

REPUBLIC OF RWANDA



07 JUIN 2018
Kigali,
N° 0913/LAFREC/18

**RWANDA ENVIRONMENT
MANAGEMENT AUTHORITY (REMA)
P.O. BOX 7436 KIGALI**

**REQUEST FOR EXPRESSION OF INTEREST
(CONSULTING SERVICES - FIRMS SELECTION)**

Name of the Country: RWANDA

Name of the Project: Improving the Efficiency and Sustainability of Charcoal and Wood Fuel Value Chains Project

Assignment title: Assessment of alternative use of energy for tea Factories

Reference No: RW-REMA-61201-CS-CQS

Improving the efficiency and sustainability of charcoal and wood fuel value chains Project is funded by the Nordic Development Fund (NDF) through the World Bank. The project development objective is to improve the efficiency and sustainability of wood fuel value chains in Northwest Rwanda. The project will result in a major advance in wood fuel management across the Gishwati-Mukura landscape by improving woodlot management practices, increasing the efficiency of charcoal production and improving seed quality for increased resilience

The present EOI is addressed to all qualified companies with sufficient experience to

- Review the current usage of wood as a source of energy for heat by Tea Factories in Rwanda
- Identification of alternative sources of energy for tea heating
- Develop guidelines and procedures to adopt the new technology
- Conduct cost-benefit analysis (CBA) to at least three recommended alternatives to firewood,
- Install one pilot project and test it (Piloting the recommended alternative source of energy),

Rwanda Environment Management Authority (REMA) through NDF project invites eligible consulting firms ("Consultants") to indicate their interest in providing the services. Interested consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the services. The shortlisting criteria are:

The consulting firm or consortium of consulting firms to be involved in this assignment should demonstrate the ability to carry out this study with sufficient experience in similar studies. The firm has to have the proven capability of undertaking studies and producing consistent high-quality reports demonstrated experience of social energies, renewable energies, understanding of biomass sector, a clear understanding



of energy policies, energy related laws and regulations in Rwanda. Field based work of proposed team members in Rwanda is highly desirable.

The consultancy firm in this assignment should be qualified in energy engineering, renewable energies, and excellent knowledge in tea factory energy, social energies survey (*At least two similar assignment conducted: submit proof*)

- Availability of staff with relevant skills including following key experts:

Position	Qualifications	Minimum years of relevant experience
Team Leader	Master's degree in Energy Engineering, industrial Physics	10 years in Energy Management preferably in Tea Factories and have knowledge in forestry
Engineer	Industrial engineering	10 Years in tea factory heating systems
Senior Forest Economist	Master's Degree in forest - Economics;	8 years of experience preferably in tea management
Agronomist	Master's degree in crop production	5 years of experience in tea production

The attention of interested Consultants is drawn to paragraph 1.9 of the World Bank's [Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers](#) of January 2011 ("Consultant Guidelines"), setting forth the World Bank's policy on conflict of interest.

Consultants may associate with other firms in the form of a joint venture or a sub-consultancy to enhance their qualifications. A Consultant will be selected in accordance with the CQS method set out in the Consultant Guidelines.

Further information can be obtained from the Procurement Specialist on email address tgashumba@rema.gov.rw or on address below during office hours from Monday to Friday, between 07:00 to 17:00 hours.

Rwanda Environment Management Authority (REMA)
P.O. Box 7436, KIGALI
Tel: +250252 580101



Expression of interest (EOI) must be delivered at the reception of REMA in a written form to the address below by **29/06/2018 at 10h00 am** and shall clearly indicate: "EOI for Assessment of alternative use of energy for tea Factories

Sincerely,



Eng. Coletha U. RUHAMYA
Director General



Terms of Reference
Assessment of alternative use of energy for tea Factories

Background

The EDPRS II, Rwanda's vision 2020, Energy sector Strategic Plan and other strategic document clearly targets to boost the use of clean energy for both domestic and industrial use. Further to this EDPRS II targets a reduction of biomass uses from 94 % in 2009 to 50 % in 2020 in notional energy consumption. Many studies and surveys like the "Biomass use Survey in Urban and Rural areas in Rwanda", have been carried out and clear recommendations were provided to reduce the use of wood biomass in households none of these studies have concerned tea factories. Tea production industries are one of the biggest consumers of woody biomass hence it is imperative that a study be conducted to understand the use of wood in industries, provide alternatives or recommend the most efficient way to reduce the woody biomass. An efficient or alternative source of energy in tea factories' production would provide an alternative to help reduce the usage of wood fuel in tea factories and the pressure put on forests,

2. Objectives of the consultancy

- Review the current usage of wood as a source of energy for heat by Tea Factories in Rwanda
- Identification of alternative sources of energy for tea heating
- Develop guidelines and procedures to adopt the new technology
- Conduct cost-benefit analysis (CBA) to at least three recommended alternative to firewood,
- Install one pilot project and test it (Piloting the recommended alternative source of energy),

3. Scope of the work

- Assess the cost of wood used by factory
- Assess the cost of existing tea factory heating system
- Calculate the rate of Air pollution of the factory and compare the current technology and new proposed one
- Assess the points of view of factory owners on the current heating system
- Propose appropriate alternative energy to be used in tea heating according its efficiency, affordability and determine requirements for implementation
- Demonstrate the relevance and sustainability of proposed alternative energy for tea heating in 20 years compare to firewood
- Analyze the tea quality implication and time management
- Propose a business plan and marketing and adoption strategies to be implemented for the selected alternative energy
- Develop a pilot project of the selected alternative source and test it for a period of 50 days spread to six months,

4. Methodology/Approach

- Desk review of available secondary information from reliable sources to frame the context of the problem and any previous relevant analysis already undertaken
- Field testing
- Structured interactions with key stakeholders including interviews, focus groups to collect information
- Participatory appraisal techniques to obtain quantitative and qualitative information.



- Review of similar analysis from other countries

5. Deliverables

- LAFREC will receive well referenced and comprehensive report on alternative energy for tea heating to be implemented in tea Factories
- One successful pilot project using the recommended technology

6. Recruitment, qualifications and experience

A. Firm experience

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The consultancy firm in this assignment should be qualified in energy engineering, renewable energies, and excellent knowledge in tea factory energy, social energies survey

(At least two similar assignment conducted: submit proof)

B. Required skills and experience

Position	Qualifications	Minimum years of relevant experience
Team Leader	Master's degree in Energy Engineering, industrial Physics	10 years in Energy Management preferably in Tea Factories and have knowledge in forestry
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7. Time frame

This assignment will be completed within a period of 100 days after contract signature.

8. Area of Intervention: tea factories located in LAFREC Landscape (Rutsiro, Ngororero, Nyabihu and Rubavu Districts).

8. Mode of application

The consultancy firm is required to submit separate technical and financial proposals, which must include the following items:

- Technical Proposal should include:
 - Methodology
 - Work plan and timeframe proposed
 - Team structure, roles and responsibilities and time allocation
 - Detailed CV(s) of the team members (plus copies of academic qualification and certificate of performance for similar assignment)
 - List of the last 2 most relevant previous consulting projects completed, including a description of the projects, completion certificates and contact details for references
- Financial Proposal should include:
 - Total budget proposed
 - Detailed budget with costs related to the following items:
 - The Consultant's time, and the time of any other team members. The day rate for the Technical Assistant and all team members should be clearly specified.
 - Transport costs, accommodation costs and per-diems for the consultants and any other team members.
 - Communication costs, office costs, supplies and other materials.
 - Tax should be clearly included

