Solomon Islands: Provincial Renewable Energy Project (formerly Outer Island Renewable Energy Project)

Project Name	Provincial Renewable Energy Project (formerly Outer Island Renewable Energy Project)
Project Number	46014-001
Country / Economy	Solomon Islands
Project Status	Closed
Project Type / Modality of Assistance	Technical Assistance
Source of Funding / Amount	TA 8130-SOL: Outer Island Renewable Energy Project Technical Assistance Special Fund — US$ 750,000.00 TA 8130-SOL: Outer Island Renewable Energy Project (additional financing) Strategic Climate Fund — US$ 250,000.00
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Gender Equity and Mainstreaming
Sector / Subsector	Energy / Renewable energy generation - small hydro
Gender	Effective gender mainstreaming
Description	The proposed Outer Island Renewable Energy Project (Project) will support development of renewable energy in the Solomon Islands. It focuses on the outer islands where the project will (i) decrease the cost of power supply by replacing diesel power generation with hydropower , (ii) increase access to power through expansion of existing distribution grids, and (iii) reduce greenhouse gas emissions through development of renewable energy.
Project Rationale and Linkage to Country/Regional Strategy	Electricity is generated and supplied by the Solomon Islands Electricity Authority (SIEA), which is a state-owned electricity utility that has the sole mandate to provide power across the country, including the national capital (Honiara) and eight outstations (Auki, Buala, Gizo, Kirakira, Lata, Malu'u, Noro-Munda, and Tulagi). The Government manages energy sector policy through the Ministry of Mines, Energy and Rural Electrification. Installed capacity in Honiara is 26 MW (peak load 14.3 MW) and combined installed generation capacity in the outer islands is 4 MW. Provision of electricity services is concentrated on Honiara in Guadalcanal. While 87% of the installed power generation is located in Honiara, Guadalcanal accounts for only 12% of the population (total national population 553,000). Electricity in the outstations is 100% diesel generated with the exception of mini-hydropower operated in Malu'u (0.04 MW) and Buala (0.15 MW). The high cost of electricity and the limited reach of the distribution grid is negatively impacting economic growth in the outer islands. Due to the reliance on diesel generation, power tariffs in Solomon Islands are high. SIEA charges a national uniform tariff, which in 2010 was $0.59c/kWh to residential customers and $0.63/kWh to commercial customers. Due to the high cost of transporting diesel to the outstations, generation costs in the outer islands are considerably higher than Honiara ($0.53 in Honiara compared to $0.94 in Lata). The high cost of power generation in the outer islands has a negative financial impact to SIEA's operations and has impeded the expansion of the grid. The high cost of self-generation impedes business development in the provincial centers and is a disincentive for the establishment of new businesses. In particular, the agricultural and tourism industry are impeded by the lack of reliable electricity supply. Solomon Islands has relatively low electricity access rates. The high cost of diesel power generation in the outer islands provides a disincentive to the corporatized SIEA to expand the distribution network. Nationwide electricity is supplied to approximately 14% of the population . With few exceptions, electrification is confined to Honiara and eight provincial centers. Outside of these urban centers, less than 5% of the rural population has access to electricity through a small number of off-grid and individual household solar systems. Access rates in Guadalcanal (Honiara) is 20% and Western Province is 17%, however access rates in the remaining provinces is extremely low, for example Malaita 3%, Temotu 3%, Choiseul 2%. The current electricity tariff does not allow full cost recovery for SIEA. As a result investment in maintenance and expansion of core power infrastructure has been lacking. Revenue collection is relatively low (estimated 80-90%); however SIEA is undertaking an ambitious effort to install prepayment meters on all consumers in parallel with an overhaul of the billing, accounting, and data management systems . SIEA is currently undergoing a restructuring program supported by the World Bank through the Solomon Islands Sustainable Energy Project (SISEP). There is currently no private sector participation in power generation, however the Government has indicated a preference to encourage private sector development of power generation assets . Existing off-grid renewable energy projects in Solomon Islands include a range of household solar system programs and a small number of community based pico-hydropower schemes operating in remote villages. Wind monitoring is also proposed at three sites . Grid connected renewable energy is limited to mini-hydropower at Buala and Malu'u and a SIEA trial to replace diesel with coconut oil in the second largest outstation (Auki, Malaita) . The Tina River Hydropower Project (14 MW) is currently being assessed to supply the Honiara grid . Previous technical analysis has identified excellent hydropower resources in the outer islands near demand load centers. It is estimated that hydropower could deliver electricity at a levelized cost of energy of 6-12c/kWh to a number of outstations . The proposed project is in line with the ADB's country partnership strategy (CPS) 2012-2016 for Solomon Islands, which prioritizes energy as a key area of support. The CPS supports the Solomon Islands National Development Strategy 2011-2020, which prioritizes development of reliable and affordable power supply in urban centers through renewable energy and prioritizes increasing electricity access. The proposed project supports the Solomon Islands National Energy Policy Framework, 2007 which prioritizes development of renewable energy for urban areas. The Solomon Islands is currently considering development of a national Renewable Energy Development Plan through technical assistance support from the Scaling-up Renewable Energy Program (SREP).
Impact	

Project Outcome
Description of Outcome
Progress Toward Outcome
Implementation Progress

Description of Project Outputs
Status of Implementation Progress (Outputs, Activities, and Issues)
Geographical Location

Summary of Environmental and Social Aspects
Environmental Aspects
Involuntary Resettlement
Indigenous Peoples
Stakeholder Communication, Participation, and Consultation
During Project Design
During Project Implementation

Business Opportunities	
Consulting Services	1. The TA will require 9 international consultants (23 person-months) and 4 national consultants (13 person-months) to be hired through a consulting firm. Consultants will be engaged by ADB in accordance with the Guidelines on the Use of Consultants (2010, as amended from time to time). The consulting firm will be engaged through quality- and cost-based selection method (quality-cost ratio of 90:10) using simplified technical proposal. The procurement of equipment by consultants under the TA, will follow ADB's Procurement Guidelines (2010, as amended from time to time). The proceeds of the TA will be disbursed in line with ADB's Technical Assistance Disbursement Handbook (2010, as amended from time to time). The equipment procured under the TA will be turned over to the Government upon TA completion. 4. Pre-feasibility studies have been completed for 4 proposed hydropower sites (Auki, Lata, Ringii/Noro/Munda, and Taro). A separate pre-feasibility has also been prepared for a site in Kira-kira. Pre-feasibility studies will be provided to shortlisted companies. The consulting company will (i) undertake a desktop study to confirm the proposed sites are the optimum hydropower sites for each of the 5 provincial centers, (ii) screen the 5 proposed sites and prioritize 3 sites, and (iii) prepare feasibility studies of the prioritized 3 sites. The outline terms of reference for the project preparatory TA consultants are described in paras. 6 to 15. 5. Team Leader (international, 3 person-months [pm]). The team leader will have a minimum of 15 years experience in design and implementation of hydropower projects, including in developing countries. The team leader will be responsible for managing the Consultant team and coordinating the overall PPTA implementation. The international team leader will be either the civil engineer or the electro-mechanical engineer and will be supported by the national power sector specialist (4 pm). The team leader will (i) review background data, (ii) confirm power demand forecasts, (iii) carry out least cost power sector planning, (iv) assess levelized cost of generation, (v) implement a consultation and participation plan, (vi) prepare detailed work program and schedule, (vii) coordinate deliverables, (viii) assess affordability issues, (ix) prepare the detailed design and monitoring framework (DMF), (x) undertake a procurement capacity assessment and prepare a procurement plan, (xi) assess SIEA operation and maintenance capacity and recommend capacity building, and (xii) prepare project performance indicators. 6. Civil Engineer (hydropower) (international, 3 pm). The civil engineer will have 10 years demonstrated experience in design and implementation of hydropower projects, including in developing countries. The civil engineer will conduct the following (i) determine scope of survey, (ii) develop preliminary routings, (iii) develop preliminary designs for infrastructure, (iv) prepare cost estimates, and (v) develop construction schedules. 7. Hydrologist (international, 2 pm). The hydrologist will have a minimum of 10 years demonstrated experience in design and implementation of hydropower projects, including in developing countries. The hydrologist will conduct the following (i) review available hydrological data, (ii) assist in optimizing design of the hydropower plants, and (iii) perform an assessment of hydrological risks including flooding during construction and operation. 8. Electro-mechanical engineer (hydropower) (international, 3 pm). The engineer will have a minimum of 10 years experience in design and implementation of hydropower projects, including in developing countries. The engineer will conduct the following (i) determine required capacities, (ii) prepare preliminary design for electromechanical components of the plants, (iii) optimize designs, (iv) determine sequencing of installations, (v) analyze required diesel back-up for hydropower plants, and (vi) prepare cost esti

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Responsible ADB Department	Pacific Department
Responsible ADB Division	Transport, Energy and Natural Resources Division, PARD
Executing Agencies	Ministry of Mines, Energy and Rural Electrification John Korinihona, - P.O Box G37, HONIARA, Solomon Islands

Timetable	
Concept Clearance	-
Fact Finding	-
MRM	-
Approval	10 Aug 2012
Last Review Mission	-
Last PDS Update	31 May 2013

TA 8130-SOL

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
10 Aug 2012	01 Oct 2012	01 Oct 2012	31 Oct 2013	30 Jun 2014	26 Sep 2014

Financing Plan/TA Utilization							Cumulative Disbursements	
ADB	Cofinancing	Counterpart				Total	Date	Amount
		Gov	Beneficiaries	Project Sponsor	Others			
750,000.00	250,000.00	0.00	0.00	0.00	0.00	1,000,000.00	17 Jun 2022	960,510.08

Project Page	https://www.adb.org//projects/46014-001/main
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Date Generated	05 June 2023