

PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE

Report No.: 80541

Project Name	Rural Electrification Project (P150908)
Region	EAST ASIA AND PACIFIC
Country	Vanuatu
Sector(s)	General energy sector (100%)
Theme(s)	Rural services and infrastructure (50%), Climate change (50%)
Lending Instrument	Investment Project Financing
Project ID	P150908
Borrower(s)	Republic of Vanuatu
Implementing Agency	Department of Energy
Environmental Category	B-Partial Assessment
Date PID Prepared/Updated	24-July-2014
Estimated Date of Board Approval	31-August -2014
Decision	22-July-2014
Other Decision	N/A

I. Project Context

Country Context

The Republic of Vanuatu is an archipelago of 82 volcanic islands (65 of them inhabited) covering a total area of about 12,200 square kilometers, of which approximately a third is land. Vanuatu's population of approximately 250,000 people (as at December 2010) is almost evenly distributed among the six administrative provinces: Malampa, Penama, Sanma, Shefa, Tafea and Torba. Vanuatu has become one of the fastest growing economies of the Pacific region. The economy has experienced strong and sustained growth, mainly driven by tourism, construction, and aid inflows. The per capita Gross Domestic Product (GDP) is estimated at US\$3,375 (US\$5,297 at Purchasing Power Parity (PPP)), yet the cost of basic infrastructure services is high and affects the business environment in the country.

The national household count stands at an estimated 50,740, of which about 12,470 households (25 percent) are located in urban areas and the remaining 38,270 (75 percent) are dispersed in rural areas. The average household monthly income in Vanuatu is VUV83,800 (US\$887), with an average household monthly income of VUV97,500 (US\$1,032) reported in urban areas, compared with VUV79,500 (US\$841) in rural areas. For female-headed households, the average monthly income across Vanuatu is VUV59,300 (US\$627): VUV85,200 (US\$901) in urban areas and VUV 51,200 (US\$542) in rural areas. Generally, urban households in Vanuatu rely on wages and salaries from labor-based activities as their main source of income, while rural households rely mainly on home consumption (subsistence) and household enterprises based around the sale of agricultural products,

handicrafts, and other goods produced in the home.

Sectoral and institutional Context

An estimated 27 percent of the Vanuatu households and public institutions have access to electricity via connections to a grid network. Even on the largest four islands, the share of those without access remains high: Efate (24 percent), Santo (65 percent) Tanna (86 percent), Malekula (84 percent). The rural population usually access electricity through the use of diesel generators or solar, however, some communities are supplied by small micro-/mini-grid systems. The lower population density in rural areas, large distances between customers, lower electricity loads and high connection costs have meant that the extension or building of new electricity grids for supply to peri-urban and rural consumers remain uneconomic.

Electricity services in Vanuatu are delivered through three types of models: (a) independent “main grid systems” in the two main urban centers; (b) isolated “mini-grids” in lesser population concentrations, but where a grid supply system is still a technically and economically competitive option; and (c) decentralized energy service systems. Grid electricity in Vanuatu is supplied by two concessionaires, Union Electrique du Vanuatu Ltd (UNELCO) and Vanuatu Utilities and Infrastructure Ltd (VUI), and is largely restricted to Port Vila and Luganville, as well as small parts of the islands of Malekula and Tanna. Outside the concession areas, the Department of Energy (DoE), within the Ministry of Climate Change and Natural Disasters (MCCND), is responsible for electrification projects (rural electrification). DoE also plays a central role in coordinating energy sector development and policy.

The Government of Vanuatu (GoV) has made the development of the electricity sector a priority. The Vanuatu National Energy Roadmap (NERM), which was developed with support from the World Bank, lays the foundation for future energy sector policy and investment in Vanuatu. NERM was approved by the Council of Ministers (COM) on June 27, 2013, and launched by GoV in April, 2014. It seeks to address key constraints that have prevented the energy sector from delivering affordable modern energy access in an efficient and sustainable manner to the vast majority of the population, including improved access to secure, reliable and affordable electricity in Vanuatu. Investment in renewable energy is seen as the key to increasing energy security and mitigating climate change. This Project will contribute to increased access and affordability of electricity in rural Vanuatu.

Of the 50,740 total households nationwide, an estimated 21,500 are in grid-concession areas or in adjacent areas feasible for grid-extension. GoV and the two incumbent concessionaires are working towards implementing the Improved Electricity Access Project, funded by the Global Partnership on Output-Based Aid/World Bank, which will provide assistance to low-income consumers who are still not connected or currently share a connection within the existing grid service areas. The remaining 29,240 households are in areas termed “off-grid”. Some of these households are relatively concentrated and may be more likely to benefit from a micro- or mini-grid configuration, powered by local resources, such as hydro and other renewable energy technologies where available, diesel gensets, or hybrids of the two. There have been no past studies or data that would enable an accurate estimation of the size of the group that would benefit from micro- or mini-grid configurations. Assuming that 30 percent of off-grid households are in this category (including the few estimated to have operating or forthcoming micro- or mini-grid installations), the remaining dispersed off-grid households would be estimated at 20,440. In addition to the off-grid households, some 560 schools, health centers, dispensaries, and aid stations (posts) which provide vital services to poor and isolated communities are not likely to have access to grid electricity in the near future. Under NERM, GoV’s goal is to provide access to modern energy to this off-grid segment of the population in the near, or immediate, future.

II. Project Development Objective(s)

The project development objective (PDO) is to increase access to electricity services for rural households, aid posts and community halls located in dispersed off-grid areas.

III. Project Description

The project will have two components:

Component One: Electrification of off-grid households, aid posts and community halls (US\$ 6.2 million)

The Project will target 85 percent of the 20,470 dispersed off-grid households in Vanuatu, which equates to approximately 17,500 households, and 230 aid posts and 2,000 not-for-profit community halls. The Project will subsidize the retail cost of solar photovoltaic (PV) systems by 50 percent (total subsidies US\$3.1 million). Aid posts serve the basic health services needs of the community and are community-operated and managed. Communities and villages will also have access to subsidies to purchase solar systems under this Project for community-operated and managed aid posts and not-for-profit community halls. Initially, the Project will focus on solar PV systems of between 5 to 30 Watts peak capacity that are of “plug and play” type, installed easily by the consumer and require little to no maintenance other than replacing batteries. These systems can provide lighting and phone charging capabilities, with some systems capable of supporting other uses such as radios and small televisions. “Plug and play” systems of higher capacity are not ruled out in the future, provided they meet the product registration criteria for this Project. The Project will not fund smaller systems such as solar lanterns; such systems were funded under the Lighting Vanuatu project, and the demand and awareness for those systems is considered self-sustainable.

Component Two: Technical assistance and project management (US\$ 1.6 million)

The Project requires significant work on ensuring the integrity of the vendor supply chain, and of the products that are supplied to consumers/retailed, consumer awareness and training, collection and disposal of any hazardous or toxic materials, project management and independent verification to ensure the funds allocated under this Project are effectively directed towards achieving the PDO of this Project. The expectation of the participation of a number of vendors, a number of different types of products with different capabilities, the remote locations of consumers, the limited knowledge of the consumers and access to vendors, lack of a specific residential address or telephone or other formal contact details make the above activities particularly challenging. This component addresses two key areas of the Project, the first focusing on design and the second on implementation, with the following key activities:

- (i) Vendor and product registration arrangements, communications and microfinance products. The following activities will be financed to support the preparation and implementation of the investment activities under Component One: (i) establishment of vendor registration arrangements; (ii) development of product registration arrangements (for a product catalogue); (iii) development of program and product awareness, safety and product care training material for communities, and end users; (iv) establishment of a grievance mechanism for end-user and communities; (v) support with the development of microfinance products to encourage lending in rural areas; and (vi) development of legislation and regulations to, when available, replace the Project’s Environmental Code of Practice (ECOP) for disposal of batteries for rural electrification products under the Project.

(ii) Project management and support. The following activities will be financed for effective implementation, monitoring and reporting under the Project: (i) capacity building and implementation support to the DoE through technical experts and advisors; (ii) workshops and training for the DoE staff (and other Governmental departments, such as the Ministry of Infrastructure and Public Utilities) involved with off-grid electrification; (iii) execution of awareness programs to rural communities and consumers in Vanuatu; (iv) independent verification of subsidy claims prior to payments; and (v) monitoring, evaluation and annual reviews of the Project.

IV. Financing (in USD Million)

Total Project Cost:	7.80	Total Bank Financing:	4.70
Financing Gap:	0.00		
Financing Source		Amount	
BORROWER/RECIPIENT		0.00	
Pacific Region Infrastructure Facility (PRIF)		4.70	
Cofinancing (consumer contribution)		3.10	
Total		7.80	

V. Implementation

The recipient and executing agency for the Project will be the Ministry of Finance and Economic Management (MoFEM), who will enter into a Financing Agreement with the World Bank. The implementing agency will be the DoE, within the MCCND.

The DoE is currently implementing one other World Bank project in the energy sector, the Energy Sector Development Project (ESDP), and is the implementing agency for the recently approved GPOBA project. The DoE has recently appointed additional staff, including a Finance Officer and a dedicated Off-Grid Officer to support its rural electrification programs and financial activities for ESDP, and will also support these fiduciary activities for this Project.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11		X
Indigenous Peoples OP/BP 4.10	X	
Involuntary Resettlement OP/BP 4.12		X
Safety of Dams OP/BP 4.37		X

Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

Comments (optional)

There are no significant and/or irreversible adverse environmental and social issues associated with the project. The use of renewable solar PV technology would result in net positive environmental impacts through replacement of kerosene and diesel currently used for lighting in rural areas of the country. Environmental Assessment OP/BP 4.01 is triggered because of the risk of improper management (disposal/recycling) of lithium, lead-acid or lead-gel batteries (or other batteries types). This Project will assist GoV to utilize the Environmental Code of Practice (ECOP) developed during project preparation until the government develops the necessary legislative and compliance framework for disposal of solid wastes, in particular, lead-acid and other batteries. Vendors will need to ensure that the necessary infrastructure and systems are in place for the management of the batteries in the outer islands for consumers of solar systems to dispose of used batteries in compliance with the ECOP. Arrangements for the collection/storage/transport/disposal of used batteries are envisaged as criteria for vendor registration, in compliance with the ECOP, until alternative national systems are developed and are in place.

Indigenous Peoples OP/BP 4.10 has been triggered due to the presence of indigenous people (IPs) in the rural areas of the outer islands. However, since the overwhelming majority of the beneficiaries are IPs, the Project has integrated the elements of an Indigenous People's Plan (IPP) in the design of the Project, including consultations for broader community support of the Project, provision of culturally appropriate project benefits in the installation of PV panels in households, and gender-related considerations (e.g., specific consultations with women's groups and uptake of project services by female-headed households). Consultations undertaken during the design of VERD, on which this project is based, indicated strong community support. Further, consultations during the preparation of NERM established affordable electrification of rural households as a key priority.

There will be no land acquisition for this Project since the installation of PVs will take place within existing households and public facilities.

VII. Contact point

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