

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: October 17, 2012

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: 4873

PROJECT DURATION : 4

COUNTRIES : Tanzania

PROJECT TITLE: Promotion of Waste-to-Energy Applications in Agro-Industries

GEF AGENCIES: UNIDO

OTHER EXECUTING PARTNERS: World Bank (WB) & Rural Energy Agency (REA)

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

1. The project aims at the promotion of waste to energy applications in agro-industries of Tanzania. STAP commends the project for the due-diligence exhibited in this PIF to identify potential sites for energy generation through agro-processing centers, define proper baseline and assess project risks comprehensively.
2. The key technology to be supported by the project is biogas generation. The biogas technologies for digesting agro-industrial raw materials are quite complex. STAP recommends a thorough techno-economic analysis of biogas designs for digesting the agro-industry wastes identified. The experience learned from previous biogas programs in Tanzania should be considered while designing this project, especially since many previous initiatives have not succeeded.
3. STAP recommends consideration of the seasonality of raw material/ feedstock supply for biogas generation. Fluctuation in year round availability of feed stocks may impact the identification of end users. The transportation cost of agro-residues to the power plant may also be a factor in long term sustainability. STAP recommends conducting a study on the distance and costs involved in transporting the residues from decentralized sources to the power utility. Assuring sustainable supply of raw materials could be a significant challenge to project success.
4. The end use of the electricity has to be seriously considered in this proposal to ensure biogas production is economically viable in the long term. The proposal aims to export power to the grid. This would involve interventions for linking small decentralized systems to the national grid. The cost factor in doing so could be high. Further, feed-in-tariffs has to be attractive for selling electricity to the national grid.
5. The investment and O&M costs of power generation at the decentralized scale could be high for utilizing the electricity generated. The proponents have not explained how these costs will be recovered by producers.

| <i>STAP advisory response</i> | <i>Brief explanation of advisory response and action proposed</i> |
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| 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 | STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development. |

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| <p>required.</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> |
| <p>3. Major revision required</p> | <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> |