

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: May 04, 2013

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Panel member validation by: Ralph E. Sims
Consultant(s):

I. PIF Information *(Copied from the PIF)*

FULL SIZE PROJECT GEF TRUST FUND

GEF PROJECT ID: 5286

PROJECT DURATION : 5

COUNTRIES : Equatorial Guinea

PROJECT TITLE: Sustainable Energy for All: Promoting Small Scale Hydropower in Bioko and Other Clean Energy Solutions for Remote Islands

GEF AGENCIES: UNDP

OTHER EXECUTING PARTNERS: MPM, MMIE, SEGESA

GEF FOCAL AREA: Climate Change

II. STAP Advisory Response *(see table below for explanation)*

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies): **Minor revision required**

III. Further guidance from STAP

> A promising project on hydropower, with solar and wind also included as displacing natural gas for power-generation. Well constrained and logical project encompassing RETs assessment, support for policy and institutional framework, business models and on-the ground demonstrations, and capacity building and awareness raising "all ingredients for successful development of RE market in Equatorial Guinea. Replication of the concept based on experiences learned, may be possible for other small islands, though they usually run on diesel generation and not on natural gas-fired power as here in Bioko island.

> Project acknowledges that the existence of fuel subsidies represents an important risk to future development of RET in the country and suggests to promote progressive phase-out of fuel subsidies. How this will be achieved is not clear in the proposal. Some lessons and recommendations could be learned from this study: Victor, D.G. (2009) "The Politics of Fossil-Fuel Subsidies", The Global Subsidies Initiative, Untold Billions: Fossil-fuel Subsidies, Their Impact and the Path to Reform, Geneva: IISD: www.globalsubsidies.org/files/assets/politics_ffs.pdf

> The private sector, in the form of the national-owned power utility company, is to provide \$39M as a grant, being most of the total project co-funding of \$40M. This fits well with GEF strategies but is there any risk in that approach? The wind and solar options seem to be tacked on with no specific details provided other than the two locations named.

> It is not clear from the proposal but it seems the aim is to refurbish the old 4MW plant in Riaba, construct the new 4.2 MW plant at Musola, and then construct the 10MW IIacha plant (Is this on the mainland or on Bioko?).

The removal of oil subsidies is essential for the project to succeed.

It is not clear whether the rivers are to be dammed or run-of-river hydro plants designed - with differing environmental and land-use impacts. It is most probably run-of river.

> Small and micro- hydro is a well understood, mature technology - and hydro plants apparently already exist on the island as well as 33% of power on the mainland. So it is unclear why a "pilot project demonstration" is necessary (Component 2).

Under Component 3, who will conduct the resource assessments?

Section 9. The project lifetime of 5 years seems too short for small hydro with many well-maintained plants still operating after 50 years in some places.

> Project correctly acknowledges the importance of climate variability and future climate change risks for small hydropower installations. World Bank IEG Assessment "Adapting to Climate Change: Assessing the World Bank Group Experience Phase III" (http://ieg.worldbankgroup.org/content/dam/ieg/climate_change3/cc3_full_eval.pdf) acknowledges that there different factors project proponents should consider when making their hydropower investment climate-resilient such as safety provisions, environmental impacts, profitability and investment decisions, and various design factors. Unfortunately, no operational guidance is available on how to account for climate risks in hydropower investments. STAP envisions that proper climate risk assessment in case of the proposed for demonstrations areas in Equatorial Guinea will be impeded by the lack of historic hydrological cycle data. Project proponents are advised to explore different approaches and lessons learned for the World Bank projects and elsewhere to approach climate risks of project investments in a systemic way.

> GEF's contribution of \$3.5 M is to help develop policies to support renewables, undertake feasibility assessments, support 3 pilot projects (Riaba 3.8 MW, Musola 0.2 MW and 0.2 MW), and undertake capacity building. The relationship with the national utility leading the project is not clarified, nor any mention of monitoring and evaluation. What will be the indicators and measures of whether the project is a success or not?

> To strengthen regional approach to support for RET and ensure future sustainability of project efforts, STAP is recommending that project proponents consider building links and exchange of know-how with the Centre of Excellence in Renewable Energy and Energy Efficiency in the Central Africa (CEREECA) and other initiatives being supported by the ARPEDAC (a non-profit association involved in research and promotion of services and technologies related to energy efficiency and renewable energy in the Economic Community of Central Africa, <http://www.arpedac.org/>).

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Consent	<p>STAP acknowledges that on scientific or technical grounds the concept has merit. However, STAP may state its views on the concept emphasizing any issues where the project could be improved.</p> <p>Follow up: The GEF Agency is invited to approach STAP for advice during the development of the project prior to submission of the final document for CEO endorsement.</p>
2. Minor revision required.	<p>STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development.</p> <p>Follow up: One or more options are open to STAP and the GEF Agency:</p> <ul style="list-style-type: none"> (i) GEF Agency should discuss the issues with STAP to clarify them and possible solutions. (ii) In its request for CEO endorsement, the GEF Agency will report on actions taken in response to STAP's recommended actions.
3. Major revision required	<p>STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvements to project design.</p> <p>Follow-up:</p> <ul style="list-style-type: none"> (i) The Agency should request that the project undergo a STAP review prior to CEO endorsement, at a point in time when the particular scientific or technical issue is sufficiently developed to be reviewed, or as agreed between the Agency and STAP. (ii) In its request for CEO endorsement, the Agency will report on actions taken in response to STAP concerns.