

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: January 23, 2012

Screeener: Christine Wellington-Moore

Panel member validation by: Hindrik Bouwman
Consultant(s):

I. PIF Information *(Copied from the PIF)*

FULL SIZE PROJECT **GEF TRUST FUND**

GEF PROJECT ID: 4442

PROJECT DURATION : 4

COUNTRIES : Kazakhstan

PROJECT TITLE: NIP Update, Integration of POPs into National Planning and Promoting Sound Healthcare Waste Management in Kazakhstan

GEF AGENCIES: UNDP

OTHER EXECUTING PARTNERS: Ministry of Environment Protection of the Republic of Kazakhstan

GEF FOCAL AREA: POPs

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 is quite ambitious, broadly seeking to tackle NIP Update, safe handling and disposal of mercury from the medical sector, and overall reduction of uPOPs generation through the practice of sound incineration of Health Care Waste (HCW). The exact quantities of waste generated by the nation's 14,434 health treatment and prevention sites are not certain, but certainly large, as are the dioxin emissions generated from incineration of medical waste. The estimated current TEQ emissions from HCW incineration at 45.7 g TEQ per annum is 13% of total TEQ emissions for the country. This project aims to reduce that amount by 5g TEQ per annum; 1.5% of the estimated total country TEQ emissions. Incineration is the preferred method, as opposed to disinfection and autoclaving, and due to the high cost of centralised incineration, and the long distances involved in transporting waste, many isolated, rural facilities simply illegally burn even non-infectious waste on site with batch-type furnaces. In the urban facilities, infectious waste is incinerated on site, with non-infectious and chemically disinfected waste commonly sent to unauthorized landfills for open burning. Processing and interim waste sites do not fulfil sanitary norms, and there are cases where waste disposal of mercury containing lights and equipment are disposed with regular household waste. Barriers to proper waste management are regulatory, financial/technical, institutional and awareness/knowledge related.

The project therefore seeks to address ways to overcome each category of barriers as relates to mercury and overall health care waste disposal. Focusing on the more technical aspects, as relates to indicative activities for mercury reduction and containment, there is a comprehensive list of steps outlined including capacity building and awareness (general and specific) as relates to inventory, risk assessments, data tracking for database purposes, creation of mercury reduction plans, spill response and recovery, personal protection, segregation, containment, long-term engineered storage and encapsulation or amalgamation. Similarly, in the HCW area, there is clear recognition of the merits of waste minimisation through appropriate procurement practices, material substitution, safe reuse, source reduction and the like; as well as the improvement of waste segregation and processing practices. In the latter category of activity specific subcategories of action are separation of ordinary municipal waste from the HCW, promotion of cleaner packaging (non PVC) et. al. Attention is also paid to the role of the waste management companies, and overall there seems to have been a fairly comprehensive consideration of all the players that will be involved in ameliorating the problems.

STAP's comments therefore are more suggestions to improve the project development process:

Though incineration bottom ash appears negligible in quantity, the STAP still seeks to remind that there be responsible handling of residues.

(i) Given the quality of thought given to the proposed project interventions, the STAP is certain that current guidance is already being consulted by the project developers. However, all of the guidance being used it is not explicitly stated,

though there is mention that the project will build upon the outputs of the Global GEF/ UNDP/WHO healthcare waste and mercury management project, which is still incomplete. At the risk of belabouring a point, the STAP simply reminds developers to be sure to use current guidance and case studies such as

- (a) The WHO Chapter on health care waste minimisation and management (http://www.who.int/water_sanitation_health/medicalwaste/058to060.pdf). There is practical advice to minimise waste such as reducing the use of injections and hence generation of PVC waste through use of pills.
- (b) Case studies such as "Best Practices in Health Care Waste Management: Examples from four Philippine Hospitals" (http://www.noharm.org/lib/downloads/waste/Best_Practices_Waste_Mgmt_Philippines.pdf)
- (c) The USEPA website gives links to "Hospital Prevention (P-2) strategies" (California Department of Health Services), and a "Guide to Mercury Assessment and Elimination in Health Care Facilities" (<http://www.epa.gov/region9/waste/p2/hospart.html>) which gives a breakdown of equipment of concern, methods of planning and implementation of HCW strategies and plans, and could be a good practical guide of past experience, complete with cost-benefit analyses. The page also includes a section on Pollution Prevention for Health care Professionals, which could help inform any training packages put together for doctor and nursing staff.

So the STAP strongly recommends that developers should examine even non-GEF experiences in this field, since the GEF has limited experience in this area of work.

(ii) Another thing not explicitly stated in the project is the reduction of the municipal type of waste generated by hospitals, which can make up about 80% of the total waste stream from this source. Incineration of such waste leads to uPOPs as well in many cases, and it should be targeted in the overall training of the medical staff (see suggested guidance from EPA et. al.)

(iii) In the Risk table, though rated low, there is risk associated with resistance due to stakeholder fear of additional burden associated with uptake of HCWM. However, cost-benefit analysis to show savings to the hospitals, and ultimate reduction of burden to workers managing smaller quantities of waste have often been the "selling point" that leads to successful implementation of HCWM in facilities. The STAP again emphasises the need to do a thorough search of case studies, and to find ways to incorporate these benefits meaningfully into the various stakeholder trainings and awareness activities, such that each group can see the benefits brought to bear for their particular group and the facility as a whole.

(iv) Where centralised disposal may be necessary, care should be taken that appropriate transportation protocols are followed, as one would other Hazardous chemicals, taking into account any possible seasonal threats to the route selected that may be made more severe due to Climate Change. The document made a point of mentioning the long distances that can be involved, and this increases the chance of mishaps, spills and environmental and population exposure, which can be compounded by natural, weather-related events that may threaten transport (eg dust storms).

(v) Though they should be low once all is implemented appropriately, should there not be a risk associated with inappropriate use of non-combustible, decontamination techniques, such that infectious waste might "slip through the cracks" as the waste handlers get up to speed in using these alternative techniques? There needs to be some mention of this, and the risk mitigation protocols that will be put in place to make sure that the overall HCWM runs as planned.

(vi) The current NIP only has a superficial TEQ emission inventory. Although it is mentioned that the NIP will be updated, there is no mention of the use of the Dioxin Toolkit to obtain a more detailed and appropriate TEQ emission number. STAP would like to see this being done as it would provide better quantitative indicators for project monitoring via the POPs tracking tool.

<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.
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