

CLIMATE INVESTMENT FUNDS

SREP/SC.11/Inf.7

June 25, 2014

Meeting of the SREP Sub-Committee

Montego Bay, Jamaica

June 27, 2014

**RESPONSES OF ADB TO THE COMMENTS OF SWITZERLAND AND UNITED KINGDOM
SUB-COMMITTEE MEMBERS ON THE SREP INVESTMENT PLAN FOR SOLOMON ISLANDS**

**Responses to the Comments
SREP Investment Plan for Solomon Islands**

Swiss Government

Query or comment	Response
<p>1. Subcomponent 1 - Mini Grids</p> <p>a. Q: Is the use of coconut oil as biofuel not a waste of resource, as coconuts could be used in a more valuable way? Or is the oil a waste product from coconuts?</p> <p>b. Q: It is mentioned that the power tariffs in the Solomon Islands are (at \$0.86/kWh to residential and \$0.92/kWh to commercial customers, some of the highest in the Pacific. In what relation do these tariffs stand with the costs? Are these tariffs subsidized?</p>	<p>1. Subcomponent 1 - Mini Grids</p> <p>a. There are unharvested coconuts in many regions which can be processed for coconut oil for diesel replacement as a currently unutilized resource. There are large historical coconut plantations in Solomon Islands and use of coconuts as food only consumes a very small proportion of the available coconuts. The attractiveness of using coconut oil for biofuel depends on (a) processing them into copra from export and price received at farm gate; b) landed cost of mineral diesel fuel on remote islands versus cost of biofuel delivered there; c) supply chain costs and reliability, both for copra and petroleum fuels. Coconuts can be used for a range of things, including food, feedstock for animals, copra production, coconut oil production. Copra and coconut oil are one of a few sources of cash income in remote communities. Since coconut oil is a substitute for refined petroleum products, its price can often follow the world oil price. The issue for remote islands is whether they can cost-effectively deliver copra to oil processing facilities and how much of a discount to the world price they get from buyers higher in the supply chain.</p> <p>b. The current tariffs cover full cost recovery for SIEA. A comprehensive cost of service and tariff study is to be carried out in 2014 to better understand the relationship between costs, required revenues and tariffs. This is funded under an existing World Bank project with the power utility.</p> <p>There are no direct Government subsidy of electricity tariffs, however there are a number of transparent internal subsidies. There is a degree of cross-subsidization between customers on the largest electrical load centre, Honiara, and those on smaller remote grids served by the SIEA (so called “outstations”). These internal cross-subsidies arise from the national uniform tariff and the fact that electricity supply costs on remote islands are above the revenue collected</p>

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	<p>from the tariff at those locations. The biggest contributor to higher costs at the outstations relates to diesel fuel transportation and storage to remote locations and in small volumes. The SIEA receives some Community Service Obligation (CSO) payments from the Ministry of Finance every year, which partially offset the financial losses incurred by the national power utility in serving customers on “outstation” grids. A switch to coconut oil biofuel, increased use of renewable energy, and improvements in fuel supply chain logistics all offer ways of reducing costs of supplying electricity on mini-grids, compared to the status quo.</p>
<p>2. Subcomponent 2 - grid extensions in relation to Tina River and Fiu River hydro power projects):</p> <p>a. Q: This is not actually an investment in renewable energy but in transmission and distribution. There is also no SREP contribution foreseen for this. What is the rationale to include it in the investment plan?</p> <p>b. Q: How far advanced are these two hydro power projects (Tina River and Fiu River? Is the financing secured? Could the SREP contribute in a more target-ed way to these projects, (e.g. with transaction advisory services for the PPP or technical assistance)?</p>	<p>a. It is our understanding the governments are encouraged by SREP sub-committee to have more holistic Investment Plans and include investments which may not be financed by SREP but are complimentary and/or can be financed by other developing partners. Including the transmission and distribution connections for Tina Hydro and Fiu River Hydro in the RE Investment Plan, despite them not being funded by SREP, is justified because without such connections, it will be impossible for these transformative renewable energy generation projects to actually deliver the renewable energy to the first and third largest electrical load centres in the country, respectively Honiara and Auki. The estimated output of Tina River (88 GWh/year) will displace most of the annual energy currently generated using diesel to supply Honiara. The Fiu River Hydro will have a similar impact on the town electricity supply for Auki.</p> <p>b. i) Tina Hydro (18-20 MW, run-of-river, with 60m high dam and 4km tunnel) – feasibility study completed, land acquisition process well underway, and government, with transaction advisory assistance from the International Finance Corporation, has issued a request for qualifications from companies or consortia interested in building, owning and operating the Tina Hydro Scheme for a 25 year concession period. This scheme is to be developed under a PPA arrangement, with the owner selling power to the SIEA, with an IDA Partial Risk Guarantee in place relating to payments from the SIEA to the operator. Selection of developer is expected to be finalized and financial close reached in 2015, with construction between 2016-2017, with commissioning into service in</p>

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	<p>2018. The World Bank Group, Australia, ASTAE, and the European Investment Bank have all contributed to the preparation of Tina Hydro; including transaction advisory services for the PPP and technical assistance. The World Bank Group could explore with SREP, the government, and utility whether any additional technical assistance from SREP could be warranted.</p> <p>b. ii) Fiu River Hydro. The project has been designed, funding approved by ADB and the loan signed. At this stage, additional support from SREP is not considered to be required.</p>
<p>1. Subcomponent 5 - Grid connected solar PV plant:</p> <p>a. C: Whereas the proposed 1.5 MW plant in Honiara and the 400 kW plant in Gizo will make good pilot projects, we believe the two 50 kW plants are too small to add real benefits in this subcomponent.</p> <p>b. C: At a calculated 4900 USD per installed kW, the investment costs for the 2 MW of grid connected solar PV seem very high. According to IRENA statistics, the global weighted average cost for utility scale solar PV plants was 2350-2700 USD per installed KW in 2012, depending on the technologies and including balance of system.</p>	<p>a. While the smaller remoter 'outstations' are the smallest in terms of capacity, they are the highest generation cost centers within SIEA's grid and are therefore a priority to switch to renewable energy. Trialing of integration of small amounts of intermittent solar to remote centers is a key trial project and capacity development component of the project.</p> <p>b. The projected costs are high by international standards, however are reflective of costs encountered in the Pacific, which involve significantly higher mobilization, transportation and installation costs due to the remoteness of the islands. Costs are also higher due to small installation sizes. Procurement will be competitively bid and will be at market rates.</p>
<p>2. Subcomponent 6 - Solar Home Systems (SHS):</p> <p>a. C: It is noted that the current practice of "giving-away" solar home systems is not sustainable and that the proposed program would request the beneficiaries to participate in the (investment) costs, as well as address the issues of maintenance and recycling (notably of batteries). Whereas this approach is definitely better than the</p>	<p>a. The proposed design includes customers paying 'up front' for a SHS (not owned by the customer) under a fee-for-service arrangement, which includes power delivery and maintenance of the SHS for a set period. SREP financing will be used for partial buy-down of establishment costs in order to attract and establish private sector and create market penetration to lower incremental mobilization costs for private sector. Existing micro-finance facilities already exist and will be utilized. Initial</p>

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<p>former practice, it still does not go far enough towards a market based system to be entirely successful. In a market based system, the beneficiaries would be customers who eventually pay enough for the power they are delivered, to fully cover the investments as well as the operation, maintenance and recycling, including a sufficient profit for the private operators to be ready to provide the services. It is thus recommended that the beneficiaries also pay a service charge in addition to a share of the investment cost. A micro credit system could allow the beneficiaries to pay for the SHS and O&M. SREP grants, as well as co-financing from MDBs and the Government could be used to facilitate such a micro credit system.</p> <p>b. Q/C: The calculated costs of 2000 USD per SHS seems very high. What is the technical specification of such a SHS? Is it needed to be that large? In case SHS cover more than the basic needs, a larger cost contribution from the beneficiaries should be sought.</p>	<p>assessments indicate access to credit is not the main barrier, although this will be confirmed on a site by site basis.</p> <p>b. The cost estimates provided include project design and initial supervision. Equipment will be competitively bid to ensure market rates are obtained. The cost of the SHS will include contribution from the private sector investor and the customer. Subsidy will be targeted to cover the incremental cost to allow the market to develop sustainably. Customers will be provided options in terms of system sizing depending on their needs. Subsidy per SHS will decrease as the systems increase in size and customers contribution will increase accordingly (subsidy formula to be determined).</p>
<p>5. Financial plan</p> <p>a. Q: An amount of USD 1 million is reserved for the regional component. It is assumed that an equivalent amount will be reserved in the IP of Vanuatu. Is this in line with earlier SREP Subcommittee decisions regarding the magnitude of the regional/knowledge sharing component?</p> <p>b. C: As noticed also by the independent expert, the project preparation costs for the solar power development</p>	<p>a. Correct, an equivalent amount will be reserved in the IP for Vanuatu. This is in line with earlier SREP Subcommittee direction on the range of funding for the regional/knowledge sharing component.</p> <p>b. The proposed budget (\$1 million) is consistent with standard budgets for similar project preparation budgets for similar projects in the Pacific. Project</p>

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<p>project seem high (1'000'000 USD). At the stage of the project application, such costs will have to be detailed and justified.</p> <p>c. Q: Where and with what amount is the component "strengthening the enabling environment for RE" included in the financial plan?</p>	<p>preparation budget includes detailed design for the solar farm (including technical specifications ready for procurement) and ongoing monitoring for the private sector SHS fee-for-service model.</p> <p>c. The "strengthening the enabling environment for RE" is Component 3 of the proposed project (see pp. 2-4, pp. 25-26, and pp. 41-41 of the Investment Plan). The costs of this forms part of the overall \$2million technical assistance budget set out in the financing table for the Renewable Energy Access Project (World Bank supported).</p>
<p>6. Expected results</p> <p>a. C: The information regarding the expected additional installed capacity of RE and additional electricity production from RE sources should be added in the Results Framework.</p> <p>b. C: The increase in investments from the private sector in RE (USD 4 million) seems low as it represents only 10% of the total investment plan and less than 1/3 of the SREP contribution. It is stated that RE is expected to be highly competitive against small scale diesel generation. Thus, given the high tariffs, a stronger promotion of private sector involvement, and consequently a larger co-financing part from private sector investors, should be possible and sought.</p>	<p>a. The additional installed capacity of renewable energy will be determined during feasibility study stage and included in the Results Framework.</p> <p>b. The scope for further private sector investments in RE will be better understood once project preparations begin. Additional co-financing from private sector investors might be possible and will be sought.</p>

United Kingdom

Query or comment	Response
<p>We welcome the use of output-based payment approaches and it is good to see a coherent range of approaches (including island mini-grids) being applied to expand both energy access and renewables deployment. Although more detail is required in full project proposals, the presentation of the results and key programme dimensions in the Executive Summary are very useful in assessing the project.</p>	<p>Thank you</p>
<p>The questions we would have at this stage would be around the relatively low leverage expected and to ask the proponents to review the extent to which any more leverage can be achieved, particularly private sector leverage, through reconsidering approaches or business models. We would also value some more information on the baselines and targets regarding demand growth etc, as a basis for assessment of the impact of the proposed generation, as well as climate impacts.</p>	<p>The low leverage is reflective of the relative low development of the private sector in the Pacific. The project will be trialing models to develop private sector from a low base. As requested, options will be assessed during project preparation to further maximize private sector leverage.</p> <p>Baseline data is generally unavailable in Solomon Islands and needs to be developed on a case by case basis. As requested, this will be prepared during project preparation stage.</p>