

# Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility



## STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: 04<sup>th</sup> February 2010

Screeener: Lev Neretin

Panel member validation by: N.H. Ravindranath

### I. PIF Information

GEF PROJECT ID: **4134**

COUNTRY(IES): **INDIA**

PROJECT TITLE: **MARKET DEVELOPMENT AND PROMOTION OF SOLAR CONCENTRATORS BASED PROCESS HEAT APPLICATIONS IN INDIA**

GEF AGENCY(IES): **UNDP**

OTHER EXECUTING PARTNER(S): **SOLAR ENERGY CENTRE, MINISTRY OF NEW AND RENEWABLE ENERGY, GOVERNMENT OF INDIA**

GEF FOCAL AREA (S): **Climate Change**

GEF-4 STRATEGIC PROGRAM(S): **SP 3 – PROMOTING MARKET APPROACHES FOR RENEWABLE ENERGY**

NAME OF PARENT PROGRAM/UMBRELLA PROJECT (IF APPLICABLE): **N A**

### II. STAP Advisory Response *(see table below for explanation)*

1. Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies):  
**Consent**

### III. Further guidance from STAP

1. STAP expresses its consent to the project aimed at the increased use of solar concentrators for high temperature process heat applications in India. The proposed project will contribute to the implementation of India's national action plan on climate change. There is a large potential for CSP technology for process heat applications in SMEs. The project aims to develop a technology package, demonstration in the field, build capacity, identify and overcome the barriers for a large-scale technology spread. The following issues should be addressed at the CEO endorsement stage.
2. **Technology package:** Concentrated solar power (CSP) is a known technology, but its large-scale adoption for small-scale process heat applications in small and medium enterprises (SMEs) or large scale power generation is still emerging, due to various factors including technology costs. Four types of CSP systems are being considered. Will all the four types be demonstrated or the performance of different CSP systems is known? STAP recommends exploring whether all the four designs sufficiently developed for large-scale demonstration and application?
3. **Baseline scenario:** The key recipient industries (dairies, textile processing, etc) have been identified. What is the baseline status of these industries in terms of their energy consumption, GHG emissions and energy efficiency? The baseline analysis is required to assess needs for CSP and potential GHG emission reductions to be achieved by the project.
4. **Financial barrier:** The financial barrier is identified and how it will be mitigated needs careful consideration since this barrier is a major factor in the decision of industries to shift to CSP. The proposed activities may not lead to the reduced costs of the CSP systems. The usual incentives such as low interest loans and subsidies may not be adequate. This problem will remain unless a major technological breakthrough occurs and is accompanied by a large-scale production capacity.
5. **Year-round process heat supply:** The process industries considered would require year round supply of process heat. What are the backup options for days when solar based process heat is not available? If, for example, dairy industry has to have an energy backup, what are the alternative sources of energy and cost implications?

6. **Barriers:** Awareness and capacity building activities do not adequately address the barriers of high cost of the technology and the technology performance related issues. A systematic analysis of barriers may be necessary to identify and rank the barriers to enable focused activities.

<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>	<p>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:</p> <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> <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>
<b>3. Major revision required</b>	<p>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.</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>