into component-level economics to determine where the largest cost-reduction opportunities reside.

This shall include:

- Detailed BOM breakdown and validation for the complete motorcycle.
- Deep-dive cost structure review (material, labour, supplier margin) for major components, including:
 - Battery pack (cell cost, pack integration, BMS, thermal and mechanical structure)
 - Motor
 - Motor Control Unit (MCU)
 - Frame
 - Mechanical auxiliaries
- Supplier-level cost breakdowns identifying:
 - Share of material vs. conversion cost
 - Sensitivity to scaling volumes
 - Redesign-to-cost opportunities
 - Supplier dependency risks

The analysis should explicitly compare the relative impact of component-level cost reductions versus incremental improvements in Kenyan final assembly efficiency, recognising that labour and overhead costs are comparatively low relative to imported high-value components.

Cash Conversion Cycle

- Review of the company's plan to optimise the cash conversion cycle to 3–4 months and eventually below 2 months.
- Identification of sales volume thresholds required to achieve these targets.
- Benchmarking against comparable asset-heavy mobility platforms.

3.3 Charging and Energy Systems Assessment

Objective:

Assess EMC's charging and battery ecosystem performance against feasibility assumptions.

Activities:

- Usage rates and uptime statistics for fast chargers and charging stations.
- Charger reliability metrics, mean time between failures, and maintenance turnaround times.
- Energy cost per kWh to riders via M-Pesa or EMC App vs. prior model assumptions (including peak vs. off-peak tariff differences).
- Integration with Kenya's grid and contribution of solar/renewables to hub energy supply (impacting cost and carbon intensity).

- Rider charging behaviour patterns affecting peak load, queueing, and infrastructure adequacy.
- Opex and Capex assumptions underpinning charging segment economics.
- Comparative analysis of home charging vs. public fast charging uptake and implications for utilisation and economics.

Operational Performance and Queueing Impact

The assessment shall further analyse:

- Rider waiting times, queueing dynamics and dwell time at charging stations.
- Impact of charging duration and queueing on:
 - Rider productivity
 - Fleet utilisation
 - Revenue per asset
 - Customer satisfaction and adoption
- Validation of charging time assumptions against real-world operational data and commercial outcomes.

This section should determine whether current infrastructure assumptions are sufficient to support scaled deployment under realistic usage patterns.

3.4 Integrated System Feasibility

Objective:

Integrate manufacturing and charging findings to assess system-level feasibility.

Activities:

The study shall examine:

- Consistency across battery capacity assumptions, charger reach, and production forecasts.
- Alignment of battery design, warranty performance, and real-world degradation rates with feasibility model expectations.
- Overhead assumptions under different growth trajectories, including fixed vs. variable cost scaling.

This section should assess whether EMC's ecosystem can operate coherently and profitably at scale, and under what conditions feasibility is upheld or compromised.

3.5 Sequencing and Ramp-Up

Objective:

Evaluate phasing of production, infrastructure deployment, and adoption.

Activities:

The study shall examine:

- Alignment between motorcycle production ramp-up, charging network expansion, and rider adoption curves.
- Potential constraints in capital deployment or commissioning timelines that could delay coordinated expansion.
- Operational readiness of after-sales services, maintenance centres, and service hubs to support fleet growth.

The emphasis should be on identifying sequencing mismatches that could create temporary liquidity, operational, or adoption bottlenecks.

3.6 End-User Experience Assessment

Objective:

Evaluate rider experience and adoption drivers.

Activities:

- Identification of operational pain points that may hinder adoption.
- Factors that could create negative brand sentiment.
- Identification of value propositions or operational advantages that remove rider pain points relative to ICE alternatives.
- Assessment of how user experience influences ramp-up assumptions and sales trajectory.

4. Preliminary Deliverables (To be finalized during inception)

The consultant shall deliver the following:

1. Comprehensive Technical and Operational Assessment Report (50–70 pages)

A structured validation of the prior Feasibility Study assumptions across all scope areas.

The report shall include:

- **Executive Summary (4–6 pages)** outlining key findings, investment implications, validated vs. revised assumptions, and principal risk areas
- Detailed analysis aligned with Sections 3.1–3.6, including:
 - Manufacturing performance and scale-up constraints
 - COGS reduction drivers and detailed BOM/component analysis
 - Charging performance and queueing/productivity impacts
 - Integrated ecosystem feasibility and overhead scaling
 - Sequencing, ramp-up alignment and end-user experience
- Clear validation matrix summarising confirmed vs. challenged assumptions
- Documentation of data sources, methodologies and benchmarks
- Bibliography

2. Manufacturing, COGS and Working Capital Model (Excel)

A transparent and editable model supporting the assessment, including:

- Actual vs. assumed production volumes and unit costs
- Detailed manufacturing cost structure and BOM-based component breakdown
- COGS reduction pathway analysis by driver (volume, supplier, design, localisation, efficiency)
- Scenario and sensitivity analysis (component prices, labour, FX, scale)
- Cash conversion cycle and working capital analysis

3. Charging and Energy Systems Assessment Matrix

A structured operational and economic assessment of EMC's charging ecosystem, including:

- Utilisation, uptime and reliability metrics
- Energy cost benchmarking vs. prior assumptions
- Queueing/dwell-time analysis and impact on rider productivity and fleet economics
- Capex and Opex benchmarking
- Home vs. public charging uptake comparison
- Infrastructure scalability under different growth scenarios

4. Integrated Feasibility and Risk Assessment

A consolidated system-level assessment covering:

- Consistency across manufacturing, battery, charging and overhead assumptions
- Ramp-up sequencing risks and scale-up constraints
- End-user experience implications for adoption
- Prioritised residual technical and execution risks with suggested mitigants

5. Requirements

Applicants should demonstrate in their proposal that their project team meets the following qualifications:

Required Expertise

- Proven experience in manufacturing operational assessment — including production throughput analysis, OEE benchmarking, assembly line optimisation, and plant-level cost audits — ideally in automotive, two-wheeler, or light vehicle assembly contexts
- Track record in supply chain and component sourcing analysis, including lead time assessment, inventory management, and import duty / logistics cost optimisation for manufactured goods
- Experience conducting commercial and technical due diligence for private equity or impact investment clients, with demonstrated ability to validate or challenge financial model assumptions
- Capability to assess EV or clean mobility business models, including charging infrastructure economics, energy cost structures, and capex/opex benchmarking
- Strong quantitative skills including unit economics modelling, COGS scenario analysis, working capital assessment, and sensitivity analysis

Preferred Qualifications

- Prior experience with e-bike, motorcycle, or light electric vehicle manufacturers — particularly around localisation strategy, COGS reduction pathways, and scale-up planning
- Familiarity with East African or Sub-Saharan African operating environments, including logistics constraints, import duty structures, and informal sector dynamics
- Experience assessing energy infrastructure in emerging markets, including grid reliability, renewable integration, and mobile payment-linked utility systems
- Knowledge of lean manufacturing methodologies (e.g. Kaizen, Six Sigma) and their application to early-stage or growth-stage manufacturers
- Network of on-the-ground contacts or local partners in Kenya for site visits, operational interviews, and primary data validation
- Exposure to climate finance, development finance institutions, or impact investment ecosystems

Team Composition

- Lead consultant with minimum 7 years of experience in manufacturing operations, automotive/mobility strategy, or industrial due diligence
- Supporting expertise across energy systems, supply chain, and financial modelling — either within the core team or through named sub-contractors
- Local East African partner or team member strongly preferred for site access, stakeholder interviews, and contextual market insight

6. Indicative Timeline

Work is expected to commence immediately after the consultant is appointed. The work is expected to be completed within three months after signing the service contract. The delivery of services and reporting timeframes are anticipated to be as follows:

Technical and Operational Assessment — EMC Kenya

Activity / Deliverable	Indicative Timeline
Kick-off meeting Establish communication channels, confirm project schedule, agree on data access arrangements with EMC, and align on assessment methodology and benchmarking framework.	Week 1
Site visits and primary data collection Conduct facility visits to EMC's manufacturing plant and charging stations in Nairobi and neighbouring counties; interviews with operations, finance, and technical teams.	Weeks 2–3
Inception report with detailed methodology, data collection plan, and preliminary findings on data gaps	Week 3
Draft report 1: Manufacturing Assessment, COGS Analysis, and Charging Infrastructure sections (Sections 3.1–3.3). Deliverable 2 (Excel Model) and Deliverable 3 (Charging Matrix).	Week 6
Draft report 2: Complete draft study including Integrated Feasibility, Sequencing, End-User Experience, and all supporting models	Week 10
Final report and models incorporating SCF and company feedback	Week 12

7. Form of Proposal & Requirements

Please prepare a brief proposal for the performance of this work, including the scope of work, project team and qualifications, and estimated costs.

1) Scope of Work: The scope of work should include a description of the specific activities that will be performed in order to accomplish the required tasks identified in Section 3. This should include any proposed site visits/reconnaissance, documents to be reviewed, interviews, etc. If the Consultant feels that additional tasks or components within a required task are suggested or warranted, these should be stated and delineated as "Optional Tasks".

2) Project team and qualifications:

This should include the name of the principal staff members and any sub-contractors, and a brief description of their role within the project team. Qualifications of staff should include relevant technical capabilities, full CVs, specific previous experience similar to this assignment, specific in-country experience and knowledge.

3) Estimated costs:

A total time and expenses cost estimate (not to be exceeded), in US Dollars, must be provided for the required scope of work. A breakdown of the estimated costs by task must also be presented in tabular format and should include Direct Labour Costs (number of

hours or days per staff and their associated unit costs). If field visits are necessary, travel costs will be covered by the SCF separately from the consultancy fee under "Indirect Labour Costs". Please note that "Per Diems" are not an eligible expense under our travel expense policy. Please also note that Catalytic as a Foundation under Swiss Law is exempt from paying VAT on services performed outside of Switzerland. Proposals must therefore clearly indicate whether VAT (or equivalent sales tax) applies. Financial proposals must show fees net of VAT. If VAT is applicable under the bidder's national legislation despite Catalytic's status as a foundation under Swiss law, it must be itemized separately.

4) Contract & payments:

The contract will be based on Catalytic's standard terms of engagement, fixing a total consultancy fee on a lump-sum basis in US Dollars. Catalytic will pay the consultant in 2–3 instalments: e.g. one advance payment of 20% upon signature of the contract, one payment of 40% after delivery of the draft report, final payment of 40% after delivery of the final report.

5) Conflicts of interest & KYC documentation:

As part of the proposal, the Consultant shall also confirm that they do not have a conflict of interest and that they are in a position to provide an adequate, accurate and objective review. In addition, we will request an extract from the commercial registry and passport copy for a KYC / DD check for shortlisted candidates.

8. Submission

Please submit your proposal before **March 6, 2026** by sending it to **project@catalyticfinance.org**