PROJECT PROPOSALS: GUATEMALA

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

Fumigant

- National phase-out of methyl bromide (phase II, second tranche) UNEP/UNIDO

Phase-out

- HCFC phase-out management plan (stage I, second tranche) UNDP/UNEP
## PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECT
### GUATEMALA

### PROJECT TITLE(S)

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

### BILATERAL/IMPLEMENTING AGENCY

<table>
<thead>
<tr>
<th>Subsector/quantity</th>
<th>MB</th>
<th>Non QPS/211.1</th>
</tr>
</thead>
</table>

### NATIONAL CO-ORDINATING AGENCY

Ministry of Environment

### LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT

#### A: ARTICLE-7 DATA (ODP TONNES, 2011, AS OF OCTOBER 2012)

<table>
<thead>
<tr>
<th>ODS</th>
<th>Subsector/quantity</th>
<th>Annex E, MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB</td>
<td></td>
<td>211.1</td>
</tr>
</tbody>
</table>

#### B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2011, AS OF OCTOBER 2012)

<table>
<thead>
<tr>
<th>ODS</th>
<th>Subsector/quantity</th>
<th>Subsector/quantity</th>
<th>Subsector/quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB</td>
<td></td>
<td>Non QPS/211.1</td>
<td></td>
</tr>
</tbody>
</table>

### CURRENT YEAR BUSINESS PLAN ALLOCATIONS

<table>
<thead>
<tr>
<th>Funding US $ million</th>
<th>Phase-out ODP tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,013,776</td>
</tr>
</tbody>
</table>

### PROJECT TITLE:

- ODS use at enterprise (ODP tonnes): 320.0
- 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]

Blanket approval of second tranche (2012)

### (*) Funding distribution (US$)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2012</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIDO</td>
<td>1,300,000</td>
<td>943,047</td>
<td>2,243,047</td>
</tr>
<tr>
<td>UNEP</td>
<td>70,000</td>
<td></td>
<td>70,000</td>
</tr>
<tr>
<td>Total project cost</td>
<td>1,370,000</td>
<td>943,047</td>
<td>2,313,047</td>
</tr>
<tr>
<td>UNIDO agency support cost</td>
<td>97,500</td>
<td>70,728</td>
<td>168,228</td>
</tr>
<tr>
<td>UNEP agency support cost</td>
<td>9,100</td>
<td></td>
<td>9,100</td>
</tr>
<tr>
<td>Total agency support cost</td>
<td>106,600</td>
<td>70,728</td>
<td>177,328</td>
</tr>
<tr>
<td>Grand total cost</td>
<td>1,476,600</td>
<td>1,013,775</td>
<td>2,490,375</td>
</tr>
</tbody>
</table>
PROJECT DESCRIPTION

1. On behalf of the Government of Guatemala, UNIDO has submitted to the 68th meeting of the Executive Committee a request for funding for the second (and final) tranche of phase II of the national methyl bromide (MB) phase-out plan at a total cost of US $943,047, plus agency support costs of US $70,728 for UNIDO.

Background

2. At its 59th meeting, the Executive Committee approved in principle phase II of the MB phase-out plan for Guatemala, at a 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 MB in the country. At the same meeting, the Committee approved the first tranche of the phase-out plan at a 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.

Progress report

3. MB is currently used as a soil fumigant for the production of melons, and to a lesser extent, watermelons by the following five enterprises: Agripromo, Fruta Mundial, Productos Agrícolas de Oriente (PAO), La Labor, and Coagro Comagua (a multinational enterprise). Since implementation of the first tranche of the MB phase-out plan (phase II) which started in 2011, the Government of Guatemala and UNIDO have on-going contact with the five enterprises to ensure that import quotas for MB are distributed according to the agreement between the Government and the Executive Committee, and for allocating the approved funding among the four eligible enterprises based on the alternative technologies selected. These technologies include:

(a) Biological control has been selected by Fruta Mundial. The enterprise is building a laboratory for the production of bio-antagonists at an estimated cost of US $37,000 to be funded by the enterprise, and with equipment to be funded from the Multilateral Fund. This technology will initially be applied to a surface area of approximately 80 ha; as experience is gained, it will be gradually introduced to a larger surface area until the whole area is treated with biological control. The enterprise has also introduced a low-dose application of metam sodium as an alternative chemical fumigant;

(b) Low-dose application of 1,3-dichloropropene (64 per cent by weight) in combination with chloropicrin (33 per cent) (trade name telone) has been selected as an alternative chemical fumigant by Agripromo and PAO. Given the type of soil pathogens, another alternative fumigant, based on 1,3-dichloropropene (33 per cent) in combination with chloropicrin (64 per cent) (trade name strike) is also being tested with positive results when the soil pest is mainly fungus;

(c) Grafting technology has been selected by La Labor. Using its own resources the enterprise established the infrastructure require for grafting; equipment items (e.g., cooling system for temperature control, circulating pumps, and fixed benches), and technical assistance and training in the proper use and management of grafted plants has been provided by the Fund. The enterprise is also considering the introduction of biological controls that will be purchased from the local market in specific areas with a high level of soil pathogens.
4. Using its own resources, MB is being phased out at Coagro through a staged introduction of low-dose application of 1,3-dichloropropene in combination with chloropicrin. Technicians from the enterprise have been attending workshops conducted for the other enterprises and had contributed with their knowledge and experience, particularly on the use of alternative chemicals. Meetings between the Agriculture Institute in Zacapa (the melon production area in the country) and UNEP had been conducted to ensure the introduction of alternative technologies (biological control and grafting) in the curricula of the Institute.

5. As of October 2012, of the US $1,370,000 approved for the first tranche, US $946,454 had been disbursed or committed. The balance of US $423,546 is being used for procurement of equipment items for the biological control and grafting technologies, three workshops on biological control, grafting and on the control of soilborne pathogen infecting the roots of melons and watermelons (all funds will be disbursed before March 2013).

2013 work programme

6. Alternative technologies in the production of melon will continue to be introduced to phase out the remaining 111.1 ODP tonnes of MB use in the country. The work programme also involves purchasing additional laboratory items associated with the bio-fumigation treatment, providing technical assistance and specific training to technicians from the enterprises on the proper use and management of biological control, grafting and alternative chemicals. Continued cooperation with the Agriculture Institute in Zacapa will allow enhancing the identification of the soil pathogens in the region, incorporating climatic conditions in order to improve the efficacy of the alternative chemicals, and providing training to the staff.

7. Through the implementation of the second (and final) tranche, the Government of Guatemala will achieve the complete phase-out of MB by 1 January 2014.

SECRETARIAT’S COMMENTS AND RECOMMENDATION

COMMENTS

8. The 2011 MB consumption reported by the Government of Guatemala under Article 7 of the Montreal Protocol of 211.1 ODP tonnes was already 6.6 ODP tonnes below that of 217.7 ODP tonnes under the Agreement between the Government and the Executive Committee. MB consumption in 2012 has been estimated at 111.1 ODP tonnes, i.e., 6.6 ODP tonnes below the 117.7 ODP tonnes allowed under the Agreement for that year. As per the Agreement, the Government of Guatemala has committed to completely phase-out MB consumption by the end of 2013.

9. In regard to the selection of alternative technologies and their long-term sustainability once the project is completed, UNIDO explained that all the alternatives being proposed were selected in agreement with all the growers and in accordance with their own phase-out strategies. The alternative chemicals that have been selected as the main replacement of MB by all the enterprises have shown good results. In addition to chemical fumigation, grafting and biological control technologies have also been introduced in three of them. The second tranche of the project will provide technical assistance and training on the use of non-chemical alternatives which will be used to expand their application in the country. Discussions with the Agriculture Institute in Zacapa will continue and will also contribute towards the long-term sustainability of the phase-out of MB.

10. As reported in the project proposals, all key stakeholders, namely the Ministries of the Environment and of Agriculture, the five melon grower enterprises and MB importers, have been involved in the project and have committed to the phase-out process. The Government has also put in
place an efficient licensing system and has issued import quotas for MB in agreement with all enterprises. No imports will be allowed for 2014 when the complete phase-out of MB will be achieved.

RECOMMENDATION

11. The Fund Secretariat recommends that the Executive Committee:

   (a) Takes note of the progress report on the implementation of the first tranche of phase II of the national methyl bromide (MB) phase-out plan for Guatemala;

   (b) Approves the 2013 annual implementation programme associated with the second and final tranche; and

   (c) Requests UNIDO to submit the project completion report to the Executive Committee soon after completion of the 2013 annual implementation programme.

12. The Secretariat further recommends blanket approval of the 2013 plan associated with the second (and final) tranche of phase II of the national MB phase-out plan with associated support costs at the funding level shown in the table below.

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Funding (US $)</th>
<th>Support Costs (US $)</th>
<th>Implementing Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) National methyl bromide phase-out plan (phase II, second tranche)</td>
<td>943,047</td>
<td>70,728</td>
<td>UNIDO</td>
</tr>
</tbody>
</table>

- - - - -
# Project Evaluation Sheet – Multi-Year Projects

**Guatemala**

## (I) Project Title
HCFC phase out plan (Stage I)

## (II) Latest Article 7 Data (Annex C Group I)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Aerosol</th>
<th>Foam</th>
<th>Fire Fighting</th>
<th>Refrigeration</th>
<th>Solvent</th>
<th>Process Agent</th>
<th>Lab Use</th>
<th>Total Sector Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCFC-123</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>HCFC-124</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>HCFC-141b</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>2.5</td>
<td>0.0</td>
<td>0.0</td>
<td>2.5</td>
</tr>
<tr>
<td>HCFC-141b in Imported Pre-blended Polyol</td>
<td>0.0</td>
<td>1.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.1</td>
</tr>
<tr>
<td>HCFC-142b</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>HCFC-22</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>7.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>7.2</td>
</tr>
<tr>
<td>HCFC-225cb</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

## (IV) Consumption Data (ODP tonnes)

<table>
<thead>
<tr>
<th>2009 - 2010 baseline:</th>
<th>8.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting point for sustained aggregate reductions:</td>
<td>9.7</td>
</tr>
</tbody>
</table>

## (VI) Project Data

### Montreal Protocol Consumption Limits

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNEP</td>
<td>0</td>
<td>0</td>
<td>8.3</td>
<td>8.3</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>5.4</td>
<td>n/a</td>
</tr>
<tr>
<td>UNIDO</td>
<td>0</td>
<td>0</td>
<td>8.3</td>
<td>8.3</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>5.4</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Agreed Funding (US$)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNEP</td>
<td>28,250</td>
<td>0</td>
<td>20,000</td>
<td>0</td>
<td>35,000</td>
<td>0</td>
<td>0</td>
<td>13,250</td>
<td>0</td>
<td>0</td>
<td>96,500</td>
</tr>
<tr>
<td>UNIDO</td>
<td>118,087</td>
<td>0</td>
<td>37,925</td>
<td>0</td>
<td>113,775</td>
<td>0</td>
<td>42,850</td>
<td>0</td>
<td>0</td>
<td>33,000</td>
<td>345,637</td>
</tr>
</tbody>
</table>

**Funds approved by ExCom (US$)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNEP</td>
<td>146,337</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>146,337</td>
</tr>
<tr>
<td>UNIDO</td>
<td>12,530</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12,530</td>
</tr>
</tbody>
</table>

**Total funds requested for approval at this meeting (US$)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNEP</td>
<td>0</td>
<td>97,925</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>97,925</td>
</tr>
<tr>
<td>UNIDO</td>
<td>0</td>
<td>7,344</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7,344</td>
</tr>
</tbody>
</table>

*A revision of the funding schedule has been submitted to the 68th Meeting*

---

**Secretariat’s recommendation:** Individual consideration
PROJECT DESCRIPTION

13. On behalf of the Government of Guatemala UNIDO, as the lead implementing agency, has submitted to the 68th meeting of the Executive Committee a request for changing the funding distribution of stage I of the HCFC phase-out management plan (HPMP) and for funding the second tranche of the HPMP.

14. The HPMP for Guatemala was approved by the Executive Committee at its 64th meeting to reduce HCFC consumption by 35 per cent of the baseline by the end of 2019. The HPMP was approved in principle at a total funding level of US $480,605, with the disbursement schedule shown in Table 1:

Table 1. Disbursement schedule of the funding approved for the HPMP of Guatemala

<table>
<thead>
<tr>
<th>Cost (US$)</th>
<th>2011*</th>
<th>2013</th>
<th>2015</th>
<th>2018</th>
<th>2020</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIDO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>118,087</td>
<td>37,925</td>
<td>113,775</td>
<td>42,850</td>
<td>33,000</td>
<td>345,637</td>
</tr>
<tr>
<td>Support</td>
<td>8,857</td>
<td>2,844</td>
<td>8,533</td>
<td>3,214</td>
<td>2,475</td>
<td>25,923</td>
</tr>
<tr>
<td>Subtotal</td>
<td>126,944</td>
<td>40,769</td>
<td>122,308</td>
<td>46,064</td>
<td>35,475</td>
<td>371,560</td>
</tr>
<tr>
<td>UNEP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>28,250</td>
<td>20,000</td>
<td>35,000</td>
<td>13,250</td>
<td></td>
<td>96,500</td>
</tr>
<tr>
<td>Support</td>
<td>3,673</td>
<td>2,600</td>
<td>4,550</td>
<td>1,722</td>
<td></td>
<td>12,545</td>
</tr>
<tr>
<td>Subtotal</td>
<td>31,923</td>
<td>22,600</td>
<td>39,550</td>
<td>14,972</td>
<td></td>
<td>109,045</td>
</tr>
<tr>
<td>Total</td>
<td>146,337</td>
<td>57,925</td>
<td>148,775</td>
<td>56,100</td>
<td>33,000</td>
<td>442,137</td>
</tr>
<tr>
<td>UNIDO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>118,087</td>
<td>97,925</td>
<td>53,775</td>
<td>42,850</td>
<td>33,000</td>
<td>345,637</td>
</tr>
<tr>
<td>Support</td>
<td>8,857</td>
<td>7,344</td>
<td>4,033</td>
<td>3,214</td>
<td>2,475</td>
<td>25,923</td>
</tr>
<tr>
<td>Subtotal</td>
<td>126,944</td>
<td>105,269</td>
<td>57,808</td>
<td>46,064</td>
<td>35,475</td>
<td>371,560</td>
</tr>
</tbody>
</table>

(*) Disbursed at the 64th meeting.

15. Implementation of stage I of the HPMP commenced in October 2011. Based on the experiences gained during the implementation of the terminal CFC phase-out plan (TPMP), the Government of Guatemala indicated its intention to continue implementing activities in the servicing sector with emphasis on the use of natural refrigerants, mainly hydrocarbons. The Government also gave priority to the conversion of the foam application in the domestic refrigeration manufacturer Fogel.

16. The funding approved for Fogel of US $109,637 (based on the 2007-2009 average consumption of HCFC-141b imported by the enterprise in pre-blended polyols, which was lower than the consumption in 2010 when the project was prepared), was insufficient for the full conversion of the project. Therefore, the enterprise agreed to invest an additional US $230,000 from its own resources to purchase several equipment items required for the conversion that were included in the project proposal.

17. In view of the fact that the level of funding associated with the first tranche for UNIDO has been disbursed mainly for the conversion of the foam enterprise, and that the funding associated with the second tranche (US $37,925 to be requested in 2013) would be insufficient for the implementation of the activities in the servicing sector as originally planned, UNIDO is requesting on behalf of the Government of Guatemala a revision to the funding distribution of the second tranche (to be requested in 2012) and the third tranche (2015), as shown in Table 2.

Table 2. Revision to the disbursement schedule of the funding approved for the HPMP of Guatemala

<table>
<thead>
<tr>
<th>Cost (US)</th>
<th>2011</th>
<th>2012</th>
<th>2015</th>
<th>2018</th>
<th>2020</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIDO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>118,087</td>
<td>97,925</td>
<td>53,775</td>
<td>42,850</td>
<td>33,000</td>
<td>345,637</td>
</tr>
<tr>
<td>Support</td>
<td>8,857</td>
<td>7,344</td>
<td>4,033</td>
<td>3,214</td>
<td>2,475</td>
<td>25,923</td>
</tr>
<tr>
<td>Subtotal</td>
<td>126,944</td>
<td>105,269</td>
<td>57,808</td>
<td>46,064</td>
<td>35,475</td>
<td>371,560</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>2012</td>
<td>2015</td>
<td>2018</td>
<td>2020</td>
<td>Total</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td>28,250</td>
<td>45,000</td>
<td>23,250</td>
<td>96,500</td>
<td></td>
<td>96,500</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>3,673</td>
<td>5,850</td>
<td>3,023</td>
<td>12,546</td>
<td></td>
<td>12,546</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>31,923</td>
<td>50,850</td>
<td>26,273</td>
<td></td>
<td></td>
<td>109,046</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td>146,337</td>
<td>97,925</td>
<td>98,775</td>
<td>66,100</td>
<td>33,000</td>
<td>442,137</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>12,530</td>
<td>7,344</td>
<td>9,883</td>
<td>6,237</td>
<td>2,475</td>
<td>38,469</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td>158,867</td>
<td>105,269</td>
<td>108,658</td>
<td>72,337</td>
<td>35,475</td>
<td>480,606</td>
</tr>
</tbody>
</table>

Adjustment to the activities in the refrigeration servicing sector

18. The main activities in the refrigeration servicing sector associated with stage I of the HPMP include the training of refrigeration and air conditioning technicians on various issues that have not yet been covered under the refrigerant management plan (RMP) and/or TPMP: these are the establishment of an additional recovery and recycling centre in Guatemala City and updating the manual on good refrigeration servicing practices. These activities are summarized in Table 3.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Course for 40 trainers of vocational schools</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment of one recovery/recycling centre in</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guatemala City</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and certification of 160 technicians on</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>servicing equipment with alternative refrigerants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training of 120 technicians of hotel and hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sectors</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training of 20 technicians of supermarket sector</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Updating the manual on good service practices</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Progress report on the implementation of the first tranche of the HPMP

19. Implementation of the project for the conversion of Fogel to cyclopentane technology has commenced. The funding approved under the HPMP will cover the costs of the engineering design and the ventilation and safety equipment required for the use of a flammable blowing agent, installation and start-up costs and commissioning of the entire production line, estimated at US $100,570. Counterpart funding amounting to US $230,000 will be used for procurement of a cyclopentane pre-mixer, buffer tanks, a high pressure dispenser, and technical documentation. It is expected that the conversion of the enterprise will be completed by the end of 2013.

20. A number of activities have been implemented in the refrigeration and air-conditioning servicing sector: registration and certification of all importers and distributors of HCFCs and HCFC-based equipment. These include: the establishment and enforcement of HCFC import quotas has been discussed with all stakeholders and will be issued in January 2013; the establishment of an import quota for used refrigeration equipment; consultation on regulatory harmonization and the drafting of guidelines on the safe use of hydrocarbon refrigerants has been initiated.

21. As of October 2012, of the US $146,337 in funds approved for the first tranche, US $109,637 had been disbursed or committed. The balance of US $36,700 will be disbursed in 2013.
Annual plans for the second tranche of the HPMP

22. In addition to the completion of the conversion of the foam project for Fogel, the following activities in the refrigeration servicing sector will be implemented during the second tranche of the HPMP:

(a) Updating the ODS legal framework to include imported pre-blended HCFC-141b polyols in the licensing system; mandatory certification of refrigeration and air conditioning technicians; continue with the development of standards for proper handling of refrigerants including flammable refrigerants in consultation with key stakeholders; mandatory recording of amounts and types of refrigerants sold in the local market, and establishing penalties for non-compliance (UNEP);

(b) Technical assistance in the refrigeration and air conditioning servicing sector, including development of training material to include the use and safety management of low-global warming potential (GWP) refrigerants, in particular hydrocarbon; training programmes for 40 trainers and, through them, training and certifying 120 technicians on the use of alternative refrigerants; and procurement of basic service tools for technicians that have been trained and certified (UNIDO);

(c) Establishing a unified database of the servicing sector for registering all stakeholders, including technicians, importers, traders and major commercial, industrial refrigeration and air conditioning end-users, as well as the Government’s activities related to the servicing sector (e.g., training and certification programmes, distribution of equipment and service tools (UNEP);

(d) Technical assistance for enhanced control of trade of HCFC-based substances and equipment, providing technical assistance to the Customs and the National Ozone Unit to implement the Central American Customs Union; training of Customs officers and personnel involved in ODS import/export procedures on issues related to the detection and control of ODS traffic, including the use of blends; and

(e) Monitoring and evaluation of the activities proposed in the HPMP (UNIDO).

SECRETARIAT’S COMMENTS AND RECOMMENDATION

COMMENTS

Changes to the schedule of funding tranches

23. The Secretariat has given due consideration to the request by the Government of Guatemala to modify the distribution of the funding associated with the second and third tranches of the HPMP. This issue was also discussed with UNIDO. In its analysis, the Secretariat noted that:

(a) During the implementation of the first tranche, the Government had given priority to converting the foam enterprise to cyclopentane technology. The enterprise had also agreed to immediately implement the conversion to cyclopentane technology and had provided a counterpart contribution amounting to US $230,000 to allow for its full conversion;

(b) Although the HCFC-141b used by the enterprise is imported in pre-blended polyols, and is therefore not related to compliance, the conversion of the enterprise would avoid the emission into the atmosphere of some 7,000 tonnes of CO₂-equivalent based on the phase-out of 10.0 mt of HCFC-141b used in 2011;
The majority of HCFC-141b-pre-blended polyols used has been phased out with the conversion of the enterprise. Complete phase-out will be achieved through a technical assistance programme to the few users using very small amounts of HCFC-141b-pre-blended polyols;

Most of the funding available for UNIDO in the first tranche had to be used for purchasing the equipment required for the conversion of the foam enterprise. Therefore, the funding remaining from the first tranche (i.e., US $36,700 for both UNEP and UNIDO) would be insufficient to address HCFC-22 and HCFC-141b consumption in the servicing sector;

The revised funding schedule will allow for purchasing basic equipment and service tools that could be distributed to service technicians once they have been trained and certified. These tools will be immediately used during the servicing of refrigeration equipment;

In reviewing HPMPs for other low-volume consuming (LVC) countries that had been approved with phase-out activities in the manufacturing and servicing sectors (as is the case of Guatemala), it was noted that the level of funding in the first tranche covered almost all the costs required for the conversion of the enterprise in addition to costs associated with activities addressing the consumption in the servicing sector. For example, the funding approved for the first tranche represents between 61 and 85 per cent of the total funding approved for the HPMPs for Costa Rica, Dominican Republic, El Salvador and Swaziland, as compared to 33 per cent for Guatemala;

UNIDO has confirmed that no other HPMP under its implementation presents a situation similar to that of Guatemala (it is to be noted, that a request has been submitted by UNDP for advancing part of the funding available under the second tranche of the HPMP for Cuba to purchase the equipment required for the conversion of the foam enterprises. UNDP also confirmed that no other HPMP under its implementation presents a situation similar to that of Cuba); and

For the 2012-2014 triennium, the total funding level approved for the HPMP amounts to US $222,236, while the requested revision amounts to US $264,136, i.e., a difference of US $41,900.

24. Based on the above observations, the Secretariat is of the view that, with the revised level of funding associated with the second tranche, UNIDO and UNEP would be able to continue implementing several activities in the refrigeration servicing sector as set out above that would allow the Government of Guatemala to be in compliance with its obligations under the Montreal Protocol. The Executive Committee might wish to consider approving the revision to the funding tranches as requested by the Government of Guatemala.

Operational license system

25. In line with decision 63/17, and as required under the Agreement between the Government of Guatemala and the Executive Committee, a letter has been received from the Government that an enforceable national system of licensing for HCFC imports and exports is in place since 2003. The licensing system is controlled and managed by the National Ozone Unit in cooperation with the Ministry of Environment. Import quotas for HCFCs will be established in January 2013, and will be in accordance with the licensing system and the HCFC reduction targets.
HCFC consumption

26. The HCFC baseline for compliance has been established at 8.3 ODP tonnes, based on the actual consumption reported under Article 7 of the Montreal Protocol for 2009 and 2010 as shown in Table 4. This baseline is similar to that estimated at the 64th meeting, when the Government of Guatemala submitted its HPMP. Based on the established baseline, the starting point is 9.7 ODP tonnes, which includes 1.4 ODP tonnes of HCFC-141b contained in imported pre-blended polyol systems. Based on preliminary figures, the consumption in 2012 has been estimated at 5.61 ODP tonnes.

Table 4. HCFC consumption in Guatemala (2007-2011 Article 7, 2012 estimated)

<table>
<thead>
<tr>
<th>HCFC</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric tonnes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCFC-123</td>
<td>0.5</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.20</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>HCFC-142b</td>
<td>0.4</td>
<td>0.8</td>
<td>2.5</td>
<td>1.0</td>
<td>2.50</td>
<td>0.0</td>
<td>1.8</td>
</tr>
<tr>
<td>HCFC-124</td>
<td>10.4</td>
<td>4.0</td>
<td>6.4</td>
<td>4.0</td>
<td>2.60</td>
<td>0.0</td>
<td>5.2</td>
</tr>
<tr>
<td>HCFC-141b</td>
<td>11.2</td>
<td>10.8</td>
<td>10.7</td>
<td>9.0</td>
<td>23.00</td>
<td>8.90</td>
<td>9.8</td>
</tr>
<tr>
<td>HCFC-22</td>
<td>85.5</td>
<td>156.9</td>
<td>143.8</td>
<td>110.0</td>
<td>130.0</td>
<td>84.46</td>
<td>126.9</td>
</tr>
<tr>
<td>Total (mt)</td>
<td>108.0</td>
<td>172.5</td>
<td>163.5</td>
<td>124.1</td>
<td>158.30</td>
<td>93.36</td>
<td>143.8</td>
</tr>
</tbody>
</table>

| ODP tonnes |
| HCFC-123   | 0.0  | 0.0  | 0.0  | 0.0  | 0.00 | 0.0  | 0.0      |
| HCFC-142b  | 0.0  | 0.1  | 0.2  | 0.1  | 0.16 | 0.0  | 0.1      |
| HCFC-124   | 0.2  | 0.1  | 0.1  | 0.1  | 0.06 | 0.0  | 0.1      |
| HCFC-141b  | 1.2  | 1.2  | 1.2  | 1.0  | 2.53 | 0.97 | 1.1      |
| HCFC-22    | 4.7  | 8.6  | 7.9  | 6.1  | 7.15 | 4.64 | 7.0      |
| Total (ODP tonnes) | 6.2  | 10.0 | 9.4  | 7.2  | 9.90 | 5.61 | 8.3      |

27. As explained by UNIDO, the increase in the level of HCFC consumption between 2010 and 2011 was mainly associated with an increase in the consumption of HCFC-141b which is used for flushing refrigeration circuits. As a restriction on the import of this substance is expected at the beginning of 2013, the servicing sector stocked an additional amount for future use. Furthermore, technical assistance, training and equipment will be provided during the second tranche of the HPMP to reduce the consumption of HCFC-141b in servicing practices.

Revision to the HPMP Agreement

28. The HPMP for Guatemala was approved prior to the establishment of the HCFC baseline for compliance. Accordingly, in approving the HPMP the Executive Committee requested the Secretariat to, inter alia, update Appendix 2-A (“The targets, and funding”) to the Agreement with the figures for the maximum allowable consumption and to notify the Committee of the resulting levels accordingly (decision 64/32(e)). Although the estimated and established baselines are the same, a revision to the Agreement is required to reflect the changes requested by the Government on the funding levels associated with the second and third tranches. A new paragraph has also been added to indicate that the updated Agreement supersedes that reached at the 64th meeting, as shown in Annex I to the present document. The full revised Agreement will be appended to the final report of the 68th meeting.

RECOMMENDATION

29. In light of the Secretariat’s comments above and in particular paragraphs 23 and 24, the Executive Committee may wish to consider:

(a) Noting:

(i) The progress report on the implementation of the first tranche of stage I of the
HCFC phase-out management plan (HPMP) of Guatemala;

(ii) That the Fund Secretariat has updated Appendix 2-A “The targets, and funding” of the Agreement between the Government of Guatemala and the Executive Committee, based on the changes requested by the Government on the funding levels associated with the second and third tranches.

(b) Approving, on an exceptional basis, the second tranche of stage I of the HPMP for Guatemala as contained in the revised Agreement, and the corresponding 2013 annual implementation plans, at the funding level of US $97,925 plus agency support costs of US $7,344 for UNIDO.
TEXT TO BE INCLUDED IN THE UPDATED AGREEMENT BETWEEN THE GOVERNMENT OF GUATEMALA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFUOROCARBONS

(Relevant changes are in bold font for ease of reference)

1. This Agreement represents the understanding of the Government of Guatemala and the Executive Committee with respect to the reduction of controlled use of the Ozone Depleting Substances (ODS) set out in Appendix 1 A (“the Substances”) to a sustained level of 5.4 ODP tonnes by 1 January 2020, in compliance with Montreal Protocol schedules.

16. This updated Agreement supersedes the Agreement reached between the Government of Guatemala and the Executive Committee at the 63rd meeting of the Executive Committee.

APPENDIX 2-A: THE TARGETS, AND FUNDING

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Montreal Protocol reduction schedule of Annex C, Group 1 substances (ODP tonnes)</td>
<td>n/a</td>
<td>n/a</td>
<td>8.30</td>
<td>8.30</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>5.40</td>
<td></td>
</tr>
<tr>
<td>1.2 Maximum allowable total consumption of Annex C, Group 1 substances (ODP tonnes)</td>
<td>n/a</td>
<td>n/a</td>
<td>8.30</td>
<td>8.30</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>5.40</td>
<td></td>
</tr>
<tr>
<td>2.1 Lead IA UNIDO agreed funding (US $)</td>
<td>118,087</td>
<td>97,925</td>
<td>53,775</td>
<td>42,850</td>
<td>33,000</td>
<td>345,637</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2 Support costs for Lead IA (US $)</td>
<td>8,857</td>
<td>7,344</td>
<td>4,033</td>
<td>3,214</td>
<td>2,475</td>
<td>25,923</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3 Cooperating IA UNEP agreed funding (US $)</td>
<td>28,250</td>
<td>45,000</td>
<td>23,250</td>
<td>96,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 Support costs for Cooperating IA (US $)</td>
<td>3,673</td>
<td>5,850</td>
<td>3,023</td>
<td>12,546</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Total agreed funding (US $)</td>
<td>146,337</td>
<td>97,925</td>
<td>98,775</td>
<td>66,100</td>
<td>33,000</td>
<td>442,137</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2 Total support cost (US $)</td>
<td>12,530</td>
<td>7,344</td>
<td>9,883</td>
<td>6,237</td>
<td>2,475</td>
<td>38,469</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3 Total agreed costs (US $)</td>
<td>158,867</td>
<td>105,269</td>
<td>108,658</td>
<td>72,337</td>
<td>35,475</td>
<td>480,606</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.1.1 Total phase-out of HCFC-22 to be achieved under this Agreement (ODP tonnes) | 1.8  |
4.1.2 Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes) |
4.1.3 Remaining eligible consumption for HCFC-22 (ODP tonnes) | 5.1  |
4.2.1 Total phase-out of HCFC-141b to be achieved under this Agreement (ODP tonnes) | 1.1  |
4.2.2 Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes) |
4.2.3 Remaining eligible consumption for HCFC-141b (ODP tonnes) | 0.0  |
4.3.1 Total phase-out of HCFC-142b to be achieved under this Agreement (ODP tonnes) |
4.3.2 Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes) |
4.3.3 Remaining eligible consumption for HCFC-142b (ODP tonnes) | 0.2  |
4.4.1 Total phase-out of HCFC-124 to be achieved under this Agreement (ODP tonnes) |
4.4.2 Phase-out of HCFC-124 to be achieved in previously approved projects (ODP tonnes) |
4.4.3 Remaining eligible consumption for HCFC-124 (ODP tonnes) | 0.1  |
4.5.1 Total phase-out of HCFC-141b contained in imported pre-blended polyols (ODP tonnes) | 1.4  |
4.5.2 Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes) |
4.5.3 Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes) | 0.0  |