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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Fifty-ninth Meeting
Port Ghalib, Egypt, 10-14 November 2009

PROJECT PROPOSAL: GUATEMALA

This document consists of the comments and recommendation of the Fund Secretariat on the following project proposal:

Fumigant

- National phase-out of methyl bromide (phase II, first tranche)

UNEP/UNIDO

**PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECT
GUATEMALA**

PROJECT TITLE(S)**BILATERAL/IMPLEMENTING AGENCY**

(a) National phase-out of methyl bromide (phase II, first tranche)	UNEP/UNIDO
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NATIONAL CO-ORDINATING AGENCY

Ministry of Environment

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT**A: ARTICLE-7 DATA (ODP TONNES, 2008, AS OF OCTOBER 2009)**

Annex E, MB	173		

B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2008, AS OF OCTOBER 2009)

ODS	Subsector/quantity	Subsector/quantity	Subsector/quantity	Subsector/quantity
MB	QPS/20.3	Non QPS/173.0		

CURRENT YEAR BUSINESS PLAN ALLOCATIONS

Funding US \$ million

Phase-out ODP tonnes

	1,075,000	100

PROJECT TITLE:	
ODS use at enterprise (ODP tonnes):	320
ODS to be phased out (ODP tonnes):	265.7
ODS to be phased in (ODP tonnes):	N/A
Project duration (months):	48
Initial amount requested (US \$):	2,946,279
Final project costs (US \$):	2,313,047
Incremental Capital Cost:	1,923,679
Contingency (10 %):	139,368
Incremental Operating Cost:	250,000
Total Project Cost:	2,313,047 (*)
Local ownership (%):	74%
Export component (%):	N/A
Requested grant (US \$):	N/A
Cost-effectiveness (US \$/kg):	8.7
Implementing agency support cost (US \$):	177,328
Total cost of project to Multilateral Fund (US \$):	2,490,375
Status of counterpart funding (Y/N):	N/A
Project monitoring milestones included (Y/N):	Y

SECRETARIAT'S RECOMMENDATION[S]

Individual consideration

(*) Funding distribution (US\$)

	2009	2011	Total
UNIDO	1,300,000	943,047	2,243,047
UNEP	70,000		70,000
Total project cost	1,370,000	943,047	2,313,047
UNIDO Agency fees	97,500	70,728	168,228
UNEP Agency fees	9,100		9,100
Total agency fees	106,600	70,728	177,328
Grand total cost	1,476,600	1,013,775	2,490,375

PROJECT DESCRIPTION

1. On behalf of the Government of Guatemala, UNIDO has submitted to the 59th Meeting of the Executive Committee phase II of the national methyl bromide (MB) phase-out plan for Guatemala at a total cost of US \$2,846,279 plus agency support costs of US \$213,471 for UNIDO, and US \$100,000 plus agency support costs of US \$13,000 for UNEP.

Background

2. At its 38th Meeting, the Executive Committee considered a project proposal to phase out 468 ODP tonnes of MB used for soil fumigation in the cut flower, melon, ornamental plant, tomato and strawberry crop sectors in Guatemala, representing 60 per cent of total MB consumption in the country. Implementation of the project would achieve the 20 per cent reduction in MB baseline consumption (e.g., 400.7 ODP tonnes) by 2005. Subsequently, the Committee, without prejudice to the operation of the Montreal Protocol's mechanisms for dealing with non-compliance issues, approved funding of US \$3,257,377 plus agency support costs for UNIDO to phase out 468 ODP tonnes of MB by 2005 (decision 38/42).

3. Since the approval of the project, several decisions have been adopted by the Parties to the Montreal Protocol or the Executive Committee on MB consumption in Guatemala:

- (a) At their 15th Meeting the Parties noted, *inter alia*, that Guatemala was in non-compliance with its obligations under Article 2H of the Protocol for 2002, and that Guatemala, through a plan of action, committed to reducing MB consumption from 709.4 ODP tonnes in 2002 to 286 ODP tonnes in 2008 (with specific intermediate phase-out targets), and to phasing out MB consumption by 1 January 2015 (decision XV/34);
- (b) At its 42nd Meeting, the Executive Committee decided, *inter alia*, to adopt the modification to the MB phase-out schedule for Guatemala as proposed in decision 38/42, through which 502.6 ODP tonnes of MB would be phased out by 2008, in order to enable Guatemala to meet the MB freeze and the 20 per cent reduction targets in 2005 and 2007, respectively, within the funding level that was approved at its 38th Meeting (decision 42/14 (a) and (b));
- (c) At its 48th Meeting, the Executive Committee requested, *inter alia*, UNIDO to continue implementing the MB phase-out project and to submit a request for a further revision of the phase-out schedule following a decision by the Meeting of the Parties on the request by Guatemala for a revision of the benchmarks contained in decision XV/34 (decision 48/16(a)(i)).
- (d) At their 18th Meeting, the Parties noted, *inter alia*, that Guatemala had reported a MB consumption of 522.8 ODP tonnes for 2005, which was inconsistent with the Party's commitment contained in decision XV/34, and that Guatemala had also submitted a revised plan committing to reduce MB consumption to 400.70 ODP tonnes in 2006; 361 ODP tonnes in 2007; 320.56 ODP tonnes in 2008; and to achieve complete phase-out by 1 January 2015 (decision XVIII/26);
- (e) Based on a progress report on the implementation of the MB phase-out project submitted to the 52nd Meeting, the Executive Committee adopted modifications to the MB phase-out schedule as proposed in decision XVIII/26; approved the activities proposed by the Government within the level of funding available under the project; and requested UNIDO to submit a progress report on the implementation of the project to the 54th Meeting of the Executive Committee (decision 52/17 (f)).

Progress report

4. Implementation of the first phase of the project started in January 2003. Despite difficulties in reaching unanimous agreement among MB users, particularly in the melon sector, all relevant decisions to phase out MB have been made by consensus. All project activities have been developed with the collaboration and assistance of the project coordinator, the representative from the Ministry of the Environment and the representative from the Ministry of Agriculture. In spite of problems encountered, implementation of the project has been successful, with the following key achievements:

- (a) The 2008 MB consumption reported by the Government of Guatemala under Article 7 of the Montreal Protocol of 173.3 ODP tonnes was already 147.6 ODP tonnes below that of 320.6 ODP tonnes allowed for that year under the revised plan of action approved by the Parties and the Executive Committee. MB consumption has been completely phased out in the tomato, cut-flower and ornamental plant sectors;
- (b) All key stakeholders (i.e., MB importers, growers (mainly melon growers), the Ministry of the Environment and the Ministry of Agriculture), have been involved in the project and have committed to the phase-out process;
- (c) The Government has established a licensing and quota system to regulate imports and marketing of MB, which is regulated by Decree No. 110/97. Furthermore, the Ministries of the Environment and Agriculture, in close cooperation with growers, have established an efficient system to track MB imports.

5. Equipment, farm material and supplies have been purchased and installed, including greenhouses with auxiliary equipment, polyurethane trays, grafting clips and melon plus, and injectors for alternative chemicals. Technical assistance and training has also been provided. As of September 2009, of the US \$3,257,377 approved for the first phase, US \$3,223,657 had been disbursed or committed.

Project for the complete phase-out of MB

6. The objective of phase II of the project is to phase-out an additional 265.7 ODP tonnes of MB used for the fumigation of melons and watermelons, including 66.0 ODP tonnes consumed by one multinational (i.e., non-eligible) corporation by the end of 2013. The alternative technologies implemented to phase out MB used as a soil fumigant in melon crops, namely grafting and chemical fumigants, have proven to be technically viable and economically acceptable to all stakeholders. These technologies include:

- (a) Biological control to improve the quality of the soil by introducing large amounts of non-pathogenic micro-organisms into the soil, to act as parasites against soil-borne pests. This will require equipment for the production of bio-antagonists (including laboratory equipment) and screen greenhouses;
- (b) Additional equipment (mainly injectors and pumps) for the low-dose application of alternative chemical fumigants;
- (c) Additional equipment (such as fertigation system, sowing machine, grafting machine) to complete the introduction of the grafting technology.

7. Training will be provided on the various alternative technologies, including appropriate usage of chemicals and injection equipment; adequate management of grafted plants; selection and adaptation of suited rootstocks; and production of biological control agents. The training programme on the identification and management of soil-borne diseases initiated during the first stage will continue. An integrated management approach will also be introduced to ensure a rational and efficient use of

chemicals and non-renewable resources (i.e. water and energy). Assistance for the review of the current ODS legislation to introduce a ban on the consumption of MB in controlled uses post-2013 will also be provided.

8. The total cost of the project is US \$2,946,279, with the following distribution: US \$1,556,559 for equipment, farm materials and training, US \$1,124,064 in operating costs (mainly associated with alternative chemicals), US \$100,000 associated with the policy component (to be implemented by UNEP) and US \$165,656 contingency. The cost-effectiveness of the project is US \$10.81/kg (including 66 ODP tonnes of MB consumed by a multinational corporation, for which funding has not been requested).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

9. The Secretariat reviewed the phase II proposal in light of the original project approved at the 38th Meeting of the Executive Committee, subsequent progress reports submitted by UNIDO, and the technical assistance programme to phase out the use of MB approved by the Executive Committee at its 47th Meeting as bilateral cooperation by the Government of Spain.

10. The objective of this project is to phase out 320.5 ODP tonnes of MB in Guatemala (i.e., the maximum level of consumption that was proposed by Guatemala in its action plan submitted to the 18th Meeting of the Parties). However, since 2005, the levels of MB consumption have been reduced in the country with a current reported consumption of 173.0 ODP tonnes. Noting that part of these reductions could have been related to the impact of the economic crisis, it was proposed to calculate the consumption to be phased out as average 2006-2008 consumption, i.e.: 265.7 ODP tonnes, minus the MB consumption by one multinational corporation. UNIDO agreed to proceed accordingly.

11. In regard to biological controls as an alternative technology being proposed in some farms, the Secretariat expressed reservations on the long-term sustainability of this approach, considering, *inter alia*, the complex nature of biological control production and application; the high costs of equipment and laboratories to produce bio-antagonists; the limited amount of organic matter in melon production areas in Guatemala; and its high operating costs. These concerns were addressed by UNIDO as follows: all the alternatives being proposed, including biological controls, were selected in agreement with all the growers and in accordance with their own phase-out strategies. Furthermore, over the last six years, this technology has been demonstrated and applied on a commercial scale in Honduras, and the technology has already been tested in some companies in Guatemala. The combination of different bio-antagonists has shown to be effective in controlling the range of soil borne pathogens that affect melon crops in the region. The complexity of the production of bio antagonists is well known; the melon companies are experienced producers and have the technical staff and managerial capacity required to produce large amounts of bio-antagonists. The project will provide the relevant production equipment and specific training to produce these biological controls. The incremental operating costs differ from those of Honduras, as costs associated with salaries and laboratory maintenance and operation are covered by the counterpart.

12. The project also proposes to upgrade the existing nurseries for grafted plants, for which funding was already provided in phase I of the project. In its review, the Secretariat questioned the eligibility of this request since, in principle, it implies requesting additional resources for the same project. The Secretariat also pointed out that some of the items requested in phase II had already been provided in phase I of the project. UNIDO indicated that the aim is to adapt the facilities to the production of watermelons and to reduce production costs.

13. The Secretariat and UNIDO discussed the high level of incremental costs being requested, which called into question the long-term sustainability of the alternative technologies after project completion,

as well as the costs for training and project coordination. As reported by UNIDO, incremental operating costs are high because several companies requested the use of alternative chemicals that are currently more expensive than MB. The training programme, as proposed, is crucial to guarantee the long-term sustainability of MB phase-out. The technical assistance provided during phase I of the project focused on other crops and farmers, on the introduction of grafting and on the validation of chemical alternatives. During phase II, issues related to the proper application of chemicals in low doses, and the introduction of biological controls at a commercial level will be addressed. UNIDO will make use of all national expertise available in the country as much as possible. Discussions with the University of San Carlos of Guatemala to establish research programmes to assist melon growers are underway.

14. Upon a request by the Secretariat regarding the activities overlapping with the technical assistance programme supported by the Government of Spain, UNIDO indicated that the activities to be implemented by UNEP would assist the Government of Guatemala in establishing an appropriate MB tracking and control system, and modifying the current ODS legislation to establish a ban on MB consumption by the end of 2013. UNEP will also liaise with national institutes (i.e., universities and research centres) to secure the adoption and sustainability of alternative technologies, and to disseminate the results of the project among major stakeholders.

15. Subsequently, UNIDO revised the project proposal addressing the issues raised by the Secretariat. The total cost agreed with UNIDO amounts to US \$2,313,047 (US \$2,243,047 for UNIDO and US \$70,000 for UNEP). The overall cost-effectiveness of the project is US \$8.70/kg.

Draft agreement

16. A draft agreement between the Government of Guatemala and the Executive Committee on the modalities for implementing the MB phase-out project is contained in Annex I to the present document.

RECOMMENDATION

17. The Executive Committee may wish to consider:

- (a) Approving in principle phase II of the national methyl bromide (MB) phase-out plan for Guatemala, at a total cost of US \$2,243,047 plus agency support costs of US \$168,228 for UNIDO and US \$70,000 plus agency support costs of US \$9,100 for UNEP, on the understanding that no additional funding will be provided for Guatemala for the phase-out of controlled uses of methyl bromide in the country;
- (b) Approving the draft agreement between the Government of Guatemala and the Executive Committee for the phase-out of controlled uses of methyl bromide contained in Annex I to the present report; and
- (c) Further approving the first tranche of phase II of the national methyl bromide (MB) phase-out plan at a total cost of US \$1,300,000 plus agency support costs of US \$97,500 for UNIDO and US \$70,000 plus agency support costs of US \$9,100 for UNEP.

Annex I

**AGREED CONDITIONS FOR THE PHASE-OUT OF METHYL BROMIDE
IN GUATEMALA**

1. The Executive Committee:
 - (a) At its 22nd Meeting approved US \$440,000 for a demonstration project on four alternatives to the use of methyl bromide: steam pasteurization, non-soil cultivation, solarization, and low-dose chemicals, in combination with integrated pest management;
 - (b) At its 38th Meeting approved US \$3,257,377 a national phase-out of methyl bromide project to phase-out of 468 ODP tonnes of methyl bromide in 2005; and
 - (c) At its 59th Meeting agreed to approve an additional US \$2,313,047 as the total funds available to phase out 265.7 ODP tonnes, resulting in the complete phase-out of controlled uses of methyl bromide.

2. As reported to the Ozone Secretariat, and consistent with information in the project document presented to the Executive Committee, the methyl bromide baseline for Guatemala has been established at 400.7 ODP tonnes. Guatemala has also reported MB consumption of 522.8 ODP tonnes for 2005, excluding quarantine and pre-shipment applications. While Guatemala has not achieved compliance with the Montreal Protocol's 20 per cent reduction in 2005, the Parties to the Montreal Protocol at their Eighteenth Meeting agreed on a plan of action in which Guatemala specifically commits to reduce methyl bromide consumption to 400.70 ODP tonnes in 2006, to 361 ODP-tonnes in 2007, to 320.56 ODP tonnes in 2008, and to phase out methyl bromide consumption by 1 January 2015, save for critical uses that may be authorized by the Parties (decision XVIII/26).

3. Reductions in accordance with the terms of the above-mentioned projects and other commitments presented in the project documents will ensure that Guatemala meets the reduction schedule presented below. In this regard, Guatemala will reduce the national consumption of controlled uses of methyl bromide to no more than the following levels of consumption in the years listed below:

Year	Methyl bromide (ODP tonnes)	
	Amount to be phased out	Maximum level of consumption
2010		265.7
2011	48.0	217.7
2012	100.0	117.7
2013	117.7	0
Total	265.7	

4. The projects will phase out all remaining controlled uses of methyl bromide in Guatemala, excluding quarantine and pre-shipment applications. Guatemala commits to permanently sustaining the consumption levels indicated above through the use of import restrictions and other policies it may deem necessary.

5. Disbursement of the funding approved for UNIDO and UNEP will be in accordance with the following schedule, and with the understanding that a subsequent year's funding will not be disbursed until the Executive Committee has favourably reviewed the prior year's progress report:

Year	Total funding (US\$)		
	UNIDO	UNEP	Total
2009	1,300,000	70,000	1,370,000
2012	943,047		943,047
Total	2,243,047	70,000	2,313,047

6. The Government of Guatemala has reviewed the consumption data identified in the project and is confident that it is correct. Accordingly, the Government is entering into this agreement with the Executive Committee on the understanding that, should additional methyl bromide consumption for controlled uses be identified at a later date, the responsibility to ensure its phase-out will lie solely with the Government.

7. The Government of Guatemala, in agreement with UNIDO, will have the flexibility to organize and implement the project components that it deems more important in order to meet methyl bromide phase-out commitments noted above. UNIDO agrees to manage the funding for the project in a manner designed to ensure the achievement of the specific MB reductions agreed upon.

8. UNIDO shall report back annually to the Executive Committee on the progress achieved in meeting the methyl bromide reductions required in Guatemala, as well as on annual costs related to the use of the alternative technologies selected and the inputs purchased with project funds.
