

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 08, 2012

Screeener: Lev Neretin

Panel member validation by: Nijavalli H. Ravindranath
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I. PIF Information *(Copied from the PIF)*

FULL SIZE PROJECT GEF TRUST FUND

GEF PROJECT ID: 4801

PROJECT DURATION : 5

COUNTRIES : Vietnam

PROJECT TITLE: Promotion of Non-fired Brick (NFB) Production and Utilization

GEF AGENCIES: UNDP

OTHER EXECUTING PARTNERS: Ministry of Science and Technology (MOST)

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

Saving energy in the manufacture of bricks comes under GEF Strategic Objective CCM-2 and is consistent with national energy efficiency policies. The GEF project is aimed at reducing barriers to NFB uptake. While STAP welcomes this initiative, the Panel recommends addressing the following issues before CEO endorsement:

Rationale: Manufacturing bricks without the need to fire them using coal-fired kilns in the traditional way saves thermal energy, as well as reduces CO2 emissions and utilizes waste products (such as fly-ash). It is assumed the quality of the locally made NFBs meet national regulation standards and building code requirements, and that NFBs have an expected life similar to a clay fired-brick. Life cycle analyses are needed to confirm this, assuming the average life of a NFB is known. Policy support and incentives may be needed to generate demand. Consumers might be risk-averse, but they need to be convinced of a quality and performance of NFBs.

Barriers: It seems that consumers still rate NFBs as high risk options. A list of barriers is provided. A lack of understanding exists about the system benefits from using NFBs compared with traditional clay bricks. Recognizing these benefits may help to offset the additional costs for NFBs. But it is not clear whether scientific analysis has confirmed the claims of reduced mortar, better quality construction and lighter buildings or has identified any possible constraints such as reduced building life, lower earthquake resistance etc. Poor quality cement block bricks have given NFBs a bad name. Policies and technical guidelines are therefore required as well as training of builders and related capacity building and public awareness activities. Project proponents are advised to support such actions.

Baseline: GHG emissions from current annual brick manufacturing have been calculated. Around 1,145 kt CO2 reductions over 10 years are projected, based on the assumed number of NFBs to be produced.

Sustainability: Will sufficient volumes of ash and fly-ash (around 15-20 Mt/yr) and other components be available to be able to meet the future demand for NFBs?

Climate change abatement: Reducing GHG emissions by 75% per brick seems feasible if the building life from using NFBs matches the use of conventional materials. This equates to around \$2.4/tCO2 arising from GEF funding if the deployment of 53 NFB manufacturing plants eventuates and 15 M bricks per year are produced.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
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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.	<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"> (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 <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>
3. Major revision required	<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>