

# 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, 2013

Screeners: Lev Neretin

Panel member validation by: Ralph E. Sims  
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### I. PIF Information *(Copied from the PIF)*

**FULL SIZE PROJECT    GEF TRUST FUND**

**GEF PROJECT ID:** 5329

**PROJECT DURATION :** 4

**COUNTRIES :** Malaysia

**PROJECT TITLE:** Green Technology Application for the Development of Low Carbon Cities (GTALCC)

**GEF AGENCIES:** UNDP

**OTHER EXECUTING PARTNERS:** Ministry of Energy, Green Technology & Water  
Iskandar Malaysia and cities of Putrajaya, Cyberjaya, Miri, Port Dickson

**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

STAP welcomes this interesting project proposal that has a goal to facilitate the implementation of low carbon initiatives in at least five Malaysian cities and showcase a clear and integrated approach of successful low-carbon urban development. It identifies the difficulties that cities have when endeavouring to lead and fund GHG emission projects. The concept of city-level NAMAs is welcome by STAP. It links well with existing baseline projects such as GTM and LCCF. Incremental reasoning of the GEF financing is clear in providing technical assistance in trying to overcome the hurdles associated with integrated urban planning projects.

It is more technically challenging to try and modify existing buildings and infrastructure to become low-carbon and less energy demanding than to design a new urban area with this main goal in mind. New urban developments being constructed today without any consideration of minimizing GHG emissions cause lock-in of the building designs and integrated technologies for many years. It is not clear if the 5 cities identified represent old and new urban designs as well as urban areas yet to be constructed. Each of these three models of cities will need a different approach taken to becoming low-carbon. These approaches can then be replicated by cities of a similar status who can learn from the experiences gained. If not already the case, STAP recommends that the five selected "pilot" cities in this proposal are chosen to represent older, modern and still being planned urban developments. It is appreciated that the MEGTW has already undertaken a selection process but the proposal does not provide clarity on the rationale for selecting the 5 urban areas. It would be most useful in the longer term to consider cities that are typical for the country including their differing sizes of populations.

EVs are mentioned throughout but not defined and there are several types already on the market. The proposal reads as though "EV" implies an existing design of automobile but with its standard internal combustion engine replaced by electric motor. Plug-in hybrids are not mentioned, but of more relevance here, neither are 2 wheel electric bikes and scooters. In many urban areas, these will have a more major role to play in future than EV automobiles. The government is planning to introduce an electric bus fleet as part of its BRT system which is commendable. It is not clear whether the intention is to import vehicles (for example from South Korea or China where they are already used) or to manufacture them under the EV Master Plan. It could be that due to technical complexities, local EV manufacture in Malaysia as suggested (page 5), should concentrate on small commuter type cars and 2 and 3 wheel electric bikes. (Why are 400 recharging points needed for a fleet of 400 vehicles as on page 12?)

The proposal does not mention the GHG factor for the current electricity supply that was used for GHG emission calculations. Since it is around 60% gas and 20% coal it is probably around 700kg CO<sub>2</sub> /MWh, so there may be little GHG benefit in EVs compared with using standard gasoline or diesel engines. This should be carefully considered if EVs are to be encouraged and the grid is used for recharging.

The proposal is weak on proving the assumptions and formula for calculating ex ante CO<sub>2</sub> emissions reductions (eg 1,081,990 t CO<sub>2</sub>). This should be clarified during the project preparation and needs to be monitored and verified.

An integrated approach to city planning as mentioned in several places is commendable. Measuring the carbon footprints of the pilot cities is essential. Ideally, using a standard method, as done by other cities, represents a useful approach.

A major part of the proposal concerns sustainable transport systems, based on the comprehensive design, implementation and demonstration of BRT systems and EVs. The proposal for a supportive institutional framework to give a low carbon outcome involves waste management, land use planning, and energy supply systems together with transport. Integration of a set of environmental indicators relating to water, waste, energy and transport will make the proposal truly "integrative" and multi-sectoral. Component 2 aims at ensuring the participation of key sectoral agencies/departments under city management. These will have an important role in identifying relevant policy themes and interventions.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
<b>1. Consent</b>	<p>STAP acknowledges that on scientific or technical grounds the concept has merit. However, STAP may state its views on the concept emphasizing any issues where the project could be improved.</p> <p>Follow up: The GEF Agency is invited to approach STAP for advice during the development of the project prior to submission of the final document for CEO endorsement.</p>
<b>2. Minor revision required.</b>	<p>STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development.</p> <p>Follow up: One or more options are open to STAP and the GEF Agency:            (i) GEF Agency should discuss the issues with STAP to clarify them and possible solutions.            (ii) In its request for CEO endorsement, the GEF Agency will report on actions taken in response to STAP's recommended actions.</p>
<b>3. Major revision required</b>	<p>STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvements to project design.</p> <p>Follow-up:            (i) The Agency should request that the project undergo a STAP review prior to CEO endorsement, at a point in time when the particular scientific or technical issue is sufficiently developed to be reviewed, or as agreed between the Agency and STAP.            (ii) In its request for CEO endorsement, the Agency will report on actions taken in response to STAP concerns.</p>