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: September 26, 2015 Screener: Lev Neretin

Panel member validation by: Ralph E. Sims
Consultant(s):

I. PIF Information *(Copied from the PIF)*
FULL SIZE PROJECT GEF TRUST FUND
GEF PROJECT ID: 6930
PROJECT DURATION : 4
COUNTRIES : China
PROJECT TITLE: Energy Efficiency Improvement in Public Sector Buildings
GEF AGENCIES: UNDP
OTHER EXECUTING PARTNERS: National Government Offices Administration
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 issues to be considered during project design

III. Further guidance from STAP

1. The project relates to improving the energy performance of government buildings of which there are over 1.9 M. The aims are to:
- enforce the rules and regulations on energy efficiency and low carbon operation and maintenance;
- demonstrate improved control and management of building energy performance;
- increase technical capacity, financing and information;
- increase application of EE technologies; and
- enhance awareness and knowledge for greater deployment.

2. It is assumed the proposed energy efficiency measures, to be based on "building energy performance standards (and labeling)" relate only to fixed lighting, HVAC and the building envelope, and not improved efficiency of the appliances used within the buildings. However, it is not clear what is included and what is not.

3. Similarly renewable energy (RE) is mentioned at times in the PIF (such as on page 11: "EC&EE (and RE) technology application demonstrations"). So is the installation of solar water heaters or solar PV systems (including building integrated systems) also a component? Again it is unclear what is being included.

4. In Table B, Component 1 there are "3 to 5 demonstrations on the application of EC & EE policies and systems"; Component 3 includes 5 selected EC&EED/LC financing scheme projects in "3 to 5 cities or regions"; 5 management centres established in 2 to 3 regions; and 5 projects implemented and financed in "2 to 5 cities or regions". Yet these do not reconcile with the text for Component 1 (page 9) that does not mention "demonstrations". Also Component 3 text states that "There will be 15 demonstration buildings" and then provides details. May need clarifying during project preparation.

5. Table C lists a $10M "Grant" from Energy Service Companies in the private sector. Is this in fact the "investment" hoped for from the private sector as in footnote 23?

6. Footnote 18 outlines a number of existing building standards from which "The most appropriate scheme (or combination)â€¦â€¦ will be used." It is not clear what criteria will be used for this selection so the selection should be justified in the Project Document to be submitted for CEO endorsement. A useful link is a recent initiative from the Global Building Performance Network that has developed a Buildings Energy Code portal: http://www.gbpn.org/beet-

3/?utm_source=newsletter&utm_medium=email&utm_campaign=Greater%20Energy%20Savings%20from%20Buildings:%20New%20Web%20Portal%20to%20Support%20International%20Collaboration%20on%20Building%20Energy%20Codes

7. Is there a target for when the standard will be introduced and what share of buildings will meet it and by when?

8. The terms "direct" and "indirect" emissions reductions have recently been redefined and proponents are advised to follow the updated guidelines (https://www.thegef.org/gef/node/11187):

Direct GHG emission reductions are those emission reductions attributable to the investments made during the project's supervised implementation period, totalled over the respective lifetime of the investments.

Consequential GHG emission reductions are those projected emissions that could result from a broader adoption of the outcomes of a GEF project plus longer-term emission reductions from behavioral change. Broader adoption of a GEF project proceeds through several processes including sustaining, mainstreaming, replication, scaling-up and market change. Consequential emission reductions are typically achieved after GEF project closure and occur outside of the project logical framework (logframe). Top-down and bottom-up approaches are recommended to estimate consequential emission reductions. These rely heavily on assumptions and expert judgment regarding the GEF project investment, and its assumed contribution to future market potential and penetration. As such, consequential GHG emission reductions should be reported separately from direct and/or direct post-project GHG emission reductions.

9. Section 1.5: The energy savings of 11.4% per year "during the period 2015 â€“ 2025" STAP assumes is a) for only the demonstration projects and b) ambitious given the projects will not start before 2016 at the earliest. The usual metric for energy use in commercial buildings is kWh/m2 floor area. Would be helpful to know what the current average metric is for all public sector buildings (the baseline) and what the target will be for the demonstration buildings in the alternative scenario?

10. The energy savings of 11.4% per year "during the period 2015 â€“ 2025" I assume is a) for only the demonstration projects and b) ambitious given the projects will not start before 2016 at the earliest. The usual metric for energy use in commercial buildings is kWh/m2 floor area. Would be helpful to know what the current average metric is for all public sector buildings (the baseline) and what the target will be for the demonstration buildings.

11. The abatement cost of $0.56/t CO2 for 4.47 Mt CO2 cumulative emission reductions over the 4 year project term is encouraging and good that it will be tracked as the demonstration projects evolve. What emission factors were used for these calculations for both electricity and buildings heating? How are the demonstration buildings currently heated (and cooled)? There are major differences in mitigation potential if a building is heated by coal, natural gas, electricity or if connected to district heating schemes.

12. Given the potential to reduce emissions for relatively low cost, it is concerning that administrative actions on EC&EE in the public building sector during the 12th Five Year Plan have "so far realized modest achievements". However, Section 1.2: Baseline scenario states the growth in baseline emissions from energy consumption for public buildings of 2.54% per year during 2015-2025 (or192 Mtce/yr and 573 Mt CO2/yr) could be reduced to was reduced to 2.10% per year (or 186 Mtce/yr and 552 Mt CO2/yr) as a result of the existing EC&EE program of the national government office administration. So how does a reduction of 21 MtCO2/yr for the whole sector correlate with the projected ~1.12 MtCO2/yr for just the 15 demonstrations? This Nneeds clarifying at the PPG stage. Further, there is an error in reporting of GEBs in Section 1.5: total project savings for the entire project period of 4 yrs should be 4.47 MtCO2.

13. Of greater concern is the table listing seven previous GEF-funded EE projects in China. There seems to be some overlap with the proposed project. Has an evaluation of the outcomes of these seven projects been undertaken, and are there lessons to be learned before making further investments given only "modest achievements" have resulted? Detailed assessment of these lessons learned is required at the project submission stage.

STAP advisory response	*Brief explanation of advisory response and action proposed*
1. Concur	In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple "Concur" response will be provided; the STAP may flag specific issues that should be pursued

	rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.
2. Minor issues to be considered during project design	STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to 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 issues to be considered during project design	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required. The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP's concerns. 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.