

INTEGRATED SAFEGUARDS DATA SHEET
CONCEPT STAGE

Report No.: 89711

Date ISDS Prepared/Updated: 19-Nov-2013

I. BASIC INFORMATION**A. Basic Project Data**

| | | | |
|--|---|-----------------------|----------------------------|
| Country: | Vanuatu | Project ID: | P150908 (formerly P148079) |
| Project Name: | Rural Electrification Project (P150908, formerly P148079) – now re-established as a recipient-executed grant-funded project | | |
| Task Team Leader: | Kamleshwar Prasad Khelawan | | |
| Estimated Board Date: | 26-Nov-2014 | | |
| Managing Unit: | GEEDR | | |
| Sector(s): | General energy sector (100%) | | |
| Theme(s): | Rural services and infrastructure (50%), Climate change (50%) | | |
| Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)? | | | No |
| Financing (in USD Million) | | | |
| Total Project Cost: | 15.00 | Total Bank Financing: | 15.00 |
| Financing Gap: | 0.00 | | |
| Financing Source | | | Amount |
| BORROWER/RECIPIENT | | | 0.00 |
| International Development Association (IDA) | | | 15.00 |
| Total | | | 15.00 |
| Environmental Category | B - Partial Assessment | | |
| Is this a Repeater project? | No | | |
| Is this a Transferred project? | No | | |

B. Project Objectives

The proposed development objective (PDO) is to increase access to electricity services for rural households and public institutions located in dispersed off-grid areas.

C. Project Description

The Project, which will run for 6 years, will target some 17,500 households and 600 public facilities, including schools, health centers and other small public service facilities nationwide that are presently

unelectrified, located beyond the economic and feasible grid extension area, and too dispersed across the off-grid area to be considered in future projects for isolated micro- or mini-grid configurations. For the successful electrification of this off-grid area, the least cost, practical and nearest term solution is likely to be solar photovoltaic (PV) systems. For households, such systems are likely to be demand driven “plug and play” solar home systems for lighting with capability for mobile phone charging and other small uses. For public facilities, such as schools and health centers, special purpose systems, sourced through tender, will provide lighting as well as capability to power devices, such as computers, DVD players, small TVs, electronic microscopy and refrigeration for medicines. Experience from other rural programs in Vanuatu and other Pacific Island States, indicates that the sustainable dissemination and maintenance of PV systems in remote areas is one of the most challenging tasks in rural electrification. The Project will employ subsidies and private-sector led marketing to enable access by up to 85% of off-grid households (totaling a target of 17,500) to solar PV systems. In cooperation with the Ministries of Health and Education, up to 90% of unelectrified rural schools and public service institutions will be provided PV systems. There are presently 11 private sector PV providers in Vanuatu; approximately 5 have been established for the past 5 years at least, and have design, installation and maintenance capability for large PV systems, such as those considered under Component 2 below. The project will include a screening study of areas suitable for micro- and mini-grids for future project based micro-/mini-grid development.

The project will have four main components:

1. Component 1: Electrification of off-grid households (US\$ 4.0 – 5.0 million): This component will “buy down” through subsidies the capital cost of PV systems, ranging from 2.5 peak Watts (Wp) portable pico-solar lanterns to 30 Wp fixed panel, plug and play systems, to make them affordable to the target off-grid households. Capital cost subsidies, initially based on system capacity, will be passed on through participating accredited dealers to consumers purchasing in the open competitive market. The exact level and schedule of subsidies will be determined at the preparation stage; however, a preliminary study carried out for AusAID in 2011-2012 recommended a 50 percent cost subsidy for home systems purchased by the consumer. In effect, this component will expand the current limited commercial market in Vanuatu for 1-2 Wp pico-solar systems to the next or middle range of products that provide significantly higher outputs. This product range limits the systems implemented by the Project to those that are portable or easily installed by the buyer. Because of this, it is anticipated project implementation will be greatly simplified as the need for on-site provider installation in individual homes is eliminated, along with the associated costs. Although the system capacities are much lower than the “solar home systems” (SHS) category (approximately 50-100 Wp) used in projects in larger countries, this range of small plug and play systems is considered highly suitable in the context of Vanuatu. Given the dispersed nature of off-grid populations in Vanuatu, a dealer model (consumer buys equipment outright) or open market mechanism for PV dissemination is proposed for the Project (see Component 3 below) as opposed to the fee-for-service model (supplier charges an ongoing fee), which often requires a much longer lead time than dealer models. Since a sufficient number of potential competing dealers already exist in the country, it is anticipated the dealer model will continue to build capacity in the private sector, including on-going maintenance associated with the portable home electric systems. Ongoing maintenance will require a distribution system for replacement batteries, which will be a requirement for dealer accreditation.

2. Component 2: Electricity access for off-grid public institutions (US\$ 4.5 – 5.5 million). This component will fully finance the procurement and installation of solar PV systems, ranging from 200-600 Wp capacity, for public institutions located in targeted off-grid areas, including but not limited to schools, health centers and other small public service facilities. A modular design of the solar PV systems will be followed for the public institutions to ensure the system can easily be

upgraded to meet the institutions' needs in the future. This component will be implemented in cooperation with the Ministries of Health and Education and others, as necessary. A competitive tender process will be held to award a contract for the supply, installation and maintenance of the systems over a five year period. To the extent permitted by geographic factors, the subprojects will be bundled to achieve economies of scale and to facilitate regular maintenance. Accredited companies participating in Component 1 will qualify to tender for activities under this Component.

3. Component 3: Regulation, business development and studies (US\$ 2.0 – 2.5 million). This component will include: a) Establishment of regulations and national technical and consumer protection standards for the installation and maintenance of solar PV systems to be used by the private sector, and for environmental and social impact management, including the disposal of batteries, as necessary; b) Accreditation and capacity building for private sector participants: accreditation program that ensures their operation is financially sound, their personnel competency, and their products meet minimum technical and quality standards, and provision of specialized courses in PV technology, to expand availability of local technicians; c) Maintenance training program: for long-term sustainability of the solar PV installations, a training program will be provided to suppliers, local service providers and end users to build local capacity; d) Leveraging microfinance: to encourage lending to rural consumers, the project facilitate development of products, sharing of knowledge and training of borrowers; and e) Program targeting: to ensure least cost solutions to electrify rural areas are considered, this project will undertake a preliminary screening study to identify areas economically suited to electrification by micro- or mini-grids, by examining population size, disbursement of the population, local energy resource availability, proximity to the concession areas and other key factors. Further detailed studies will be undertaken, outside of this project, to determine the feasibility, including identification of energy resources and economics of micro- or mini-grids in the areas identified.

4. Component 4: Project Management and Support (US\$ 2.0 – 2.5 million). This component will finance project management activities that will include: a) capacity building and implementation support: assistance from experts and advisers to DoE to assist with the implementation of the Project, including procurement support to manage and monitor the bidding process and contract and independent verification processes. Verification is expected to be undertaken by a verification agent who is independent of the project implementing agency to ensure that subsidies are only provided in accordance with the project design; b) Workshops and training for the DoE: conduct courses, seminars and other capacity building and training activities for DoE staff related to the technical components of this project; and c) Awareness raising program: market the program to the rural communities and Ministries, to the participating vendors/dealers and service providers, conduct surveys and studies to identify prospective markets, and conduct promotional campaigns, demonstrations and other activities to raise general public awareness.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project is located in Vanuatu and includes remote communities in the outer islands that are not in close proximity to the existing grid to consider grid extensions feasible, or clustered in one area to consider micro- or mini-grid installations, for providing access to basic electricity services.

Public Institutions: The existing buildings which will be selected for the installation of the PV systems will be wholly owned by the Government of Vanuatu and installation will be within the boundaries of the existing facilities.

Households: The PV systems intended for the households, which will be subsidized by the Project, will

be simple systems that are portable or easily installed by the buyer. With this approach, on-site provider installation in individual homes is prevented.

E. Borrowers Institutional Capacity for Safeguard Policies

The Department of Energy in the new Ministry of Climate Change Adaptation, Geo-Hazards Meteorology, Energy and Environment has little experience with World Bank Safeguard policies. However with the recently approved Energy Sector Development Project and the capacity development measures planned, the client is expected to quickly gain knowledge and skills to handle safeguard related aspects of the project. The project will prepare an Environmental Code of Practice to guide the handling of safeguards, and will supplement all the above with targeted training of both the client and beneficiaries in environmental and social management aspects.

F. Environmental and Social Safeguards Specialists on the Team

Anil H. Somani (GURDR)

Mary C.K. Bitekerezo (OPSOR)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

| Safeguard Policies | Triggered ? | Explanation (Optional) |
|-------------------------------------|--------------------|---|
| Environmental Assessment OP/BP 4.01 | Yes | The project will subsidize/finance installation of PV panels in individual private households and in health and educational facilities owned by GoV. Most of the installation will be carried out in remote areas where extension of the existing electric grid or development of mini or micro grids may not be feasible or practical. Panels will be installed either on roof tops or mounted on pole(s), where roof orientation is not suitable. As such there will be no construction related impacts. The major environmental issues associated with the installation will be the recycle/disposal of spent storage batteries at the end of their useful lives. This will be addressed through development of an appropriate program for collection, transport, storage and disposal of batteries. An Environmental Code of Practice for battery disposal and or regulations for waste disposal, fashioned after Fiji and other PI countries, will be developed. |
| Natural Habitats OP/BP 4.04 | No | Project activities will not take place in or impact Natural Habitat areas. |
| Forests OP/BP 4.36 | No | Project activities will not impact Forests. |
| Pest Management OP 4.09 | No | The project will not involve use of pesticides/herbicides. |
| Physical Cultural Resources OP/BP | No | It is anticipated that all PV panels will be |

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|--|------------|---|
| 4.11 | | mounted on roofs and no new construction activities are anticipated. |
| Indigenous Peoples OP/BP 4.10 | Yes | Indigenous peoples are present in the area of influence due to the rural context of this project in the outer islands. Since the majority of beneficiaries are IPs, the project does not need to prepare any instrument and the elements of the IPP will be integrated into the design of the project including consultations for broader community support of the project. |
| Involuntary Resettlement OP/BP 4.12 | No | There will be no need for land since project activities will take place within the existing confines of households and public facilities. The proposed study on identification and quantification of the remaining nationwide off-grid market for individual systems will examine population size, dispersion, local energy resource availability and other key factors, and will not result in immediate or near future investments. |
| Safety of Dams OP/BP 4.37 | No | No dams will be affected by the project. |
| Projects on International Waterways OP/BP 7.50 | No | No project activities will take place on international waterways. |
| Projects in Disputed Areas OP/BP 7.60 | No | There is no known disputed area in the project area of influence. |

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS:

12-Jan-2014

B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the PAD-stage ISDS.

December 31, 2013.

IV. APPROVALS

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|----------------------------------|---------------------------------|-------------------|
| Task Team Leader: | Name: Kamleshwar Prasad Khelawa | |
| <i>Approved By:</i> | | |
| Regional Safeguards Coordinator: | Name: Peter Leonard (RSA) | Date: 26-Nov-2013 |
| Sector Manager: | Name: Michel Kerf (SM) | Date: 26-Nov-2013 |

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the

InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.