

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: PIDA30172

<b>Project Name</b>	Sustainable Energy Industry Development Project (P152653)
<b>Region</b>	EAST ASIA AND PACIFIC
<b>Country</b>	Pacific Islands
<b>Sector(s)</b>	Other Renewable Energy (75%), General energy sector (25%)
<b>Theme(s)</b>	Other environment and natural resources management (100%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P152653
<b>Borrower(s)</b>	Pacific Power Association
<b>Implementing Agency</b>	Pacific Power Association
<b>Environmental Category</b>	B-Partial Assessment
<b>Date PID Prepared/Updated</b>	07-Aug-2015
<b>Date PID Approved/Disclosed</b>	08-Aug-2015
<b>Estimated Date of Appraisal Completion</b>	10-Aug-2015
<b>Estimated Date of First Grant Approval</b>	31-Aug-2015
<b>Appraisal Review Decision (from Decision Note)</b>	Decision Review Meeting not required

**I. Project Context**

**Country Context**

The Pacific Island Countries (PICs) in East Asia and the Pacific (EAP) comprise 10 countries with a total population of about 2.3 million people. Fiji accounts for over 40 percent with a population of 881,100 in 2013. Seven PICs have populations well below 200,000 (e.g., Tuvalu with approximately 10,000 people, the smallest member of the World Bank Group [WBG]). Papua New Guinea, with a population of about 7 million, is also a member of the Pacific Power Association (PPA) and thus part of this project. Timor-Leste is not a member of PPA.

**Sectoral and institutional Context**

Main electricity sector challenges. The major issues that PICs face in relation to the power sector include: (a) high dependency on costly imported fuels; (b) insufficient revenues from tariffs to meet operating and maintenance (O&M) costs (thus requiring additional government subsidies); (c) lack of adequate capacity and reliable data for energy planning and management; (d) the high maintenance cost of generation and distribution systems in a marine environment; and (e) the need for capital to finance the power infrastructure requirements on outer islands and in remote locations.

Broader challenges impacting on the sector. To differing degrees, all PICs face a broader set of

challenges in providing energy for sustainable development: (a) often small, isolated population centers; (b) small and dispersed markets that are difficult to serve and lack significant economies of scale; (c) extreme vulnerability to oil supply and price shocks; (d) high vulnerability to the impacts of natural disasters and expected climate change; and (e) weak legislative, regulatory and institutional arrangements.

Electricity access rates. The rate of access to electricity in some Small Island Developing States (SIDS) of the Pacific region is low by international standards: it is equivalent to access rates in Sub-Saharan Africa and slightly below the average for low-income countries. Overall, the region has relatively low rates of access to electricity (about 48.9 percent of households in PICs have access to electricity), although this average is highly skewed by very low rates in Papua New Guinea (13 percent), the Solomon Islands (19 percent) and Vanuatu (24 percent). Energy poverty in the region is concentrated in these three countries, which account for 84 percent of the population of all 14 independent SIDS in the Pacific, and which have very low levels of access to electricity. The electrification rate in all three countries is lower than that of other countries with similar levels of GDP per capita.

Electricity prices. Expenditure on petroleum imports can account for 10 to 25 percent of GDP in small PICs. This heavy reliance on imported petroleum fuel results in extreme vulnerability to oil supply and price shocks in most PICs. It also contributes to some of the world's highest electricity prices, with grid electricity prices ranging from 18 to 79+ US cents per kilowatt hour (kWh) in 2011. The high costs of electricity are also due in some instances to operational inefficiencies, particularly high network losses and high unit fuel consumption rates.

Chief regional body for support in the energy sector. The PPA is the key regional organization that provides support to utilities in Pacific Island Countries and Territories (PICT). The PPA is a nongovernmental regional organization, established in 1992 under the Companies Act of Fiji as a company limited by guarantee. The PPA's main objective is to create an environment of "cooperative partnership" with the private sector, funding institutions, and others with interest in the development of the power industry, and to enhance the role of the power sector in the PICs. The PPA aims to improve the quality of power in the region through a cooperative effort among the region's utilities. It has a mandate to assist the utilities in resolving problems, including the integration of renewable energy, and to encourage them to be efficient and accountable in their operations.

The active membership of the PPA is composed of any electric power utility operating in the following 22 PICT member countries: American Samoa, Commonwealth of the Northern Marianas, Cook Islands, Federated States of Micronesia (FSM), Fiji, French Polynesia, Guam, Kiribati, Maldives, Republic of the Marshall Islands (RMI), Nauru, New Caledonia, Niue, Palau, Papua New Guinea (PNG), the Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna, and Samoa. Active members shall include public or private electric power corporations, government departments, statutory bodies or other agencies, whether incorporated or unincorporated, which are directly responsible for public power supply within a member country.

Disaster and climate resilience. Energy production and distribution infrastructure can be highly vulnerable to the impacts of natural hazards and climate change. These impacts will have consequences for the design, construction, location and operations of power infrastructure. Policies, plans and investments that encourage efforts to reduce anticipated as well as current risks are likely

to pay off. However, despite recent progress in terms of national-level plans or policies to respond to disaster and climate risks, translating national climate and disaster-resilient policies into sector policies and investments has been a significant challenge, particularly in the infrastructure and energy sectors. In addition, sector ministries and public utilities are not properly trained in disaster-risk management (DRM) and climate resilience, and they lack the capacity required to identify priority measures aimed at strengthening resilience and developing recovery strategies in post-disaster situations. Due to the capacity constraints in the PICs, the project will support the PPA, which plays a critical role in technical, policy and information areas.

## II. Proposed Development Objectives

The project development objective (PDO) is to increase the data availability and capacity in Pacific Island power utilities to enhance their ability to incorporate and manage renewable energy technologies and long-term disaster risk planning.

## III. Project Description

### Component Name

Renewable Energy Resource Mapping Phase 1-3

### Comments (optional)

This component will carry out a resource-mapping assessment of solar and/or wind capacity across 10 PICs. The objective is to enhance awareness and knowledge of governments, utilities and the private sector about the resource potential for renewable technologies (solar and/or wind), and to provide governments with a spatial planning framework to guide investment in the RE sector. These resource maps will: (a) provide a detailed assessment for solar and potentially wind and other renewable energy resources in the islands; (b) increase the awareness and knowledge of governments and other energy-sector players about renewable energy potential; (c) provide baseline information for potential new public- and private-sector investment projects; and (d) serve as input for grid integration studies.

### Component Name

Technical Assistance

### Comments (optional)

This component will carry out a program of activities designed to increase capacity within the utilities in 10 PICs and PNG on planning for and management of the integration of variable RE in their systems, data collection and management, and knowledge sharing across jurisdictions. This program of activities will include: (i) acquisition of modeling software and consultancy services for renewable energy integration and capacity building; (ii) development of an online power benchmarking platform; (iii) development of Industry guidelines and competency standards; (iv) training/workshops; (v) power utilities career development assessment plan; and (vi) disaster-recovery and risk-reduction activities.

### Component Name

Project Implementation Support

### Comments (optional)

This component will carry out a program of activities designed to enhance the PPA's capacity for overall project coordination, management and monitoring. These activities include coordination, administration, technical operation, procurement, financial management (FM), environmental and social management, gender action plan implementation, monitoring and evaluation (M&E), and reporting. The project's incremental operating costs will also be financed through this component

(up to USD 0.1 million). The program of activities will include: (a) a project management support subcomponent (USD 0.72 million), and (b) an incremental operating costs subcomponent (USD 0.1 million).

#### IV. Financing (in USD Million)

Total Project Cost:	5.66	Total Bank Financing:	0.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
Borrower			0.00
Strategic Climate Fund Grant			1.92
Energy Sector Management Assistance Program			3.47
Global Facility for Disaster Reduction and Recovery			0.27
Total			5.66

#### V. Implementation

The project will be implemented by the PPA, with its executive director serving as the project manager. The project will fund a full-time project coordinator to support the project manager on day-to-day implementation; monitoring and reporting of project activities, including the completion of the project's FM requirements; coordination with relevant power utilities, national government institutions and development partners; procurement of goods and consultancies under the guidance of the PPA's accounts officer, administrative officer and the deputy executive director who acts as the chief financial officer; and monitoring and reporting on results achieved by activities financed under the project. A part-time procurement advisor will be hired to assist with procurement activities. A full-time engineering advisor will also be hired to assist the project manager with the technical aspects of the project. All project staff will be jointly located within the PPA's office in Suva.

Although it has not previously worked with the WBG, the PPA is aware of the WBG's safeguards policies and is supportive, especially with reference to effective public consultation aimed at managing environmental and social risks, resettlement principles, and impact monitoring. The Bank will provide support to the PPA through its internal safeguards, as required including supervision of the implementation of the ESMF and the review and clearance of Terms of Reference for technical assistance and capacity development consultants engaged under the project.

#### VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
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)****VII. Contact point****World Bank**

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