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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Sixty-third Meeting
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# PROJECT PROPOSAL: MONGOLIA

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

Phase-out

- HCFC phase-out management plan (stage I, first tranche) — UNEP/Japan

*Re-issued for technical reasons

# PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## Mongolia

| (I) PROJECT TITLE | AGENCY |
|---|---|
| HCFC phase-out management plan (stage I, first tranche) | UNEP (lead) |

| (II) LATEST ARTICLE 7 DATA | Year: 2009 | 1.2 (ODP tonnes) |
|---|---|---|

| (III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes) | | | | | | Year: 2009 | | | |
|---|---|---|---|---|---|---|---|---|---|
| Chemical | Aerosol | Foam | Fire fighting | Refrigeration | | Solvent | Process agent | Lab Use | Total sector consumption |
| | | | | Manufacturing | Servicing | | | | |
| HCFC-123 | | | | | | | | | |
| HCFC-124 | | | | | | | | | |
| HCFC-141b | | | | | | | | | |
| HCFC-142b | | | | | | | | | |
| HCFC-22 | | | | | 1.2 | | | | 1.2 |

| (IV) CONSUMPTION DATA (ODP tonnes) | | | |
|---|---|---|---|
| 2009 - 2010 baseline (estimate): | 1.3 | Starting point for sustained aggregate reductions: | 1.3 |
| CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes) | | | |
| Already approved: | 0.0 | Remaining: | 0.8 |

| (V) BUSINESS PLAN | | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Japan | ODS phase-out (ODP tonnes) | 0.1 | | | | | | | | | | 0.1 |
| | Funding (US $) | 303,000 | | | | | | | | | | 303,000 |
| UNEP | ODS phase-out (ODP tonnes) | 0.2 | | 0.2 | | | 0.2 | | | 0.2 | | 0.6 |
| | Funding (US $) | 67,800 | | 96,050 | | | 152,600 | | | 56,500 | | 372,950 |

| (VI) PROJECT DATA | | | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Montreal Protocol consumption limits (estimate) | | | n/a | n/a | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 0.8 | |
| Maximum allowable consumption (ODP tonnes) | | | n/a | n/a | 1.3 | 1.3 | 1.2 | 1.2 | 1.1 | 1.1 | 1.0 | 0.8 | |
| Project Costs requested in principle(US$) | Japan | Project costs | 130,000 | | | | | | | | | | 130,000 |
| | | Support costs | 16,900 | | | | | | | | | | 16,900 |
| | UNEP | Project costs | 65,000 | | 65,000 | | | 69,000 | | | | 37,000 | 236,000 |
| | | Support costs | 8,450 | | 8,450 | | | 8,970 | | | | 4,810 | 30,680 |
| Total project costs requested in principle (US $) | | | 195,000 | | 65,000 | | | 69,000 | | | | 37,000 | 366,000 |
| Total support costs requested in principle (US $) | | | 25,350 | | 8,450 | | | 8,970 | | | | 4,810 | 47,580 |
| Total funds requested in principle (US $) | | | 220,350 | | 73,450 | | | 77,970 | | | | 41,810 | 413,580 |

| (VII) Request for funding for the first tranche (2011) | | |
|---|---|---|
| Agency | Funds requested (US $) | Support costs (US $) |
| Japan | 130,000 | 16,900 |
| UNEP | 65,000 | 8,450 |

| | |
|---|---|
| **Funding request:** | Approval of funding for the first tranche (2011) as indicated above |
| **Secretariat's recommendation:** | Individual consideration |

## PROJECT DESCRIPTION

1. On behalf of the Government of Mongolia UNEP, as the lead implementing agency, has submitted to the 63rd Meeting of the Executive Committee stage I of the HCFC phase-out management plan (HPMP) at a total cost as originally submitted, of US $632,500 plus agency support costs of US $82,225. The HPMP will be implemented jointly with the Government of Japan. The Government of Mongolia is requesting US $330,000 plus agency support costs of US $42,900 for UNEP and US $302,500 plus support costs of US $39,325 for the Government of Japan to implement activities that will meet compliance with the 35 per cent reduction in HCFC consumption in 2020.

2. As originally submitted, UNEP is requesting US $60,000 plus support costs of US $7,800 and US $302,500 plus support costs of US $39,325 for the Government of Japan for the first tranche of this HPMP.

### Background

ODS regulations

3. Mongolia has ratified the Vienna Convention, the Montreal Protocol and all its amendments. In line with the country's commitment to the Montreal Protocol, it has set up and enforced a comprehensive framework for the protection of the ozone layer. In 1995, two laws on air quality and toxic chemicals were passed where provisions to regulate the use of ozone-depleting substances (ODS) (including HCFCs) were included. In 1999, the Government passed the National Programme of Protection of the Ozone Layer which is the legal framework in Mongolia for ozone layer protection. It also established in the same year an operational licensing and quota system for import and export of ODS. This system was applied to HCFC imports since the end of December 2000; however, the country still does not have an HCFC import quota system in place. Mongolia also has in place controls on the import of ODS-based equipment including HCFC-based equipment.

4. Mongolia formed the National Committee to Implement the Vienna Convention on Protection of the Ozone Layer to coordinate all the policies and compliance activities for the implementation of the Montreal Protocol. This Committee includes representatives from the customs administration and other relevant ministries and academic institutions. The Ministry of Nature, Environment and Tourism (MNET) is the main body responsible for the implementation of the above regulations, as well as monitoring the country's progress in meeting compliance with the Montreal Protocol. Its implementation arm is the National Ozone Authority (NOA) of Mongolia, and is the official national ozone unit (NOU).

HCFC consumption

5. In determining HCFC consumption, information was gathered based on customs data, and the information from the NOU submitted by importers who applied for import permits. In addition, a survey covering importers of HCFCs and HCFC-based equipment, servicing workshops and other end-users was conducted during the first half of 2009 as part of the HPMP preparation.

6. Mongolia uses HCFC-22 for both servicing refrigeration and air-conditioning (RAC) equipment, and manufacturing extruded polystyrene (XPS) foam for insulation. Table 1 shows the 2005-2009 levels of HCFC consumption in Mongolia.

Table 1: HCFC level of consumption in Mongolia

| | HCFC-22 Survey data | | Article 7 data | | HCFC-22 for XPS | | TOTAL | |
|---|---|---|---|---|---|---|---|---|
| **YEAR** | **MT** | **ODP** | **MT** | **ODP** | **MT** | **ODP** | **MT** | **ODP** |
| **2005** | 7 | 0.4 | 10.84 | 0.6 | 0 | 0 | 7 | 0.6 |
| **2006** | 19.12 | 1.05 | 19.12 | 1.1 | 0 | 0 | 19.12 | 1.05 |
| **2007** | 28.25 | 1.55 | 28.25 | 1.6 | 0 | 0 | 28.25 | 1.55 |
| **2008** | 39.88 | 2.2 | 39.88 | 2.2 | 0 | 0 | 39.88 | 2.2 |
| **2009** | 24.75 | 1.36 | 20.95 | 1.2 | 0 | 0 | 24.75 | 1.36 |
| **2010** | 22.7 | 1.25 | n/a | n/a | 3.8 | 0.21 | 26.5 | 1.46 |

7. In the HPMP, Mongolia used the average of the actual reported 2009 consumption (under Article 7) of 1.16 ODP tonnes (21.1 mt) plus the actual consumption in 2010 (based on actual import figures until December 2010) of 1.46 ODP tonnes (26.5 mt) to estimate its baseline, as per the table below. This resulted in an estimated baseline of 23.8 metric tonnes (mt) (1.31 ODP tonnes). A 10 per cent average annual increase is foreseen for the post freeze years.

Table 2: Estimated baseline consumption

| Substance Sector | 2009 Actual import (Article 7 data) | | 2010 Actual import | | Baseline (2009-2010 average) | |
|---|---|---|---|---|---|---|
| | ODP | MT | ODP | MT | ODP | MT |
| HCFC-22 (XPS foam) | 0 | 0 | 0.21 | 3.8 | 0.10 | 1.9 |
| HCFC-22 (Servicing Sector) | 1.16 | 21.1 | 1.25 | 22.7 | 1.21 | 21.9 |
| **Total** | **1.16** | **21.1** | **1.46** | **26.5** | **1.31** | **23.8** |

Servicing Sector

8. In Mongolia, the dominant use of HCFCs is for servicing RAC equipment. A large percentage of this use is for industrial and commercial equipment, followed by domestic air-conditioning systems, and some for chillers. Table 3 summarizes the sectoral distribution of HCFC use in Mongolia in the servicing sector.

Table 3: Distribution of HCFC-22 in refrigeration systems for servicing

| **Type** | **Total units** | **Servicing (tonnes)** | |
|---|---|---|---|
| | | **Metric** | **ODP** |
| Domestic air-conditioning | 4,100 | 6.0 | 0.33 |
| Commercial/industry equipment | 10,100 | 11.0 | 0.61 |
| Chillers | 23 | 1.0 | 0.06 |
| Total | 14,223 | 18.0 | 0.99 |

Source: estimated by the local expert during the survey

9. There are 17 major refrigeration servicing companies in Mongolia, most of them are located in the capital, Ulaanbaatar. These companies have their own training system, with one company having a training school open to the public. There are about 600 service technicians in the country, mostly affiliated with the service companies. Many of these technicians have received some training under the terminal phase-out management plan (TPMP). In addition, there is an unknown number of informal servicing and repair workshops that are scattered throughout the country. These informal workshops

consist of 1-2 technicians each and do not have proper training programmes. Although their servicing quality cannot be guaranteed due to lack of proper equipment/tools or training, they remain in business because of their accessibility and low servicing price. In Mongolia, there is no requirement for technicians to obtain a license/certification for handling HCFCs.

10. Based on Table 2 above, the baseline for the servicing sector is estimated at 21.9 mt (1.21 ODP tonnes).

Manufacturing sector

11. There are two manufacturing enterprises using HCFC-22 currently in operation in Mongolia. Both enterprises produce XPS foam for insulation in the building and construction industry. The basic information related to these two enterprises is presented below:

Table 4: Basic information of XPS manufacturers in Mongolia

| Name of the enterprise | Bilguun Trade Co. Ltd. | New Warm LLC. |
|---|---|---|
| Date of establishment of the company | 21 February 1996 | 8 May 2006 |
| Date of installation of HCFC-based equipment | August 2007 | 2006 |
| Main products manufactured | XPS foam (insulation panels) | XPS foam (insulation panels) |
| Levels of current consumption of HCFC-22 | 2010: 0 (actual)<br>2009: 0<br>2008: 24 MT<br>2007: 15 MT | 2010: 3.8 MT (actual)<br>2009: 0<br>2008: 2 MT<br>2007: 0 |
| Previous funding for conversion to HCFC technology | No | No |
| Level of exports to non-Article 5 countries | 0 | 0 |
| Non-Article 5 ownership component | 0 (100 % Mongolian) | 0 (10 % Mongolian and 90 % Chinese) |

12. The current HPMP proposes to phase out the use of 26 mt of HCFC-22 based on the 2008 HCFC consumption of the two enterprises. The existing HCFC-22 XPS foam manufacturing equipment will be converted (retrofitted) to hydrocarbon-based XPS foam manufacturing machines, thereby contributing to the country's obligation to freeze the HCFC consumption by 2013 and to reduce it by 10 per cent by 2015 and 35 per cent by 2020. Hydrocarbon technology has been selected as the target technology vis-à-vis HFC-based technology due to the lower direct GWP values of the alternative. Based on the 2008 consumption figures, the enterprises' HCFC-22 consumption is significant compared to the country's total HCFC consumption, and the HPMP indicates that it is expected that the reduction from the conversion of these two enterprises may represent the major part of the country's reduction obligation in 2015 and 2020.

13. Based on Table 2 above, the baseline for the manufacturing sector is estimated at 1.9 mt (0.10 ODP tonnes) using average figures for HCFC consumption in 2009 and 2010.

HCFC phase-out strategy and costs

14. The Government of Mongolia plans to address compliance with the 2020 control measures under this HPMP through the following strategic objectives:

(a) Strengthen the implementation of policy instruments to reduce the supply and/or demand of HCFCs through the introduction of an import quota for HCFCs by 2011 and HCFC-based equipment by 2015 and the development of an on-line import licensing system to closely monitor the movement of ODS;

(b) Coordinate with relevant multilateral environmental agreements to maximize climate benefit in the phase-out of HCFCs during selection of alternatives, and to ensure that the energy efficiency of imported HCFC equipment and alternative products would be taken into consideration during the HPMP implementation;

(c) Implement measures in the servicing sector that would include support to a recovery and reclamation facility for HCFC refrigerants, training for service technicians to enable better refrigeration practices, customs training to facilitate strict implementation of the HCFC regulations and public awareness to ensure a wider understanding of the need to phase out HCFCs;

(d) Conversion of two XPS manufacturing enterprises to non-HCFC technology through an investment project.

Servicing sector

15. The main focus for the HCFC refrigeration servicing sector in Mongolia will be to control the growth of HCFC-22 consumption at the current level in the first phase up to 2020. The activities foreseen include strengthening HCFC policies and their enforcement. Activities related to customs training will also be implemented in order to ensure that the strengthened HCFC legislation can be implemented and enforced very strictly. The component will also enhance the capacity of customs and other law enforcement officers on monitoring, control and identification of HCFCs and HCFC-containing equipment. It will further strengthen the capacity of the trainers and customs training schools through the provision of necessary training materials and identification tool kits.

16. The training of refrigeration service technicians will also continue, using the existing infrastructure established during the terminal phase-out management plan (TPMP) implementation. The main objectives for these activities will include the improvement of good practices to reduce leakage, provide additional tools to servicing technicians to enable them to follow good practices after training is completed. Awareness raising activities that are additional to those carried out as part of the institutional strengthening (IS) will also be conducted to support meeting the compliance targets for the country.

Manufacturing sector

17. The project for the manufacturing sector foresees the conversion of HCFC-22-based XPS foam manufacturing machines by the end of 2012 because an increase in the demand for XPS foam is expected in response to the growth in the construction sector. The conversion is proposed to be undertaken in three steps, in view of the safety aspects of the alternative that need to be taken into account. The first step will look at the technical modification of the equipment for use with a flammable blowing agent. This will be followed by training on the safe use of hydrocarbons (HC) as a blowing agent, initially using HFC-152a as an interim gas for trials. It is envisaged that as soon as the safe handling and use of a flammable blowing agent has been safely demonstrated in the XPS manufacturing companies, full conversion to the use of hydrocarbon blowing agent will be made with on-site training being done in advance.

18. For one enterprise, the incremental costs for the replacement of the existing primary and secondary extruders for the conversion to the use of a flammable blowing agent such as HCs are requested. For the second company, costs associated with the replacement of the blowing agent pump and an improved ventilation system as well as gas detection equipment are requested. Both companies are not requesting incremental operating costs.

HPMP costs

19. The total cost of the HPMP for Mongolia is US $632,500 with the breakdown as shown in Table 5 below:

Table 5: Total cost of the HPMP for Mongolia (US $) as submitted

| Activity | UNEP | Government of Japan | Total |
|---|---|---|---|
| **Activities in the servicing sector** | | | |
| Improve the legislative framework | 35,000 | | 35,000 |
| Refrigeration Technicians training | 47,000 | | 47,000 |
| Customs officers training | 55,000 | | 55,000 |
| Awareness raising | 43,000 | | 43,000 |
| **Sub-Total** | **180,000** | | **180,000** |
| **Investment Project** | | | |
| Phase-out in two HCFC based XPS manufacturing enterprises | | 302,500 | 302,500 |
| **Sub-total** | | **302,500** | **302,500** |
| **Project coordination and monitoring** | 150,000 | | 150,000 |
| Grand total | 330,000 | 302,500 | **632,500** |

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

20. The Secretariat reviewed the HPMP for Mongolia in the context of the guidelines for the preparation of HPMPs (decision 54/39), the criteria for funding HCFC phase-out in the consumption sector agreed at the 60th Meeting (decision 60/44), subsequent decisions on HPMPs made at the 62nd Meeting and the 2011-2014 business plan of the Multilateral Fund.

Starting point for aggregate reduction in HCFC consumption

21. The Government of Mongolia agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the average level of actual reported consumption in 2009 and estimated consumption in 2010, which has been estimated at 1.31 ODP tonnes (23.8 mt). The business plan indicated a baseline of 1.2 ODP tonnes.

Issues related to HCFC consumption and estimated HCFC baseline

22. The Secretariat sought initial clarification from UNEP on the methodology used to estimate 2010 consumption and to calculate the baseline. UNEP responded that, as originally submitted, the 2010 data was estimated based on the 2009 reported data. However, the country had managed to compile data from the customs authorities for 2010 based on actual amounts imported into the country from January to December 2010, therefore the figures for 2010 were revised to reflect this. UNEP indicated that this most recent data should be an accurate representation of the consumption for the year and would be the basis for the country's submission of Article 7 data for 2010.

23. The Secretariat also requested UNEP to explain the discrepancy between the amount indicated to be phased-out for the manufacturing sector of 26 mt using the enterprises' 2008 consumption noting that the average actual 2009 and 2010 consumption is only 1.9 mt as shown in Table 2 above. If this figure (i.e. 26 mt) is used, the HPMP will be phasing out a total of 49.8 mt, which is more than the country's estimated baseline of 23.8 mt. In consultation with the Government of Japan that is responsible for the investment project, UNEP indicated that the 2008 consumption data was used to initially calculate funding eligibility for the two enterprises as this represented a more accurate figure for the sector considering that both companies had normal operations during that time. Both enterprises registered no production and hence no HCFC consumption in 2009 and only one company had some production in 2010 with only 3.8 mt of HCFCs being consumed. UNEP mentioned that this lack of production was due to the economic downturn, which caused a slowdown in the construction industry in Mongolia for these years. It however expects that this sector will bounce back after 2011 and that the enterprises could start producing at normal levels after 2011.

24. The Secretariat further raised concerns on the possible impact that the increase in production for these two enterprises might have on the country's compliance if the HCFC consumption for this sector would resume at the level of its 2008 production. UNEP mentioned that this underlines the importance of converting the enterprises at this time, to avoid a situation of possible non-compliance for Mongolia in future. It also reiterated that the country is aware of this possibility and will do its utmost to ensure that a situation of non-compliance does not occur.

Servicing sector

25. Issues related to the ODS regulation in place, and the establishment of quotas for HCFCs were satisfactorily addressed. UNEP reported that quotas should be in place before the end of this year. In response to a query about the use of recovery equipment provided during the TPMP, UNEP explained that while this equipment was generally intended for mobile air-conditioning service shops that do not normally provide service for other RAC sectors, its use for HCFCs will be maximized where possible. UNEP indicated that the additional equipment requested will enable technicians to better deal with HCFCs and operate more effectively.

26. In discussing the total cost for the servicing sector to reach the 35 per cent reduction in 2020, the Secretariat noted that Mongolia would be eligible for up to a maximum level of funding of US $210,000 based on its estimated consumption in the servicing sector of 21.9 mt (1.21 ODP tonnes). The Secretariat further noted that the requested amount in the HPMP for the servicing sector is higher than this maximum funding due to high costs of the project management unit (PMU). The Secretariat suggested that UNEP look at the overall total figure requested for the HPMP to determine the maximum amount that may be allocated to the PMU based on existing guidelines. Following these discussions, UNEP adjusted the requested funding, and the cost of the servicing sector component for the HPMP for Mongolia was agreed as shown in Table 6.

Table 6: Revised level of funding for the servicing sector in the HPMP for Mongolia (US $)

| **Activity** | **UNEP** | **Total** |
|---|---|---|
| **Activities for servicing sector** | | |
| Improve the legislative framework | 35,000 | 35,000 |
| Refrigeration Technicians training | 47,000 | 47,000 |
| Customs officers training | 55,000 | 55,000 |
| Awareness raising | 43,000 | 43,000 |
| Project coordination and monitoring | 30,000 | 30,000 |
| **Total** | 210,000 | 210,000 |

Manufacturing sector

27. The Secretariat undertook a detailed review of the submitted investment project proposal for the two HCFC-based XPS foam enterprises in Mongolia. Based on the results of the review, the Secretariat initially advised the Government of Japan, which is responsible for the conversion project, that the two companies should be treated as an umbrella project, as they effectively cover the consumption of the whole sector. The issues raised by the Secretariat during the review included the following:

(a) The use of hydrocarbons and the existing infrastructure in Mongolia. The Secretariat noted that both companies, while established a long time back, seem to just be in a learning process in the manufacture of XPS foam. The use of hydrocarbon as blowing agent carries significant risks and, apart from the difficulties and risks associated with the use of highly flammable substances, the panels expanded with hydrocarbons may have serious difficulty in meeting fire classification standards, even after long term storage. In addition, the use of high amounts of fire retardant additives to reduce flammability may cause serious barrel corrosion problems.

(b) Low production levels. It was also noted that both companies had erratic production levels (see Table 4 above) and that the amount of HCFC-22 to be phased-out may be less than that stated if the average three year consumption from 2007-2010 is used. Both companies also seem to be operating much below their capacity.

(c) The Secretariat recommended that the use of HFC-152a (even if in combination with small amounts of ethanol or DME) would be a safer option for both companies.

28. The Secretariat indicated to UNEP that upon review of the information provided for the baseline equipment, the cost for the remediation of the baseline design of the extruder for one company that would result in the replacement of both the primary and secondary extruders does not appear to be an incremental cost. The other company did not seem to warrant a change in the baseline equipment. As a consequence of these observations, and based on the other information provided, the Secretariat proposed that the two companies use HFC-152a and introduce use of hydrocarbon as a blowing agent at a later time, if they so choose.

29. In further discussions with the Government of Japan, the Secretariat asked for additional information on an estimated cost for the cheapest option to retrofit both enterprises from the original equipment supplier, taking into account that both foaming machines are relatively new. The Government of Japan provided information presented in the table below:

Table 7: Estimated cost for retrofitting equipment (quotation from equipment supplier)

| **Item** | **Cost (US $)** |
|---|---|
| Raw material supply machine and raw material mixing system retrofitting | 10,000 |
| Refrigerant/blowing agent supply internal system (135/30 type) and pump retrofitting | 15,000 |
| Plastic filling machine / plastic filling system inner mechanic retrofitting | 15,000 |
| Main production equipment's parts renewal and retrofitting | 7,000 |
| Production facilities parts - export customs, transportation, other cost | 800 |
| Mechanical facilities' installation and adjustment -- technician's passport, visa, transportation, accommodation, insurance, etc. | 4,200 |
| **Total** | **52,000** |

30. The Secretariat also sought further clarification on the situation of the two companies with regard to its production, as noted in paragraphs 23, 24 and 27(b) particularly the fact that both companies had no production in 2009 and very little in 2010, which are important years for determining the baseline of consumption of the companies. It noted that, as per the guidelines of the Executive Committee for determining incremental eligible costs, the consumption in the past three years of the enterprises could be considered taking into account a historical trend and possible fluctuations for economic reasons. If this were to be applied to these two enterprises, the total eligible consumption using the average consumption for the years 2008-2010 of these two enterprises (Table 4) would be 9.9 mt and not 26 mt as requested.

31. The Secretariat requested the Government of Japan to provide information on an estimated forecast consumption of these two companies for 2011-2013 according to the potential demand for XPS foam in the country for these years. The information received by the Secretariat showed a total average forecast of almost 200 mt of HCFC consumption for both companies, which would definitely put the country in a situation of non-compliance even if only a fourth of this forecast was actually used. The current estimated baseline of Mongolia is 23.8 mt.

32. The Secretariat noted further that while both enterprises are eligible for funding in line with decision 60/44(a), the fact that one company having had no consumption in 2009 and the other a very small level of consumption in 2010 remains an issue, as both are envisaged to start production as early as 2011 due to the renewed demand for XPS foam insulation in the construction industry, and that this future production could place the country in non-compliance. The Secretariat advised both UNEP and the Government of Japan that as this is the first time funding for the conversion/retrofit of enterprises that had no consumption in the last two recent years is being requested, guidance from the Executive Committee is needed before a recommendation on the manufacturing sector conversion could be made. The Secretariat therefore included this issue in document UNEP/OzL.Pro/ExCom/63/16 "Overview of issues identified during project review" as one of the policy issues for the consideration by the Executive Committee.

33. Notwithstanding the above, and noting that the Executive Committee still needs to consider the issue of no production, UNEP and the Government of Japan agreed with the Secretariat that in line with Table 7 the minimum cost of conversion for each enterprise would be US $52,000. Taking into account an additional 25 per cent to cover safety considerations for the use of a flammable alternative, each enterprise would be eligible for funding at a level of US $65,000 each. The total cost for the conversion of the two HCFC-based XPS manufacturing enterprises would therefore be no more than US $130,000 plus support costs to address 0.54 ODP tonnes, and an additional US $26,000 for project monitoring.

34. The revised overall funding level is provided in the following table:

Table 8: Revised funding for Stage I HPMP for Mongolia

| **Activity** | **UNEP** | **Government of Japan** | **Total** |
|---|---|---|---|
| **Activities in the servicing sector** | | | |
| Improve the legislative framework | 35,000 | | 35,000 |
| Refrigeration Technicians training | 47,000 | | 47,000 |
| Customs officers training | 55,000 | | 55,000 |
| Awareness raising | 43,000 | | 43,000 |
| Project coordination and monitoring | 30,000 | | 30,000 |
| ***Sub-Total*** | **210,000** | | **210,000** |
| **Investment Project** | | | |
| Phase-out of HCFC two XPS manufacturing enterprises in Mongolia | | 130,000 | 130,000 |
| Project coordination and monitoring | 26,000 | | 26,000 |
| **Sub-total** | | | 156,000 |
| **Grand total** | **236,000** | **130,000** | **366,000** |

Impact on the climate

35. The proposed technical assistance activities in the HPMP, which include the introduction of better servicing practices and enforcement of HCFC import controls, will reduce the amount of HCFC-22 used for refrigeration servicing. Each kilogram (kg) of HCFC-22 not emitted due to better refrigeration practices results in the savings of approximately 1.8 $CO_2$-equivalent tonnes saved. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by Mongolia, in particular its proposal to convert to the use of hydrocarbons in the service sector and its above-average efforts to improve servicing practices and reduce associated refrigerant emissions through re-use of HCFC refrigerant, indicate that it is likely that the country will meet the reduction of 1,974 $CO_2$-equivalent tonnes in emission into the atmosphere as estimated in the 2011-2014 business plan. However, at this time, the Secretariat is not in a position to quantitatively estimate the impact on the climate. The impact might be established through an assessment of implementation reports by, *inter alia*, comparing the levels of refrigerants used annually from the commencement of the implementation of the HPMP, the reported amounts of refrigerants being recovered and recycled, the number of technicians trained and the HCFC-22 based equipment being retrofitted.

36. In calculating the potential climate impact of the conversion of the two manufacturing enterprises, taking into account that each kg of HCFC-22 replaced with HFC-152a results in 1.6 $CO_2$-equivalent tonnes saved (i.e. using the GWP of HFC-152a of 0.12), the conversion of 9.9 mt of HCFC-22 could result in potential savings of 15,840 t-CO2-eq.

Co-financing

37. Decision 54/39(h) encourages countries and agencies to explore potential financial incentives and opportunities for additional resources to maximize the environmental benefits from HPMPs pursuant to paragraph 11(b) of decision XIX/6 of the Nineteenth Meeting of the Parties. UNEP indicated that the Government of Japan is committed to provide potential additional resources to support the HPMP beyond its contribution to the Multilateral Fund and share of the project costs. However, the specific amount and nature of the assistance cannot be provided as yet.

2010-2014 business plan of Multilateral Fund

38. UNEP and the Government of Japan are requesting US $366,000 plus support costs for implementation of Stage I of the HPMP. The total value requested for the period 2011-2014 of US $293,800 including support cost is within the total amount in the business plan.

39. Based on the estimated HCFC baseline consumption in the servicing sector of 21.9 mt (1.21 ODP tonnes), Mongolia's allocation up to the 2020 phase-out should be US $210,000 in line with decision 60/44.

Draft agreement

40. A draft Agreement between the Government of Mongolia, and the Executive Committee for HCFCs phase-out is contained in Annex I to the present document.

**RECOMMENDATION**

41. The Executive Committee may wish to consider the HPMP for Mongolia, in the light of the Secretariat's comments above and the discussion under agenda item 8(a) "Overview of issues identified during project review":

(a) Noting with appreciation the submission of stage I of the HCFC phase-out management plan (HPMP) for Mongolia to achieve the 35 per cent reduction in HCFC consumption by 2020 at an estimated cost of US $366,000 (excluding agency support costs); on the understanding that:

(i) US $210,000 is for the servicing sector and in line with decision 60/44 to reach the 35 per cent reduction of HCFC in 2020; and

(ii) US $156,000 is for the investment project for the phase-out of 9.9 metric tonnes (0.54 ODP tonnes) of HCFC-22 in the refrigeration and air-conditioning manufacturing sector;

(b) Noting that the Government of Mongolia had agreed at the 63rd Meeting to establish as its starting point for sustained aggregate reduction in HCFC consumption the estimated baseline of 1.31 ODP tonnes, calculated using actual consumption for 2009 and estimated consumption for 2010;

(c) Whether to approve the funding for the conversion of the two HCFC-based extruded polystyrene manufacturing enterprises that had no consumption in 2009 and 2010, based on the discussion in agenda item 8(a) "Overview of issues identified during project review";

(d) Whether to approve, in principle, in line with the agreement on subparagraph (c) above:

(i) The HPMP for Mongolia for the period 2011-2020, at the total amount of US $413,580, comprising of US $236,000 and agency support costs of US $30,680 for UNEP and US $130,000 plus agency support cost of US $16,900 for the Government of Japan to cover both the servicing and manufacturing sectors;

OR:

(ii) The HPMP for Mongolia for the period 2011-2020, at the amount of US $210,000, plus agency support costs of US $27,300 for UNEP covering only the HCFC servicing sector, to meet the 35 per cent reduction in 2020;

(e) Whether to approve the Agreement between the Government of Mongolia and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex I to the present document, and in line with subparagraphs (c) and (d) above;

(f) Requesting the Secretariat, once the baseline data is known, to update Appendix 2-A to the Agreement to include the figures for maximum allowable consumption, to notify the Executive Committee of the resulting levels of maximum allowable consumption, and of a potential related impact on the eligible funding level with any adjustments needed being made at the submission of the next tranche;

(g) Whether to approve the first implementation plan for 2011-2012, and the first tranche of stage I of the HPMP for Mongolia at the amount of:

(i) US $220,350 comprising of US $65,000 plus agency support costs of US $8,450 for UNEP and US $130,000 plus agency support costs of US $16,900 for the Government of Japan, for both the servicing and manufacturing sectors in line with subparagraphs (c) and (d) above;

OR:

(ii) US $65,000 plus agency support costs of US $8,450 for UNEP for the servicing sector only in line with subparagraphs (c) and (d) above.

**Annex I**

**DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF MONGOLIA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS**

1. This Agreement represents the understanding of the Government of Mongolia (the "Country") 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 0.85 ODP tonnes prior to 1 January 2020 in compliance with Montreal Protocol schedules, with the understanding that this figure is to be revised one single time in 2011, when the baseline consumption for compliance would be established based on Article 7 data, with the funding to be adjusted accordingly, as per decision 60/44.

2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A ("The Targets, and Funding") in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of the Substances which exceeds the level defined in row 1.2 of Appendix 2-A ("maximum allowable total consumption of Annex C, Group I Substances"; the Target) as the final reduction step under this Agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances which exceeds the level defined in row 4.1.3 (remaining eligible consumption).

3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees in principle to provide the funding set out in row 3.1 of Appendix 2-A ("Targets and Funding") to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A ("Funding Approval Schedule").

4. The Country will accept independent verification, to be commissioned by the relevant bilateral or implementing agency, of achievement of the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A ("The Targets, and Funding") of this Agreement as described in sub-paragraph 5(b) of this Agreement.

5. The Executive Committee will not provide the Funding in accordance with the Funding Approval Schedule unless the Country satisfies the following conditions at least 60 days prior to the applicable Executive Committee meeting set out in the Funding Approval Schedule:

(a) That the Country has met the Targets for all relevant years. Relevant years are all years since the year in which the hydrochlorofluorocarbons phase-out management plan (HPMP) was approved. Exempt are years for which no obligation for reporting of country programme data exists at the date of the Executive Committee Meeting at which the funding request is being presented;

(b) That the meeting of these Targets has been independently verified, except if the Executive Committee decided that such verification would not be required;

(c) That the Country had submitted tranche implementation reports in the form of Appendix 4-A ("Format of Tranche Implementation Reports and Plans") covering each previous calendar year, that it had achieved a significant level of implementation of activities initiated with previously approved tranches, and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and

(d) That the Country has submitted and received approval from the Executive Committee for a tranche implementation plan in the form of Appendix 4-A ("Format of Tranche Implementation Reports and Plans") covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A ("Monitoring Institutions and Roles") will monitor and report on implementation of the activities in the previous tranche implementation plan in accordance with their roles and responsibilities set out in Appendix 5-A. This monitoring will also be subject to independent verification as described in sub-paragraph 5(b).

7. The Executive Committee agrees that the Country may have the flexibility to reallocate the approved funds, or part of the funds, according to the evolving circumstances to achieve the smoothest phase-down and phase-out of the Substances specified in Appendix 1-A. Reallocations categorized as major changes must be documented in advance in a Tranche Implementation Plan and approved by the Executive Committee as described in sub-paragraph 5(d). Major changes would relate to reallocations affecting in total 30 per cent or more of the funding of the last approved tranche, issues potentially concerning the rules and policies of the Multilateral Fund, or changes which would modify any clause of this Agreement. Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the Tranche Implementation Report. Any remaining funds will be returned to the Multilateral Fund upon closure of the last tranche of the plan.

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sub-sector, in particular:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and

(b) The Country and the bilateral and implementing agencies involved will take full account of the requirements of decisions 41/100 and 49/6 during the implementation of the plan.

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNEP has agreed to be the lead implementing agency (the "Lead IA") and the Government of Japan have agreed to be cooperating implementing agency/agencies (the "Cooperating IA") under the lead of the Lead IA in respect of the Country's activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of any of the agencies taking part in this Agreement.

10. The Lead IA will be responsible for carrying out the activities of the plan as detailed in the first submission of the HPMP with the changes approved as part of the subsequent tranche submissions, including but not limited to independent verification as per sub-paragraph 5(b). This responsibility includes the necessity to co-ordinate with the Cooperating IA to ensure appropriate timing and sequence

of activities in the implementation. The Cooperating IA will support the Lead IA by implementing the activities listed in Appendix 6-B under the overall co-ordination of the Lead IA. The Lead IA and Cooperating IA have entered into a formal agreement regarding planning, reporting and responsibilities under this Agreement to facilitate a co-ordinated implementation of the Plan, including regular co-ordination meetings. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 of Appendix 2-A.

11. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in row 1.2 of Appendix 2-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next tranche of funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amounts set out in Appendix 7-A in respect of each ODP tonne of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the Country did not comply with this Agreement, and take related decisions. Once these decisions are taken, this specific case will not be an impediment for future tranches as per paragraph 5.

12. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decision that may affect the funding of any other consumption sector projects or any other related activities in the Country.

13. The Country will comply with any reasonable request of the Executive Committee, and the Lead IA and the Cooperating IA to facilitate implementation of this Agreement. In particular, it will provide the Lead IA and the Cooperating IA with access to information necessary to verify compliance with this Agreement.

14. The completion of the HPMP and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption has been specified in Appendix 2-A. Should at that time activities be still outstanding which were foreseen in the Plan and its subsequent revisions as per sub-paragraph 5(d) and paragraph 7, the completion will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per Appendix 4-A (a), (b), (d) and (e) continue until the time of the completion if not specified by the Executive Committee otherwise.

15. All of the agreements set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Montreal Protocol unless otherwise defined herein.

## APPENDICES

## APPENDIX 1-A: THE SUBSTANCES

| Substance | Annex | Group | Starting point for aggregate reductions in consumption (ODP tonnes) |
|---|---|---|---|
| HCFC-22 | C | I | 1.31 |

## APPENDIX 2-A: THE TARGETS, AND FUNDING

| | | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1 | Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes) | | | 1.31 | 1.31 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 0.85 | n/a |
| 1.2 | Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes) | | | 1.31 | 1.31 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 0.85 | n/a |
| 2.1 | Lead IA UNEP agreed funding(US $) | 65,000 | | 65,000 | | | 69,000 | | | | 37,000 | 236,000 |
| 2.2 | Support costs for Lead IA(US $) | 8,450 | | 8,450 | | | 8,970 | | | | 4,810 | 30,680 |
| 2.3 | Cooperating IA Japan agreed funding (US $) | 130,000 | | | | | | | | | | 130,000 |
| 2.4 | Support costs for Cooperating IA (US $) | 16,900 | | | | | | | | | | 16,900 |
| 3.1 | Total agreed funding (US $) | 195,000 | | 65,000 | | | 69,000 | | | | 37,000 | 366,000 |
| 3.2 | Total support cost (US $) | 25,350 | | 8,450 | | | 8,970 | | | | 4,810 | 47,580 |
| 3.3 | Total agreed costs (US $) | 220,350 | | 73,450 | | | 77,970 | | | | 41,810 | 413,580 |
| 4.1.1 | Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes) | | | | | | | | | | | 0.5* |
| 4.1.2 | Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes) | | | | | | | | | | | 0 |
| 4.1.3 | Remaining eligible consumption for HCFC-22 (ODP tonnes) | | | | | | | | | | | 0.85 |

*Additional 0.54 ODP tonnes to be achieved under the investment component

## APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval not earlier than the last meeting of the year specified in Appendix 2-A.

## APPENDIX 4-A: FORMAT OF TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plan will consist of five parts:

   (a) A narrative report regarding the progress in the previous tranche, reflecting on the situation of the Country in regard to phase out of the Substances, how the different activities contribute to it and how they relate to each other. The report should further highlight successes, experiences and challenges related to the different activities included in the Plan, reflecting on changes in the circumstances in the Country, and providing other relevant information. The report should also include information about and justification for any changes vis-à-vis the previously submitted tranche plan, such as

delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes. The narrative report will cover all relevant years specified in sub-paragraph 5(a) of the Agreement and can in addition also include information about activities in the current year;

(b) A verification report of the HPMP results and the consumption of the Substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in sub-paragraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;

(c) A written description of the activities to be undertaken in the next tranche, highlighting their interdependence, and taking into account experiences made and progress achieved in the implementation of earlier tranches. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall plan foreseen. The description should cover the years specified in sub-paragraph 5(d) of the Agreement. The description should also specify and explain any revisions to the overall plan which were found to be necessary;

(d) A set of quantitative information for the report and plan, submitted into a database. As per the relevant decisions of the Executive Committee in respect to the format required, the data should be submitted online. This quantitative information, to be submitted by calendar year with each tranche request, will be amending the narratives and description for the report (see sub-paragraph 1(a) above) and the plan (see sub-paragraph 1(c) above), and will cover the same time periods and activities; it will also capture the quantitative information regarding any necessary revisions of the overall plan as per sub-paragraph 1(c) above. While the quantitative information is required only for previous and future years, the format will include the option to submit in addition information regarding the current year if desired by the Country and the Lead IA; and

(e) An Executive Summary of about five paragraphs, summarizing the information of above sub-paragraphs 1(a) to 1(d).

**APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES**

1. The overall monitoring will be the responsibility of NOU, Ministry of Industries.

2. The consumption will be monitored based on data collected from relevant government departments and crosschecking it with data collected from the distributors and consumers.

3. The NOU will be responsible for reporting and shall submit the following reports in a timely manner:

(a) Annual reports on consumption of Substances to be submitted to the Ozone Secretariat;

(b) Annual reports on progress of implementation of this Agreement to be submitted to the Executive Committee of the Multilateral Fund; and

(c) Project-related reports to the Lead IA.

**APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY**

1. The Lead IA will be responsible for a range of activities. These can be specified in the project document further, but include at least the following:

(a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's phase-out plan;

(b) Assisting the Country in preparation of the Tranche Implementation Plans and subsequent reports as per Appendix 4-A;

(c) Providing verification to the Executive Committee that the Targets have been met and associated annual activities have been completed as indicated in the Tranche Implementation Plan consistent with Appendix 4-A;

(d) Ensuring that the experiences and progress is reflected in updates of the overall Plan and in future Tranche Implementation Plans consistent with sub-paragraphs 1(c) and 1(d) of Appendix 4-A;

(e) Fulfilling the reporting requirements for the tranches and the overall Plan as specified in Appendix 4-A as well as project completion reports for submission to the Executive Committee. The reporting requirements include the reporting about activities undertaken by the Cooperating IA;

(f) Ensuring that appropriate independent technical experts carry out the technical reviews;

(g) Carrying out required supervision missions;

(h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;

(i) Co-ordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;

(j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the Cooperating IAs, the allocation of the reductions to the different budget items and to the funding of each implementing or bilateral agency involved;

(k) Ensuring that disbursements made to the Country are based on the use of the indicators; and

(l) Providing assistance with policy, management and technical support when required.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent organization to carry out the verification of the HPMP results and the consumption of the Substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement and sub-paragraph 1(b) of Appendix 4-A.

## APPENDIX 6-B: ROLE OF COOPERATING IMPLEMENTING AGENCY

1. The Cooperating IA will be responsible for a range of activities. These activities can be specified in the respective project document further, but include at least the following:

(a) Providing policy development assistance when required;

(b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the Lead IA to ensure a co-ordinated sequence in the activities; and

(c) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A.

## APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US $180 per ODP kg of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met.

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