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**Terms of Reference (TOR) for contracting a solar company/firm to set up PUE milk &milk products cooling demonstration centres for SEFFA Project.**

# **Background**

The **S**ustainable **E**nergy for Small Holder **Fa**rmers **(SEFFA)** in Ethiopia, Kenya and Uganda’’ is a multi-country project with duration of three years (2021-2023) and implemented by GIZ, SNV and RVO and co-financed by the IKEA Foundation’ s partnership with Energizing Development (EnDev). The project focuses on addressing the core problem of the lack of access to sustainable and affordable energy technologies and services for productive use of energy (PUE) based on scalable and innovative business cases, which is preventing smallholder farmers and related local businesses of the agricultural value chains to achieve increased productivity, higher income and improved climate resilient and food- secure livelihoods.

SNV Uganda is implementing the project in the Dairy value chain with emphasis on cooling of milk and its products in the South-Western Uganda. The project focus areas are Isingiro, Kiruhura, Ntungamo, Kazo, Mbarara and Lyantonde districts.

To stimulate demand and awareness on PUE technologies in cooling of milk and milk products, SNV plans to establish demonstrations centres both at a Dairy Cooperative and at sites of 2 women/youth farmers group. The set-up demonstration centres will be the learning centres by other dairy farmers in a bid to increase adoption of such technologies.

# **Overall objective of the assignment**

The main objective of the assignment is to set up demonstration centres for cooling milk and its products using solar energy with the following specific objectives.

1. Switching from the diesel generator source of power to solar or as a hybrid (generator as a back-up) for the dairy cooperatives of 1,000-10,000 litres milk capacity (01 demonstration centre)
2. Design and installation of the small-scale milk cooling technology (for solar refrigerators/deep freezers) for 150-250 litres capacity (02 demonstration centres).
3. Assess capacity gap of the end users in terms of operation and maintenance of solar powered cooling system for the hosting cooperative /group and offer user tailored trainings.
4. **The scope of work**

The assignment will cover the following areas as detailed below.

1. **Tailored made design (sizing of the product):** The solar company will carry out the energy needs assessment for the existing cooling technology by using any relevant technology. This will inform the design of the solar powered technology for milk cooling based on the energy needs.
2. **Costing of the technology:** The solar company will quantify and cost the solar energy needs for the milk cooling system and come up with actual costs (costs of all accessories should be included) of the solar system including installation and after sale trainings. For a complete system of the solar refrigerators, it will be a full package including installation charges and this will form the product package for further scaling.
3. **Installation and testing:** The solar company contracted will carry out installation and testing of the solar technology together with the end users with warranty of not less than 02 years.
4. **Training package and product brochure:** The solar company will compile and share the training (operations and maintenance manual) guide and product features & costings that will be shared with SEFFA Project and end user that will be the basis for future engagement with farmers & cooperatives that may need to take up this technology.
5. **Deliverables**

* Conduct assessment for the energy needs for the selected sites. Energy/power needs assessment report based on the data on energy consumption shared with the project team.
* Provide detailed product design and costing for switching from existing power source to solar energy and the complete, installed solar refrigerators for small scale dairy farmer groups(products).
* Set up the **03** demonstration centres (**02** solar systems for milk/milk product cooling of 150-250 Litre capacity and **01** for milking cooling system of 1,000-10,000 litres) and train users on operation and maintenance of PUE technologies.
* Provide operations manual to the end users at the end of setting up the demonstration centres.

1. **Qualifications for the solar company**

* The Company should be having proven track record for providing sustainable PUE cooling technologies in the dairy value chain for milk and its products or already in PUE technology provision in other cooling related businesses.
* The solar company/firm should be having physical presence in Uganda for better maintenance and repair of the installed technologies.
* The solar company should be well licensed and certified by UNBS and affiliated to any solar association.
* The solar company should have a technical person/engineer with vast solar system design and installation experience on its list of employees.

1. **Timeline**

The assignment should be completed within 50 working days from the date of contract signing.

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| **Task** | **Duration** |
| 1. Product sizing (energy needs assessment) | This will last for 10 days, and report shared with SEFFA team. |
| 1. Design and installation (contract implementation) of 03 solar systems | The solar system installation will 20 days from the date of contract signing. |
| 1. Capacity building training and manuals | The training will take last 10 days of the contract duration. |
| 1. Completion of work report and field inspection by the project | This will be 10 days after completion of works. |

**NB:** The applicant should include a detailed implementation schedule with clear and realistic dates.

1. **Reporting Requirements**

The contracted solar company/firm will report to the SEFFA Project Manager that will provide feedback and guidance on its performance and all other necessary support to achieve objectives of the assignment, as well as remain aware of any upcoming issues related to service providers’ performance and quality of work. nnn

All the activities and deliverables undertaken by the service provider shall be discussed in consultation with SNV. The transport and logistical support will be catered for by the solar company and must be incorporated in the costing budget of the solar system.

1. **Application**

Interested applicants should submit their applications electronically by 25th February 2022, 5:00pm (EAT) to the EMAIL: [Ugandatenders@snv.org](mailto:Ugandatenders@snv.org), and Should clearly indicate **application for setting up demo centres in the subject line.**

