

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 05, 2010

Screeners: Lev Neretin

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: 4167

PROJECT DURATION : 4

COUNTRIES : Jamaica

PROJECT TITLE: LGGE Promoting Energy Efficiency and Renewable Energy in Buildings in Jamaica

GEF AGENCIES: UNEP

OTHER EXECUTING PARTNERS: University of the West Indies (UWI), in corporation with the Center of Excellence for Renewable Energy (a division of the Petroleum Corporation of Jamaica/Ministry of Energy), the Scientific Research Council of Jamaica, the University of Technology, the National Housing Trust, and the Private Sector Organization

GEF FOCAL AREA: Climate Change

GEF-4 STRATEGIC PROGRAMS: CC-1;

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 to develop highly energy efficient solutions that can make houses more self-sufficient. The project also aims to incorporate renewable energy technologies to enable development of zero net energy buildings. This is a highly ambitious project that has a potential to make major impact on the building technologies in reducing GHG emissions. However, STAP has many questions on the technology package and financial aspects of the technologies and the acceptability of the technologies to the households, which are explained below and request for appropriate action before the CEO endorsement is provided:

1. Research and development components: Components 1, 2 and 3 seem more like a research and development (R&D) project. Many of the expected outcomes and outputs make this more a research project than a GEF implementation project. R&D on advanced building technologies is not a feasible proposition for the project of four years duration. R&D and adaptation to hurricane conditions of Jamaica would not be feasible, unless technologies developed elsewhere, such as in Europe, could be adopted in Jamaica. However, this also may not happen since Jamaica has a tropical and sub-tropical climate. STAP advises to present a clear justification for selecting particular energy efficiency and renewable technologies that are readily available and which can be directly incorporated into the building design.
2. Scientific rationale for net zero energy and zero emission buildings: Such buildings may be technologically feasible, but due to multiple barriers are not yet ready for commercial application even in Europe or USA. Although, the promotion of net zero energy buildings in Jamaica is desirable, STAP recommends presenting a scientific and economic rationale for emphasizing this particular concept for Jamaica.
3. Financial analysis of energy efficiency and renewable energy technologies: If all the proposed EE and RE are incorporated into a residential building, as of today the cost is likely to be so high that only demonstration buildings are feasible where cost is not a consideration. If the aim is market development for EE and RE buildings, the proposed technology package may not be feasible or acceptable to users at the current stage.
4. Retro-fitting versus new buildings: Retro-fitting cannot be ruled out since energy saved or CO2 emission avoided could be very high per unit of investment, compared to investment in new buildings. The project seems to focus largely

on replacement of existing buildings with super efficient buildings and eliminates unjustifiably investments in retrofitting the existing building stock. STAP recommends considering this in the final project proposal.

5. Residential or commercial buildings: Will the project focus be more on residential buildings or commercial buildings? For residential buildings, what is the income segment of targeted households?
6. Dissemination: How would the likely high additional investment for net zero carbon buildings be met by home owners? The outputs and activities mentioned for this component do not address the key likely barrier of high investment cost (possibly even high building maintenance costs) compared to the existing buildings. What incentives will be feasible and at what cost such incentives could be implemented on a large scale?
7. Risks and mitigation measures: The proposal does recognize the real challenge of finding or development of technologies suitable to the country as well as the cost. Technical capacity barrier for any large-scale implementation of the technology or even the operation and maintenance of the systems is not addressed. The risk assessment is very limited and the major risk of high incremental investment cost is not addressed at all. Removing information barriers for stakeholders will not overcome the major cost as well as technical capacity barriers.
8. Development of baseline scenario: The project must aim to develop a baseline scenario estimating the current and projected energy use and GHG emissions under the baseline scenario.
9. Impact of climate change risk: STAP compliments the project proponents for incorporating the likely increased risks due to climate change leading to more frequent and intensive hurricanes in the project design. This may further add to the investment cost, which must be recognized explicitly in the project document.

<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: <ol 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.