

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 11, 2010

Screener: David Cunningham

Panel member validation by: Nijavalli H. Ravindranath
Consultant(s):

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

FULL SIZE PROJECT GEF TRUST FUND

GEF PROJECT ID: 4096

PROJECT DURATION : 5

COUNTRIES : Sri Lanka

PROJECT TITLE: Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies

GEF AGENCIES: UNDP and FAO

OTHER EXECUTING PARTNERS: Ministry of Environment and Natural Resources; Forest Department (FD) Sri Lanka Sustainable Energy Authority (SEA)

GEF FOCAL AREA: Climate Change

GEF-4 STRATEGIC PROGRAMS: CC-4;

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

This project aims at removal of barriers to promotion of sustainable biomass plantations, biomass energy technology development and demonstration and enhancing the share of biomass energy for thermal and electrical applications. STAP fully supports this project and compliments the project proponents for considering various technical, policy, tenure and other barriers and developing strategies to overcome the barriers. However, the STAP has the following suggestions to be considered when developing the project document.

1. Technology choice: Are biomass combustion and gasification systems locally available or will they be imported? What is the reliability of the technology and its performance? There are many projects based on biomass combustion and gasification technology that are having problems with delivering high performance and cost effectiveness. This project considers both thermal and electrical applications. We appreciate the inclusion of both the applications but there is a need for scientific justification on the priority for use of biomass feedstock for thermal or electrical application. Technology performance evaluation, demand for thermal and electrical energy and financial viability analysis should be conducted. What is the economic or technical rationale for the capacity of the systems (1 MW for power and 4 units of thermal systems)? The capacity of the systems should be decided based on the financial analysis, biomass supply and demand for energy. The financial viability is directly linked to the capacity of the system.
2. Location of bioenergy systems: There is a need for a systematic assessment to identify the locations for bioenergy systems keeping in mind the location of sourcing of biomass and location of demand for thermal or electrical energy to minimize the cost of transportation of biomass feedstock or electricity.
3. Biomass production technology: Has there been adequate research on the species mix and silvicultural practices to maximize biomass productivity, particularly from barren and marginal lands? A financial viability analysis of biomass production and its sensitivity to the price of woody biomass to be paid by the energy utility should be conducted. The price of woody biomass would determine the financial viability of biomass production itself as well as the power generation system. There is a need for a clear policy decision stating that biomass will not be sourced from natural forests and existing traditional agroforestry systems.
4. Baseline scenario: There is a need for developing a baseline scenario on the types of energy used in the absence of biomass energy and the GHG emissions under the baseline scenario. This would enable estimation of net GHG reduction from substituting fossil fuels or CO₂ sequestration in plantations.

5. Land use analysis: The proposal does consider the land tenure, land availability and potential conflict with food production. Though bioenergy plantations are proposed largely for barren and marginal land, it is quite likely that farmers may take up commercial production of biomass on their farmland. Thus it is suggested to conduct a land use assessment to ensure minimal displacement of food production and livestock grazing.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Consent	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.
2. Minor revision required.	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"> (i) Opening a dialogue between STAP and the proponent to clarify issues (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 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.
3. Major revision required	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.