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RWANDA

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TERMS OF REFERENCE

Hiring a firm to supply and install biogas equipment in rural communities of Eastern Province.

Application Type:	External vacancy
Project title:	Supply and Installation of Biogas in rural households of Eastern Province.
Category:	Renewable cooking Energy, Resilience and Climate Change
Application Deadline:	TBC
Type of contract:	Procurement Contract
Expected starting date:	Immediately after signing contract
Duration of assignment:	8 calendar months

1. Background

The United Nations Development Programme (UNDP) Rwanda is seeking an experienced firm with the required expertise on installation and maintenance of Biogas, to supply and install five hundred (500) small scale biogas flexibles digester and cooking stoves, in selected Districts of the Eastern Province of Rwanda. This is aligned with the UNDP's objectives to increase access of community to clean, renewable energy at affordable prices while reducing the dependency of communities on firewood and charcoal for cooking.

In September 2020, the Government of Rwanda updated its Nationally Determined Contributions (NDCs) under the Paris Agreement which set out the climate action plan committing to reduce emissions by 38% by 2030 and reach Net-Zero economy by 2050. This is intended to be achieved through ambitious targets towards cleaner energy solutions, given that cooking-related emissions account for 14% of the GHG emissions from the energy sector in Rwanda.

The Rwanda Energy Policy (2015) recognizes that the overexploitation of biomass threatens the environment and health, as household pollution from fuel use is the fourth leading risk factor for morbidity and mortality in the country.

Thus, the Policy proposes an extensive fuel switching among households to modern energy technologies and carriers including biogas.

The Energy sector strategic plan targets to reduce the households' number that depend on traditional cooking fuels from 79.9% in 2017 to 42% by 2024 (NST1) by replacing firewood and charcoal with clean cooking options, to promote a more sustainable management of natural resources, improving livelihoods, increase agriculture productivity and improving health.

Furthermore, the Biomass energy strategy supports these targets and aims to reduce the demand for biomass fuels by promoting the switch to modern cooking fuels.

In this regard, there is provision of hiring an international firm to supply and install biogas digesters/equipment in selected districts in the Eastern Province of Rwanda.

2. Objective and scope of service

The overall objective of this activity is to phase out the use of charcoal and firewood for cooking through installing five hundred (500) biogas units in selected districts of the Eastern Province.

The specific objectives are to:

- Enhance the resilience of farmers to climate change.
- Increase food security by improving agriculture production, producing biofertilizers/organic manure.
- Train and build the capacity of members of the community on the installation and maintenance of the Biogas equipment, new methods for farming (farmers);
- Create an official baseline for carbon emissions from the use of firewood for cooking.

3. Outputs/Expected deliverables

Key deliverables mandatory for this assignment are:

- 1- Supply 200 complete units of Biogas equipment, hire and train youth women and men on the installation and commissioning of the biogas
- 2- Supply 300 complete units of Biogas equipment
- 3- Installation and commissioning of all 500 units and produce a final report including baseline for carbon emissions, training manuals, and maintenance plan

N.B: a complete Biogas Unit is made of a manual feed tank, filter flexible biogas digester cooking stove, and gas line.

The table below illustrates deliverables and pa provided a timeline for each as well as the approval modalities.

Expected deliverables and outputs with the indicative timeline are provided below:

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Deliverable/Outputs	Review and Approvals required
1- Supply 200 complete units of Biogas equipment, hire and train youth women and men on installation and commissioning of the biogas	REG Ltd and all stakeholders in biogas.
2- Supply 300 complete units Biogas equipment	REG Ltd
3- Installation and commissioning of all 500 units and Final report and maintenance plan	Approved by REG Ltd team

4. Duration of the contract

The assignment is expected to take 8 calendar months after signing the contract.

5. Specification of Biogas equipment

a) Biogas Hybrid reactor

A 6m³ and 8m³ hybrid reactor should be fabricated with a high-quality UV-resistant geomembrane. Piping and assemblies should be made of Hydraulic PVC and HDPE.

b) Spider Cook Stove

The Spider cook stove should be a Ferro-Spider 2 burner grill made of cast Iron,

c) Gas line

Technical specification of the Biogas equipment

COMPONENTS	MATERIAL	SPECIFICATIONS
Feeding tank	HDPE	Refer to corresponding digester model
Reactor	LLDPE	Refer to corresponding digester model
Biofertilizer tank	HDPE	Refer to corresponding digester model
Pressure relief valve	HDPE and UPVC	6" diameter, 20 mbar back pressure
Isolation ball valve	UPVC	1" diameter
Biogas filter	PVC	2" diameter
Transparent/flexible gas line	UPVC	1" diameter
Gas line	HDPE	1" diameter
Water trap	ABS and UPVC	1" diameter
Single burner (when applicable)	Cast aluminum	7X45X10cm (H x L x W)
BioStove	Structure: Stainless steel or coated mild steel Burner: Cast aluminum	Cookstove: 12X68.5X38 cm (H x L x W) BioStove: 19X58X36cm (H x L x W)

6. Institutional arrangement and reporting obligation

UNDP will (i) contract a competent firm through an open competition process to undertake the assignment as described in these Terms of References (ii) UNDP will also process all payments related to the services based on achieving the assigned tasks as per these ToRs

The consultancy firm will deliver all deliverables as per these terms of reference. Each deliverable should be submitted electronically or otherwise by the Team Leader to UNDP.

The contract will be performance-based, spanning a period of 10 working weeks from the day it is signed by UNDP and the representative of the firm. Terms and conditions of service linked to the type of proposed contract will apply. The Contractor will report on progress monthly with solid outputs listed in this ToR. All costs of goods and services that the contractor will require shall be included in their quotations/financial proposals.

7. Duty station

The assignment is field based in the Eastern province of Rwanda. The consultancy firm will supply and install the biogas equipment in various districts in Eastern province of Rwanda, therefore, they will be required to travel in those areas.

8. Required expertise, qualification, and skills

Interested contractor firm shall be legally registered and shall demonstrate sufficient capacities to implement the required activities in a satisfactory manner.

The contractor can be an international firm, or a joint venture/consortium of national and international contractors. In the case of a joint venture/consortium, the partnership agreement shall be attached to the submission and a designated lead entity identified.

Prospective bidders may propose additional members who have thematic expertise that complement the thematic expertise of compulsory team members and experts listed in these terms of reference.

Important to Note: Staff Time Allocation

Provide a spreadsheet to show the activities of each staff member and the time allocated, i.e., number of days, for his/her involvement. This must include number of expert days being provided in total and broken down by personnel.

These ToRs provides required qualifications and deliverables so that bidders can plan either to have them onboard or to sub-contract them. In case any of the proposed experts is not included in the team or sub-contracted, the technical proposal must include a way forward or solid arrangement on how the contractor will deliver on the work as described under the ToRs of each expert.



Note: This spreadsheet is crucial, and no substitution of personnel will be tolerated once the contract has been awarded except in extreme circumstances and with the written approval of the UNDP. If a substitution is unavoidable, it will be with a person who, in the opinion of the UNDP project manager, is at least as experienced as the person being replaced, and subject to the approval of UNDP and REG. No increase in costs will be considered because of any substitution.

The Contractor shall propose the following key technical personnel and other personnel as deemed appropriate to implement the tasks described below. The deliverables are listed in the ToRs of each expert as below, but all experts must provide inputs to the overall assignment.

KEY PERSONNEL Title	Education	Experience
Project Coordinator and Team Leader	<ul style="list-style-type: none"> • MSc in renewable energy, carbon market, climate change and development, • 10 years of experience in Renewable energy supply and management specifically in Biogas • Experience in training of rural communities on topics related to energy, agriculture, and rural development 	<ul style="list-style-type: none"> • Experience as supervisor in installation and maintenance of biogas plants • Have worked as project coordinator in any biogas project • Have presentable successful biogas projects
Project technical Supervisor	<ul style="list-style-type: none"> • Having A0 in construction • Certificate of technician in biogas installation and maintenance • Certificate in training on renewable energy, specifically biogas 	<ul style="list-style-type: none"> • Experience of 2 years in supervision of biogas projects • Proven experience in writing reports • Fluent in English
Biogas senior Technicians/engineers	<ul style="list-style-type: none"> • Certificate in biogas construction/installation & maintenance from a reliable institution 	<ul style="list-style-type: none"> • Experience of more than 2 years in biogas installation, maintenance and training of biogas equipment • Fluent in English and Kinyarwanda
Assistant engineers	<ul style="list-style-type: none"> • Basic knowledge in Biogas installation and maintenance 	<ul style="list-style-type: none"> • Experience in biogas installation, maintenance • Fluent in Kinyarwanda



9. Payment modalities

The contract price is a fixed output-based price regardless of the extension of the herein specified duration. The firm should include all costs of services that will be required in their quotations/financial proposals, *i.e.*, professional fees, travel costs, living allowances, taxes, etc.

Payment shall be by the lump sum modality in the following 4 instalments and made after submission of each deliverable as below and its approval and acceptance by the technical working group.

Deliverable/Output	Estimated Duration	Payment (%)
Supply 200 complete units of Biogas equipment, hire and train youth women and men on installation and commissioning of the biogas.	By 20th November 2022	35%
Supply 300 complete units Biogas equipment and Installation and commissioning of 100 Complete units of Biogas.	By 16 th December 2022	45%
Installation and commissioning of all 500 units and Final report and maintenance plan.	By 30 th June 2023	20%

10. Language

The language of the assignment between the contractor firm and the client shall be English, while the language of the assignment between the contractor firm and the population shall be Kinyarwanda. All reports shall be in English; therefore, excellent English communication skills (oral, written, and presentation) are essential.

11. Risk Management

UNDP will contract a reputable company with a track record in renewable energy supply and installation. The technology to pilot will be certified by the Rwanda Standards bureau for its efficiency to reduce Green House gas emissions.

In addition, the proposed project is responding to the national needs in clean, affordable, and renewable energy for cooking, it is supporting the government to address huge gaps in cooking energy.

The selection of beneficiaries will be supervised by the local authorities from the province level to the households.

At the end of the project implementation, a handover note with a detailed sustainability plan will be done between the UNDP country office and local authorities to ensure the sustainability of the achieved results.

12. Quality Assurance

The project will be implemented in partnership with Rwanda Energy Development Corporate Limited (EDCL). The EDCL has experience and expertise in renewable energy solutions. Engineers of EDCL will assess and certify the quality of equipment and will oversee installation and commissioning. EDCL team and local authorities will monitor the utilization of the equipment to ensure the sustainability of the infrastructure.

13. Application procedure

Qualified and interested firms are hereby requested to submit bids. The bid should strictly follow and contain the items listed in the Instructions to Proposers (DATA SHEET) of the RFP which will include some key documents as below:

- Duly filled Proposal Submission Form
- Documents Establishing the Eligibility and Qualifications of the Proposer
- Duly filled Technical Proposal Form including the proposed methodology to undertake the assignment
- Duly filled Financial Proposal Form
- Registration certificate issued by RDB (for Rwandan firms only)

14. Evaluation criteria

Lowest priced technically responsive, eligible, and qualified bid.

UNDP is committed to achieving workforce diversity in terms of gender, nationality, and culture. Individuals from minority groups, indigenous groups and person with disabilities are equality encouraged to apply. All applicants will be treated with the strictest confidence.