PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: PIDC28633

Project Name	Sustainable Energy Industry Development (P152653)
Region	EAST ASIA AND PACIFIC
Country	Pacific Islands
Sector(s)	Other Renewable Energy (75%), General energy sector (25%)
Theme(s)	Other environment and natural resources management (100%)
Lending Instrument	Investment Project Financing
Project ID	P152653
Borrower(s)	Pacific Power Association
Implementing Agency	Pacific Power Association
Environmental Category	B-Partial Assessment
Date PID Prepared/ Updated	25-Jun-2015
Date PID Approved/ Disclosed	09-Jul-2015
Estimated Date of Appraisal Completion	23-Jul-2015
Estimated Date of Board Approval	21-Aug-2015
Concept Review Decision	

I. Introduction and 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.

Relationship to CAS

The Bank's Energy Engagement Strategy in the Pacific currently prioritizes the following two areas:

i. Strengthening energy planning and enabling policy, institutional and regulatory development, including private-sector involvement in Pacific countries. Examples of WBG support include: implementation of energy roadmaps in Tonga and Vanuatu; TA for developing energy master plans in FSM and a National Electrification Roll-Out Plan in PNG; and development of business models for private-sector investment in PICs.

ii. Improving utilities performance/capacity. Examples of WBG support include: efficiency measures in FSM, Samoa, the Solomon Islands, Vanuatu and Tuvalu; and utilities service reform in Kiribati, FSM and the Solomon Islands.

These two areas help underpin other objectives of the Bank's assistance, including the facilitation of least-cost power supply (generation, transmission, distribution) and increased access to affordable, reliable and sustainable electricity services.

With a focus on building the capacity of utilities to improve their performance and supporting them in encouraging private-sector involvement in RE investment, this proposed project supports the Bank's priority areas in the sector. The Pacific power utilities lack sufficient budget for capacity building, because 70 to 75 percent of many of these utilities' budgets go to paying for the costs of fuel. Performance of power utilities has a direct influence on the economic development of the Pacific Islands, and a well-performing power utility contributes to poverty alleviation.

The project is also in line with the Bank's twin goals of ending extreme poverty and promoting shared prosperity by facilitating PICs' efforts to adopt cleaner and more sustainable electricity in the medium term. This will benefit the extreme poor by reducing dependence on imported fuels that not only affect electricity-connected households and businesses, but also the price of all goods and services linked to the high cost of retail energy products. Moreover, the increase in the share of RE will result in fuel savings and reduced greenhouse gas (GHG) and other harmful gas emissions. A strong and lasting correlation exists between access to electricity services and core human development measures including poverty reduction, improved health, and education. Electricity is also an important enabler in terms of driving gender equity and equality.

The project is also aligned with the strategic documents and frameworks that identify needs and priorities for responding to the extreme vulnerability to the effects of climate change and natural hazards. These include the Hyogo Framework for Action, as well as the Pacific Regional

Framework for Action on Disaster Risk Management 2005–2015 and its proposed successor, the Strategy for Climate and Disaster Resilient Development in the Pacific (SRDP).

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

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.

Key Results (From PCN)

Project outcomes will be monitored through two PDO level indicators:

- PDO indicator 1: Increased availability of data on RE resources and their variability in targeted project areas.
- PDO indicator 2: Increased availability of data on RE resources and their variability in targeted project areas.
- PDO indicator 3: Improvement in technical and institutional capacity of the PPA and PIC power utilities.
- PDO indicator 4: Increased planning capacity for disaster recovery and risk reduction among PIC power utilities.

III. Preliminary Description

Concept Description

The proposed project, whose estimated cost is USD 5.87 million, will include the following three components to be implemented by the PPA.

Component 1. Renewable Energy Resource Mapping Phase 1-3. Estimated Cost: (Small Island Developing States Initiative [SIDS DOCK] USD 2.5 million)

This component will carry out a resource-mapping assessment of solar and/or wind capacity across 10 PICs. The objective of this component 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 also 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 an input for grid integration studies.

Component 2. Technical Assistance. Estimated Cost: USD 2.55 million (SIDS DOCK USD 0.7 million, Scaling Up Renewable Energy Program [SREP] USD 1.6 million, Global Facility for Disaster Reduction and Recovery [GFDRR] USD 0.25 million)

This component will carry out a program of activities designed to increase capacity within the utilities in 10 PICs20 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 3. Project Implementation Support. Estimated Cost: USD 0.82 million (SIDS DOCK USD 0.5 million, SREP USD 0.32 million)

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, 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. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	×		
Natural Habitats OP/BP 4.04		×	
Forests OP/BP 4.36		×	
Pest Management OP 4.09		×	
Physical Cultural Resources OP/BP 4.11	×		
Indigenous Peoples OP/BP 4.10	×		
Involuntary Resettlement OP/BP 4.12	×		
Safety of Dams OP/BP 4.37		×	
Projects on International Waterways OP/BP 7.50		×	
Projects in Disputed Areas OP/BP 7.60		×	

V. Financing (in USD Million)

Total Project Cost:	5.66	Total Bank Financing:	0.00
Financing Gap:	0.00		

Financing Source	Amount
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

VI. Contact point

World Bank

Contact: Roberto Gabriel Aiello

Title: Senior Energy Specialist
Tel: 5740+6543 /
Email: raiello@worldbank.org

Borrower/Client/Recipient

Name: Pacific Power Association
Contact: Andrew Daka
Title: Executive Director
Tel: 6793306022
Email: andrewd@ppa.org.fj

Implementing Agencies

Name: Pacific Power Association
Contact: Andrew Daka
Title: Executive Director
Tel: 6793306022
Email: andrewd@ppa.org.fj

VII. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: http://www.worldbank.org/infoshop

Public Disclosure Copy