

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: March 14, 2016
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Consultant(s):

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

FULL SIZE PROJECT	GEF TRUST FUND
GEF PROJECT ID:	9043
PROJECT DURATION:	10
COUNTRIES:	Regional (Africa)
PROJECT TITLE:	Investing in Renewable Energy Project Preparation under the Sustainable Energy Fund for Africa (SEFA)(non-grant)
GEF AGENCIES:	AfDB
OTHER EXECUTING PARTNERS:	
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):
Concur

III. Further guidance from STAP

1. This is a broad and ambitious project to encourage deployment of renewable energy projects throughout the African continent. STAP understands that the proposal is submitted under the non-grant instrument modality. The project objective is to attract and accelerate the investment in renewable energy projects by piloting the use of reimbursable grants for the Sustainable Energy Fund for Africa (SEFA) project preparation window. The GEF funds are largely requested to strengthen SEFA's project preparation facility and provide a test platform for alternative utilization of grant instrument as a catalyst of change. The proposal aims to support AfDB lending to "medium-sized" projects (page 6) but also targets projects within the total investment range of USD 30 -200 million.

2. Both the baseline and incremental reasoning sections of the proposal are weak and do not allow STAP to see specific focus of GEF's support of SEFA operations beyond these two areas. There is abundant literature about the current status and scenario development of renewable energy in Africa (e.g., most recent assessment by IRENA (2015), Africa 2030: Roadmap for a Renewable Energy Future. IRENA, Abu Dhabi. www.irena.org/remap) that is not reflected in the submitted proposal to justify interventions. RE potential in Africa is diverse and country- and region-specific depending on the levels of development, energy resources endowments, levels of energy access and a range of human, technical and institutional capacities. Electricity exports, development of local industries in some regions and countries are contrasting with significant energy poverty and a necessity to assure energy access and development of local communities in other regions (primarily in SSA). Support for enabling environment to facilitate access to private and public sector funds as well as RE technologies will differ between regions and countries. PIF provides almost no information about the strategic focus of the SEFA preparation facility and project selection criteria to be based on the evidence.

3. An important consideration for the project of this scale is support for regional integration and co-operation depending on specific regional circumstances. Such an approach could provide important

economies of scale and higher return on GEF's investments. This specifically applies to regional power pools in Central, Southern and West Africa. STAP recommends AfDB to explore further opportunities for aligning its investment focus with the ongoing work for the development of cost-effective regional solutions, including those supported by IRENA, AU/NEPAD, ECOWAS and other regional institutions.

4. Given the focus on "medium-sized" (for which a clearer definition is required) many smaller worthwhile projects at the local scale such as micro-grids and distributed energy systems could be excluded.

5. Off-grid renewables and support for heating/cooling solutions in SSA should have a preferable treatment recognizing the global importance to assure energy access in this sub-region accounting for 13% of the world's population and only 4% of energy demand. More than 95% of those living without electricity are in countries in sub-Saharan Africa and developing Asia, and they are predominantly in rural areas (around 80% of the world total). The off-grids markets particularly relevant for the region require dedicated policy and regulatory support as well as capacity building. It's not clear in the proposal how SEFA would approach these issues and should be developed further during project preparation. The gender and sustainable dimension of off-grid RE energy solutions in SSA are particularly important. As an example, one USD invested in Solar Sister program (<https://www.solarsister.org/>) generated more than USD46 of economic benefits to involved communities. Support for off-grid RE in SSA should be aligned with the overall the development efforts of other partners to receive higher return on investments.

6. Project requests are to be screened on ROI and the assumed reduction of greenhouse gas emissions (page 20) but the indicator \$/t C avoided would also be a useful indicator. Although some CO₂ is released from many geothermal bores, the technology is low-C overall. Full details of the potential for geothermal projects, and indeed for all renewable energy systems can be found in the IPCC 2011 special report Renewable Energy Resources and Climate Change Mitigation (<http://srren.ipcc-wg3.de/>) which provides much information of relevance to this project.

7. On page 17 in Table 2, stranded gas suddenly appears in the table. This is not a renewable energy resource so it is unclear why it appears at all in this proposal given the title. To produce the Table, capacity factors of 29% for wind, 20% for solar PV, 60% for hydro and 80% for stranded gas have been used. An average emission factor of 625 g/kWh appears to have been used to calculate the emission reductions for the renewable energy systems, whereas for the stranded gas, the factor used is around 90g/kWh. There is no clarification on what basis this figure was selected.

8. It is not clear why geothermal projects are explicitly excluded when there is good potential in a number of African countries, as demonstrated for example in Kenya. There may be a drilling risk (as mentioned in the PIF review) but the benefits of success will probably outweigh the risks. The technology is actually more mature than wind and solar. On page 9 it is implied it is less mature but the first major geothermal plant of ~150 MW began operation in New Zealand at Wairakei in 1958. The design of this plant has been improved in recent years and it continues to successfully operate as a commercially viable generation plant. More commercial geothermal plants have been developed without need for any government support and it now provides around 15% of total generation. So given the identification of appropriate resources, geothermal generation competes well with other technologies and should not be so easily dismissed from this project proposal for Africa.

9. The Equity investments window is for projects in the USD 10-80 M range. It is assumed this investment could be for renewable energy resource assessment in specific locations such as assessing mean annual wind speeds, solar radiation levels, biomass volumes etc. (akin to oil and gas exploration). This is an essential part of developing renewable energy projects and identifying the most suitable locations.

10. Support for promotion of RE solutions comes together with the support for providing specific enabling environment that includes regulatory, fiscal, technical and capacity building incentives adjusted for specific country's circumstances. There is no specific information in the proposal to understand how project preparation facility will connect with the existing or support development of new incentives that would go along with financing. The above report by IRENA (2015) and other sources provide an important assessment of the existing policy and regulatory landscape in different African countries that should be taken into account in the design of the SEFA project preparation window. For such activities to succeed in the longer term, capacity building is imperative. Here it is left to the private sector which gives some concerns as many private sector projects have failed due to lack of locally available expertise to maintain and repair technologies over the long-term.

11. Consistency with national priorities could be linked with the more recent Nationally Determined Contributions following the Paris Climate Agreement.

12. STAP recommends that AfDB explores carefully lessons learned by other multilateral development banks, particularly the World Bank Group (incl. IFC) and ADB in supporting similar to SEFA investment vehicles based on the principle of public-private partnerships (e.g., <http://ieg.worldbank.org/evaluations/world-bank-group-support-ppp>). Among them are the following that has to be further strengthened in the proposal development:

- the necessity to align SEFA operations across different divisions of the AfDB along the entire project delivery chain from upstream support for the enabling environment and pipeline development to downstream transactions and execution;
- improve SEFA capacity in providing regular country diagnostics (country and its political economy, sector and inter-sectoral policies, project parameters) to inform portfolio development and represent a platform for sharing knowledge across the AfDB;
- assess fiscal implications, including any fiscal liabilities associated with SEFA operations;
- assure strong M&E functions of the facility that takes into account not only financial criteria but also socio-economic dimensions/benefits of SEFA operations (poverty reduction, gender, employment opportunities, human capital development and etc.).

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Concur	In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple “Concur” response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.
2. Minor issues to be considered during project design	<p>STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised.</p> <p>(ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review.</p> <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p>
3. Major issues to be considered during project design	<p>STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required.</p> <p>The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP’s concerns.</p> <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p>