Off-grid systems honiara

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The Sunny Island has maximum flexibility, from operation in remote areas to off-grid commercial or home energy management. It gives planners total freedom in the size and type of system and the battery. Works with battery backup systems and off-grid systems.

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.

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).

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.

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

The Asian Development Bank (ADB) is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. It assists its members and partners by providing loans, technical assistance, grants, and equity investments to promote social and economic development.

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