

CLIMATE INVESTMENT FUNDS

June 6, 2018

Meeting of the SREP Sub-Committee
Washington D.C.
Wednesday, June 6, 2018

SREP INVESTMENT PLAN FOR MADAGASCAR

RESPONSES FROM THE WORLD BANK TO COMMENTS FROM SWITZERLAND

Madagascar SREP IP: Questions and Responses

Project 1 Rural electrification by RE and mini grids:	
<p>(Q) We understand that the proposed implementation option is the license to a private operator. How is the SREP contribution (USD 1.5 million grant and USD 10 million non-grant) intended to be used to fund this project (i.e. what instruments will be deployed by SREP and the World Bank)?</p>	<p>The GoM is implementing institutional reforms including the setting in place of the National Sustainable Energy Fund (FNED). FNED would be managed by a Fund Manager with a financial management system acceptable to the World Bank. FNED would provide financing products such as guarantees and loans to qualified investors.</p> <p>It is envisaged that SREP contribution will be managed through the FNED. US\$11.5 million from SREP (US\$ 10 m of loan and US\$ 1.5 m of grant) will be used to provide loans to private developers and other eligible beneficiaries. An alternative to the FNED is the use of existing arrangement for IDA-funded projects. In this case, the SREP contribution would be put in designated accounts. The arrangement for handling SREP funding will be assessed and decided during the project preparation.</p>
<p>(Q) We understand that the World Bank will implement project 1, yet the financial plan foresees USD 5-10 million loans from AfDB. Please clarify.</p>	<p>The rural electrification projects will be developed by private investors. The private investors are expected to provide equity and raise additional funding, as needed. AfDB loans will be provided to private sector companies on commercial terms, to support business development efforts, studies and infrastructure financing. World Bank and SREP financing will be channeled through the public sector to co-finance the projects and strengthen the institutional arrangements.</p>
<p>(C) It is stated (p.60) that in order to achieve a target rate (electricity tariff) of 16 c/kWh, the subsidy must cover at least 30% of the investment, i.e. USD 17.4 million and that additional USD 8.8 million grant contributions are therefore sought.</p> <ul style="list-style-type: none"> i. From whom does the Government of Madagascar expect such additional grant contributions? How realistic is this? ii. What happens if these contributions do not materialize, notably in terms of the project's results? iii. What about the USD 1.5 million grant from SREP. Is this not part of the 	<p>The GoM has commissioned a tariff study and is exploring options to establish a cross-subsidy mechanism. The target electricity US\$c 16 per kWh is a hypothetical scenario, based on specific assumptions including interest rate, debt:equity ratio, tax rate, etc., of the private sector financing. This target may not be achieved if the assumptions are not confirmed during the preparation of the project.</p> <p>..</p> <p>In addition, at the donor coordination meeting held during the preparation of the Investment Plan, some DFIs active in the energy sector (GIZ, KfW, AfD) confirmed their interest to support rural electrification efforts through the provision of credit lines to local banks and/or the capitalization of the newly created Sustainable Energy Fund.</p> <p>If these contributions do not materialize, the project will be implemented under public sector management. The impact on the project's results is presented in Table 6 (Funding schemes – rural electrification) on page 81 of the Investment Plan. New RE installed capacity</p>

investment subsidies and should therefore be deducted from the USD 8.8 million?

will decrease to 2.5 MW (from 5.6 MW) and the energy produced will decrease to 14 GWh (from 32 GWh)

The US\$ 8.8 million subsidy is in addition to the proposed \$1.5 million grant from SREP. US\$ 0.5 million (out of the US\$1.5 million) will be used for project management and institutional support.

Project 2: Hybridization of JIRAMA isolated centers

(Q) What sub-projects are covered in the SREP co-financed part of Strategic Avenue 2?

The sub-projects will be selected from the existing 115 isolated centers currently run by JIRAMA. Additional feasibility is still required to ensure that the most promising sites in terms of renewable energy potential are ultimately selected. The long list of projects is presented in the two tables below:

JIRAMA CENTERS / SUB-PROJECTS NAME	Region	Planned REN type	Installed power (kW)	Generation potential (MWh/year)	Investment (\$M)
MAHABO	MENABE	Solar	300	473	0.71
MANDRITSARA	SOFIA	Solar	700	1,103	1.65
RANOHIRA	IHOROMBE	Solar	200	315	0.75
MANANARA-AVARATRA	ANALANJIROFO	Solar	1100	1,733	2.59
MAINTIRANO	MELAKY	Solar	600	945	1.41
ANTSOHIHY	SOFIA	Solar	1600	2,520	3.76
MORONDAVA	MENABE	Solar	2600	4,095	6.11
AMBATONDRAZAKA	ALAOIRA MANGORO	Solar	2000	3,150	4.70
MANANJARY	VATOVAVY FITOVINANY	Solar	1000	1,575	2.35
TOTAL			10,100	15,908	24.0

JIRAMA CENTERS / SUB-PROJECTS NAME	Region	Planned REN type	Installed power (kW)	Generation potential (MWh/year)	Investment (\$M)
BENENITRA	ATSIMO ANDREFANA	Solar	100	158	0.38
BESALAMPY	MELAKY	Solar	200	315	0.75
AMPANIHY	ATSIMO ANDREFANA	Solar	200	315	0.75
BETROKA	ANOSY	Solar	300	473	0.71
MORAFENOBE	MELAKY	Solar	100	158	0.38
ANJZOROBE	ANALAMANGA	Solar	200	315	0.75
AMBATOMAINTY	MELAKY	Solar	100	158	0.38
AMBOASARY-ATSIMO	ANOSY	Solar	300	473	0.71
MIANDRIVAZO	MENABE	Solar	300	473	0.71
SAKARAH	ATSIMO ANDREFANA	Solar	500	788	1.18
ANTSALOVA	MELAKY	Solar	100	158	0.38
BORIZINY (PORT-BERGE)	SOFIA	Solar	600	945	1.41
IHOSY	IHOROMBE	Solar	1100	1,733	2.59
MAMPIKONY	SOFIA	Solar	700	1,103	1.65
TSARATANANA	BETSIBOKA	Solar	200	315	0.75
ANIVORANO-AVARATRA	DIANA	Solar	300	473	0.71
BELON'I TSIRIBIHINA	MENABE	Solar	300	473	0.71
TOTAL			5,600	8,820	14.9

(C) We take note that the project foresees the replacement of existing diesel generator sets by new ones in addition to the introduction of RE (p.61, fifth paragraph). We would like to remind that SREP funding must not be used to finance such diesel generator sets. Moreover, we recommend that provisions are made to minimize the use of diesel in the hybrid systems.

During the implementation of a hybrid project, AfDB would ensure that no SREP resources would be deployed in works, goods or services associated with the non-renewable component of the project. The use of non-renewable technologies in these hybrid systems will be informed by additional feasibility studies. The objective will be to target sub-projects with the most promising renewable potential while taking into account the important dynamics of market supply and demand.

(Q) What technical assistance is foreseen with the requested USD 2 million SREP grant (notably in complementarity to the also requested USD 1.4 SREP project preparation grant)?

The proposed USD 1.4 million Project Preparation Grant will be used to develop the framework under which JIRAMA will prepare, launch and finalize the tendering processes that will competitively select the different private sector partners to invest and operate the selected sub-projects.

	<p>The USD 2 million SREP Technical Assistance grant will be used to undertake the additional feasibility studies required to select the sub-projects. Among other activities, the grant will: (i) define the potential for rehabilitation or replacement of thermal units, (ii) choose the location for the renewable energy power plant, (iii) evaluate the renewable energy generation potential, (iv) size the project, define technical options, and specify the quality standards required for equipment, (v) study the connection conditions, and (vi) carry out the environmental and social impact assessment of sub-projects as well as the related mitigation measures to be implemented.</p>
<p>(Q) We noticed that through hybridization, the electricity generation costs can be reduced by 20% to 30.6 c/kWh. This is however still a very high cost and compares with 12-16 c/kWh for rural electrification.</p> <p>iv. Why is this cost still so high?</p> <p>v. How affordable is this electricity for the concerned populations?</p> <p>vi. What provisions are foreseen to make sure that the cost savings related to the introduction of RE are retroceded to the consumers?</p>	<p>Why is this cost still so high?</p> <p>Although the target is conservative, we could only start from the existing costs as a reference and then reduce <i>pro rata</i> the decrease in running hours by the renewable energy technologies. The USD 0.12-0.16 per kWh refer to the capital expenditures only and do not consider the operational costs which would include the cost of fuel among others.</p> <p>How affordable is this electricity for the concerned population?</p> <p>We have not received any socio-economic studies on the payment capacity of the populations/consumers. However, this this could be included in the scope of the activities in the selected areas while undertaking the feasibility studies. That said, our basic assumption is that the envisaged cost is indeed too high and therefore it is of paramount important to find means to bring these costs down.</p> <p>What provisions are foreseen to make sure that the cost savings related to the introduction of RE are retroceded to the consumers?</p> <p>It is important to highlight that currently the costs incurred by JIRAMA are not passed through to the consumers. The existing tariff is subsidized as JIRAMA sells power below its cost. This is only possible because of the financial support provided by the Government of Madagascar. The hybridization process will first contribute to support the financial viability of JIRAMA and contribute to decrease the amounts of subsidies provided by the government.</p>
<p>Financing Plan</p>	

<p>(C) The requested project preparation grant [USD 1.4 million] seems high in relation to the overall budget of Project 2! What will be precisely achieved with that grant?</p>	<p>The proposed USD 1.4 million Project Preparation Grant will be used to develop the framework under which JIRAMA will prepare, launch and finalize the tendering processes that will competitively select the different private sector partners to invest and operate the selected sub-projects.</p>
<p>(Q) The contribution of the Government of Madagascar (GoMg) is stated to be 0 although in a footnote (10, table 2, p.11) it is mentioned that it could contribute to make energy purchase contracts with JIRAMA more secure.</p> <p>vii. By what means would the (payment) risk of the offtake agreements be addressed by the GoMg? In what way would that complement the intended guarantee the AfDB would put in place with the SREP non-grant contribution of USD 6 million?</p> <p>viii. Why does the GoMg not contribute to the projects via reducing or waiving taxes and duties? What effect would a waiver of the [33%] corporate tax have on the financing needs of the two projects?</p>	<p>vii) It is very likely that the GoM will be called to mitigate off-taker payment default risk. The different types of guarantees, the amounts and the potential providers will be determined during due diligence but such coverage could, for example, complement an eventual SREP guarantee structured to cover part of the same risk. It is important to note that a guarantee of USD 6 million would likely be insufficient to cover entirely the off-take payment default risk associated with the envisaged project.</p> <p>AfDB will in cooperation with the GoM and other parties involved in the project seek to allocate risk in a fair and proportionate manner.</p> <p>viii) The current fiscal framework includes some tax exemption for the renewable energy projects. The impact of the application of these exemptions as well as further fiscal incentives will be analyzed during the project preparation phase.</p>
<p>Objectives and expected results</p>	
<p>(Q) Does the proposed SREP Investment Plan have a direct link to Madagascar's NDCs (nationally determined contributions) to the Paris Agreement?</p>	<p>Yes, the proposed SREP IP would contribute to Madagascar 's NDCs target of teqCO₂ reduction of 30million by 2030. In fact, the projects would achieve 37'000 tCO₂eq/y of avoided or reduced greenhouse gas emissions.</p>
<p>(C/Q) The NPE (2015-2030) objectives are very ambitious. With SREP representing just 2% of the investments needed to achieve these objectives (p.27), where does the</p>	<p>While the NPE reflects the GoM's ambitious targets, the National Electrification Plan which is being developed has sorted out more realistic targets. There are other governments electrification programs financed by the World Bank and other donors involved in the sector that would continue in the future.</p>

<p>GoMg intend to find the remaining financing?</p>	
<p>(Q) What is the approximate split of electricity generated from RE (55 GWh/y) between the two projects?</p>	<p>The share of electricity generated from RE is estimated as follows : Project 1 : 32 GWh/year for 5.6 MW installed capacity Project 2 : 23 GWh/year for 14 MW installed capacity</p>
<p>(C) The number of beneficiaries (18'500 homes or 93'000 people) is not gender disaggregated. Please disaggregate.</p>	<p>The number of beneficiaries is 18,500 households including approximately 11,000 women headed households. This is subject to sub-projects selected and will be reviewed during the project preparation phase.</p>
<p>(C) The leverage factor is not expressed as usual in SREP, i.e. ratio of additional financing mobilized by SREP. This would be 1: 3.67, not 1:4.7. (1:3.43 if the requested project preparation grant is added).</p>	<p>Noted. This will be corrected before posting on the CIF website.</p>
<p>(Q) Please detail the calculation showing how you reach 37'000 tCO₂eq/y of avoided or reduced greenhouse gas emissions.</p>	<p>The calculation is based on an assumed avoided diesel generation production of 55GWh by year 2022 and a grid emission factor of 0.67 tCO₂eq per MWh.</p>