

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 11, 2010

Screeener: David Cunningham

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: 4213

PROJECT DURATION :

COUNTRIES : Argentina

PROJECT TITLE: Sustainable Use of Biogas from Agro Industrial and Solid Waste Applications

GEF AGENCIES: IADB

OTHER EXECUTING PARTNERS: Secretary of Agriculture (INTA) Secretary of Environment and Sustainable Development, Ministry of Science and Technology

GEF FOCAL AREA: Climate Change

GEF-4 STRATEGIC PROGRAMS: CC-3;CC-4;

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 project aims at promotion of GHG emissions reduction by generation and efficient use of biogas from livestock manure, agro-industrial residue and MSW. The project is very comprehensive and covers all aspects of biogas technology; from assessing the potential, to demonstrating the technology, to capacity building, to overcoming the barriers and finally developing financing mechanisms for large scale spread of biogas technology. STAP provides consent for the project. However STAP seeks clarification on some of the following issues during the next phase.

1. Is biogas technology really new in Argentina to require such a comprehensive approach? A casual web search showed a large number of projects and programs on biogas already being implemented in Argentina including small-scale rural plants to large commercial plants of over 8000 cubic metres. For example, http://methanetomarkets.org/documents/events_ag_20051102_hilbert.pdf and http://www.methanetomarkets.org/documents/ag_cap_argentina.pdf provide examples of biogas technology in Argentina as far back as 2005 and 2006 respectively. The National Bioenergy Programme of the National Agricultural Technology Institute (INTA) seems to have done lot of work and have even published manuals and guidelines and have even estimated the potential for biogas in Argentina. INTA seems to have already produced several reports already:
 - (a) National Bioenergy Project. http://www.inta.gov.ar/invest/proyectos/bioenergia_PNEG1411.pdf
 - (b) AgStar Program, Biogas Project Development Handbook. <http://www.inta.gov.ar/info/bioenergia/Manual%20de%20biog%C3%A1s%20de%20AgStarProgram.pdf>
 - (c) Biogas Production Manual. <http://www.inta.gov.ar/info/bioenergia/Manual%20para%20la%20producci%C3%B3n%20de%20biog%C3%A1s%20de%20IIR.pdf>
 - (d) Bioenergy. <http://www.inta.gov.ar/info/bioenergia/bio.htm>.
 - (e) Argentine Profile, Animal Waste Management Methane Emissions. <http://www.inta.gov.ar/info/bioenergia/Biodigesti%C3%B3n%20de%20esti%C3%A9rcoles%20y%20purines%20de%20cerdo.pdf>

Many such assessments and evaluations of biogas technology may already be available. The proposed project should benefit from the vast knowledge on technologies, field implementation and financial assessments. Wherever possible duplication of work already done should be avoided.

2. End use of biogas: Why is the use of biogas for cooking not considered especially for biogas from livestock manure in rural areas. The end use of biogas needs to be assessed based on the extent of feedstock availability, demand for alternative energy and the cost of biogas or of power generated from biogas.

3. Scale of biogas plants: There is a need for a better scientific and economic rationale to determine the scale of biogas plants, from a few cubic metres to thousands of cubic metres.

4. Technology for biogas production: Technologies for the design of biogas digesters required for biogas production is different for livestock dung, agro-residues and MSW. What are the sources of biogas designs for the proposed project?

5. Baseline scenario: There is a need to develop a baseline scenario providing estimates of the current uses of the livestock dung, agro-residues and MSW and the associated GHG emissions.

6. Economic analysis: There is a need for systematic economic and financial analyses of biogas production from different resources and for different end uses.

7. GHG emissions: How will the project ensure that "the use of biomass will not contribute to deforestation, reduced soil fertility, or increased GHG emissions" (p.8)?

8. The PIF reiterates Argentina's commitment to "to decrease or to at least maintain its level of GHG emissions" (p.7) and includes in its objective "the replacement of fossil fuel as the main energy source by biogas". Will the indicators for evaluating the project's impact include the volume of fossil fuel replaced by biogas, the reduction in vehicles powered by fossil fuels and the amount of fossil fuel energy capacity that is retired from the grid because of the increased biogas/biomass powered capacity? A more difficult indicator for evaluation purposes will be the avoided CO₂ emissions based on many assumptions about the emissions from decomposition of manure and other biomass in the field compared to anaerobic digesters. The Panel looks forward to seeing these calculations in the full project document and the assumptions on which they are based in order to comment further on the cost-effectiveness of the proposal if necessary.

<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.