

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: April 30, 2012

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Consultant(s):

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

FULL SIZE PROJECT **GEF TRUST FUND**

GEF PROJECT ID: 4344

PROJECT DURATION : 4

COUNTRIES : Timor Leste

PROJECT TITLE: Promoting Sustainable Bio-energy Production from Biomass

GEF AGENCIES: UNDP

OTHER EXECUTING PARTNERS: State Secretariat for Energy Policy; Ministry of Agriculture and Fisheries; and, Ministry of Economy and Development.

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 project aims at promoting sustainable bioenergy production from biomass in Timor-Leste. Bioenergy is very important for this country. STAP suggests addressing the following issues before CEO endorsement of the project:

1. Rationale for the bioenergy technologies: There is a need to consider criteria for selecting the bioenergy technologies for intervention. The criteria could include - suitability of the technology for the identified need and scale of application, robustness of the design, installation and operational costs, cost-effectiveness, and the availability of sustainable biomass. The main needs for bioenergy technologies would include - cooking, lighting and small-scale industrial applications. There is a need to address all three services.

The PIF discusses extensively the lack of access to electricity in rural areas. It is not clear which technology will be used for generating electricity for decentralized application in rural areas. Two potential technologies include - firstly, small-scale biomass gasifiers with installed capacity of 20-500 kW; secondly, biogas-based power generation of capacity 5-10 kW, based on cattle waste and possibly leaf litter. There is lot of experience using these two technologies for power generation.

2. Baseline: There is a need for developing a good baseline project scenario with respect to BETs that are being currently propagated, availability and use of fuelwood, rates of forest loss and afforestation programmes, CO₂ emissions from any non-sustainable use of biomass. 92% of all primary energy inputs in Timor-Leste is from biomass. However, there is a need to explore the suitability of other RE technologies also. Is biomass currently extracted sustainably or non-sustainably? What is the efficiency of use of biomass for cooking?

3. Barrier analysis: The PIF states policy and institutional support will address institutional and policy related barriers to bio-energy. However, STAP recommends a systematic assessment and ranking of the barriers so that interventions could be targeted.

4. Biomass production: According to FAO, Timor-Leste is losing 1.16% of forests annually or 11,200 ha per year during 1990-2010. The area under plantations has remained stable at 43,000 ha during the period 2000 to 2010. This indicates no new afforestation programs occurred in the country. What are the barriers to expanding afforestation? The PIF had not assessed and included the biomass production component. STAP recommends significant scale intervention on raising new plantations to supply fuelwood for cooking and feedstock for biomass gasification for power generation.

5. Briquetting: The end use of the briquettes is not clear. What is the rationale for briquetting?

6. Demonstration of technologies: Which technologies will be demonstrated?

7. Source of technology or technology transfer: It is not clear whether the designs required are already available in Timor-Leste? If not, where will the technology be sourced? There is a need for a plan for technology transfer.

8. Generic interventions: The PIF provides a shopping list of interventions, which are very generic in nature and are applicable for most GEF projects. There is a need for clear targeting and few focused interventions.

<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: (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.