

# 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: October 07, 2011

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Consultant(s):

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

**FULL SIZE PROJECT    GEF TRUST FUND**

**GEF PROJECT ID:** 4497

**PROJECT DURATION :** 6

**COUNTRIES :** Suriname

**PROJECT TITLE:** Development of Renewable Energy, Energy Efficiency and Electrification of Suriname

**GEF AGENCIES:** IADB

**OTHER EXECUTING PARTNERS:** The Ministry of Natural Resources (MNH) - Suriname

**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

The main objective of the project is to promote the use and development of Renewable Energy and Energy Efficiency systems and technology in Suriname. The proposal aims to address both RE and energy efficiency. STAP requests Minor Revision of the proposed project and has the following recommendations:

1. Rationale for incorporating wind, solar PV, energy efficient lighting and hydro power: The PIF has incorporated all the potential RETs and EE lighting. However, the rationale for selecting certain specific RETs and EETs is not clear. Suriname could do a national level assessment of the potential of all RETs and EETs, along with the cost effectiveness and mitigation potential. Technologies for intervention could be selected based on cost effectiveness, mitigation potential, as well as the national circumstances (including commercial and financial feasibility) of the country. The capacity of the on-grid and off-grid systems for demonstration should be decided based on analysis for a given location on the potential and optimized scale.
2. Energy efficiency: EE support is concentrated on the buildings sector. Why this particular sector was chosen for EE interventions? Investments targeting commercial and residential buildings as well as different systems (lighting, solar water heaters and etc.) are different. Analysis of consumption pattern, specific barriers, mitigation potential of different technologies and systems is recommended before the CEO endorsement to assure that GEF support is sustainable for transforming EE market in buildings sector in Suriname.
3. Baseline scenario: It is necessary to present a detailed analysis of the share of different energy sources, both fossil fuel and renewable and their resulting emissions under the no GEF project scenario.
4. Bio-energy: There is a lack of clarity on the bio-energy technologies. Is it for power generation or for heat application, or for liquid fuel production? There is a need to assess the potential of biomass feedstock availability for power generation, as well as, land availability for bio-fuel production. In one place PIF does provide a reference to support production of biomass energy from jathropa. If this is the case, description of environmental and social safeguards in promoting this technology is necessary.
5. The PIF mentions promotion of RETs to reduce pressure on wood for energy purposes leading to conservation of forests and biodiversity. It is not clear which end use and technology is being targeted for conserving wood. Does the project aim at substituting fuel wood used for cooking or process heat applications? Most of the interventions seemed to be aimed at generating electricity for lighting. Project claims that support for RE technologies in Hinterlands will reduce pressure on forests and contribute to biodiversity conservation. This might be the case but not necessarily so

depending on the number of factors including sufficient coverage of energy demand by RE sources, existence of other uses of forest products and expansion of agricultural lands into forests, public awareness of negative impacts of deforestation and others. STAP suggests exploring driving factors of forest use in Suriname Hinterlands and develop specific interventions including monitoring that would promote reduced use of forest products as fuel and justify the assumption that promotion of RE sources does indeed reduce pressure on forests.

6. Socio-economic benefits: Most of the demonstration RETs and EETs selected largely focus on power generation and application for lighting. The PIF also talks about application of RETs and EETs for commercial and industrial sectors, but most of the interventions are focused on lighting application. During project preparation, STAP recommends addressing both, access to more reliable and more affordable energy for rural areas and for commercial and industrial sector applications. The cost of RE electricity or the EE lighting systems may be high for the rural poor and hence, the project should aim at the provision of incentives for the poor. Furthermore, support for different RE technologies in Hinterlands would demand establishing appropriate technical, engineering and monitoring capacities that are almost certain absent in this area. How project will address this lack of capacity?

7. Climate change risks: According to the National Communications of Suriname, the climate risks are high, particularly the risks of flooding and inundation of low lying coastal zones. STAP complements Suriname for recognizing the potential climate change risks to renewable energy sources and for proposing an assessment of climate change risks. Climate change could impact water flow for hydro-electric projects, wind patterns, bio-fuel production and destruction of energy installations such as wind or micro-hydro systems, especially in coastal areas and low lying areas. Thus, STAP suggests exploring World Bank Climate Change Knowledge Portal, the emerging National Communication Reports and the World Bank's report on, "Climate Change Impacts on Energy Sector" by Ebinger and Vergara (2010). This World Bank report states "Energy services and resources will be increasingly affected by climate change - Changing trends, increasing variability, greater extremes, and large inter-annual variations in climate parameters. The report provides approaches and methods to assess impacts and options to address the climate risks in energy sector.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
<b>1. Consent</b>	STAP acknowledges that on scientific/technical grounds the concept has merit. However, STAP may state its views on the concept emphasising any issues that could be improved and the proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.
<b>2. Minor revision required.</b>	STAP has identified specific scientific/technical suggestions or opportunities that should be discussed with the proponent as early as possible during development of the project brief. One or more options that remain open to STAP include: <ul style="list-style-type: none"> <li>(i) Opening a dialogue between STAP and the proponent to clarify issues</li> <li>(ii) Setting a review point during early stage project development and agreeing terms of reference for an independent expert to be appointed to conduct this review</li> </ul> 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.
<b>3. Major revision required</b>	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical omissions in the concept. If STAP provides this advisory response, a full explanation would also be provided. Normally, a STAP approved review will be mandatory prior to submission of the project brief for CEO endorsement. 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.