

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)

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

FULL SIZE PROJECT **GEF TRUST FUND**

GEF PROJECT ID: 4869

PROJECT DURATION : 5

COUNTRIES : China

PROJECT TITLE: Urban-Scale Building Energy Efficiency and Renewable Energy

GEF AGENCIES: World Bank

OTHER EXECUTING PARTNERS: Ministry of Housing, Urban and Rural Development (MoHURD), Beijing Municipality, Ningbo Municipality

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, which aims to increase energy efficiency and renewable energy technologies in buildings in Chinese cities, is commendable. It encompasses GEF Strategic Objectives CCM-2 and CCM-3 and supports the Chinese government's goal to reduce carbon intensity of the building sector. However, many initiatives are already in place in this sector, so the additional impacts resulting from this GEF funded project could be difficult to measure.

STAP emphasizes the following issues that should be addressed before CEO endorsement:

1. Rationale: Several similar existing projects are in place around many Chinese cities. The project aims to provide greater support for replication than currently exists through urban planning, incentivising finance for EE retrofits, and solar resource assessment. This project will aim to strengthen the regulatory process and policy strategies required to integrate low-carbon requirements into statutory urban planning practices.

Beijing and Ningbo were the cities selected for demonstrations because they are already leaders in EE and RE and provide a comparison in climate and solar irradiation levels. The latter, however, would need scientific justification based on the data and analysis. Are these cities truly representative? Beijing is to have 1000 solar PV systems installed in schools and university buildings. Ningbo is focusing on three commercial building demonstrations.

Development of national guidelines is an ultimate objective. Would mandatory regulations be preferable in the longer term? Developing a solar resource map is also commendable, but do cities not already have detailed data from local meteorological stations that could be utilized for the same purpose? (for example, Beijing data for effective solar radiation of 1100 h/yr is quoted). It is not clear what additional useful data the proposed solar mapping exercise will produce over and above what is already available, from the perspective of application and has to be justified at the CEO endorsement stage.

2. Removal of barriers: EE is already well adopted and RE already demonstrated in 47 cities on individual buildings. Therefore, the additional benefits this project might bring in overcoming barriers for deployment by further demonstrations are uncertain. Gaining increased recognition of benefits through urban planning, education of policy stakeholders, and strengthening national policies are the key advances anticipated.

3. Cost-effectiveness: Based on the assumptions made in the proposal for rate of replication following project approval high emission reductions at low costs (\$0.27 /t CO₂) have been calculated. However, it may not be possible to assign

such costs to the GEF project alone. A better indicator would be the emission reductions achieved on a building basis (with and without integrating low-carbon technologies), and using this number derive the cost effectiveness indicator (e.g. payback period).

Monitoring and evaluation: Using advanced metering for solar PV in Beijing should aid the monitoring process, though exactly what is intended by mentioning "smart-micro-grids" is not explained. If "live processes to engage key stakeholders" implies providing real-time energy use data from the Ningbo demonstration commercial buildings, this could be a useful approach. With so many initiatives for building EE and RE already in place, it may be difficult to assign credit to the GEF project for a share of any additional deployment that results.

Note: The IEA 2009 194 page report "Cities, Towns and Renewable Energy" (http://www.iea.org/publications/free_new_Desc.asp?PUBS_ID=2183) could provide useful guidance for the project proposers on policies and technologies based on a number of successful case studies.

<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.