Project Information Document/ Identification/Concept Stage (PID)

Concept Stage | Date Prepared/Updated: 23-Aug-2017 | Report No: PIDC126239

BASIC INFORMATION

A. Basic Project Data

Project ID	Parent Project ID (if any)	Environmental Assessment Category	Project Name
P164894		B - Partial Assessment	Energy Sector Development Project (P164894)
Region	**Country**	**Date PID Prepared**	**Estimated Date of Approval**
EAST ASIA AND PACIFIC	Kiribati	23-Aug-2017	
Financing Instrument	**Borrower(s)**	**Implementing Agency**	**Initiation Note Review Decision**
Investment Project Financing	Ministry of Public Works and Utilities, Ministry of Finance and Economic Development	The World Bank	The review did authorize the preparation to continue

Financing (in USD Million)

SUMMARY

Total Project Cost	0.30
Total Financing	0.30
Financing Gap	0.00

DETAILS

B. Introduction and Context

Country Context

Kiribati is a nation comprising 33 coral atolls and islands spanning an area of 3.5 million square kilometres of ocean in the Pacific, with a land area of about 810 sq km. The permanent population is about 110,000 spread over 24 islands, with more than half living on South Tarawa Atoll. The islands have few natural resources including water and are prone to drought. As a consequence, traditionally the people have relied heavily on the sea for their livelihood. Kiribati faces many challenges that are unique to small island nations, including remoteness from markets, limited natural resources, a widely dispersed population, and vulnerability to economic shocks.

Kiribati is at the forefront of climate change, with its vulnerability exacerbated by rising sea levels, increased storm strength and frequency, and unpredictable precipitation. The country ratified the UN Framework Convention on Climate Change (UNFCCC) on 7 February 1995 and the Kyoto Protocol on 7 September 2000. Kiribati has also developed a Joint Implementation Plan for Climate Change and Disaster Risk Management 2014 -2023 (KJIP), which it released in 2014 and sets out a holistic approach to integrating climate change and disaster risks into all sectors. The Plan aims to reduce the vulnerability of the country to the impacts of climate change and disaster risks and to coordinate priorities for action.

Economically, Kiribati is listed as one of the world's Least Developed Countries by the United Nations. Since 1979 when the country's most marketable natural resource of phosphate from Banaba was mined out, the country's economy has been dependent on three major sources of income. These include the earnings from the Revenue Equalization Reserve Fund (RERF) established in 1956 and funded by the revenue from phosphate mining; the licensing of foreign fisheries in Kiribati's huge Exclusive Economic Zone and remittances from overseas workers, who are mainly seamen on European vessels. Tourism is negligible due to the high cost of access and the lack of visitor facilities. Kiribati primary commercial income comes from fishing, export of aquarium fish, and coconut products. Exports have traditionally been very low in Kiribati around $7 million annually while imports are around the $100 million mark, predominantly foodstuffs. The low export trends are attributed to limited product varieties and supply capacity. Kiribati's economic growth has however improved in recent years, with GDP growth rates of 5.2 per cent in 2012, 5.8 per cent in 2013 and 2.4 per cent in 2014, and 3.5 per cent in 2015. Inflation has remained low with rates increasing by 0.6 per cent in 2015. Recent GDP growth has reversed a trend of declining GDP per capita with the GDP per capita at $1,838 in 2014. However, GDP per capita in Kiribati is still the lowest of all Pacific countries.

Poverty and hardship are widespread in Kiribati with 21.8 per cent of the population under the Basic Needs Poverty Line in 2016. Poverty is highest in South Tarawa (22.4 per cent) and lowest in the Line and Phoenix Islands (8.9 percent). Despite the high rates of poverty, expenditure below the basic needs food poverty line was only 4.9 per cent of the population with a low rate of .05 per cent for the Line and Phoenix islands. The Gini Coefficient of 0.39 per cent7 suggests that income inequality in Kiribati is about the average of other Pacific nations. This most likely reflects the high level of subsistence living in the country.

Donors have played a large part in assisting with development in Kiribati through several means including soft loans, bilateral grants and regional programs. In 2014, the amount provided in official development assistance was $105 million compared with the recurrent government expenditure of $135.7 million. In 2014, for the first time, Kiribati received $10.4 million from the World Bank, the ADB and New Zealand in budget support.

Sectoral and Institutional Context

Kiribati, like other SIDS depends on imported oil products to meet the vast majority of its energy needs. This

dependence makes Kiribati extremely vulnerable to oil price volatility. The imported petroleum includes automotive distillate oil, petrol, dual-purpose kerosene, liquefied petroleum gas and aviation gasoline, which is used for small turboprop planes. About half of the imported oil is used for electricity generation for the main electricity grid system on South Tarawa atoll, Kiribati's most populous island (approximately 60 percent of the total population). In the outer islands where approximately 30 percent of the population resides, only about 30 percent have access to electricity, mostly stand-alone solar PV home systems with some using micro oil-based fuel generators. These rural dwellers rely heavily on biomass for cooking and copra drying (making up around 25% of gross national energy production). Petroleum use in the outer islands is mainly kerosene which is used for lighting or cooking; petrol for motorcycles, outboard powered boats and a few private and community stand-alone gen-sets; and diesel is mainly used for land transport and for power generation in some institutions. Solar water heating and solar PV are other renewable energy technologies in use, however they produce less than 1 percent of total energy used in Kiribati.

South Tarawa accounts for the vast majority of electricity demand in Kiribati (2.37 GWh of generation in 2014). As a result, South Tarawa has the largest and most complex electricity generation system in Kiribati with an installed capacity of 4.7 MW of diesel generation. A number of large grid-connected PV systems have also been installed or will soon be operational in South Tarawa. In total, these systems will have a generation capacity of 1.42 MW. The 400kW system has been operational at Bikenibeu Power Station since March 2015. The 500kW system at Bonriki funded by The United Arab Emirates and Masdar was commissioned in September 2015. The World Bank has funded 516 kW of solar PV spread over four sites, which were commissioned in 2016. The current power system already has enough installed or planned grid connect PV capacity so that battery storage needs to be deployed in the immediate future to ensure system stability. Kiritimati Island has the second largest electricity demand in Kiribati with 2014 total generation estimated at 1.65 GWh.

The remainder of Kiribati's power generation systems are composed of small diesel generators, PV-diesel micro grids and solar home systems distributed across the outer islands. Some solar PV has been installed in remote parts of Kiribati. The Solar Energy for the Outer Islands project (US$5.3 million), implemented by the Kiribati Solar Energy Company and funded by the European Union, was completed in 2015 providing 2,010 solar home kits, 281 solar kits for maneaba, businesses and teacher residences. Another 8-hybrid mini-grid systems for high schools on 18 islands were installed in 2015 with the EU funding. An additional 10,000 small solar lighting kits were provided with Taiwan funding assistance for delivery and installation on all outer islands.

Electricity provision in Kiribati is the responsibility of the Public Utilities Board (PUB) (responsible for the generation, transport and retail of electricity) and is regulated by the Energy Implementation Unit within the Ministry of Public Works and Utilities (MPWU). The MPWU is responsible for overall coordination and implementation of energy policy. Other key stakeholders include the Ministry of Finance and Economic Development (MFED), the Ministry of Line and Phoenix Island Development (MLPID) responsible for all government services on Kiritimati, the Kiribati Copra Mill Company Ltd (KCMCL) that produces coconut oil and the Kiribati Copra Cooperative Society (KCCS) that produces copra.

The Government of Kiribati has sought to undertake greater long-term planning of its energy sector. In 2011, Kiribati joined other Pacific island countries in collectively agreeing on the value of developing credible, comprehensive energy roadmaps to overcome the regulatory, technical and financial barriers to increasing access to affordable renewable

energy in the Pacific Islands. In its three-year Development Plan (2012-2015), the MPWU highlighted the need to have a long-term plan (roadmap) for the energy sector. In response to these calls for action, Kiribati has developed a comprehensive plan—the Kiribati Integrated Energy Roadmap (KIER)—to support the country's transition to renewable energy and efficient use of resources.

The KIER comprises a policy framework with specific targets and a set of priority actions, with associated cost estimates and specific timelines. The KIER presents a packaged plan of institutional, policy, regulatory, technical, financial and capacity-building actions that, collectively, will enable the Government of Kiribati to achieve its energy objectives, in line with the Kiribati National Energy Policy 2009 and Strategic Plan (2012-2015). While all renewable options are being explored as part of the KIER, a particularly important objective is to explore the potential for the development of coconut oil as an alternative fuel to diesel, for both power generation and transport, as this is considered to be the most promising route by which Kiribati can reduce its emissions. The KIER is focused on achieving the following renewable energy related goals:

- The goal for Tarawa is a 45 percent reduction in fossil fuel use by 2025. 23 percent of this goal will be achieved through deployment of renewable energy and 22 percent through improvements in energy efficiency.
- The goal for Kiritimati is a 60 percent reduction in fossil fuels by 2025. 40 percent is to be achieved through deployment of renewable energy and 20 percent through improvements in energy efficiency
- The goal for the Outer Islands is a 60 percent reduction in fossil fuel use in all rural public infrastructure, including Southern Kiribati Hospital and ice plants, (40 percent through deployment of renewable energy and 20 percent through improvements in energy efficiency) by 2025 The goal for rural public and private institutions (*e.g.* Boarding schools, the Island Council, private amenities and households) is to meet of 100 percent electricity demand with renewable energy by 2025

The KIER is aligned to the United Nations' Sustainable Energy for All (SE4ALL) objectives to be achieved by 2030 of: ensuring universal access to modern energy; doubling the share of renewable energy in the global energy mix; and doubling the global rate of improvement in energy efficiency. The KIER will be used to guide the development and implementation of the renewable energy Investment Plan.

In its request to the World Bank for support the Government has prioritized the need to increase the share of renewable energy to the power grids on the islands with the largest populations, including South Tarawa and Kiritimati Island. The power grids on these islands are heavily reliant on the use of diesel generators as the primary source of power.

Relationship to CPF

A World Bank Group (WBG)'s Regional Partnership Framework (RPF) (2017-2021) for nine Pacific Island Countries including Kiribati sets out four focus areas and objectives supported by the WBG program: a) fully exploiting the available economic opportunities; b) enhancing access to employment opportunities; c) protecting incomes and livelihoods; and d) strengthening the enablers of growth opportunities (macroeconomic management, infrastructure and addressing knowledge gaps).

In June 2014, the Scaling Renewable Energy Program (SREP) in Low Income Countries, established under the umbrella

of the Climate Investment Funds (CIF), selected Kiribati as participating country, to pilot and demonstrate the financial and economic viability of renewable energy projects that can lead to transformational outcomes through the creation of economic opportunities and/or the increase of energy access. This involves the development of an investment plan (Investment Plan or IP), outlining a country-level programmatic approach to increase renewable energy investments as a proportion of total investments in the electricity sector.

The proposed IP is well aligned with the focus areas and objectives of the RPF, most strongly contributing to strengthening the enablers of growth opportunities. Increasing access to energy will open up new opportunities for enhancing income generating activities and improve productivity by decreasing production costs and improving quality, therefore increasing household incomes

The Investment Plan will also contribute to global efforts to mitigate climate change by promoting the use of clean energy technologies, including the use of solar energy to displace current use of diesel and kerosene for lighting. This will contribute to the WBG's twin goals of i) eliminating extreme poverty and ii) boosting shared prosperity. This project will also support the Government of Kiribati's energy and renewable energy goals set out in its energy policy and KIER.

The World Bank's prior engagement in the energy sector in Kiribati under the Grid Connected Solar Photovoltaic Project and the Utilities Services Reform Project has it well placed to provide the support requested by the Government.

C. Project Development Objective(s)

Proposed Development Objective(s)

The development objective is to support the Government of Kiribati to prepare an Investment Plan for consideration by the SREP for endorsement.

Key Results

Renewable Energy Investment Plan.

D. Preliminary Description

Activities/Components

The World Bank, in consultation with the Government of Kiribati, will commission a consultant to assist it to draft the Scaling Up Renewable Energy Investment Plan. It is expected the Investment Plan will identify the renewable energy technologies and projects that will contribute positively to the sustainable economic development of Kiribati and supporting goals under the RPF. It will also outline the specific tasks that must be carried out to successfully deliver the

projects, identify the financing options for funding the projects, and identify the ways in which SREP can help to leverage concessional and private sector financing.

SAFEGUARDS

E. Safeguard Policies that Might Apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
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	

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