

Quality Assurance Framework for Component Based Solar Home Systems in Uganda

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The Energy for Rural Transformation (ERT) is a Government of Uganda – World Bank supported programme that started in 2001 to promote the transformation of rural areas in Uganda. The third phase of the ERT programme focuses on increasing access to electricity in rural areas of Uganda through on-grid and off-grid technologies.

Global Sustainable Energy Solutions (GSES) has been contracted by the Ugandan Rural Electrification Agency (REA) to develop the Quality Assurance Framework for the component based solar home systems.

Under ERT-3, the Uganda Energy Credit Capitalisation Company (UECCC) is managing a line of credit and guarantee facility to promote the deployment of quality-verified off-grid solar systems. The Quality Assurance Frameworks will support this objective.

GSES has five major deliverables within the project:

- Developing the interim quality assurance framework to support the existing UECCC managed loan facility.
- Undertake the implementation of this interim framework by: assessing the individual system components and system designs; evaluating installers and installed systems of 10 companies that are applying to obtain finance through the UECCC.
- Develop the interim framework into a sustainable long term quality assurance framework through identifying the structure of a committee/organisation that would continue to oversee (or manage) the framework on an ongoing basis.
- Build the capacity of Uganda National Bureau of Standards (UNBS) or a designated third-party to assess the quality of components, design of systems, warranty terms and quality of installations.
- Evaluate the current capability and identify gaps of the UNBS laboratories to support testing of component-based solar products.

Two guidelines have been developed for the Interim Quality Assurance Framework :

- Solar Home Systems - Maximum Array 1 KWp - System Design Guidelines
- Solar Home Systems - Maximum Array 1 KWp - System Installation Guidelines

A training course has been conducted on the two guidelines and a multiple choice examination was developed. Companies applying to obtain loans through the loan facility must have installers that have passed the examination and all systems shall be installed in accordance with the guidelines. Inspection of systems will be undertaken in 2020.

For the long term Quality Assurance Framework :

- Two guidelines are being developed
 - Off-Grid PV Systems - Array greater than 1 KW_p - System Design Guidelines
 - Off-Grid PV Systems - Array greater than 1 KW_p - System Installation Guidelines
- GSES will work with UNBS and stakeholders to turn the guidelines into local standards (Codes of Practice
- GSES will review the existing “Assessment and Training Package for Solar Photovoltaic Electrician” that was developed by the Directorate of Industrial Training.

This paper will provide an overview of the activities undertaken and the current status of the project.