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: February 24, 2014 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: 5675
PROJECT DURATION : 3
COUNTRIES : Algeria
PROJECT TITLE: Integrated Municipal Management Model of Household and Similar Waste with Low Greenhouse Gas Emissions
GEF AGENCIES: UNDP
OTHER EXECUTING PARTNERS: Ministry of Land Planning and Environment
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

The aim of the project is to encourage residents to sort their domestic waste, reduce volumes going to the landfill, collect fermentable wastes separately, and produce biogas from them in a new digester plant for use as a vehicle fuel in 6 garbage collection trucks and for heat and power generation.

The opportunity exists for scaling up across other municipalities and for educating the public as to the benefits.

Existing efforts to improve solid waste recycling, management and treatment throughout Algeria have proven largely unsuccessful. This GEF project is to identify the weaknesses and seek ways to overcome them.

The choice of the municipality for the demonstration seems sensible given the work done there to date and rapid replication to other municipalities is feasible. Active promotion of the scheme as planned will aid the rate of deployment. The solid digestate by-product has potential value as a soil conditioner with fairly high NPK nutrient levels and this is recognised.

STAP has the following recommendations to be addressed during PPG stage:

1. The project is not truly innovative as many similar projects have been undertaken by numerous municipalities around the world, but it appears to be a novel approach for an Algerian city. It is hoped that lessons can be learned from other similar projects already operational and in this regard, it is encouraging that co-operation is with EU, Belgium and Germany where good experiences of anaerobic digestion systems are evident.

2. The project proposes to establish 15 micro-enterprises for collecting household dry waste. It seems the relationship between micro-enterprises and the sorting plant will be largely regulated and overseen by the municipal government. At the same time, the sorting plant itself will be operated as a public-private partnership (PPP). Project proponents are recommended to explore a possibility for establishing PPP for the entire municipal integrated management chain with the government having regulatory and enforcement role, while leaving business decisions to individual enterprises. It would make this system more decentralized and transparent.

3. The 6 garbage trucks will need to be purchased with gas engines suitable for CNG or the diesel or gasoline internal combustion engines converted. It is not clear whether the additional costs noted for these vehicles is for conversions of existing engine but if so, who will do it?

4. Overlooked in the proposal is the necessity to "scrub" the biogas to produce biomethane so it becomes more suitable for use as a gaseous engine fuel, free of H2S, moisture and C02. This is necessary for both the 10% of biogas to be used for transport fuel as well as for the remainder if to be combusted in a stationary gas engine for electricity generation. Using the surplus heat for heating greenhouses is commendable where feasible to do so, though demand is likely to be seasonal so not all heat will be utilized, even with the planned storage. The risk of the underutilized heat should be addressed during project preparation.

5. The GHG emission reduction potential, including from avoiding landfill methane, is clearly evident for a relatively low abatement cost / t CO2-eq.

6. It is understood that the municipality will sign long-term contracts with the recycling firms located elsewhere. What is the recycling capacity in Algeria? Are there any suitable recycling facilities available? How will the relationship be structured? Without proper monetary incentives, the recycling part of the supply chain might not be operable.

STAP advisory response	*Brief explanation of advisory response and action proposed*
1. Consent	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. 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.
2. Minor revision required.	STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development. 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.
3. Major revision required	STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvements to project design. 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.