

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: February 24, 2014

Screener: Lev Neretin

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: 5676

PROJECT DURATION : 3

COUNTRIES : Venezuela

PROJECT TITLE: Promotion and Development of Renewable Energies through the Set-up of Mini-hydro Plants in Rural Communities Located in the Region of The Andes and the Southern Area of the Bolivarian Republic of Venezuela

GEF AGENCIES: IADB

OTHER EXECUTING PARTNERS: Corporación Eléctrica Nacional (CORPOELEC)

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):
Consent

III. Further guidance from STAP

The aim of the project is to design and construct several mini-hydro plants and to rejuvenate three or so already in existence but derelict. Mini-grids will also be constructed to the nearby load centers. Capacity building will be a key component as well as dissemination of the learning experiences. This project is not truly innovative with many thousands of similar projects operating worldwide, but it gives Venezuela the opportunity to generate power in rural areas.

STAP has the following recommendations to be addressed during the PPG stage:

1. The reason several existing plants have fallen into disrepair and now need to be resurrected should be closely investigated to ensure this can be avoided in future. Is it because diesel-generating sets became easier to operate? Could they be located closer to load and cut distribution costs? Do they avoid the need for regular maintenance/cleaning of the water intake screen, or what? In addition, a review of similar installations operating in neighboring countries could provide useful lessons learned in order to avoid any similar possible problems occurring in Venezuela.
2. Are the installation designs likely to be dammed or run-of-river designs? Locations for each hydro plant will need to consider rainfall reliability in future due to possible climate change impacts (not just from "reduced water flows" but also from extreme weather events resulting in higher frequency of heavy rainfall and more intense flooding). Can the proximity to load centers be minimized to keep the power distribution costs low?
3. The claimed reduction in GHG emissions was calculated as shown in Annex 1, which is acceptable given the hydro-power will displace small diesel-generating sets. This assumes a new hydro-power plant will not provide electricity to remote rural areas currently without electricity access.
4. It is not clear how the proposed units will be serviced and whether there is adequate technically experienced personnel to sustain their operations and/or if such capacity should be established. Only training workshops are mentioned.

5. Social issues such as land ownership, possible competition for limited water resources upstream for irrigation or stock water supplies, and health and educational benefits from electrification should be accounted for.

6. Project design by combining electricity generation using mini-hydro plants and integrated basin management program (not to be funded by the GEF) is commendable but the proposal provides very few details about the integration of these related but different activities. IWRM involves cross-sectoral and thematic coordination and as a framework goes beyond training workshops and reporting. STAP would welcome a more fully fleshed description of the IWRM approach and activities and how electricity generation using mini-hydro will be mainstreamed in such framework.

<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.