



THE REPUBLIC OF UGANDA

RURAL ELECTRIFICATION AGENCY

MINISTRY OF ENERGY AND MINERAL DEVELOPMENT

**ENERGY FOR RURAL TRANSFORMATION
ERT II PROJECT**

**PV TARGET MARKET APPROACH (PVTMA) OPERATIONAL
GUIDELINES**

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LIST OF ABBREVIATIONS

APL	adjustable program loan
BDS	business development services
BoU	Bank of Uganda
BUDS	Business Uganda Development Scheme
CBO	community-based organisation
EoI	expression of interest
ERT	Energy for Rural Transformation Project
ESCO	energy service companies
FI	financial institution
GEF	Global Environment Fund
GPS	global positioning system
ICT	information and communications technology
IDA	International Development Association
IREMP	Indicative Rural Electrification Master Plan
MDI	microfinance deposit-taking institution
MFI	microfinance institution
MSC	Microfinance Support Centre Ltd.
NGO	non-governmental organization
OBA	output-based aid
PEAP	Poverty Eradication Action Plan
PFI	participating financial institution
PIT	pre-shipment inspection test
PSFU	Private Sector Foundation Uganda
PV	photo-voltaic
PVSC	PV Steering Committee
PVTMA	PV Targeted Market Approach
PVTS	PV test station
REA	Rural Electrification Agency
REES	REA Eligible Enterprises Solar PV
RST	random sampling test
SACCO	Savings and Credit Cooperative
SHS	solar home system(s)
UECCC	Uganda Energy Credit Capitalization Company
UNBS	Uganda National Bureau of Standards
URA	Uganda Revenue Authority
USD	United States dollars
VAT	value added tax

1. OVERVIEW OF ERT

1.1 Background

Rural transformation is a priority in the Poverty Eradication Action Plan (PEAP), as well as the National Development Plan under formulation. The PEAP depends, in part, upon provision of infrastructure and functioning social services to promote growth and reduce poverty. Low access to modern energy services and Information Communication Technologies (ICTs) is still a challenge.

In November 2001, the World Bank approved the Energy for Rural Transformation (ERT) program as a three-phase Adaptable Program Loan (APL). The purpose of the ERT program is to develop Uganda's energy and information/communication technologies (ICT) sectors, so that they make a significant contribution to bringing about rural transformation, i.e., these sectors facilitate a significant improvement in the productivity of enterprises as well as the quality of life of households.

Phase 1 of the ERT Project lasted 6 years and ended in February 2009. The aim of this phase was to develop the needed institutional framework and capacity for delivery of rural/renewable energy and ICT services in a sustainable manner. This phase was implemented successfully. ERT phase 2 was declared effective on November 25, 2009 and will run for a period of four years. The aim of the second phase is to accelerate investments and increase regional coverage by shifting from the Phase I case-by-case approach to processing sub-projects through the institutional framework developed in phase 1.

Targets that have been set for ERT II include: 109,000 connections for grid extension, 2000 consumer connections for independent grids, 30MW renewable energy generation capacity and 20,000 household and institutional solar PV systems.

1.2 The Role of the Rural Electrification Agency in ERT II

Under ERT II, the Rural Electrification Agency (REA) will be responsible for implementing the major part of the Rural Energy Infrastructure component, especially physical infrastructure development. REA will, specifically, be responsible for the following four main components:

- Publicly funded grid related power supply (i.e. main grid extension and intensification within concession footprints);
- Off-grid renewable energy investments, which include independent grids and solar PV systems;
- Support for grid connected renewable energy power generation; and
- Technical assistance and training.

The modalities adopted in Phase II are a continuation of those which were successful in delivering results under Phase I. In the case of grid extension, REA will continue financing new distribution access projects under an arrangement in which REA constructs, with Government ownership, projects that meet agreed criteria of economic and financial viability. These projects will be concessioned out to the private sector for operation and maintenance, with a provision for new expansion

through private debt/equity, possibly with a Government subsidy. Consumer connection subsidies have also been introduced in ERT II.

The off-grid subcomponent includes both solar PV for household and institutional consumers as well as independent grid systems. The PV modality is implemented under the PV Targeted Market Approach (PVTMA) which includes the provision consumer subsidies and credit finance.

1.3 Objectives

The overarching objective for REA is increased access to electricity which will be driven by the following specific objectives centered on the implementable models in place:

1. Design and implement publically funded grid extension projects to connect at least 116,000 initial consumers and targeting connection to district headquarters.
2. Design and implement independent grids to connect 1200 consumers and stand-alone PV systems to connect 20,000 consumers (REA Subprojects).
3. Facilitate grid connected renewable energy projects up to 30 MW of electricity generation from small hydro stations and other RE sources.
4. Increase REA's capacity to manage the scaled up activities in rural electrification and renewable energy development.

1.4 Scope of Activities

Each project objective will be implemented through activities spelt out below and will aim at increasing regional coverage through the use of the Indicative Rural Electrification Master Plan (IREMP) aiming to achieve stipulated targets and equitable coverage with particular attention to the underserved areas of northern Uganda. The electricity consumers that the IREMP seeks to target comprise of:

1. Economic sectors within the country, especially those where lack of access to electricity is increasing the cost of production or hampering attainment of good quality of service. These sectors are: water, health, education, water, agriculture, telecoms, mining, etc.
2. Rural settlements made up of small informal businesses covering a huge range of activities, including agriculture, livestock, food processing, shops, salons, restaurants and hotels, computer centers, video halls, garages and banks. Domestic households within settlements could make up further connection numbers.

1.5 PV Targeted Market Approach (PVTMA)

a) Brief overview

The mechanism for accessing solar PV systems under ERT I was designed to be purely commercial, with PV companies doing the marketing, selling and installing of systems. The Private Sector Foundation Uganda (PSFU) through the Busines Uganda Development Scheme (BUDS-ERT) provided business development support (BDS)

and sales-based performance grants to PV companies. This mechanism/strategy for solar PV market development was centred on the assumption that given the appropriate grants, solar companies would, in the spirit of free enterprise, accelerate market growth and even realize the ERT targets. However, due to several bottlenecks/barriers, solar companies to date have not managed to penetrate or open up significant new markets as envisaged and very few have invested in a rural infrastructure as expected. Most of the major solar PV companies remain Kampala-based.

Some micro-finance institutions (MFIs) have engaged in solar loan schemes with varying results. Among microfinance deposit-taking institutions (MDIs), only FINCA has shown interest in penetrating the solar market; some MFIs, specifically Savings and Credit Cooperatives (SACCOs), have engaged in some solar PV business, but the practice is not widespread. In most cases, all these players are constrained by capital, market development, institutional capacity and other micro and macro economic factors.

Although a start has been made, the market for solar PV has not yet been transformed to close the gap between the very large potential demand in rural areas and the suppliers, who are not yet operating in those areas.

b) Barriers to solar uptake in Uganda

After extensive consultations with stakeholders, the following barriers to rapid uptake of solar PV have been identified.

- **Cost and poverty:** Solar PV systems are expensive to buy both from an upfront investment perspective and in absolute cost terms, relative to the levels of disposable income and competing needs of the rural population. The indication was that even where credit is provided, the ultimate cost of a solar system is worsened by high interest rates charged by micro-finance institutions in Uganda (typically 2.5-4% per month flat rate). Furthermore longer periods of repayment only worsen the cost outlay as interest rates are flat. In the majority of cases solar PV is a consumer product, rather than used to generate additional income. In many cases a deposit or part-payment is required from a purchaser of a solar system in order to qualify for a loan. The problem with this requirement is that most rural households prioritize food, education and health, and even then the resources are rarely enough.
- **Education on solar PV systems:** One of the barriers to development of the PV market in Uganda is that rural commercial marketing and distribution networks for PV are largely absent. The PV companies in Uganda are stuck at a low level equilibrium of low sales volumes and high prices with large unit margins. The companies are small, entrepreneur driven, with limited financial capabilities. They have neither the resources nor the risk appetite for major investments on their own in rural marketing and distribution. Their promotional efforts are limited, and insufficient to address market perceptions of poor quality of PV generated power and unwarranted expectations of possibilities of grid connections. Although a good proportion of rural consumers are aware of solar PV as a technology, they have no details on its capabilities, limitations or even sources of the equipment. It is still an alien technology and only very sustained education and exposure results in a

credible sale (meaning a sale based on absolute trust, where the buyer believes they have received value for money). Most buyers harbour suspicions of being conned. Another major observation was that in most cases solar PV is marketed by people who are absolute strangers to the target market, unlike many other products where sensitisation of farmers and rural folk is carried out by trusted partners like NGOs, CBOs and local authorities.

- **Financial risks:** Because of the high capital outlay, solar PV is considered by both the cash buyer and credit buyer as a risky asset. In addition, product guarantees are rarely passed on to the consumers if explained at all. Resale value is poor – in general solar PV is highly illiquid as it does not have an active second hand market (a consumer thus ranks solar PV lowly in comparison to other household goods which can be sold quickly to save the family). On the other hand the micro-financiers, for the same reasons, categorise solar PV as carrying a high credit risk. In addition, buyers tend to blame the financial institution and stop repaying loans when the systems fail or get broken. Moreover where a financier is willing to ignore the risk factors, there are statutory collateral requirements and financial institutions need to meet certain performance ratios, which sometimes can be aggravated by issuing unsecured loans.
- **Physical risks:** In recent times cases of theft of panels has been on the increase. This has scared off some potential customers, while causing loss of investment for others. There exists no standard insurance package for solar PV systems, hence the risk remains high for both the lender and buyer of solar PV. Service and maintenance is out of reach and there is inadequate rural presence of solar PV equipment and service providers. PV consumers continue to complain about lack of technical support on the ground. This leads most financial institutions to be wary about viability of a solar PV lending programme.
- **Institutional frameworks:** Arrangements and market structures to ensure an efficient market are weak. Partnerships are difficult to create and sustain, even though they are a necessity. Solar PV companies have struggled to convince financial institutions that they can make credible technical partners, while MFIs and MDIs have not been able to convince solar PV companies they have the numbers that would warrant additional investment by the solar PV company in the regions served by the financial institutions.
- **Quality of solar PV systems:** Quality control is low both at the importation and local production levels (for local components), as well as in field dissemination. Hence financing institutions are concerned about the welfare of their clients who may receive poor systems. It also gives a poor reputation of the product in the market, with consumers condemning the technology without realising that not all companies engage in poor systems.

c) Critical Conclusions on Solar PV Market Development in Uganda

Based on the identified barriers above, six key characteristics were suggested by stakeholders as being key to a successful solar PV market development effort in Uganda.

- **Subsidy to the end-user:** Each stakeholder type consulted indicated that this cannot be ignored; otherwise numbers would never be achieved. One MDI indicated it had been marketing solar PV for the past three months without a single sale and believes absolute cost is a major factor. One problem is that consumers cannot readily assess the quality of the products and services being offered against the cheaper but lower-quality products also available in the market.
- **Subsidy criteria and channelling:** Another observation made is that subsidies via service providers in the form of reduced system prices do not elicit effective demand primarily because the consumer does not 'see' the subsidy. In addition, the consumer is not privy to setting of solar PV system prices and always believes the best deal could have been better.

Due to the difficulty in controlling subsidisation through such a structure where there is no standard price, it has been suggested that *consumer subsidies should be disbursed through financial institutions and made available only to solar PV loanees*. One of the key considerations is the difficulty of administering a customer subsidy system for cash customers.

Further, *subsidies should be based on socio-economic parameters of consumers and therefore should be graduated based on the size of solar home system acquired*. It is assumed that low income earners are inclined to install smaller systems

The general observation from the PVTMA operations to date is that out of a possible 33 solar companies (that had been approved by the PV Supervisory Group by closure of ERT I), only six have participated in PVTMA so far and the number of installations for most individual companies (among the active ones) has considerably gone. The reduction in number of installations and perhaps non participation by some companies could be attributed to, among others, the delay in payments (PVTMA progress report, July 2010).

The mode of payment where the financial institution has to wait for the audit report to make disbursement of loan and subsidy ties cash flows for the solar companies and cripples capacity to mobilize next orders. In addition, this affects cash flows and repayment of financial obligations and may affect capacity of REES to attract capital from potential financiers. This view seems to be true as we have seen more installations through FINCA as compared to Post Bank. At FINCA, as soon as installations have been made, payment for the credit part (including customer's contribution) is made to the solar company as the audit is awaited to disburse the subsidy; whereas Post Bank waits for the audit report to disburse both the loan and the subsidy. In order to ease the cash flow for the PV company, the customer cash (price minus subsidy) should be paid to the PV company immediately after installation while payment of the subsidy awaits end-user audit and verification report.

- **Education and direct marketing:** In order for potential demand to be converted into effective demand, customers must be enabled both financially and education-wise. The point of debate is however the medium and channels through which education is imparted. A successful local NGO operator

suggested that attitudes are changed easier and purchasing decisions made faster when the marketer is perceived by the recipient of product information as trustworthy. Open market messages on solar PV e.g. through radio and TV are impersonal and do not always lead to a buy decision, even though awareness is increased.

The proposal is, therefore, *to undertake grassroots sensitisation through established communication structures, for instance extension workers in the agricultural sector, or NGO and CBO trainers*. Solar PV companies can team up with such an infrastructure to deliver education on solar PV. The challenge however is that players in such channels are not necessarily stakeholders in the solar PV sector and would not be willing or have the finances necessary to leverage marketing funds (for instance as required by PSF/PSFU). *Their efforts would need to be 100% grant financed.*

- **Finance and guarantees to financial institutions (FIs):** Availability of affordably priced credit, while not addressing all the risk factors, has been suggested as having significant impact on both perception of cost of a solar system and reduction of competition between solar PV and other needs. *Most SACCOs indicated they need loans to capitalise their solar loan portfolio. The loans would need to be lowly priced to enable the SACCOs give concessions on the interest rate in order to make the solar loan product attractive.* Another prohibitive factor is the one-loan-per-customer policy of some MFIs. No farmer will take a solar loan if they are aware it may impede on their ability to access another 'more important' loan. MFIs have indicated that the most practical way of ensuring that solar loans are available as a second loan is to have dedicated funds for that purpose.

To address these concerns, regulated financial institutions such as MDIs may apply for refinancing from the Uganda Energy Credit Capitalization Company (UECCC) to provide PV loans to consumers and working capital loans to and REA Eligible Enterprises Solar PV (REES). For SACCOs and other MFIs, Microfinance Support Centre (MSC) has funds available for solar PV at a concessional wholesale interest rate.

- When FIs have their own financial resources to lend, they have expressed desire for a *risk-sharing guarantee* to reduce the need for conventional collateral requirements (normally over 100% cover). At present, such guarantees are not available but could be considered.
- **Strengthening rural infrastructure:** Micro-financiers have expressed the desire to see rural solar PV distributors and installers get strengthened to be able to provide proper after sales service. It is however important to ensure that these rural dealers have a strong supply source and their personnel are properly trained on technical aspects. Proper installation may also deter theft of panels. Rural solar PV dealers also require capital to stabilise their operations, as their business outfits are normally very small.
- **Government intervention:** It is considered that government input is needed for the Uganda solar PV market to progress as quickly and as vastly as desired. Elimination of financial and institutional barriers as well as risks

associated with lack of proper solar PV systems service infrastructure are suggested to be areas where REA should intervene strongly.

d) Launch of PVTMA programme

Noting the slow progress of meeting the electrification goals, the Government of Uganda, through the Rural Electrification Agency (REA) launched the PV Targeted Market Approach (PVTMA) in July 2008 to scale up uptake of solar PV. The main focus of PVTMA is to accelerate the uptake of solar PV through: (i) a targeted market approach; (ii) promotion of consumer credit; (iii) provision of consumer subsidies to address affordability and stimulate demand; and (iv) incentives/support to suppliers and PFIs.

During ERT II, REA will facilitate the solar market development under the PVTMA framework by disbursing consumer subsidies through participating financial institutions (PFIs) and PV companies, and promotion of credit and savings schemes for solar PV consumers through PFIs. In addition, REA will support Energy Service Companies (ESCOs) and leasing companies to establish fee-for-service business models. These efforts are expected to result in 20,000 PV installations and contracts and in a more sustainable market in rural areas.

e) PVTMA Strategic objectives

The overall objective will be to increase outreach and sustainability of markets for solar PV products. Specifically, PVTMA will aim to increase solar PV uptake through:

- Addressing affordability by providing consumer subsidies;
- Targeting specific markets to increase awareness and demand, to achieve targeted numbers;
- Facilitating development of rural outlets for solar dealers, to reduce transaction costs and improve after-sales service;
- Facilitating PFIs to enhance their capacity to provide affordable services and to support clients in accessing solar PV products.

2. IMPLEMENTATION OF SOLAR PV UNDER ERT II

2.1 Off-grid Renewable Energy Investments

This component includes both solar PV for household and institutional consumers as well as independent grid systems. For purposes of these guidelines, focus will be on the solar PV sub component which will be delivered under the PVTMA framework.

Projects in this category are considered as REA Subprojects and are explained below

2.2 REA Subprojects

A REA Subproject is an investment in the supply of solar photovoltaic systems to commercial institutional or household customers or an investment in off-grid mini

hydropower projects. A number of other terms will apply specifically to this category: REA Eligible Enterprise, REA Subgrant and REA Subgrant Agreement.

REA Eligible Enterprise: means a private sector enterprise, operator or investor, which has met the eligibility criteria defined in this document. There are two types: Hydro and Solar PV.

REA Subgrant: is a grant or subsidy given for investments in this category.

REA Subgrant Agreement: this is an Agreement between REA and the REA Eligible Enterprise.

2.3 Installation of Solar Systems for 20,000 Consumers

a) Strategy

With regard to solar PV, the focus of ERT I was on institutional sales to rural health, education and water facilities, with limited household sales. During the course of ERT I, the Photovoltaic Targeted Market Approach (PVTMA) approach was added to facilitate household sales. The PVTMA will use a combination of IDA and Global Environment Fund (GEF) funds to co-finance sales to households and non-government institutions. Besides subsidies, the PVTMA approach includes consumer finance for the purchase of household sales, with the commercial risk taken by the lender. Overall, about 20,000 households are expected to receive solar PV service.

b) Selection criteria

Solar PV Stand Alone Systems are proposed for domestic and institutional consumers located outside of denser settlements, where loads cannot be economically aggregated together into larger viable projects. There are two categories of beneficiaries for the ‘stand alone’ systems, namely: (i) off-grid regions far away from planned grid extensions in the near future; and (ii) low population density areas, very close to the grid, but outside of the immediate access zone within which grid electrification is cost effective.

c) Photo Voltaic Targeted Market Approach PVTMA framework

The REA facilitation of the solar market development is to be undertaken under the Photo Voltaic Targeted Market Approach PVTMA framework. This facilitation will entail disbursement of consumer subsidies through financial institutions, PV companies and others; promotion of consumer credit and savings plans; training of personnel in all agencies involved; and incentives and support to solar PV companies in extending outlets and services in rural areas. PSFU will provide support to regulated PFIs towards development of solar loan products, roll out and awareness creation activities and training of personnel in the energy business while REA shall support non regulated FIs such as SACCOs. In addition, training in solar technology will be carried out for PFIs to enable them to better handle consumer credit for PV. PV utility companies using the fee-for-service model will also benefit from the subsidies (to lower the consumer fee/tariff).

REA will actively participate in identifying target markets, structures and players, as well as packaging and monitoring PVTMA initiatives. REA will also adopt a Grassroots Approach, under which Partnerships will be established/promoted between REA and the Rural MFIs, NGOs, CBOs and Private Commercial Companies. In key targeted areas where the market development approach proves ineffective, REA may adopt a Target Market Initiative to undertake direct contracting.

2.4 Implementation Guidelines

The organization of the solar PV market in ERT II will hinge around addressing the key issues of affordability, quality and rural presence building on the experiences of ERT I. REA will work in close partnership with the solar PV companies to be prequalified in accordance with the criteria described this document; as well as financial institutions. Private PV companies (including NGOs or other entities in the PV business) will be required to market, sell or provide on a leasing or service basis and install PV products and provide after sales services. Consumer subsidy and availability of affordable credit services will address affordability on the side of consumers and stimulate demand for the solar PV.

2.5 Specific Activities to Be Undertaken by REA

The specific activities will include:

a) Prequalification of interested entities

The prequalification of companies will be done to identify *REA Eligible Enterprises Solar PV (REES)*, in accordance with the Eligibility Criteria (see Annex A). Eligible companies will be Uganda based entities that are investing in PV market development and who have the potential to increase sales and expand into new areas. These entities will include private companies, non-governmental organizations (NGOs), Microfinance institutions and others. REA will monitor the REES for technical and financial performance. Annual subsidy agreements will be signed with the REES renewable upon satisfactory performance.

Building on the experience of ERT I, the criteria and application forms have been developed for use in the PVTMA program (Annexes A and M). As a point of emphasis, the applicant (potential REES) will be expected to (i) indicate the market coverage i.e. whether it is entire country or specific districts, and (ii) to indicate the existing or planned branches/dealers. To ensure effective participation of rural solar dealers in the PVTMA program, different application criteria will be used for Kampala-based dealers and rural-based dealers.

In order to be prequalified in the PVTMA as a REA Eligible Enterprise Solar PV, a company shall respond to an Expression of Interest by applying to REA. The expression of interest shall include (see Annex M):

A. Kampala-based Enterprise

1. A completed Application Form (S1K)
2. Certificate of Incorporation, Certificate of registration, Partnership registration or Business Name registration, whichever is applicable

3. Certified copy of Memorandum and Articles of Association,
4. Company or Organizational Profile – indicate clearly the nature of business or work and solar distribution activities and network – current and planned (location of business outlets, branches, agents, or franchises).
5. Trading license and Letter from Local Council confirming solar activities being undertaken by the applicant in the area.
6. List of products and specifications, list of suppliers, their addresses and copies of valid certification of their products.
7. List and CVs of key technical staff.
8. Letter of commitment to provide warranty and after sales service (copies of warranty forms if already available)
9. Business plan summary (Form S3)
10. Copy of latest audited accounts for two years
11. Bank reference letter(s) giving an opinion of financial standing, credit rating

B. Rural-based Enterprise

1. A completed Application Form (S1R)
2. Certificate of Incorporation, Partnership registration or Business Name registration, whichever is applicable
3. Certified copy of Memorandum and Articles of Association (if applicable),
4. Company or Organizational Profile – indicate clearly the nature of business or work and solar distribution activities and network – current and planned (location of business outlets, branches, agents, or franchises).
5. Trading license and Letter from Local Council confirming solar activities being undertaken by the applicant in the area.
6. List of products and specifications, list of suppliers, their addresses and copies of valid certification of their products.
7. List and CVs of key technical staff.
8. Letter of commitment to provide warranty and after sales service (copies of warranty forms if already available)
9. Copy of latest management/financial accounts
10. Reference letter from a bank or other financial institution indicating availability of an account with the financial institution; or a statement that the applicant does not presently have a bank account

REA will evaluate the Expressions of Interest and shortlist qualifying companies that will be requested to submit a detailed business plan in the case of Kampala-based enterprises and a summary in the case of rural-based enterprises (see Annexes **N** and **O** for templates of business plan summary [Form S3] and guidelines for detailed business plan [Form S2]), that shall include;

- i. A market development plan including target customers, proposed geographic area of operation, physical distribution network and consumer financing arrangements.
- ii. Arrangements to grow its business, by for example expanding its service network or increasing its marketing efforts in existing market areas.
- iii. A financial plan demonstrating that the applicant's operations would be commercially viable, with explicit disclosure of sources of external funding (such as equity infusion, commercial borrowings, grants etc)

- iv. A satisfactory consumer protection plan, including a return policy, warranties, money back guarantee applicable within a stipulated period and adequate after sales networks
- v. Adequate arrangements for staffing, including trained technicians in solar PV.
- vi. List of PV products to be marketed which meet Uganda Standards and supported by relevant documentation.
- vii. Prices of PV products to be marketed. The price can be reviewed bi-annually
- viii. Evidence of a business outlet with sufficient stock in the proposed area of operation (or plans to establish one)
- ix. Adequate safeguard for safe disposal of used batteries and fluorescent bulbs

The entities will be prequalified for a particular area where they have adequate capacity to market, supply install and maintain solar PV systems. The pre-qualification exercise shall be made flexible so that provisional approval can be given to REES to open up a new outlet in a new area and seek orders; upon verification and proof by REA, the REES shall be approved to operate in that area.

Unregulated MFIs such as SACCOs and NGOs that wish to partner with REES for purposes of participating in the PVTMA will not be pre-qualified, but the REES will seek a ‘no objection’ from REA to partner with such MFIs to enable REA to assess the capacity of the entity to participate in PVTMA. MFIs will be approved if they are clients in good standing of the Microfinance Support Centre Ltd. (MSC) or if MSC evaluates them and confirms that they meet MSC’s lending criteria for a mature SACCO or MFI.

REA Eligible Enterprises Solar PV (REES) will be responsible for marketing, supply, installation and maintenance of PV systems (solar home systems, commercial systems and institutional systems). Once prequalified, the REES may apply for business development support from Private Sector Foundation Uganda or other sources to facilitate establishment of rural outlets. REES may also apply for loans for working capital for their PV business from Participating Financial Institutions refinanced by the Uganda Energy Credit Capitalization Company Ltd (UECCC) or from MSC. It should, however, be noted that working capital issues on the side of solar companies are handled in normal (lending) relationships with financial institutions. Companies with collateral and or good relationships with commercial banks will normally receive good terms for both loans and overdrafts.

b) Strengthening rural infrastructure

REES will be facilitated to establish rural outlets, after sales operation and maintenance services. This will be done through the BUDS-ERT Component under PSFU and any other available support in a commercially sustainable manner. Through PVTMA, REES will not be allowed to supply markets where they do not have sales and service outlets in the region. Rural-based solar PV entrepreneurs (agents, franchisees, etc.) will be encouraged to participate as long as the installations meet PV standards. Separate criteria for prequalification of rural solar PV dealers (described above) will be used to encourage rural dealers to participate in the PVTMA Programme.

PSFU will provide output based support to REES to partly defray the cost of establishing outlets in rural operating areas. A rural operating area will be as per definition for the ERT program (PSFU will provide detailed criteria). The support will be intended to cover the cost of developing the market and establishing a local outlet. In addition, PSFU will provide training for technicians that will service these rural outlets.

PSFU will also provide capacity-building support to regulated PFIs. Eligible activities will be the development of solar loan products, roll out and awareness creation activities, and, training of personnel in energy business. The support will be in the form of a grant on either re-imbursement basis or direct payment to the service providers.

Specifically, PSFU will provide grants to suppliers (separate from the consumer subsidies) as a reimbursement against approved expenses of opening up a new outlet in an underserved rural area (up to a specified limit); administered as part of PFSU's capacity-building mandate, along with grants to PFIs for branching out into rural areas. PSFU will disburse these grants in two tranches: (i) Half as 50% reimbursement of documented, approved expenses undertaken; (ii) Half (which will be reimbursement for the remaining half of the expenses already documented) on the basis of performance, i.e., per system installed above 250 systems based on the a base target of 500 systems per new rural area; and (iii) for these new outlets, allow direct cash sales to customers (i.e., without passing through PFIs) to qualify for these performance-based reimbursements).

Similarly, non-regulated financial institutions (e.g., SACCOs), will be supported by REA. Eligible activities will be the development of solar loan and savings products, marketing and awareness creation activities, and training of SACCO personnel in energy business. REA will provide training to the personnel of participating PFIs. Other support to the SACCO will be in the form of a grant to be determined on either re-imbursement basis or direct payment to the service providers.

c) Targeted PV market segments.

In order to open up underserved regions that have lagged behind in solar PV market development, a special grant program will be implemented by REA through tendering specific target market segments. The selected REES will access pre-agreed grants for operating in a particular market. This is in addition to subsidies for the customers. The grants shall be disbursed on an output-based aid (OBA) basis. The key criteria for setting target regions shall be that one that they have not attracted any REES under the market-based approach and are included in the IREMP (see [Annex I](#)).

d) Management of consumer subsidies

In order to reduce the cost of PV systems, consumers will receive a subsidy on installed PV systems. Solar Home Systems (SHS) of capacity up to 50W including solar lanterns will be eligible for a subsidy of USD 5.5/Wp provided the household is located more than 100 meters from a low voltage reticulation network. The subsidy for solar home systems shall not exceed 50Wp or an equivalent of USD 275.

For transparency, monitoring, and to minimize misapplication of funds, the subsidy to consumers will be channeled through regulated financial institutions or directly through the participating REA Eligible Enterprises Solar PV for clients of participating MFIs. Provision of a subsidy for solar lanterns (that are not part of SHS) will depend on putting appropriate mechanisms in place to guarantee quality and reduce audit costs.

Institutional and commercial systems not financed by Government or Development Partners will be eligible for subsidies provided the facilities are located more than 100 meters from a low voltage reticulation network. The subsidy for institutional and commercial systems is USD4/Wp for systems of a capacity up to 500Wp. The subsidy for institutional and commercial systems shall not exceed 500Wp or an equivalent of US\$2000. Institutional and commercial systems installed through both cash and credit sale are eligible for subsidies.

The PV installations will be subject to audit and verification before disbursement of subsidies to consumers. REA will contract competent individuals 'on call basis' to provide services of end-user audit and verification of solar PV installations (details of end-user audit services are attached in Annexes P and Q). A database of all subsidized installations will be developed. In addition REA will establish a monitoring system to track PV systems selling prices for all participating companies to ensure they are within market range. REA will also carry out periodic sample post audit spot checks to verify the auditor's findings and functionality of installed PV systems, and to assess customer satisfaction with maintenance and after sale services from REES.

e) Mode of disbursement of the subsidy

The consumer subsidy for solar PV will be managed at REA. The subsidy will be made per installation in accordance with the set criteria and it will be disbursed to the solar PV Company after installation. The payments will be made based on payment requests submitted by a REES or participating regulated financial institution to REA together with a list and supporting documentation of sales and installations. The subsidy will be disbursed (i) upfront in quarterly installments (replenished on full accountability of preceding installments) to regulated financial institutions (MDIs and Microfinance Banks) participating in the PVTMA, and (ii) directly to REES approved to participate in the PVTMA in case of consumers accessing PV loans or savings plans from non-regulated financial institutions upon verification of installations. REA and or regulated financial institution, after receiving a successful end user audit report (see, discussion of compliance monitoring, below), would approve the payment and process the payment direct to the company's bank.

In order to encourage participation of more REES and increase solar PV connections, REA will adopt the FINCA model of disbursement described above (Section 1.5.c) for those REES that have a satisfactory track record of at least 25 installations in six months. The customer amount (price less subsidy) will be paid to the company immediately after installation and then the subsidy will be disbursed upon end-user audit and verification of the installation. However, an appropriate amount will be retained to be paid upon evidence of the mandatory after sale service visit.

The steps are as follows:

- i. Pre-qualification of eligible REES for the PVTMA to be used as channels of the subsidies to consumers including establishing eligibility criteria
- ii. Orders for installations submitted to REES through PFIs when clients have met their obligations
- iii. System installed; customer signs off,
- iv. PFI endorses, pays customer and loan amount to REES
- v. Verifying PV systems to ensure they are installed and meet agreed PV standards. Auditors will be contracted to inspect installed PV systems
- vi. Disbursement of the subsidies to REES (less amount withheld for performance of mandatory after-sales service).
- vii. Development of a database of installed PV, to be continuously updated
- viii. REES undertakes maintenance visit (or service call, if requested) and provides documentation to REA
- ix. Disbursement of retained subsidy to REES.

f) Compliance monitoring

A strong, independent end user audit and compliance monitoring capability is a key requirement not only for ensuring proper use of funds but also for maintaining private sector confidence in competitive market development. REA will be responsible for establishing arrangements, acceptable to the Bank, for:

- Due diligence on business and market plans and other upstream support provided to firms. NGOs or others who will be independent of the sector and the business or other interests involved will conduct this due diligence. Each company would agree to allow access, upon request, to such representatives of REA or others designated by the Bank, to their business premises and to disclose, upon request, their records of sales, installations, complaints, repairs and warranties.
- End-user audits on a routine basis prior to approval of payment of consumers subsidies.
- Complaint-based audits in cases of reports of solar company failure to comply with requirements, including customer after sales service and warranty obligations.
- Other monitoring to ensure that the companies are complying with the pre-designated technical, after-sales service and consumer protection standards, and that, customers are satisfied with their units.

g) Actions in the event of non-compliance

If any company is found to be not in compliance with the PVTMA guidelines, immediate action would be taken,

First, there may be isolated and contained incidents of non-compliance, resulting, for example, from management, internal control or quality control deficiencies. For this type of non-compliance, the PV Steering Committee (PVSC) convened by REA would give the REES an opportunity to remedy the problem within a given time period. If the PVSC finds that the dealer does not meet the timetable, or if there are repeated incidents

of non-compliance, REA, on the advice of the PVSC, may classify the non-compliance to be in the second category.

The second category of non-compliance comprises those in which the company has committed fraud, or has an extensive incidence of non-compliance with the guidelines, such as technical specifications or after-sales services. In this case, after receiving the report and recommendations of REA, PVSC would take appropriate steps to exercise the remedies available to it, including suspending the REES from the PVTMA programme which would imply REA terminating subsidy disbursements in respect of specific dealers.

In summary, penalties for non-compliance will range from withholding of the subsidy, replacement of PV components or entire system, re-installation of the system, to cancellation of the subsidy agreement and suspension from PVTMA programme, depending on the intensity of non-compliance. In case of PV component or system replacement, attributed to non-compliance, the REES will have to bear the cost of re-auditing the said installation.

h) Promotion of Consumer Credit and Savings for Solar PV

REA will conduct awareness campaigns aimed at promoting consumer credit in partnership with financial institutions in order to spread the upfront cost of PV that would otherwise have been met by consumers. PFIs will also be encouraged to develop savings plans to help customers meet their targeted contributions or minimize interest costs. Participation is open to both REA Eligible Enterprises PV, regulated FIs (such as MDIs), and un-regulated FIs (such as SACCOs)..

There will be no pre-qualification of regulated FIs such as MDIs wishing to participate in PVTMA. REA will obtain a list of regulated financial institutions from Bank of Uganda and encourage those with potential to provide micro loans to participate in the PVTMA programme. The regulated FIs wishing to provide consumer credit and disburse consumer subsidies will submit a proposal to REA. The proposal shall contain a market development plan including target customers, proposed geographic area of operation, physical distribution network and description of credit. The financial institution will be required to partner with REES, which will be responsible for supply, installation and maintenance of PV systems. Upon approval of participation, REA will execute a Subsidy Agreement with the regulated financial institution that will be a basis for disbursement of the subsidy (see **Annex K**). Regulated FIs such as MDIs may apply for refinancing from the Uganda Energy Credit Capitalization Company (UECCC) to provide PV loans to consumers and working capital loans to REES.

Similarly, un-regulated FIs such as SACCOs and NGOs will be supported to disburse solar PV loans to their customers. Upon approval of participation, REA will execute a Subsidy Agreement (see **Annex L**) with the respective REES that will be a basis for direct disbursement of the consumer subsidy to the REES. REA will collaborate with MSC, which has funds to provide lending capital to SACCOs at a concessional rate.

In addition, REA will facilitate awareness creation and marketing of solar PV loans as well as build the technical capacity of PFIs to handle solar PV technology. REA will,

in collaboration with MSC, hold regional workshops targeting SACCOs and their clients in the respective regions to sensitize them on and promote the solar PVTMA operations. REA will also provide training to the personnel of participating PFIs. Individual SACCOs shall also be supported to develop and market solar loan and savings products, upon approval of suitable grant proposals.

i) Facilitate Non-solar PV and non-MFI companies to provide alternative credit mechanisms

In order to increase credit options for consumers, REA will work closely with income-controlling private and public sector companies to persuade them to offer alternative credit mechanisms (see Annex H). These include: (i) strong corporations employing large numbers of staff, and (ii) private companies engaged in the value chain for a large number of farmers. Such income-controlling companies will be able to avail a means of repayment, through a *check off* system, for solar PV installations offered by solar PV companies on credit.

j) Promotion of fee-for-service model

REA will support Energy Service Companies (ESCOs) and leasing companies to establish fee-for-service business model. In this model, the company installs the PV systems in a defined geographic location and charges a monthly fee to consumers for the energy services but retains ownership and the responsibility of maintaining the PV system. PV systems installed under the fee-for-service model will be eligible for capital subsidies at USD 5.5/Wp for PV systems of up to 50Wp and USD 4/Wp for institutional and commercial PV systems of up to 500Wp.

REA will be responsible for:

- i. Reviewing business plans and feasibility studies to determine eligibility for subsidies
- ii. End-user audit and verification to ensure that PV systems exist and are installed according to standards
- iii. Disbursement of capital and connection subsidies

k) Provision of subsidies for targeted consumers without borrowing

In order to include targeted (low-income, rural) customers who may not wish to borrow or do not meet PFIs' requirements for a loan, subsidies will also be available to those who enter into a savings plan of six months or more with a qualified PFI, which will enable them to accumulate the entire cash price of the SHS, less the subsidy.

Specifically, REA will provide \$5.5/Wp (up to 50Wp) as a consumer subsidy only, across the board, on sales through PFIs, including a Solar Savings Plan for consumers who wish to pay cash instead of borrowing, with the provision that the installation should take place at least six months after opening the account; this will enable cash customers to access the subsidy if they desire, but only by going through the PFI and waiting at least six months. This is intended to minimize incentives for companies to collude and to focus exclusively on higher-income, cash customers. The PFI should maintain records on when the savings plan for SHS was initiated, and authorize

installation only when six months have passed and the required amount has been saved. REA will assist in developing a standard Solar Savings product to assist PFIs in marketing this approach.

I) Public awareness, education and stakeholder consultations

To ensure fair competition (and its benefits of fair prices and quality products) in the solar PV sector, REA will (i) Prequalify many solar PV companies, and (ii) promote end-user awareness. REA will conduct promotional and awareness raising activities (in some cases jointly with key facilitating stakeholders) that will raise the levels of interest in PV products in consumer and institutional market segments, and increase their confidence in the certified PV products and services supplied by the approved REES. A brochure of do's and don'ts of solar PV technology, that includes a list of approved companies, will be developed and disseminated to all stakeholders. In addition, generic promotion will be carried out through media (electronic, print) programmes. REA will establish consultation arrangements with the PV industry and financial organizations, including microfinance organizations, that will be effective in ensuring that industry and financial sector views are taken into account in activity planning and implementation arrangements. REA will hold regular continuous dialogue meetings with key stakeholders including participating REES and financial institutions to get feedback from implementation, discuss progress and challenges and chart a way forward. This continuous dialogue was considered a key success factor in the Sri Lankan solar PV market development implementation experience.

REA will also implement PV market and consumer survey activities, including workshops, joint field visits, and direct consultations with financial organizations and cross sectoral interests, to ensure that broader financial and market intelligence is fed back into the planning and design of business service activities. Through these consultative arrangements and market survey activities REA will strengthen its broader services promotion activities.

2.6 Environmental and Social Safeguards

All investments under REA will be subject to environmental and social safeguard compliance, in accordance with the frameworks that have been developed and explained in the ERT II Operational Manual Section 6 Safeguards Policy.

2.7 Institutional Structure

a) General

REA has reinforced its structure in critical areas to be able to handle Phase II effectively. *The Investment Planning & Promotion Unit* will continue to manage the project development process. It is headed by a Manager. It shall be supported by outsourced technical specialists (Engineers) who will prepare the Terms of Reference, review design reports and conduct evaluation of proposals. The *Project Development and Management Unit* will continue supervising construction/installation works. Projects normally have outsourced consultants, who have helped in the design and subsequently supervise the implementation phase. The *Finance and Administration Unit* will handle the Project's Accounts section. It will also oversee procurement matters of its Procurement Unit, which will be directly handling procurement. The

Procurement Unit has been strengthened through the recruitment of another Procurement Officer. An experienced Procurement Consultant shall be hired to train the procurement staff.

b) PVTMA- Institutional Structure

PVTMA is a solar market development framework put in place by REA. It is an umbrella under which various institutions will come on board to develop the solar market, on commercial terms.

At REA, PVTMA falls under the Investment Planning and Promotion Unit and is managed by the PV Project Officer. An MFI Liaison Officer is to be recruited to support this Officer already in place. Outsourced auditors will be engaged to verify installations. The various stakeholders/players envisaged to participate in the PVTMA, together with their roles, are summarized in [Annex B](#).

2.8 Quality Management

a) Quality control

Like any other energy product, solar technology is a capital intensive investment, it requires high initial upfront cost, and yet the potential market comprises of largely rural poor households with competing needs, and low levels of know-how. Quality control is therefore necessary to ensure value-for-money and sustainability in the roll out of solar PV.

Quality of solar PV systems will be a major concern while implementing the PVTMA programme and will remain an important activity for REA, as poor quality or non functioning systems will continue to create a negative image of the entire PVTMA programme and the solar technology in particular. Therefore, REA in collaboration with relevant institutions (UNBS, URA, etc) will ensure that all REES comply with set quality standards during importation, system integration, installation as well as maintenance phases.

With support from PSFU during ERT I, the Uganda National Bureau of Standards (UNBS) developed and gazetted standards for solar PV components as well as installation. REA will ensure that these standards are effectively communicated to all stakeholders (particularly the REES). REA will also work with UNBS to develop standards for small PV systems such as solar lanterns, drawing from experience of the Lighting Africa Programme.

REA will facilitate quality enforcement during system integration and design, installation and after sale services. REA has already made system configuration for eight different sizes of PV systems as a guideline to REES. However, in case a customer requires a system size outside the given configuration; REES will design the system but shall be required to seek concurrency from REA on system configuration before installation to the client. In addition, competent end-user auditors will be contracted by REA to audit and verify the solar PV installations before subsidy disbursements. These auditors will be contracted and paid directly by REA and called

upon to verify installations on a need basis. It is anticipated that business will be enough to keep these auditors busy to avoid drop outs.

Specifically, the auditors will be required to confirm,

- existence and functioning of the solar PV installation
- that the components of the system conform to agreed standards
- that the installation of the PV system conforms to the set standard
- that the customer received user education, manual and contact of the REES

An important factor in the success of the PVTMA will be strict enforcement of the carefully determined quality and design standards. Enforcement of quality standards will be achieved by imposing penalties for non-compliance found during end-user audit and verification. Penalties will range from withholding of the subsidy, replacement of PV components or entire system, re-installation to cancellation of the subsidy agreement and suspension from PVTMA programme, depending on the intensity of non-compliance. In case of PV component or system replacement, attributed to non-compliance, the REES will have to bear the cost of re-auditing the said installation.

b) Regulations and procedures of quality control

A PV Steering Committee (PVSC) will be established at REA, members of which will be acceptable to the Bank. The members of PVSC will comprise of representatives drawn from key facilitating stakeholders including REA, Ministry of Energy and Mineral Development, PSFU, UECCC, UNBS, Financial Sector (regulated and non regulated) and business sector. The Committee will be responsible for pre-qualification of REES to participate in the PVTMA programme in accordance with the set criteria. PVSC will be charged with overseeing progress and quality issues in the solar sector and disciplinary actions for REES that do not comply with agreed quality standards. Annual subsidy agreements will be signed between REA and REES and will be reviewed annually based on performance, both technical quality of PV products and after sale services and numbers of PV installations against set targets.

The REES will be required to employ trained and experienced solar technicians who will be required to install PV systems and provide use education and after sales services. REES, who are pre-qualified by REA and involved in PV installation and after-sale-services, will have to follow specified regulations and procedures which include:

- i) Use only trained technicians in PV installation.
- ii) Follow strictly the approved quality standards.
- iii) Install/use only approved quality PV components/materials in solar PV systems.
- iv) Provide proper end-user training and provide user manual to each PV household.
- v) Provide appropriate warranties, i.e. 5 years for a solar module, 3 years for charge controller, 1 year for a battery and 1 year for the structure of installation.
- vi) Provide mandatory maintenance visit at least once a year and provide maintenance report to REA on the basis of which the retained subsidy will be paid.

vii) Submit timely, correct and complete installation reports to REA.

Once the Installation reports are received, REA will send auditors to verify the installations. For all installations, auditing will be mandatory before subsidy disbursement. Global Positioning System (GPS) will be used to ascertain the existence of PV installations and also to locate them easily. All the PV installations under the PVTMA will be recorded in GPS by the auditors and reported to REA once an installation has been done. In addition, a tamper proof sticker labeled 'SYSTEM VERIFIED' will be stamped on a fairly static component of the system, preferably charge controller.

Post audit sample spot checks will be conducted to, among, other things; check the quality of after-sales-services. The information collected through quality control visits will be filled on respective file and at the end of the year REA will assess the overall quality performance ratings of the REES. The quality performance of REES will be one of the bases for renewing the subsidy agreement/contract for next year.

It is anticipated that, once it is established and operational, REA will work with the solar association and other stakeholders to enforce the Code of Conduct in order to instill professional discipline and self regulation in the sector. In addition, REA will explore other avenues of collaborating with the solar association in areas of capacity building for the sector, training, promotion and awareness creation.

c) PV testing centre

The experience of the solar market today is that everyone is free to import the solar products into the country including traders of ordinary merchandise. The problem is compounded with lack of specialized testing services for solar PV (except general services available at UNBS) and by weak enforcement. Consequently, substandard or counterfeit products can find their way into the country and end up discouraging the unsuspecting end-user. To limit this, some form of regulation and organization is necessary.

It is proposed that a PV Test Station (PVTS) be established based at an academic/research institution doing solar PV related activities. The setting up of such station could be done in collaboration with the Uganda National Bureau of Standards which is by law charged with development and enforcement of standards in Uganda. The choice of an academic/research institution will be based on the availability of required expertise and usage of the station by students in their normal laboratory and academic research activities.

Since PV standards are already in place, REA will work with relevant stakeholders to formulate the PV Quality Assurance Document to be used for testing of the PV products by PVTS. It is anticipated that two types of tests will be carried out (i) Pre-shipment Inspection Test (PIT) for new PV products being imported for the first time; and (ii) Random Sampling Test (RST) for each lot imported. Solar PV companies will only be allowed to import PV equipment if they possess Pre-shipment Inspection Test (PIT) certification for the product. Similarly, dealers/suppliers will only be allowed to sell to customers with RST certification. In addition, REA will work in close collaboration with Uganda Revenue Authority (URA) to ensure that tax (VAT

and Import tax) exemptions for solar PV systems are applicable to only importers with PIT certification.

d) After sales services

Installation of PV systems alone is not sufficient to make them functional for a longer period of time; there needs to be reliable and effective after-sales services as well. In addition to warranties for PV components, REES will be required to provide a guarantee of 1 year (on installation) for PV systems and visit each PV installation for maintenance at least once a year, starting six months after installation unless called earlier for a service visit. On each visit, REES are expected to orient users on operation and minor maintenance, fill up the maintenance form on site and send the form to REA. If a client complains to the REES on any technical problems, the REES will have to send its technicians immediately for maintenance no matter how many times it is needed. However, when a client is in the wrong, he will be expected to cover the cost of maintenance even within guarantee period. After one year, REES are expected to offer clients an annual service contract for a modest fee, including at least two service visits if required or one maintenance visit if no complaint is filed.

The REES and PFIs will be expected to maintain a record of complaints and how/when they are handled, in a format suitable for REA to track performance of the SHS and the REES in providing after-sales service (see sample format in **Annex J**). REA will set up a “help desk” to allow clients to lodge their complaints, provide proper information on solar and take necessary actions against the noncompliance on the terms and conditions by the REES.

e) User education

Installation of quality PV systems is important for functioning of the system efficiently in the long run; however, equally important is the user's involvement in operation and maintenance of the system. Users usually will have the responsibilities to ensure the smooth functioning of the system by proper use and regular maintenance/cleaning of the system components (module). REES will be required to make aware and enable the users to perform the above activities. Each PV client will receive a user manual (or at least a pictorial guidelines of usage and simple maintenance) containing all aspects of operation and maintenance as mentioned above. Users will be instructed to read the instruction manual carefully and also to act accordingly. It is also important to inform the users that they have to inform concerned REES (whose contact address and telephone would have to be provided by REES on installation) if they have any problem that they are unable to solve. Contact address and telephone of the REA ‘help desk’ will be given to them at audit so that they can send their complaints, provided the REES does not listen to their complaints.

ANNEX A: ELIGIBILITY CRITERIA FOR REES TO PARTICIPATE IN PVTMA

To participate in the PVTMA programme as the REES, a company must initially meet, and continue to meet the following criteria (subject to modification for rural-based enterprises):

- (a) be a Uganda based company.
- (b) have operations that include sales of PV systems for at least two years.
- (c) prepare a business plan that demonstrates that:
 - the PV systems sold would meet the minimum technical specifications;
 - the company's operations would be commercially viable;
 - the company has satisfactory technical capabilities;
 - procurement practices are based on good commercial practices
 - the company has made arrangements to grow its PV sales;
 - the company would abide by adequate consumer protection plans, including warranties and adequate after-sales services.
 - the company has sufficient rural presence in the proposed areas of operation (or plans to establish outlets or agents).
- (d) a bank account and access to adequate working capital (may be waived for rural-based enterprises).
- (e) maintain a system to provide data required for project monitoring. The company would retain documentation for the full period of the warranty of each PV module sold.
- (f) provide the operational and financial information required by REA for evaluation.
- (g) abide by a satisfactory competitive code of norms for dealing with customers, employees, and other companies, including:
 - providing customers with complete and correct information about products, services and prices ,
 - not engaging in actions that might prevent competitors from entering or operating in particular market areas, and
 - not engaging in collusive behavior that may harm the business of competitors

REA through an acceptable due diligence service will review the business plans and other information on the companies applying to be REES to determine their completeness and whether they meet the above criteria. Based on the review and recommendation from REA, PVSC will approve the participation of the REES in the PVTMA Programme. REA will then circulate and publish a list of approved REES to all stakeholders.

SHS PV products eligible for consumer subsidies Products eligible for consumer subsidies as SHS include PV module, battery, charge controller, lights, and lanterns that meet minimum specifications. Subsidies also apply to the costs of installation and

servicing the system for one year. The minimum PV module size would be capable of providing two to three hours of lighting. Modules can be combined into arrays to give more power; for example, two 50 Wp modules can be combined to give 100 Wp of power.

Other PV products eligible for consumer subsidies: Institutional systems, for example PV systems for health clinics, schools and telecommunications centers, as well as other systems which are not for household electricity, for example systems for water pumping or for solar panels in hybrid systems (e.g., with wind or diesel), would also be eligible for consumer subsidies.

Technical specifications for SHS and other PV products: PV components that were approved under ERT I will still be eligible for subsidies. REA will facilitate dissemination of information on these products to all stakeholders. This list will be updated regularly in case of new products approved. For SHS, REA has already made system configuration for eight different sizes as a guideline to REES. However, in case a customer requires a system size outside the given configuration, REES will design the system but shall be required to seek concurrence from REA on system configuration before installation to the client. For the institutional systems and other PV applications, the acceptability of the design specifications and components would be determined on a case by case basis by REA.

ANNEX B: PVTMA STAKEHOLDERS AND THEIR ROLE

No	Stakeholder Institution	Key Roles
1.	REA	<p>Coordinate and facilitate the PVTMA process. In this regard REA will undertake the activities highlighted below:-</p> <ul style="list-style-type: none"> • Prequalify PV companies eligible to participate in the PVTMA • Tender specific target PV market segments. • Promote PV consumer credit and subsidies with REA Eligible Enterprises • Development of a database of installed PV, to be continuously updated; • Facilitate awareness creation • Review proposals of regulated FIs and approve their participation • Approve participation of unregulated MFIs meeting MSC criteria • Contribute to building the technical capacity of participating Financial Institutions to handle solar PV technology, including training of personnel. • Facilitate Non-solar PV and non-MFI companies to provide alternative credit mechanisms for solar • Promote the “Fee-for-Service” Model for solar energy delivery • Develop a mechanism for providing consumer subsidies for PV systems
2.	REA Eligible Enterprises Solar	<ul style="list-style-type: none"> • Prepare and implement business plans. • Procure and install PV systems and provide post sales services to the consumers. • Establish rural outlets and local technicians capable of servicing SHS. • Enter into contracts with PFIs. <p><u>May act as channels for the consumer subsidies from REA</u></p>
3.	Private Sector Foundation Uganda (PSFU)	<ul style="list-style-type: none"> • Provide business development support, including capacity building, to PV companies, PFIs and other participating stakeholders. • Provide output-based subsidies to REES for opening rural outlets
4.	Uganda Energy Credit Capitalization Company (UECCC)	<ul style="list-style-type: none"> • Refinance regulated PFIs providing credit for solar; • In partnership with PFIs, design new loan products for solar.
5.	Participating Financial Institutions	<ul style="list-style-type: none"> • Provide consumer credit and savings plans for solar PV systems. • Provide working capital loans to solar PV companies. • Enter into agreements with REES. • Market solar PV systems to their clients. • Act as channels for the consumer subsidies from REA (regulated PFIs).
6.	Microfinance Support Centre (MSC);	<ul style="list-style-type: none"> • Provide lending capital at concessional rate to eligible MFIs participating in the PVTMA. • Assist in marketing participation in PVTMA to their client institutions • Advise REA as to which unregulated MFIs meet MSC lending criteria (and therefore are eligible to submit proposals).
7.	Corporations/Employee Associations	Avail a means of repayment, through a check off system, for solar PV installations offered by solar PV companies to their staff on credit.
8.	Energy Service Companies (ESCO)	Install PV systems in a defined geographic location and charge a monthly fee to consumers for the energy services (Fee for Service Model)
9.	Outsourced Auditors	Verify installed PV systems before disbursement of capital and connection subsidies
10.	UCA/UCSCU	Mobilization and strengthening of SACCOs

ANNEX C: ELIGIBILITY CRITERIA FOR STAKEHOLDERS

In order for PVTMA to be effective, a number of criteria for participation are necessary. These include criteria for:

1. Solar PV Companies: Criteria elaborated in Annex A.
2. Rural solar PV Dealers: Considerations have been made to cater for the small size and financial capability of rural solar PV Dealers, but maintaining the requirements that guarantee technical standards and quality of components.
3. Regulated financial institutions (including MDIs): Licensed by the Bank of Uganda and in compliance with their requirements.
4. Micro-finance institutions (MFIs; including SACCOSACCOs): Meet the eligibility criteria applied by the Micro-finance Support Centre (MSC) for existing institutions to access credit lines, as follows:
 - o Legally registered with permanent registration
 - o Minimum of one year in operations.
 - o Minimum of 300 members for primary societies.
 - o Clearly defined area of operation.
 - o Clear ownership & governance structure.
 - o At least two staff with basic knowledge and skills in Accounting and Microfinance operations [suitable for training].
 - o SACCOs should have products for onward lending.
 - o No SACCO/MFI Board Member should have loans in arrears
 - o Financial performance criteria as provided in the appraisal tool
5. Customers: The lending criteria to customers are those set by the respective PFIs.

ANNEX D: LEGAL INSTRUMENTS FOR PVTMA OPERATIONS

1. Cooperation between government agencies will continue to exist as in the current ERTII set up. Accordingly, agreements will only be drawn where an institution needs to transact with PVTMA – for instance the Microfinance Support Centre (MSC) and REA.
2. Cooperation or partnership between government agencies and private sector players will require agreements.
3. Partnerships between private sector players (including NGOs and CBOs) who form a consortium to implement a PVTMA project will require agreements – for instance Memorandum of Understanding between micro-finance institutions and solar PV product and service providers. A sample is provided in Annex **XX**.
4. Partnerships between donors and government and private sector partners engaged in PVTMA will require agreements. These are normally provided by the donor.
5. PVTMA project transactions between a financial institution (e.g. UECCC, MSC) and an implementing solar PV company or PFI will require an agreement.
6. All subsidy and grant disbursements from REA to any party will require a contact. Samples subsidy agreement for FIs and REES are provided in Annexes **YY** and **ZZ**, respectively.

ANNEX E: GUIDELINES FOR PARTICIPATING PRIVATE SECTOR COMPANIES

In this mechanism, private sector companies, including rural-based solar PV suppliers/service providers, will select the areas to supply and make a proposal to REA. The implementation process is as follows:

1. A company interested in undertaking a solar PV programme identifies grassroots partners with whom to partner. These may include local marketing channels, e.g. NGOs, CBOs and local authorities. The company also identifies a partnering financial institution with outlets in the area. This may be a SACCO, an MDI or other financial institution willing to operate a solar PV loan product and has the financial resources to do so (see Annex C for eligibility criteria for PFIs).
2. In order for the company to team up effectively with a financial institution and other grassroot organizations, the company needs to demonstrate:
 - a. Legitimate existence as a licensed trading and service company.
 - b. Rural presence or plans to establish such presence through agreements with dealers, agents, franchises or branches.
 - c. Support the company offers to its rural outlets and agents..
 - d. Ability and strategy to market solar PV in the target region.
 - e. Market studies done to justify the partnership and area focus.
 - f. Willingness to offer system guarantees and service agreements.
 - g. Declaration of quality assurance in workmanship.
 - h. Willingness to sign up a buy-back guarantee for systems recovered from defaulters (subject to agreement of terms between the company and the MFI).
3. The company submits an application of its initiative, using a template provided by REA for participation in PVTMA. The template requests information on overall strategy, partners, marketing, products, technical services, logistics/coverage, rural presence/installation and after-sales infrastructure, credit provision and estimated number of customers (supported by basic market survey/assessment).
4. The application also estimates the total potential consumer subsidies the company aims to absorb, based on the number of targeted clients and system sizes.
5. If the company foresees a need to seek financial support in the form of a loan, it will include these details in the application form to REA, and indicate to which financial instituton REA should forward a recommendation, if needed. (Note: Regulated PFIs in PVTMA may be able to access wholesale funds from UECCC for on-lending to companies for working capital.)
6. The proposal must include clear capacity building plans for franchises and/or branches (especially business management skills) and how the company plans to strengthen rural outreach.
7. The proposal is reviewed and considered by REA.

8. Once the proposal is approved, the company qualifies to make installations under the PVTMA programme.
9. Upon satisfactory installation of solar PV systems, the company's customers will get subsidy disbursements either through regulated PFIs or from REA in the case of unregulated PFIs..
10. The company may make an application to PSFU for output-based grants PSFU to facilitate establishment of rural presence in new areas. The company may also apply to PSFU for training of technicians, to support development of rural outlets.

ANNEX F: GUIDELINES FOR PARTICIPATING FINANCIAL INSTITUTIONS (PFIS)

There will be two categories of MFI financial institutions (FIs) that can qualify to participate in PVTMA:

- i) Regulated institutions licensed by the Bank of Uganda and complying with its regulations.
- ii) Unregulated microfinance institutions (such as SACCOs) that meet the eligibility criteria of MFIthe Microfinance Support Centre.

A. Procedure for Participation of Regulated FIs:

1. The FIprepares a detailed proposal to REA indicating key inputs and outputs.
2. REA reviews the PFI's plans and, if successful, enters into a subsidy disbursement agreement with the PFI.
3. REA will disburse the subsidy to the MDIs in accordance with the terms of the subsidy agreement.
4. If the PFI needs refinancing and satisfies the lending requirements of the UECCC, the two entities will sign an agreement, which, among other things, commits the PFI to specific milestones.
5. The PFI will enter into an installation and service agreement with the selected solar PV company(ies)/dealer(s). The agreement will specify payment terms.
6. If the PFI needs grants for capacity building, it can apply to PSFU.

B. Procedure for Participation of MFIMFIs:

1. MSC will select a range of MFIMFIs it believes would qualify to borrow under its lending criteria for existing MFIs. Upon application of MFIs that are not currently MSC clients, MSC will conduct due diligence to ascertain whether they meet the criteria.
2. MSC will convene a mini-workshop in conjunction with REA, to popularise the solar loan product among these selected MFIMFIs. REA, UECCC, PSFU and the Micro-Finance Support Centre will jointly put together a package to popularize the dissemination of solar PV systems through the MFIMFIs.
3. Interested MFIMFIs undertake independent basic / preliminary market studies, establish interest in specific target markets segments.
4. The MFI writes a 2-3 page concept note to REA/MSC. To simplify this process, REA/MSC will provide a template which the MFI will fill, including:
 - a. the methodology of financing the consumers;
 - b. consumer system requirements (i.e, sizes of systems required, repayment terms, etc);
 - c. estimate of likely consumer demand for each type of system.
 - d.

5. It will be mandatory for the MFI to select rural solar PV dealers who have been registered under PVTMA to partner with. If the dealers in the area are not registered, they will be required to seek such registration. The local solar PV dealers must also demonstrate firm arrangements for solar PV supplies with importers, and the MFI must provide evidence it is satisfied with the arrangements. (Since the technical and financial capacity of these dealers is low, they will qualify for consideration for support through PSFU once registered.)
6. If the proposals are acceptable to REA and MSC, REA will enter into a subsidy agreement with the solar dealer and notify the MFI of the approval of the dealer and the MFI's participation.
7. In case the MFI needs additional loan capital, it can apply to MSC for a credit line MFI for the purpose of implementing the solar PV loan product.
8. The MFI may apply for support from REA for awareness and marketing as well as technical capacity building to better handle solar PV loans.

ANNEX G: GUIDELINES FOR NGOS AND CBOS

1. In order for an NGO or private sector player to qualify for PVTMA, the organisation will need to demonstrate the following:
 - a) Strong grassroots loyalty, through statement of number of years of operation in a region (not less than 3 years), turnover commanded on behalf of the rural affiliates, and cordial relationship with local authorities.
 - b) Large number of affiliates.
 - c) Large geographical reach.
 - d) Financial stability.
 - e) Willingness to develop the solar PV market.
 - f) Clear mechanisms of solar PV installations and loan disbursements and recovery.
1. REA will identify potential NGOs in specific regions. REA will also advertise for NGOs/CBOs interested in playing a role in PVTMA.
2. The criteria for NGOs and CBOs will include:
 - a) Proof of rural outreach (in terms of location and geographical coverage).
 - b) Significant number of current clients – not less than 5,000 individual beneficiaries of NGO /CBO services.
 - c) Existing market outreach programmes on other products.
 - d) Proof of core funding support or budgetary allocations guaranteeing NGOs /CBOs going concern status.
 - e) Proof of sound financial management and accounting practices – audited accounts and reports to donors.
 - f) Willingness to partner with rural solar PV dealers and rural microfinance institutions.
 - g) NGO /CBO must have been in existence for a minimum of three (3) years of active grassroots activity and be currently active (not simply 3 years since registration).
3. REA team undertakes sensitisation of NGOs /CBOs on the solar PV sector
4. If an NGO/CBO shows interest, NGO/CBO is enabled to undertake independent basic / preliminary market study, through a grant from REA or technical assistance by REA.
5. NGO/CBO demonstrates firm interest in servicing the target market by presenting a 2-3 page concept note to REA.
6. If the concept is approved by REA, REA refers the application for vetting by a participating agent (e.g. Micro-finance Support Centre, an MDI or consultant) with whom REA will enter into agreement for such service.
7. The agent uses its grassroots officers to vet the NGO/CBO and its plans. Once recommended by the agent, and if required, REA forwards the NGO/CBO application to PSFU for consideration for market development support.

8. If grant is approved, the NGO/CBO undertakes market sensitization and draws up structures for serving that segment of the market; undertakes detailed market study based on its sensitization campaign; during this process company clearly identifies its strategies for converting potent demand into effective demand and the rural solar PV Dealers involved. Local solar PV Dealers must demonstrate firm arrangements for solar PV supplies with importers and the NGO/CBO must provide evidence it is satisfied with the arrangements
9. NGO/CBO prepares detailed proposal to REA indicating key inputs and outputs and requesting subsidy funds for consumers
10. REA makes a full review of the NGO/CBO plans, assesses its subsidy proposals against the set criteria and, if successful, REA will approve its participation in PVTMA
11. The NGO/CBO will be expected to use one or a combination of the following consumer finance modes:
 - a) If the NGO/CBO is a value chain institution which receives produce from farmers and makes remittances to the farmers for produce sales, a check off systems can be implemented where a solar PV company provides the equipment and is paid by the NGO/CBO based on an agreed schedule.
 - b) If the NGO/CBO is simply involved in capacity building, it may team up with aPFI, which can handle the consumer financing through its loan and savings products.

If there are no MFIs in the region and the NGO/CBO also does not control farmer incomes, it is unlikely that the application will be approved by REA

ANNEX H: GUIDELINES FOR CORPORATE ORGANISATIONS

This model will only work with companies with social responsibility to its employees or farmer networks.

1. REA will identify potential private companies in specific regions with large numbers of employees or farmer networks and control of beneficiary incomes.
2. REA team will undertake sensitization of companies on the solar PV sector.
3. Interested company establishes firm interest in servicing the target market. Company benefits by bringing an additional service to its clients, without incurring additional cost (needs to discuss a bulk market discount with the solar PV company, which helps in meeting the administrative costs. In addition, the foregone interest that a client would have paid by taking a loan from an FI is also factored into the system price and accrues to the implementing company).
4. Company identifies solar PV company with whom to partner for solar PV systems. The solar PV company must be registered under PVTMA and adhere to quality standards set.
5. The solar PV company must demonstrate affiliation with specific rural solar PV dealers present in the regions where the company operates. The solar PV company must prove it has its own agents, franchises or branches already existing in these areas, or plans to open up presence there. The solar PV company must also demonstrate financial capability to finance stocks, or willingness to access working capital loans under PVTMA structures, subject to assessment by the PFIs.
6. In case the solar PV company has no capacity to provide trade credit, or if the solar PV company fails to qualify for capital financing by the participating financial institutions, the partners must present a consumer finance MFI as a partner.
7. Company and its partner solar PV player prepare a joint proposal to REA indicating key inputs and outputs and requesting marketing support and grant funds for consumer and operational subsidies. To simplify this process, REA will provide a template which the company will fill.
8. REA makes a full review of the joint plans, assesses the subsidy proposals against the set criteria and if acceptable, REA approves participation.
9. If the solar PV company requires capital financing, the same joint application is forwarded to the participating MDI or MFI lending to companies.
10. Consumer subsidies are disbursed to the non-solar PV corporate applicant on a reimbursement basis, i.e. upon proof that a customer or employer of the company has received a solar PV system on credit and payments have been made for the system on a check-off basis from crop proceeds or salary (as the case may be).
11. In this case, the supplying company will have received the full credit payment from the company, less the outstanding subsidy amount.
12. In the event that a regulated financial institution is a partner in the initiative, the PFI will become the subsidy agent.

ANNEX I: GUIDELINES FOR REA PV TARGET MARKET INITIATIVE

1. REA identifies potential target markets based on the following parameters:
 - a) Indicative Rural Electrification Master Plan (IREMP) used as base criteria.
 - b) No REES operating in the target area or applying under PVTMA.
 - c) Additional criteria that may be applied include:
 - Poverty levels are relatively high;
 - Physical infrastructure is constrained;
 - Harsh living conditions, e.g. weather.
2. Any area that REA specifically targets consequent to this evaluation will be tendered out.
3. REA team prepares the business case for marketing to solar PV companies.
4. REA undertakes sensitization of target market by hosting a mini-workshop to share the concept and business opportunity with the solar PV sector
5. REA team draws bid documents, including:
 - a. Fixed prices
 - b. Several standard solar PV packages
 - c. PFIs in the area already (or eligible to be) selected as partners
 - d. Strategy/business plan requirement
 - e. Renegotiation clause
 - f. Service and maintenance agreement
 - g. Registration under PVTMA.
6. Companies are invited to submit expression of interest; EoI must include details of which financial institutions they canpartner with in the region, or what consumer finance mechanisms they will apply. Also to include how the company will verify installed systems and certification (e.g. by working with a CBO or local authority).
7. Bidding process follows for pre-qualified companies.
8. Bids evaluated and winner recommended to REA for approval. (Note: proof of financial resources or qualification for a loan by a PFI will be a precondition.)
9. Negotiations commenced to fix prices, agree on logistics, quality issues and operational modalities. If a company does not have adequate capital available to service the estimated market, the company can apply for a grant advance as a loan. The funds will be disbursed to the company through a financial institution as a performance-based zero interest loan, which will be waived once the company delivers the outputs agreed. If the company does not deliver, the loan is repayable under the agreed terms (market). If the loan is not approved by the PFI and the company cannot find alternative funding sources, the company losses the bid.
10. Contracts are drawn and company enters target market.

11. Company applies for and receives grant for developing rural outlets.
12. Company commences installation of solar PV systems.
13. Company applies for solar PV system subsidies based on output.
14. Monitoring follows.

ANNEX J: TEMPLATES FOR RECORDING CUSTOMER COMPLAINTS

J.1: Template for PFI to Record Customer Complaints and Technical Follow-up on Solar Systems

Institution: _____

Location: _____

CLIE NT	Date	Complaint	Date	Problem	Reported to supplier (date)	SOLAR DEALERS			PFI FOLLOW-UP					
						Technician report ^{b/}			Follow-up ^{c/}		Client status/contact date			
						Date	Diagnosi s	Action	Date	Action	Unre- solved	Unre- solved	Resolved	
1.														
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														
11.														

Note: Customer may complain initially to the PFI, the local technician, the supplier, or REA. If the PFI learns about the problem initially from the technician, the first entry would be under the “Technician” column.

^{a/} If Loan Officer has direct contact with client to identify the nature of the problem.

^{b/} Technicians should be trained to provide at least a verbal (if not written) report to the PFI (as well as the dealer) after making visits.

^{c/} If needed.

J.2: Template for REA to Record Customer Complaints and Technical Follow-up on Solar Systems

Solar Dealer: _____

CLIE NT	Date	Complaint	PFI	Report- ed to supplier (date)	SOLAR DEALERS				REA FOLLOW-UP			
					Technician report ^{a/}			Follow-up ^{b/}		Client status/contact date		
					Date	Diagnosi s	Action	Date	Action	Unre- solved	Unre- solved	Resolved
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												

Note: A separate form should be used for each solar dealer.

^{a/} Dealers should ensure that the technician's report is communicated to REA (as well as to the PFI) if the complaint was initiated through REA.

^{b/} If needed.

ANNEX K: SUBSIDY AGREEMENT FOR REGULATED PFI

2010



THE REPUBLIC OF UGANDA

**RURAL ELECTRIFICATION SUBSIDY DISBURSEMENT
AGREEMENT**

BETWEEN

**THE GOVERNMENT OF THE REPUBLIC OF UGANDA
REPRESENTED BY THE RURAL ELECTRIFICATION BOARD**

AND

XXXXXXXXXXFI

IN RELATION TO

**THE DISBURSEMENT OF CONSUMER SUBSIDIES FOR SOLAR
PHOTOVOLTAIC SYSTEMS**

THIS AGREEMENT is made on the day of 2010

BETWEEN

THE GOVERNMENT OF THE REPUBLIC OF UGANDA, represented by the **RURAL ELECTRIFICATION BOARD** of the MINISTRY OF ENERGY AND MINERAL DEVELOPMENT of P.O Box 7317, **KAMPALA** (hereinafter referred to as “**the BOARD**”, which expression shall where the context so admits include its successors in title and assignees) of the one part,

AND

xxxxxxxxFI, a public limited liability company incorporated under the Companies Act Cap 110 of the Laws of Uganda, of P.O Box **xxxxx**, **KAMPALA** (hereinafter referred to as “**the COMPANY**”, which expression shall where the context so admits include its successors in title and assignees) of the other part.

Collectively referred to as “the Parties” and individually as “Party”.

WHEREAS:-

1. The Government of the Republic of Uganda (hereinafter referred to as “**GOU**”) is implementing the Energy for Rural Transformation Program Phase II (hereinafter referred to as “**ERT II**”), which is designed to improve and increase on the provision of energy in the rural sector in Uganda.

2. The Board is an establishment of GOU that is implementing some components of ERT II, through public and private sector participation.
3. The GOU has availed to the Board by way of a grant, money for implementing components of the ERT II.
4. The Board is desirous of utilizing part of the grant to provide Consumers and Eligible Enterprises, with Subsidies for the purchase of PV Systems, which Subsidies are to be channeled through and disbursed by the Company on behalf of the Board; in accordance with the terms and subject to the conditions contained hereinafter.

NOW THEREFORE, in consideration of the mutual benefits to be derived and the representations and warranties, conditions and promises herein contained, and intending to be legally bound hereby, the Parties hereby agree as follows:

1 DEFINITIONS AND INTERPRETATION

1.1 Definitions

Whenever the following terms appear in this Agreement, they shall have the meanings stated below:-

“Abandoned” or “Abandonment” means the voluntary cessation of implementation of the Project;

“Agreement” means this Rural Electrification Subsidy Disbursement Agreement together with all Schedules attached hereto, dated as of the date hereof, between the Board and the Company, as the same may be amended from time to time;

“Board” means the Rural Electrification Board established under the Electricity (Establishment and Management of the Rural Electrification Fund) Instrument 2001 No. 75;

“Company” means **XXXXXXXXXFI**;

“Consumer” means an individual person selected by the Company to access the Credit Facility;

“Credit Facility” means funds that are to be lent to the Consumers and Eligible Enterprises by the Company;

“Credit Facility Process” means the receipt, evaluation and processing by the Company of loan applications from Consumers and Eligible Enterprises for PV Systems.

“GOU” means the Government of the Republic of Uganda;

“Eligible Enterprise” means a private sector enterprise, operator or investor that will receive a loan from the Company for the Project;

“ERT II” means Energy for Rural Transformation Project Phase II.

“Project” means the acquisition and installation of PV Systems, financed by the Credit Facility and Subsidy.

“PV Systems” means solar photovoltaic systems.

“PV Vendor” means a private company contracted and selected by the Company from the REA list of pre-qualified Suppliers, to supply and install PV Systems to Consumers and Eligible Enterprises

“Subsidy” means the total grant that is to be extended by the Board to Consumers and Eligible Enterprises for the purchase of PV Systems, which grant is to be channeled through and disbursed by the Company;

“Subsidy Disbursement” means a Subsidy disbursed by the Company in the terms of this Agreement;

“Targeted Market” means a specific group of potential end-users of PV Systems bound by similar characteristics such as geographic area, common employer or social-economic cluster like a cooperative society.

“W_p” mean the maximum rated power of the solar module measured in Watts

1.2 Rules of Interpretation

In this Agreement:

- (a) The headings are for convenience only and shall not be used in construing this Agreement;
- (b) The singular includes the plural and vice versa;
- (c) References to clauses and schedules are, unless the context otherwise requires, references to clauses and schedules to, this Agreement;
- (d) Unless otherwise provided herein, whenever a consent or approval is required by one Party from the other Party, such consent or approval shall not be unreasonably withheld or delayed;
- (e) In carrying out its obligations and duties under this Agreement, each Party shall have an implied obligation of good faith; and

(f) ‘Year’ means a calendar year or a financial accounting year; ‘month’ means a calendar month; ‘day’ means a calendar day.”

2 PROJECT OBJECTIVES

- 2.1 The main objective of the Project is to increase the use of PV Systems to enhance household activities and rural enterprises in a Targeted Market.
- 2.2 The specific objectives of the Project are to:
 - 2.2.1 improve the affordability of the PV System by providing a Credit Facility and Subsidies to Consumers and Eligible Enterprises;
 - 2.2.2 increase awareness of the PV System and its benefits to potential end-users;
 - 2.2.3 improve access and availability of the PV System to rural areas by targeting specific markets; and
 - 2.2.4 reduce the PV system costs and transaction costs through bulk installation of the PV System in a Targeted Market.

3 OBLIGATIONS OF THE BOARD

The Board has the obligation of doing the following:-

- 3.1 providing and transferring to the Company the Subsidy for the Project;
- 3.2 providing technical assistance and guidance to the Company on basic technical aspects of the PV Systems;

- 3.3 furnishing the Company with PV System configuration guidelines against which the PV Vendors shall quote PV System prices;
- 3.4 approving the PV System prices furnished to the Company by the PV Vendors;
- 3.5 facilitate public awareness in Targeted Markets selected by the Company;
- 3.6 verify to ensure installed PV systems meet national standards;
- 3.7 monitoring the implementation and reviewing the performance of the Project; and
- 3.8 designating a representative of the Board, who will be the point of contact on matters pertaining to the Project.

4 OBLIGATIONS OF THE COMPANY

The Company has the obligation of doing the following:-

- 4.1 establishing and managing the Credit Facility and the Credit Facility Process;
- 4.2 furnishing the Board with the approved list of Consumers and Eligible Enterprises, their respective PV Systems requirements and Subsidy requests and furnishing the Board with such other information as may be required in terms of this Agreement;
- 4.3 receiving and disbursing the Subsidy provided under this Agreement;

- 4.4 verifying and ensuring that the Subsidy payments are disbursed to the Consumers after installation of the PV systems;
- 4.5 selecting PV Vendors;
- 4.6 furnishing PV Vendors with PV System configuration guidelines issued by the Board;
- 4.7 obtaining PV System prices from PV Vendors and submitting them to the Board for approval;
- 4.8 conducting marketing programs for the Targeted Market, so as to promote the demand for PV Systems;
- 4.9 furnishing the Board with an acknowledgement of receipt of the Subsidy by Consumers and Eligible Enterprises, as proof of disbursement of the Subsidy by the Company;
- 4.10 verifying and ensuring that the PV Systems that receive Subsidies are installed;
- 4.11 ensuring PV Vendors provide training and pictorial manuals to Consumers and Eligible Enterprises, which describe basic maintenance operations for their PV Systems, as well as the “do’s and don’ts” related to the systems;
- 4.12 ensuring PV Vendors put in place mechanisms to provide maintenance and after sales service for PV Systems installed to Consumers and Eligible Enterprises;
- 4.13 designating a representative of the Company, who will be the point of contact on matters pertaining to the Project;

- 4.14 submit quarterly reports to the Board by the tenth day of the month following the end of each quarter, detailing the Subsidies disbursed to Consumers and Eligible Enterprises and the progress on implementation of the Project; and
- 4.15 ensuring that the Subsidy is solely used for the Project and to indemnify the Board in the event of the Subsidy being used for other purposes other than for the Project.

5 TERM OF THE AGREEMENT

The Agreement shall be effective from the date of signature by both Parties and it will be valid until the 31st day of December 2011. The period of validity of this Agreement maybe modified with the written consent of both parties.

6 THE SUBSIDY, SUBSIDY DISBURSEMENTS AND MANAGEMENT

- 6.1 The Subsidy shall be in an amount not exceeding United States Dollars Fifty thousand only (US\$50,000).
- 6.2 Subsidy applications and disbursements by the Company shall be made in accordance with the mechanism laid down under Schedule One.
- 6.3 The representatives of the Board and the Company designated pursuant to clauses 3.8 and 4.13 respectively shall jointly be responsible for coordinating the activities of this Agreement.

6.4 The representatives of the Board and the Company shall meet on a quarterly basis to evaluate the progress of implementation of the Project.

7 INSPECTION AND INFORMATION

7.1 The Parties record that the Board is at all reasonable times entitled to:-

7.1.1 inspect all of the Company's accounts, records and other documentation related to this Agreement or the Company's obligations under this Agreement;

7.1.2 inspect the activities and operations of the Company concerning the Project;

7.1.3 require such information from the Company; as may be necessary to ensure that the provisions of this Agreement are being complied with; and

7.1.4 a financial audit of the utilization of the Subsidy will be conducted by the Board or its duly authorized agent.

8 NOTICES

•

8.1 All notices or other communications required or permitted under the terms of this Agreement shall (unless otherwise provided by this Agreement) be in English and in writing, shall be addressed for the attention of the persons indicated below and shall be sufficiently served if delivered personally or sent by courier or facsimile and receipt whereof is duly acknowledged by the

persons indicated below. The addresses of the Parties and their respective facsimile numbers shall be:

If to the Board:

The Executive Director
Rural Electrification Agency
P.O. Box 7317
Kampala, Uganda

Tel: 256- 31-2264096
Fax: 256- 41-4346013

If to the Company:

The Chief Executive Officer
XXXXXXXXXXFI
P.O Box **xxxxxx**,
Kampala, Uganda

Tel: **xxxxxx**,
Fax: **xxxxxx**,

- 8.2 Any Party may by notice change the address, addressee and/or facsimile number to which such notices and communications to it are to be delivered or mailed.
- 8.3 Any such notice shall be deemed (in the absence of proof to the contrary) to have been received and given, in the case of delivery by hand, at the time of delivery, in the case of registered post, twenty one (21) days after posting it and, in the case of telex or facsimile, on the completion of transmission.

9 RESOLUTION OF DISPUTES

- 9.1 In the event that there arises between the Parties any dispute, controversy or claim arising out of or relating to this Agreement or the breach, termination or validity thereof (a “Dispute”), the Party wishing to declare a dispute shall deliver to the other Party a notice identifying the disputed issue.
- 9.2 Within 30 days of delivery of a notice of a Dispute, the Parties shall attempt in good faith to settle such Dispute by discussions among representatives of the Parties, each of whom shall possess the appropriate decision-making authority. In the event that such individuals are unable to reach agreement within 30 days, or such longer period as they may agree, then either of the Parties may refer the matter to arbitration pursuant to clause 9.3.
- 9.3 In the event that the Parties are unable to resolve any dispute pursuant to clause 9.2, then the Parties agree as follows:
 - 9.3.1 the dispute shall be finally settled by arbitration in accordance with the Arbitration and Conciliation Act Cap 4 Laws of Uganda. Such dispute shall be submitted to arbitration at the request of any Party upon written notice to that effect to the other Party in accordance with this Act;
 - 9.3.2 any arbitration conducted pursuant to clause 9.3.1 shall be conducted in Kampala; and
 - 9.3.3 the language at any arbitration under this Agreement shall be English.

10 TERMINATION

10.1 Each of the following events shall be events that give a Party a right to terminate this Agreement:-

10.1.1 the initiation of winding-up proceedings by the Company or the Company becoming bankrupt or going into liquidation other than for the purposes of reconstruction or amalgamation;

10.1.2 an Abandonment by the Company;

10.1.3 misappropriation of the Subsidy and/or the use of the Subsidy for other matters not related to the Project and a failure by the Company to refund the misappropriated funds within a period of thirty (30) days; and

10.1.4 any material breach by the Company of any material provision of this Agreement (other than is identified in 10.1.1 through 10.1.4) that is not remedied within 30 days after written notice from the Board identifying and giving details of the breach by the Company.

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10.2 Upon the occurrence of any of the events set out in clause 10.1, that is not cured within the applicable period (if any) for cure, the Company or the Board may, initiate termination of this Agreement by delivering a notice (“Notice of Intent to Terminate”) of its intention to terminate this Agreement to the defaulting Party. The Notice of Intent to Terminate shall specify in reasonable detail the event giving rise to the Notice of Intent to Terminate.

•

10.3 Following the delivery of the Notice of Intent to Terminate, except for the events set out in clause 10.1 for which no cure period shall be available, the Party in default may continue to

undertake efforts to cure the default for a period of 30 days commencing on the delivery date of such notice (or such longer period as the Parties mutually may agree), and if the default is cured at any time prior to the delivery of a Termination Notice in accordance with clause 10.4, then the non-defaulting Party shall have no right to terminate this Agreement in respect of such cured default. In addition, no additional cure period shall be available with respect to any event that has been adjudicated through the dispute resolution process pursuant to clause 9.

- - 10.4 Upon expiration of the period of cure, if any, described in clause 10.1 and unless the Parties shall have otherwise agreed or unless the event giving rise to the Notice of Intent to Terminate shall have been remedied, the Party having given the Notice of Intent to Terminate may terminate this Agreement by delivering a Termination Notice to the other Party, whereupon this Agreement shall immediately terminate. If no period of cure is available for the relevant event, the non-defaulting Party may issue a Termination Notice to the defaulting Party at any time on or after the second day following the delivery of the Notice of Intent to Terminate.
 -
 - 10.5 Upon expiration or termination of this Agreement, the Parties shall have no further obligations hereunder except: - (i) the Company shall have an obligation of returning the Subsidy amount that has not been utilized; (ii) for obligations that arose prior to such expiration or termination and (iii) obligations that expressly survive such expiration or termination pursuant to this Agreement.
 -
 - 10.6 The exercise of the right of a Party to terminate this Agreement, as provided herein, does not preclude such Party from exercising other remedies that are provided herein or, are otherwise available at law. Remedies are cumulative, and the exercise of, or failure to

exercise, one or more of them by a Party shall not limit or preclude the exercise of, or constitute a waiver of, other remedies by such Party.

11 MISCELLANEOUS PROVISIONS

11.1 Laws governing the Agreement

This Agreement, its meaning and interpretation and the relationship between the Parties shall be governed by the Laws of the Republic of Uganda.

11.2 Distinct provision

Each of the provisions of this Agreement is severable and distinct from the others. If at any time one or more of these provisions is or becomes invalid, illegal or unenforceable, the remaining provisions shall not in any way be affected or impaired.

11.3 Modification

Any modification of the terms of this Agreement shall only be made by written agreement between the Parties.

11.4 Waiver

No waiver by a Party under this Agreement shall be effective, unless it is in writing and is duly executed by an authorized representative of a Party to this Agreement.

The failure by either Party to exercise or any delay by either Party in exercising a right or remedy provided by this Agreement or by any law does not constitute a waiver of the right or remedy or a waiver of other rights or remedies. No single or partial exercise of a right or remedy provided by this Agreement or by law prevents the further exercise of the right or remedy of

another right or remedy. The rights and remedies provided by this Agreement are cumulative and not exclusive of any rights or remedies provided by law.

11.5 Costs and expenses

Each Party shall pay its own costs and expenses incurred by it in connection with the preparation and completion of this Agreement.

11.6 Previous agreements

This Agreement and the Annexes attached hereto are intended by the Parties as the final expression of their agreement on the matters contained herein and is intended also as a complete and exhaustive statement of their agreement with respect to the subject matter contained herein and supersedes any previous agreements or understandings between the Parties.

11.7 Relationship of the Parties

This Agreement shall not be interpreted or construed as creating an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon any Party. No Party shall have any right, power, or authority to enter into any agreement or undertaking for, to act on behalf of, to act as or be an agent or representative of, or to otherwise bind, any other Party.

11.8 No Third Parties

This Agreement is intended solely for the benefit of the Parties and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, or confer any right of suit or action on any person not a Party to this Agreement.

11.9 Assignment

This Agreement shall not be assigned by any party without the prior written consent of the other Party.

11.10 Severability

If any term or provision of this Agreement is held by a court or other authority of competent jurisdiction to be invalid, void, unenforceable or against public policy, the rest of this Agreement will remain in full force and effect and will in no way be adversely affected; provided, however, that the severance of such term or provision does not render the performance of a Party's material obligations impracticable or impossible. The Parties will negotiate in good faith with a view to replacing any such term or provision.

11.11 Further Assurances

If it shall be necessary and proper after the execution hereof to execute any additional documents or take further action to effectuate the intent of this Agreement, the Parties agree to take such action.

IN WITNESS WHEREOF the duly authorized representatives of the Parties hereto have placed their respective hands on the date first above written.

Signed for and on behalf of
THE GOVERNMENT OF
THE REPUBLIC OF UGANDA
Represented by the **RURAL**
ELECTRIFICATION BOARD

MR. F. A. KABAGAMBE-
KALIISA
CHAIRMAN

In the presence of:

MR. GODFREY R.
TURYAHIKAYO
BOARD SECRETARY

THE COMMON SEAL of)
xxxxxxxxxxxx FI
was hereunto affixed)

xxxxxxxxxxxx FI
Title **xxxxxx**,

In the presence of:

COMPANY
SECRETARY

SCHEDULE ONE

THE SUBSIDY APPLICATION AND DISBURSEMENT MECHANISM

I. Subsidy Applications to the Board

The Company shall make an application to the Board for a Subsidy Disbursement.

The application shall be accompanied by a projection of the Subsidy required to meet the anticipated demand for PV Systems from Consumers and Eligible Enterprises for a period of three months.

The Board shall review the application and transfer the Subsidy in installments not exceeding United States Dollars, Fifty thousand only (US\$50,000) at a time to Company within a period of fifteen days of approving the same and shall be replenished on full accountability of preceding installments.

The Board shall transfer the subsequent installments of Subsidy upon request and when the Company has accounted for the previous disbursement and Board has certified that the installed PV Systems meet the relevant Uganda Solar PV Standards.

Provided always that if at the end of the term of this Agreement the Company has not utilized any part of the subsidy that has been transferred by the Board to the Company, the Company shall refund and/or return this part of the subsidy to the Board.

II. Subsidy Disbursement to Consumers and Eligible Enterprises

The Company shall disburse the Subsidy to Consumers and Eligible Enterprises on sales under a Credit Facility, including a Solar Savings Plan for consumers who wish to pay cash instead of borrowing, with the provision that the installation shall take place at least six months after opening the account; this will enable cash customers to access the subsidy if they desire, but only by

going through the Company and waiting at least six months. The Company shall maintain records on when the savings plan for SHS was initiated, and authorize installation only when six months have passed and the required amount has been saved.

The amount of Subsidy disbursed to the Consumer and Eligible Enterprises shall be based on the total Wp of the PV Systems installed and shall be determined based on existing exchange rate at the time signing the agreement fixed and only reviewed after six months, as follows:

PV Systems Size (Wp)	Subsidy Amount (Shs)

The Company shall disburse the Subsidy to the Consumer and Eligible Enterprise after verification that the PV System is installed. However, for those Eligible Enterprises that have a satisfactory track record of at least 25 installations in six months, the Company shall pay customer amount (price less subsidy) to the Eligible Enterprise immediately after installation and then the subsidy shall be disbursed upon end-user audit and verification of the PV installation. An appropriate amount will be retained to be paid upon evidence of the mandatory after sale service visit.

Consumers will receive a subsidy on installed PV systems. Solar Home Systems (SHS) of capacity up to 50W including solar lanterns will be eligible for a subsidy of USD 5.5/Wp provided the household is located more than 100 meters from a low voltage reticulation network. The subsidy for solar home systems shall not exceed 50Wp or an equivalent of USD 275.

Institutional and commercial systems not financed by Government or Development Partners will be eligible for subsidies provided the facilities are located more than 100 meters from a low voltage reticulation network. The subsidy for institutional and commercial systems is USD4/Wp for systems of a capacity up to 500Wp. The subsidy for institutional and commercial systems shall not exceed 500Wp or an equivalent of US\$2000. Institutional and

commercial systems installed through both cash and credit sale are eligible for subsidies.

PV Systems that will be installed on houses that are already connected to the electricity grid system shall not receive the Subsidy.

Consumers and Eligible Enterprise that already have PV Systems that were purchased without the Subsidy and would like to upgrade the Solar Systems can receive the Subsidy to upgrade the Solar Systems. The Solar System shall be considered as a new purchase.

Consumers and Eligible Enterprise that have PV Systems less than 50Wp and 500Wp respectively that previously benefited from the Subsidy and like to upgrade the PV Systems can receive additional Subsidy. The total Subsidy for the previous PV System and the upgrade shall not exceed that of 50Wp and 500Wp.

ANNEX L: SUBSIDY AGREEMENT FOR REES

201_



THE REPUBLIC OF UGANDA

RURAL ELECTRIFICATION SUBSIDY AGREEMENT

BETWEEN

**THE GOVERNMENT OF THE REPUBLIC OF UGANDA
REPRESENTED BY THE RURAL ELECTRIFICATION BOARD**

AND

.....(NAME OF REES)

IN RELATION TO

**THE DISBURSEMENT OF CONSUMER SUBSIDIES FOR SOLAR
PHOTOVOLTAIC SYSTEMS**

THIS AGREEMENT is made on the day of 2010

BETWEEN

- (1) **THE GOVERNMENT OF THE REPUBLIC OF UGANDA**, represented by the **RURAL ELECTRIFICATION BOARD** of the **MINISTRY OF ENERGY AND MINERAL DEVELOPMENT** of P.O Box 7317, **KAMPALA** (hereinafter referred to as “**the BOARD**”, which expression shall where the context so admits include its successors in title and assignees).
- (2)(NAME OF REES), a limited liability company incorporated under the Companies Act Cap 110 of the Laws of Uganda, of P.O Box, **City/Town** (hereinafter referred to as “**the SOLAR COMPANY**”, which expression shall where the context so admits include its successors in title and assignees).

Collectively referred to as “the Parties” and individually as “a Party”.

WHEREAS: -

1. The Government of the Republic of Uganda (hereinafter referred to as “**GOU**”) is implementing the Energy for Rural Transformation Program Phase II (hereinafter referred to as “**ERT II**”), which is designed to improve and increase on the provision of energy in the rural sector in Uganda.
2. The Board is an establishment of GOU that is implementing some components of ERT II, through public and private sector participation.
3. The GOU has availed to the Board by way of a grant, money for implementing components of the ERT II.

4. The Board is desirous of utilizing part of the grant to provide Targeted Consumers with Subsidies for the purchase of Solar Systems from the Solar Company.
5. The Parties wish to enter into an agreement in respect of the matter set out in clause 4 above, on the terms and subject to the conditions contained hereinafter.

NOW THEREFORE, in consideration of the mutual benefits to be derived and the representations and warranties, conditions and promises herein contained, and intending to be legally bound, the Parties hereby agree as follows:

2 DEFINITIONS AND INTERPRETATION

1.1 Definitions

Whenever the following terms appear in this Agreement, they shall have the meanings stated below:-

“Abandoned” or “Abandonment” means the voluntary cessation of implementation of the Project;

“Agreement” means this Rural Electrification Subsidy Agreement together with all Schedules attached hereto, dated as of the date hereof, between the Board and the Solar Company, as the same may be amended from time to time;

“Board” means the Rural Electrification Board established under the Electricity (Establishment and Management of the Rural Electrification Fund) Instrument 2001 No. 75;

“Credit Facility” means funds that are mobilised by the FI for lending to Targeted Consumers for the purchase of Solar Systems;

“Credit Facility Process” means the receipt, evaluation and processing by the FI of loan applications from Targeted Consumers for Solar Systems;

“ERT II” means Energy for Rural Transformation Project;

“Financial Institution” (FI) means Financial Institutions, regulated or non regulated providing Credit Facility to Targeted Consumers.

“GOU” means the Government of the Republic of Uganda;

“Project” means the acquisition and installation of Solar Systems, financed by the Credit Facility and Subsidy;

“REA” means Rural Electrification Agency;

“Solar Company” means **(Name of REES)**, a private company contracted and selected by the FI from the REA approved list to supply and install Solar Systems to Targeted Consumers;

“Solar Systems” means solar photovoltaic systems.

“Subsidy” means the total grant that is to be extended by the Board to Targeted Consumers for the purchase of Solar Systems, which Subsidy is to be paid by the Board directly to the Solar Company;

“Subsidy Disbursement” means a Subsidy disbursed by the Solar Company in the terms of this Agreement;

“Targeted Consumers” means an individual persons selected by the FI to access the Credit Facility;

“Targeted Market” means a specific group of potential end-users of Solar Systems bound by similar characteristics, such as geographic area, common employer or social-economic cluster like a cooperative society; and

“W_p” means the maximum rated power of the solar module measured in Watts.

1.2 Rules of Interpretation

In this Agreement:

- (a) The headings are for convenience only and shall not be used in construing this Agreement;
- (b) The singular includes the plural and vice versa;
- (c) References to clauses and schedules are, unless the context otherwise requires, references to clauses and schedules to, this Agreement;
- (d) Unless otherwise provided herein, whenever a consent or approval is required by one Party from the other Party, such consent or approval shall not be unreasonably withheld or delayed;
- (e) In carrying out its obligations and duties under this Agreement, each Party shall have an implied obligation of good faith; and
- (f) ‘Year’ means a calendar year or a financial accounting year; ‘month’ means a calendar month; ‘day’ means a calendar day.”

2 PROJECT OBJECTIVES

- 2.1 The main objective of the Project is to increase the use of Solar Systems, to improve the well being of households and enhance rural enterprises in a Targeted Market.
- 2.2 The specific objectives of the Project are to:
 - 2.2.1 improve the affordability of Solar Systems through the provision of Credit Facility and Subsidies to Targeted Consumers;
 - 2.2.2 increase awareness of the Solar System and its benefits to Targeted Consumers;
 - 2.2.3 improve access and availability of the Solar System to rural areas by targeting specific markets; and
 - 2.2.4 reduce the Solar System costs and transaction costs through bulk installation of the Solar System in a Targeted Market.

3 OBLIGATIONS OF THE BOARD

The Board has the obligation of doing the following:-

- 3.1 providing and transferring to the Solar Company the Subsidy for the Project, upon written request and confirmation of installation of the Solar Systems by the Solar Company subject to verification of the Solar Systems by the Board as stipulated under clause 3.5;

- 3.2 providing technical assistance and guidance to the FI on the technical aspects of Solar Systems including Solar System configuration;
- 3.3 facilitating awareness and consumer education in the Targeted Market;
- 3.4 providing technical assistance and training on basic aspects of Solar System to the FI;
- 3.5 verify to ensure installed Solar Systems meet national standards;
- 3.6 designing standard documentation for easy reporting of installed Solar Systems;
- 3.7 monitoring the implementation and reviewing the performance of the Project; and
- 3.8 designating a representative of the Board, who will be the point of contact on matters pertaining to the Project.

4 CONDITION PRECEDENT

The execution of an agreement between the FI and the Solar Company relating to xxxxxxxxxx

5. OBLIGATIONS OF THE SOLAR COMPANY

The Solar Company has the obligation of doing the following:-

- 5.1 providing Solar System prices in line with Solar System configuration guidelines issued by REA;

- 5.2 supplying and installing Solar Systems to Targeted Consumers as per their requirements;
- 5.3 providing end-user training on the operation and maintenance of the Solar System and simplified user's manual about the Solar System;
- 5.4 preparing and submitting installation reports to the FI and REA;
- 5.5 providing a one (1) year warranty for the Solar Systems and securing an extension of the manufacturer's warranty on solar panels for 5 years and the warranty for the charge regulators for 3 years;
- 5.6 providing after sales services to Targeted Consumers;
- 5.7 to de-install, refurbish and re-install the Solar System to a new consumer in the event of the Targeted Consumers default in repayments or getting connected to the grid and no longer needing the Solar System; and
- 5.8 designating a representative of the Solar Company, who will be the point of contact on matters pertaining to the Project

6 TERM OF THE AGREEMENT

The Agreement shall be effective upon approval by the Board of the Agreement between the FI and the Solar Company and it will be valid until the **(Date/month/year)**. The period of validity of this Agreement maybe modified with the written consent of both parties.

THE SUBSIDY, SUBSIDY DISBURSEMENTS AND MANAGEMENT

- 7.1 The Subsidy shall be in an amount of Uganda Shillings (*Subsidy Amount*).
- 7.2 The Subsidy shall be paid directly to the Solar Company for the installed Solar Systems, after verification that the Solar Systems are installed and meet solar standards issued by the Uganda National Bureau of Standards.
- 7.3 The amount of Subsidy to be disbursed to the Solar Company is based on the total Wp of the Solar Systems installed. The amount of the Subsidy for the various sizes (Wp) of Solar Systems is stated in Schedule One.
- 7.4 The Subsidy per household is limited to Solar Systems of 50Wp and below. Target Consumers that install Solar Systems above 50Wp shall only receive the Subsidy of a Solar System of 50Wp.
- 7.5 The Subsidy shall be given for Solar Systems that are purchased through the Credit Facility.
- 7.6 Solar Systems that will be installed on houses that are already connected to the electricity grid system, shall not receive the Subsidy.
- 7.7 Targeted Consumers that already have Solar Systems that were purchased without the Subsidy and would like to upgrade the Solar Systems can receive the Subsidy to upgrade the Solar Systems. The Solar System shall be considered as a new purchase.
- 7.8 Targeted Consumers that have Solar Systems less than 50Wp that previously benefited from the Subsidy and like to upgrade the Solar

Systems, can receive additional Subsidy. The total Subsidy for the previous Solar System and the upgrade shall not exceed that of 50Wp.

- 7.9 The representatives of the Board and the Solar Company designated pursuant to clauses 3.8, and 5.8 respectively, shall jointly be responsible for coordinating the activities of this Agreement.
- 7.10 The representatives of the Board and the Solar Company shall meet on a quarterly basis to evaluate the progress of implementation of the Project.

8 INSPECTION AND INFORMATION

- 8.1 The Parties record that the Board is at all reasonable times entitled to:-
 - 8.1.1 inspect all of the Solar Company's accounts, records and other documentation related to this Agreement or the Solar Company's obligations under this Agreement;
 - 8.1.2 inspect the activities and operations of the Solar Company concerning the Project;
 - 8.1.3 require such information concerning the Project from the Solar Company; as may be necessary to ensure that the provisions of this Agreement are being complied with; and
 - 8.1.4 a financial audit of the utilization of the Subsidy will be conducted by the Board or its duly authorized agent.

9 NOTICES

9.1 All notices or other communications required or permitted under the terms of this Agreement shall (unless otherwise provided by this Agreement) be in English and in writing, shall be addressed for the attention of the persons indicated below and shall be sufficiently served if delivered personally or sent by courier or facsimile and receipt whereof is duly acknowledged by the persons indicated below. The addresses of the Parties and their respective facsimile numbers shall be:

If to the Board:

The Executive Director
Rural Electrification Agency
P.O. Box 7317
Kampala, Uganda

Tel: 256- 31-2264096
Fax: 256- 41-4346013

If to the Solar Company:

The Managing Director
.....(Name of REES)
P.O Box

City/Town, Uganda

Tel:,
Fax:

9.2 Any Party may by notice change the address, addressee and/or facsimile number to which such notices and communications to it are to be delivered or mailed.

9.3 Any such notice shall be deemed (in the absence of proof to the contrary) to have been received and given, in the case of delivery by hand, at the time of delivery, in the case of registered post, twenty one (21) days after posting it and, in the case of telex or facsimile, on the completion of transmission.

10 RESOLUTION OF DISPUTES

- 10.1 In the event that there arises between the Parties any dispute, controversy or claim arising out of or relating to this Agreement or the breach, termination or validity thereof (a “Dispute”), the Party wishing to declare a dispute shall deliver to the other Party a notice identifying the disputed issue.
- 10.2 Within 30 days of delivery of a notice of a Dispute, the Parties shall attempt in good faith to settle such Dispute by discussions among representatives of the Parties, each of whom shall possess the appropriate decision-making authority. In the event that such individuals are unable to reach agreement within 30 days, or such longer period as they may agree, then either of the Parties may refer the matter to arbitration pursuant to clause 10.3.
- 10.3 In the event that the Parties are unable to resolve any dispute pursuant to clause 10.2, then the Parties agree as follows:
 - 10.3.1 the dispute shall be finally settled by arbitration in accordance with the Arbitration and Conciliation Act Cap 4 Laws of Uganda. Such dispute shall be submitted to arbitration at the request of any Party upon written notice to that effect to the other Party in accordance with this Act;

10.3.2 any arbitration conducted pursuant to clause 10.3.1 shall be conducted in Kampala; and

10.3.3 the language at any arbitration under this Agreement shall be English.

11 TERMINATION

11.1 Each of the following events shall be events that give a Party a right to terminate this Agreement:-

11.1.1 the initiation of winding-up proceedings by the Solar Company or the Solar Company becoming bankrupt or going into liquidation other than for the purposes of reconstruction or amalgamation;

11.1.2 an Abandonment by the Solar Company;

11.1.3 misappropriation of the Subsidy and/or the use of the Subsidy for other matters not related to the Project and a failure by the Solar Company to refund the misappropriated funds within a period of thirty (30) days; and

11.1.4 any material breach by the Solar Company of any material provision of this Agreement (other than is identified in 11.1.1 through 11.1.4) that is not remedied within 30 days after written notice from the Board identifying and giving details of the breach by the Solar Company.

11.2 Upon the occurrence of any of the events set out in clause 11.1, that is not cured within the applicable period (if any) for cure, the

Solar Company or the Board may, initiate termination of this Agreement by delivering a notice (“Notice of Intent to Terminate”) of its intention to terminate this Agreement to the defaulting Party. The Notice of Intent to Terminate shall specify in reasonable detail the event giving rise to the Notice of Intent to Terminate.

- 11.3 Following the delivery of the Notice of Intent to Terminate, except for the events set out in clause 11.1 for which no cure period shall be available, the Party in default may continue to undertake efforts to cure the default for a period of 30 days commencing on the delivery date of such notice (or such longer period as the Parties mutually may agree), and if the default is cured at any time prior to the delivery of a Termination Notice in accordance with clause 11.4, then the non-defaulting Party shall have no right to terminate this Agreement in respect of such cured default. In addition, no additional cure period shall be available with respect to any event that has been adjudicated through the dispute resolution process pursuant to clause 10.
- 11.4 Upon expiration of the period of cure, if any, described in clause 11.1 and unless the Parties shall have otherwise agreed or unless the event giving rise to the Notice of Intent to Terminate shall have been remedied, the Party having given the Notice of Intent to Terminate may terminate this Agreement by delivering a Termination Notice to the other Party, whereupon this Agreement shall immediately terminate. If no period of cure is available for the relevant event, the non-defaulting Party may issue a Termination Notice to the defaulting Party at any time on or after the second day following the delivery of the Notice of Intent to Terminate.

11.5 Upon expiration or termination of this Agreement, the Parties shall have no further obligations hereunder except: - (i) the Solar Company shall have an obligation of returning the Subsidy amount that has not been utilized; (ii) for obligations that arose prior to such expiration or termination and (iii) obligations that expressly survive such expiration or termination pursuant to this Agreement.

11.6 The exercise of the right of a Party to terminate this Agreement, as provided herein, does not preclude such Party from exercising other remedies that are provided herein or, are otherwise available at law. Remedies are cumulative, and the exercise of, or failure to exercise, one or more of them by a Party shall not limit or preclude the exercise of, or constitute a waiver of, other remedies by such Party.

12 MISCELLANEOUS PROVISIONS

12.1 Laws governing the Agreement

This Agreement, its meaning and interpretation and the relationship between the Parties shall be governed by the Laws of the Republic of Uganda.

12.2 Distinct provision

Each of the provisions of this Agreement is severable and distinct from the others. If at any time one or more of these provisions is or becomes invalid, illegal or unenforceable, the remaining provisions shall not in any way be affected or impaired.

12.3 Modification

Any modification of the terms of this Agreement shall only be made by written agreement between the Parties.

12.4 Waiver

No waiver by a Party under this Agreement shall be effective, unless it is in writing and is duly executed by an authorized representative of a Party to this Agreement.

The failure by either Party to exercise or any delay by either Party in exercising a right or remedy provided by this Agreement or by any law does not constitute a waiver of the right or remedy or a waiver of other rights or remedies. No single or partial exercise of a right or remedy provided by this Agreement or by law prevents the further exercise of the right or remedy of another right or remedy. The rights and remedies provided by this Agreement are cumulative and not exclusive of any rights or remedies provided by law.

12.5 Costs and expenses

Each Party shall pay its own costs and expenses incurred by it in connection with the preparation and completion of this Agreement.

12.6 Previous agreements

This Agreement and the Schedules attached hereto are intended by the Parties as the final expression of their agreement on the matters contained herein and is intended also as a complete and exhaustive statement of their agreement with respect to the subject matter contained herein and supersedes any previous agreements or understandings between the Parties.

12.7 Relationship of the Parties

This Agreement shall not be interpreted or construed as creating an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon any Party. No Party shall have any right, power, or authority to enter into any agreement or

undertaking for, to act on behalf of, to act as or be an agent or representative of, or to otherwise bind, any other Party.

12.8 No Third Parties

This Agreement is intended solely for the benefit of the Parties and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, or confer any right of suit or action on any person not a Party to this Agreement.

12.9 Assignment

This Agreement shall not be assigned by any Party without the prior written consent of the other Party.

12.10 Severability

If any term or provision of this Agreement is held by a court or other authority of competent jurisdiction to be invalid, void, unenforceable or against public policy, the rest of this Agreement will remain in full force and effect and will in no way be adversely affected; provided, however, that the severance of such term or provision does not render the performance of a Party's material obligations impracticable or impossible. The Parties will negotiate in good faith with a view to replacing any such term or provision.

12.11 Further Assurances

If it shall be necessary and proper after the execution hereof to execute any additional documents or take further action to effectuate the intent of this Agreement, the Parties agree to take such action.

IN WITNESS WHEREOF the duly authorized representatives of the Parties hereto have placed their respective hands on the date first above written.

Signed for and on behalf of
THE GOVERNMENT OF
THE REPUBLIC OF UGANDA
Represented by the **RURAL**
ELECTRIFICATION BOARD

In the presence of:

F. A. KABAGAMBE-KALIISA
CHAIRMAN

GODFREY R.
TURYAHIKAYO
BOARD SECRETARY

THE COMMON SEAL of)

LIMITED was hereunto affixed)

Signature _____

Name:

Position: **Managing Director**

In the presence of:

Signature: _____

Name_____

Position: _____

SCHEDULE ONE

The Subsidy shall be disbursed in Uganda Shillings using exchange rate fixed for six months at the beginning and mid of the year. Specifically, Bank of Uganda (BOU) prevailing mid exchange rate applicable on the 2nd January shall be fixed at the beginning of the year for six months and reviewed on 30th June of the same year to run up to the end of the year.

The amount of Subsidy disbursed to the Targeted Consumer shall be based on the total Wp of the Solar Systems installed and shall be determined as follows:

Systems Size (Wp)	Subsidy (Shs)

ANNEX M: APPLICATION FORMS AND REQUIREMENTS FOR PARTICIPATION IN PVTMA

A: Kampala-based Dealer

Form No: S1K

APPLICATION TO PARTICIPATE IN THE PVTMA PROGRAMME

Kampala – based REA Eligible Enterprise – Solar PV

Please read the PVTMA Applicants' Information and Guidelines thoroughly before filling this application

INFORMATION PROVIDED IN THIS APPLICATION FORM WILL BE TREATED IN TOTAL CONFIDENCE

For REA office use:

APPLICATION NUMBER: _____ **DATE:** _____

1. Company/Organisation Data

Name of company / organisation: _____

Name of contact person: _____ Title: _____

Postal address: _____

Physical address: _____

Telephones: _____ Fax: _____ E-mail: _____

Year of registration: _____

Year when business started (if different from date of registration) _____

Legal status of your company / organisation: _____

Please attach copies of cover and signature pages of your organisation's registration and proof of authority to sign obligations on behalf of the organisation.

Where the shareholders are companies, please list the individual shareholders of the companies

Percentage ownership held in Uganda: _____ % Percentage ownership held Overseas: _____ %

Percentage private equity: _____ % Percentage public equity: _____ %

Products / services: _____

Geographic market targeted (whole country or some districts-specify)

Number of:

Management staff: _____ Skilled employees: _____ Unskilled employees: _____

Membership of business and professional associations:

Name of Association

Telephone and Fax

2. Solar sales

For dealers in solar equipment, please provide a breakdown of the annual sales by category:

Description	Sales in UShs				
	2008	2009	2010	2011-est	2012-est
PV modules					
Controllers					
Battery					
Light fixtures					
Switches					
Socket outlet					
Total sales					

I fully understand and agree to the conditions set out in this application form, and in the PVTMA regulations, applicant eligibility and subsidy eligibility criteria.

Signed: _____ Date: _____

On behalf of company / organisation

Signed: _____ Date: _____

On behalf of REA

Requirements for Kampala-based REES

1. A completed Application Form (S1K)
2. Certificate of Incorporation, Certificate of registration, Partnership registration or Business Name registration, whichever is applicable
3. Certified copy of Memorandum and Articles of Association,
4. Company or Organizational Profile – indicate clearly the nature of business or work and solar distribution activities and network – current and planned (location of business outlets, branches, agents, or franchises).
5. Trading license and Letter from Local Council confirming solar activities being undertaken by the applicant in the area.
6. List of products and specifications, list of suppliers, their addresses and copies of valid certification of their products.
7. List and CVs of key technical staff.
8. Letter of commitment to provide warranty and after sales service (copies of warranty forms if already available)
9. Business plan summary – Form S3K
10. Copy of latest audited accounts
11. Bank reference letter(s) giving an opinion of financial standing, credit rating

Once short-listed, the applicant will be required to submit its most recent detailed business plan (see guidelines, Form S2).

**ANNEX M (continued): APPLICATION FORMS AND REQUIREMENTS FOR
PARTICIPATION IN PVTMA**

B: Rural based dealer

Form No: S1R

APPLICATION TO PARTICIPATE IN THE PVTMA PROGRAMME

Rural – based REA Eligible Enterprise – Solar PV

Please read the PVTMA Applicants' Information and Guidelines thoroughly before filling this application

INFORMATION PROVIDED IN THIS APPLICATION FORM WILL BE TREATED IN TOTAL CONFIDENCE

For REA office use:

APPLICATION NUMBER: _____ **DATE:** _____

1. Company/Organization Data

Name of company / organization: _____

Name of contact person: _____ Title: _____

Postal address: _____

Physical address: _____

Telephones: _____ Fax: _____ E-mail: _____

Year of Business registration or Name registration: _____

Year when solar business or solar activities started (if different from date of registration) _____

Legal status of your company / organization: Sole Trade, Registered Company, Partnership, NGO or any other form: _____

Products / services: _____

Geographic market targeted (whole country or some districts-specify)

Existing or planned branches if any:

Number of:

Management staff: _____ Skilled employees: _____ Unskilled employees: _____

Membership of business and professional associations:

Name of Association

Telephone and Fax

2. Solar sales

For dealers in solar equipment, please provide a breakdown of the annual sales by category:

	Sales in US\$				
Description	2008	2009	2010	2011-est	2012-est
PV modules					
Controllers					
Battery					
Light fixtures					
Switches					
Socket outlet					
Total sales					

I fully understand and agree to the conditions set out in this application form, and in the PVTMA regulations, applicant eligibility and subsidy eligibility criteria.

Signed: _____ Date: _____

On behalf of company / organisation

Signed: _____ Date: _____

On behalf of REA

Requirements for Rural-based REES

1. A completed Application Form (S1R)
2. Certificate of Incorporation, Partnership registration or Business Name registration, whichever is applicable
3. Certified copy of Memorandum and Articles of Association (if applicable),
4. Company or Organizational Profile – indicate clearly the nature of business or work and solar distribution activities and network – current and planned (location of business outlets, branches, agents, or franchises).
5. Trading license and Letter from Local Council confirming solar activities being undertaken by the applicant in the area.
6. List of products and specifications, list of suppliers, their addresses and copies of valid certification of their products.
7. List and CVs of key technical staff.
8. Letter of commitment to provide warranty and after sales service (copies of warranty forms if already available)
9. Copy of latest management/financial accounts
10. Reference letter from a bank or other financial institution indicating availability of an account with the financial institution; or a statement that the applicant does not presently have a bank account

Once short-listed, the applicant will be required to submit a business plan summary (Form S3).

ANNEX N: GUIDELINE FOR BUSINESS PLAN FOR REA ELIGIBLE ENTERPRISE SOLAR PV

Form No. S2

PV COMPANY BUSINESS PLAN (*a suggested outline*)

1. Company overview

- Company name, address, contact details
- Brief history, including history in the pv business
- Legal form
- Ownership structure with names and qualifications of main owners
- Present capitalization – shareholders, how much is invested to date (equity/debt)
- Overview of financial performance
- Corporate mission
- Main management organization chart with names and qualifications of key directors and officers
- Major products, markets, customers and suppliers
- Explanation of banking relationships, credit history, links with assistance agencies

2. PV business concept

- Target pv market
 - Describe sources of market data and market research conducted.
 - Identify the target market's location, estimated size in recent years in value, numbers of systems, kW; segments - fully commercial household sales, government and donor related sales, NGOs - customer profiles (e.g., income sources and patterns) and needs for each segment. Also estimate consumer household expenditures on non-pv competing products and services, e.g., battery charging and dry cell batteries.
 - Discuss recent pv market trends.
 - Estimate market growth between now and 2013.
 - Identify main barriers to pv market development.
- Competition
 - Identify present competition in the target pv market, their main supply sources.
 - Estimate recent and current pv sales and market share of the main competitors by segments.
 - Identify the present strengths and weaknesses of your company versus the competing companies in terms of products (design, reliability, reputation), pricing (including any deferred payment and consumer credit arrangements), promotion, distribution channels, after sales services.
 - Identify the main opportunities and threats your company is facing in the pv market
- Market development strategy
 - Identify the market niches (locations, segments) targeted by your company.
 - Identify your pv product(s), the consumer needs that they meet.
 - Identify your projected sales in value, units and kW by product and segments.
 - Identify your pricing strategy, showing cost build-up by component including duties, taxes and margins; Compare prices with competitors' pricing and affordability.
 - Identify your sales approach, including incentives, advertising and promotional activities. Your sales approach may be different for different segments, e.g., your sales approach for the donor market may be different than that for the consumer market.
 - Provide details of distribution channels (including alliances, branch outlets, agents, incentives, payment terms), locations and after sales service policy and warranties.
- The credit product

- Describe credits that you offer to customers, your credit policies and procedures, collection arrangements.
- Discuss the risks of this product and the risk mitigation strategies of your company.
- Discuss your credit documentation system.
- Discuss the importance of consumer credit to motivate sales in your marketing strategy, recent credit performance, and strategies for improving consumer credit performance.

3. Operations

- Describe company's organizational arrangements for pv business. List the main staff and their responsibilities. If new staff are to be added, identify the positions and responsibilities.
- Describe arrangements for sourcing or producing pv components, systems design and assembly, installations, after sales services.
- Describe internal control systems for systems design and technical quality, inventory management, credits, cash movement.

4. Implementation

- Present the timetable envisioned for preparing and developing the pv business over the next year.
- Discuss how you will phase the implementation of your marketing strategy, e.g., provide table indicating the growth in distribution network by year, identifying the arrangements in each location (consignment agents, government or similar offices, independent agents, company outlets with own staff, etc).
- List the key five to ten steps (with target dates, estimated costs) that the company would take by the end of 2010. These should address identified weaknesses and capacity improvements to take advantage of identified opportunities. These could include, for instance, completion of audited accounts 2009 and 2010, conducting market research, securing commercial credits, securing investment from x persons or for x amount, adding staff and distribution outlets, investments in technical capacity upgrading, conducting training sessions for marketing and technical staff, securing assistance from donors, suppliers or others, introducing a new sales approach or techniques, adopting measures to improve internal controls, major fixed or moveable asset purchases.

5. Financial projections and financing plan

- Projected investment and operating costs, indicating foreign exchange component, and revenues
- Financing plan – amounts and sources of equity, loan, other; identify terms and conditions of financing
- Proposed uses of fresh equity and loan proceeds
- Pro forma projected cash flows, balance sheets and income statements
- Profitability and return on investment analysis; identify critical factors determining profitability
- Liquidity analysis

Annexes (supporting documents, for example)

- ✓ details of component suppliers and procurement practices
- ✓ details of consumer credit arrangements, including sample contracts
- ✓ details of consumer protection arrangements, including details of technical/financial information provided to customers, returns policy, warranties, after-sales service.
- ✓ details of code of conduct followed with respect to competitors.
- ✓ resumes of main owners, key directors, officers and staff
- ✓ copies of company brochures, profiles

ANNEX O: EXECUTIVE SUMMARY OF COMPANY BUSINESS PLAN

Form No: S3

RURAL ELECTRIFICATION AGENCY – REA MINISTRY OF ENERGY AND MINERAL DEVELOPMENT

Executive Summary for Company Business Plan

Section A: Identification

1. Company

Name of company.....

Date of incorporation.....

Contact Address (physical & postal).....

Tel.....

Email.....

.....

Directors (names).....

.....

.....

.....

Contact person (name, contact address, phone, email)

.....

.....

.....

Section B: Market strategy

2. Market

Target districts	Target groups in the district

Sales estimates

Year Sales UShs	2010		2011		2012		
Total sales revenue							
Of which, PV related							
Systems				2010			
Size (Wp)	10 – 19	20 - 29	30 - 29	50 - 69	70 -99	100 - 149	150+
a) Households							
b) Institutions							
Systems				2011			
Size (Wp)	10 – 19	20 - 29	30 - 29	50 - 69	70 - 99	100 - 149	150+
a) Households							
b) Institutions							
Systems				2012			
Size (Wp)	10 – 19	20 - 29	30 - 29	50 - 69	70 - 99	100 - 149	150+
a) Households							
b) Institutions							

3. Market development

a) Promotion (Indicate methods e.g radio, house-to-house etc, approximate percentage of sales for marketing etc)

b) Distribution (List branches, franchisees, sub dealers, agents, physical addresses)

c) Expansion plans

Inventory (increase in Ug.Shs)

Geographical coverage of market (additional districts to be covered)

Section C: Capacity

4. Total employees - _____

<i>Key staff</i>				
Name	Category (management, technical)	Designation	Qualifications	Experience (years)

Section D: Finance

5. Financials

a) Capitalisation

Source of capital	Amounts
Equity	
Debt	
Other	
Total	

b) Profitability

Year	Net annual profit (Ug.Shs.)
2008	
2009	
2010 est.	
2011 est.	

6. Banking relationships

7. Status of audited accounts, name of auditors

Authorized signature and company stamp

.....
For

.....
(company name)

.....
Date

ANNEX P: TORS FOR END-USER AUDITING

TERMS OF REFERENCE FOR CONSULTANCY SERVICES FOR END – USER AUDITING AND VERIFICATION OF SOLAR PV INSTALLATIONS

ENERGY FOR RURAL TRANSFORMATION PHASE II

1. Introduction

The Government of Uganda (GoU) has received funding from the World Bank towards implementation of the Energy for Rural Transformation (ERT) Project Phase II, and intends to apply part of the proceeds for consultancy services.

The ERT Phase II project aims at scaling up investments in rural electrification and Information Communication Technologies (ICTs). Under ERT Phase II, the Rural Electrification Agency (REA) will implement the solar PV Targeted Market Approach (PVTMA) whose main focus is to promote consumer credit and provide consumer subsidies for PV to targeted markets. The efforts are expected to result in the installation of at least 20,000 PV systems in 4 years.

During ERTI, the Private Sector Foundation (PSFU)/PSFU was carrying out end-user audits as a means of verifying PV installations for the purposes of paying performance based grants to PV companies. When PVTMA programme commenced, the audit reports were availed to REA to use as a basis for disbursing consumer subsidies. When ERTI ended on 28th February 2009, PSFU stopped providing performance-based grants to PV companies and hence stopped carrying out end-user audits of PV installations. During ERTII, all PV installations under PVTMA will be subject to audit and verification before disbursement of subsidies to consumers.

REA therefore requires the services of competent individual consultants “on call basis” to provide end-user auditing and verification services of PV installations that will be installed under PVTMA Programme.

2. Objective

The objective of this consultancy service is to provide end-user auditing and verification services of solar PV systems installed by PV companies through the PVTMA Program to enable REA disburse consumer subsidies.

3. Scope of Service

The Individual Consultants will be required to physically inspect and verify PV systems installed by PV companies participating in PVTMA in all regions of Uganda. It's estimated that over 30 PV companies will participate in the programme installing an average of 500 PV systems per month. The PV systems will be installed mainly through two modalities. The 1st modality is through financial institutions regulated by the Bank of Uganda and the 2nd modality is through unregulated institutions such as Savings and Credit Co-operatives Societies (SACCO), NGOs and MFIs etc. In addition, there will be institutional and

commercial PV installations made by solar companies either through cash and credit sales, these will also be eligible for subsidies and hence subject to audit and verification.

The PV companies shall provide detailed information about the installations they have carried out to REA which information shall be entered into the PV data base and cross-checked with information from the audit/verification exercise before disbursement of the subsidy.

The Consultant shall be required to carry out the following activities.

1. Travel to the location where the PV system is installed and physically verify its existence. The travel shall be by public transport.
2. At the site of the installation, the consultant will obtain the following information pertaining to the PV system by physically examining the installation and interviewing the consumer.
 - a. Date of installation.
 - b. Name of the consumer.
 - c. Telephone contact of the consumer.
 - d. Name of institution that provided the credit facility.
 - e. Location of PV installation which shall include district, sub-county, parish and village.
 - f. GPS coordinates of where the PV system is installed.
 - g. PV system specification including array capacity in watt peaks (Wp), type, make and rating of solar module(s), charge regulation and battery(s), and load characteristics.
 - h. Serial numbers of the solar module(s)
 - i. Check if adequate end-user training has been carried out by the PV company
 - j. Check if the PV Company provided an end-user manual.
 - k. Check if the consumer was provided with the contact address of the PV Company that installed the PV system.
 - l. Check if the consumer was given explanation of the subsidy.
3. In addition, the consultant will verify the following:
 - a. The PV components used in installation are approved by REA.
 - b. The components installed are the same as those indicated in the quotations/invoices.
 - c. The PV installation meets agreed PV standards.

For each of the inspected installations, the Consultant will put a sticker, to be provided by REA, marked 'SYSTEM VERIFIED' on accessible and fairly static component i.e. Charge controller.

4. Experts Required

The Consultancy is open to individuals that have the following qualifications:

- a. Have at least a certificate in electrical installation or its equivalent.
- b. Additional training in either solar system sizing and installation or end-user auditing and verification.
- c. 2 years experience in sizing and installation of PV
- d. Experience in inspecting PV installations

- e. Familiar with PV standards and PV installation code.
- f. Experience in using GPS equipment to record coordinates of a location.
- g. Must NOT be currently employed by PV companies participating in PVTMA.

5. Terms of Employment

The Consultant shall be offered a Contract for a period of one (1) year renewable upon satisfactory performance. The terms of employment shall be “on call” basis. The assignment will necessitate the Consultant to travel to various parts of the country where PV systems will be installed.

Remuneration shall consist of a fixed fee per PV installation audited and working advance per trip to cover the cost of public transport to and from Kampala, local public transport in the field, accommodation, meals and contingency. The inspection trip should be arranged to ensure that at least 10 PV systems are inspected per trip.

The consultant shall be liable for taxation under the laws and regulations

The consultant should be ready to start work on immediately.

6. Output

The Consultant shall submit,

- I. An audit report containing the following information for each PV installation.
 - a. Date of installation,
 - b. Name of the consumer and telephone contact.
 - c. Name of the institution that provided the credit.
 - d. Location of PV installation that include district, sub-county and parish
 - e. GPS coordinates of the PV installation.
 - f. System specification including array capacity in watt peaks (Wp), type, make and rating of solar module(s), charge regulation (s) and battery(s), and load characteristics.
 - g. Serial numbers of the solar module(s)
 - h. Cost of PV system
 - i. If end-user training has been carried out by the PV company
 - j. If PV company provided a user manual.
 - k. If the consumer was provided with the contact address of the PV company that installed the PV system.
 - l. If the consumer was explained the subsidy.
 - m. Confirmation that the company used approved PV components.
 - n. Confirmation the PV installation meets agreed PV standards.
- II. Acceptable accountability documents for the working advance provided for that particular trip
- III. Signed copies of introductory letters to consumers

7. Reporting

The Consultant shall carry out the assignment under the supervision of the PVTMA Officer, Rural Electrification Agency.

The Consultant shall submit an audit report for the PV systems inspected after every audit exercise is conducted. The report should be delivered not more than 3 working days upon returning from the inspection trip.

ANNEX Q: PV AUDIT AND VERIFICATION QUESTIONNAIRE

SOLAR PV AUDIT AND VERIFICATION QUESTIONNAIRE

Part 1: SYSTEM IDENTIFICATION

1.1	User Name:	<hr/>		
1.2	Postal Address:	<hr/>		
1.3	Physical Address:	<hr/>		
1.4	Location			
1.4.1	Village:	1.4.2	Subcounty:	<hr/>
1.4.3	County:	1.4.4	District:	<hr/>
1.5	GPS Readings/ Way Points			
1.5.1	Grid Reference	<hr/>		
1.5.2a	Northings:	1.5.2b	Eastings	<hr/>
1.6	Purpose (Tick where applicable)			
1.6.1	Solar Home System:	<input type="checkbox"/>		
1.6.2	Institutional purpose	<input type="checkbox"/>		
1.6.3	Commercial/ business setup	<input type="checkbox"/>		
1.6.4	If the system is institutional or commercial business set up, please specify	<hr/>		
1.6.5	Brief description of the PV system.	<hr/> <hr/> <hr/>		
1.6.6	System Supplier/ Vendor:	<hr/>		
1.6.7	Address:	<hr/>		
1.6.8	Installer:	<hr/>		
1.6.9	Relationship with Vendor:	<hr/>		
1.6.10	Address and telephone contact:	<hr/>		
1.6.11	Date of Installation:	<hr/>		

Part 2: CUSTOMER SATISFACTION

2.1 Service by Supplier:

2.1.1 System Performance

(a) Is your System working well? (Yes or No): _____

(b) If No, what is wrong with it? _____

2.1.2 User Education

(c) Do you know how your system works? (Yes or No): _____

(d) If No, why not? _____

(e) If Yes, Do you have or were you given any tips on basic Maintenance of your System?

(f) Do you have any Spare Parts for your system and what are they? _____

2.1.3 Contention

(g) How do you grade the service of your supplier? (Tick)

Excellent Very Good Fair Poor

2.2 Effects in Livelihood:

2.2.1 Comfort

Has the Solar Power System changed your way of living? (Yes or No): _____

If Yes, How? (Explain Briefly): _____

Are you happy with your Solar PV system? _____

2.3 Costs

2.3.1 Average expenditure on Energy

(a) Before Acquiring Solar PV System (U. Shs): _____

(b) After Acquiring Solar PV System (U. Shs) _____

2.3.2 Do think that the Solar System you have is Cheap in the Long run?

Explain Briefly

Part 3: POWER SUPPLY COMPONENTS

3.1 Solar Array

ITEM	MANUFACTURER	MODEL	CAPACITY (Wp)	SERIAL No.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

3.2 Charge Controller/ Regulator

ITEM	MANUFACTURER	MODEL	RATING (Amps)		SERIAL No. (If applicable)
			(Wp)	Array Load	
1.					
2.					
3.					
4.					

3.3 Battery Bank

ITEM	MANUFACTURER	MODEL	Type	VOLTAGE PER UNIT (V)	CAPACITY (Ah)	Qty
1.						
2.						
3.						

BATTERY TYPE OPTIONS

**A) Automobile/ SLI B) Modified SLI C) Flat Plate Deep Cycle D) Sealed Wet Acid
E) Sealed Gel Deep Cycle F) Tubular Plate G) Other**

3.4 DC-AC Inverter

ITEM	MANUFACTURER	MODEL	RATING (W)	SERIAL No.
1.				
2.				
3.				

3.4 DC-DC Converter

ITEM	MANUFACTURER	MODEL	Operational Volts (V)		SERIAL No. (Where Applicable)
			Input	Output	
1.					
2.					
3.					

Part 4: LOAD DETAILS

DC LIGHTS

	MANUFACTURER	MODEL	SPECIFICATIONS		
			TYPE	RATING (W)	QTY
1,					
2,					

3,					
4,					
5,					

AC LIGHTS

	MANUFACTURER	MODEL	SPECIFICATIONS		
			TYPE	RATING (W)	QTY
1,					
2,					
3,					
4,					
5,					

OTHER DC LOADS POWERED BY SYSTEM		SPECIFICATIONS	
		RATING (W)	QTY
1,			
2,			
3,			
4,			
5,			

OTHER AC LOADS POWERED BY SYSTEM		SPECIFICATIONS	
		RATING (W)	QTY
1,			
2,			
3,			
4,			
5,			

Contact Person and Position: _____

Name of Auditor: _____

Signature: _____

Date: _____

ANNEX R: PV INSTALLATION REPORT

Company Name

Installation Report

1. Type of System: _____ 2. Installation Date: _____

Section A: End User Information:

3.	End User Name	
4.	Postal Address	
5.	Physical Address	
6.	Telephone Number	
7.	District	
8.	County	
9.	Sub-County	
10.	Parish	
11.	Village	

12. Financial institution

Section B: Financial Information:

13. Total Systems' Cost: _____

Section C: Systems' Components

14. Solar Panels' Details

No.	Manufacturer	Model	Serial Numbers		Capacity (wp)
1.					
2.					
3.					
4.					

15. Charge Controller/Regulator Details

No.	Manufacturer	Model	Rating		Serial Number
			Array	Load	
1.					

2.					
----	--	--	--	--	--

16. Batteries

No.	Manufacturer	Battery type	Model	Voltage	Ahrs	Qty
1.						
2.						

17. Inverters

No.	Manufacturer	Type	Model	Rating (w)	Operational Voltage		Serial Number
					Input	Output	
1.							
2.							

18. DC Lights

No.	Manufacturer	Model	Type	Rating	Quantity
1.					
2.					

19. AC Lights

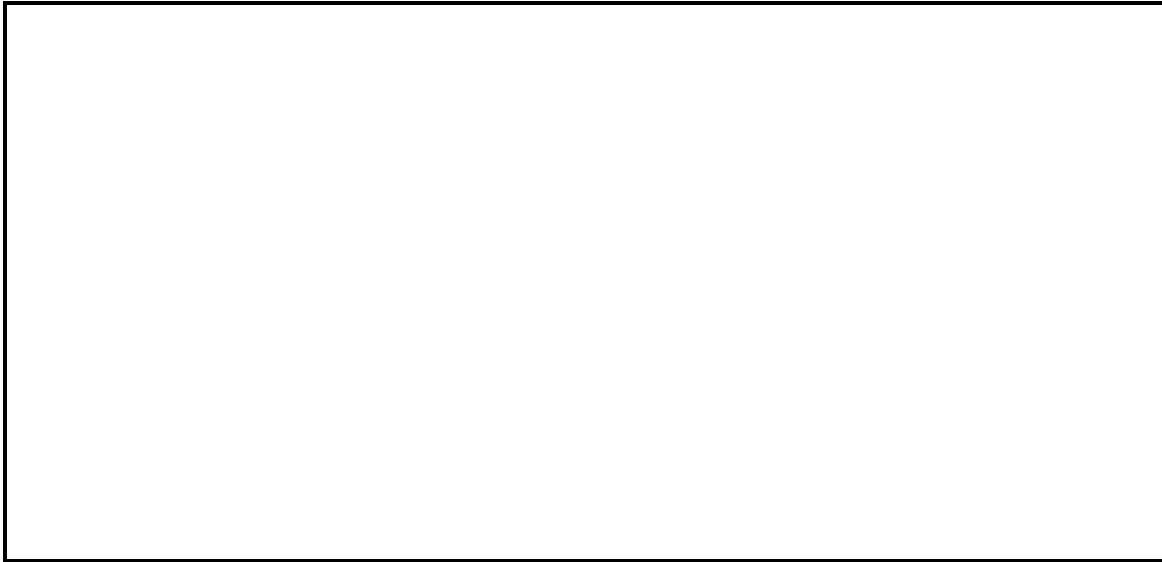
No.	Manufacturer	Model	Type	Rating	Quantity
1.					
2.					

20. Other AC Loads

No.	Manufacturer	Model	Type	Rating	Quantity
1.					

2.					
----	--	--	--	--	--

21. Sketch map of the end user location



Installed by: _____ Designation: _____ Sign: _____

End-User Acknowledgement:

Name: _____ Sign: _____

Comments:

ANNEX S: PVTMA APPLICATION CHECKLIST

REQUIREMENTS

In order to complete the application for participation in the PVTMA programme, please enclose the following documents:

1. A completed Application Form S1R (for rural based REES) or S1K (for Kampala-based REES)
2. Certificate of Incorporation, Registration, Partnership registration or Business Name registration, whichever is applicable
3. Certified copy of Memorandum and Articles of Association (if applicable),
4. Company or Organizational Profile – indicate clearly the nature of business or work and solar distribution activities and network – current and planned (location of business outlets, branches, agents, or franchises).
5. Trading license and Letter from Local Council confirming solar activities being undertaken by the applicant in the area.
6. List of products and specifications, list of suppliers, their addresses and copies of valid certification of their products.
7. List and CVs of key technical staff.
8. Letter of commitment to provide warranty and after sales service (copies of warranty forms if already available)
9. Business Plan (for Kampala-based REES that have been shortlisted; see Form S2)
10. Business plan summary (for Kampala-based applicants, and for rural-based REES that have been shortlisted; see Form S3)
11. Copy of latest audited accounts (or management/financial accounts for rural-based REES)
12. Bank reference letter(s) indicating availability of bank account with the bank (or other financial institution for rural-based REES, or statement of no bank account)