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Distr.
LIMITED

UNEP/OzL.Pro/ExCom/29/54
29 October 1999
CHINESE
ORIGINAL: ENGLISH

执行蒙特利尔议定书
多边基金执行委员会
第二十九次会议
1999年11月24日至26日，北京

国家方案：缅甸

本文件载有：

- 国家方案评价表（基金秘书处编制）
- 基金秘书处的评论和建议
- 缅甸政府的送文函
- 国家方案简介
- 国家方案（执行摘要）

缅甸国家方案评价表

全国环境事务委员会全国臭氧单位

《维也纳公约》和《蒙特利尔议定书》批准情况

签字	批准	生效
《维也纳公约》（1985）	1993 年 11 月 24 日	1994 年 2 月 22 日
《蒙特利尔议定书》（1987）	1993 年 11 月 24 日	1994 年 2 月 22 日
《伦敦修正案》（1990）	1993 年 11 月 24 日	1994 年 2 月 22 日
《哥本哈根修正案》（1992）		

受管制物质生产情况：不生产任何受管制物质

受管制物质消耗情况（1998 年）：52.3 公吨
52.3 加权吨（ODP）

吨数	CFC-1 1	CFC-1 2	CFC-11 3	CFC-11 4	CFC-11 5	共计	哈 1211	龙 1301	哈 龙	共计	CTC	MCF	共计	甲基溴
ODS		52.3				52.3								
ODP		52.3				52.3								

不同物质的 ODP 所占比例：CFC 100.0% 哈龙 CTC 和 MCF 甲基溴

各行业的 ODP 所占比例：气雾剂 泡沫塑料 哈龙 制冷 溶剂 其他 甲基溴
耗量（ODP 吨）0.0 0.0 0.0 52.3 0.0 0.0 0.0
所占百分比：100.0% 0.0

国家方案

国家方案期限：8 年（2000—2007）

ODS 停用目标：在 2005 年之前把各类 CFC 耗量减少 50%；在 2009 年之前实现全部停用

优先停用领域：制冷设备维修行业

国家方案活动所需费用：223,700 美元

战略：

该国政府的战略旨在尽量保持现有的大量 ODS 设备，直至其完成使用寿命。政府将制订适当的法律和管制措施，以便使 ODS 用户具备保护臭氧层的意识；考虑采取财务鼓励措施和/处罚措施，只要不因促进停用活动而对国库造成过重负担，这些措施包括在 1999 年底之前禁止进口 ODS 制冷设备和空调设备，制订一个证明冰箱和商用制冷设备为低 ODS 或无 ODS 设备并加以标识的计划；针对 ODS 制冷和空调设备的维修传播关于无须改造设备的低 ODP 混合配方和零 ODP 物质的信息；从 2004 年开始鼓励采用 ODS 替代物（如果可以通过商业渠道获得）重新装灌 ODS 家用冰箱和商用制冷设备。

基金秘书处的评论和建议

评论

1. 缅甸在 1998 年的 ODS 总耗量为 52.3 ODP 吨，主要是用于维修家用和商用制冷设备以及汽车空调机的 CFC-12。1995—1997 年期间的附件 A 所列物质计算年耗量是用以确定缅甸是否遵守《蒙特利尔议定书》的基准耗量，为 54.3 吨。已经把在编制国家方案期间收集的 ODS 耗量数据转交臭氧秘书处。
2. 缅甸国内的制冷设备包括 37,000 多台家用冰箱和小型商用冰箱及冰柜，并包括大约 45,000 辆安装有空调机的汽车。该国唯一的冰箱制造厂家是 Myanmar Daewoo Electronics Company Limited，总生产能力为每年 10,000 台。该公司是工业部和韩国大宇公司的合资企业，在缅甸有 23 个销售点和 2 个维修站。生产的冰箱装灌 CFC-12 制冷剂，公司于 1997 年进口了 1,430 公斤这样的制冷剂。在生产这些冰箱时采用的发泡剂是玻璃纤维或聚氨酯泡沫塑料，是在韩国加入，然后由缅甸进口用于冰箱制造。冰箱的销售量预计将在今后几年内高速增长。
3. 在仰光和曼德勒有大约 30 家维修厂，主要维修汽车空调机和家用冰箱。此外，还有一些制冷和空调设备的小型维修站。大型的机构拥有自己的即时，但也借助于外部维修厂。缅甸没有对维修厂家进行登记或颁发许可的制度。多数技师是在工作中得到训练，没有任何关于维修制冷设备的正式培训。但是，该国设有就制冷设备的运行和维修提供培训的技术学院。
4. 国家方案包括一个在全国环境事务委员会内设立全国臭氧办公室的项目（体制建设）。缅甸政府申请为这个项目提供总共 76,000 美元的执行经费。基金秘书处关于这项申请的评论和建议载于环境规划署的工作方案修正案(UNEP/OzL.Pro/ExCom/29/21)。
5. 本国家方案还申请编制一项制冷剂管理计划。缅甸政府申请为这个项目提供总共 30,000 美元的执行经费。基金秘书处关于这项申请的评论和建议载于 UNEP/OzL.Pro/ExCom/29/21 号文件。

建议

基金秘书处建议如下：

1. 核准缅甸的国家方案。核准该国家方案并不意味着核准其中提出的项目或项目经费数额。
2. 请缅甸政府根据执行委员会关于国家方案执行问题的决定（UNEP/OzL.Pro/ExCom/10/40，第 135 段），每年向执委会报告国家方案的执行情况。第一次报告所涉期间为 1999 年 12 月 1 日至 2000 年 12 月 31 日，应采用核准的格式提交基金秘书处，提交日期最迟不得晚于 2001 年 5 月 1 日。

Country Programme Cover Sheet

Country : The Union of Myanmar

Date received :

Lead National Agency :

The National Commission for Environmental Affairs

Period covered by Country Programme:

1997 - 2010

Lead Implementation Agency : United Nations Environment Programme

1. Phaseout Schedule

Substances	Current Consumption in ODP tonnes in 1998	Planned total consumption till phase- out (ODP tonnes)	Planned year of phaseout
CFC-11	-	7.200	2009
CFC-12	52.257	396.337	2009
CFC-115	-	0.114	2007
Total	52.257	403.651	

Government Action Plan

Sector	Action	Timing	Intended effect
All	Institutional Strengthening by establishing a National Ozone Cell.	Aug, 1999	Build capability to implement Country Program for phase out.
	Collect and disseminate information on ODS alternatives	Aug, 1999	Increase public awareness and availability of information on technical options.
Refrigeration and air-conditioning	Develop and implement a Refrigeration Management Plan	Sept, 1999 – 2001	Enhanced capacity of technicians and customs officials, better servicing practices, reductions in emissions. Expected savings due to RMP is 47.5 MT between 2000 – 2010.
Domestic refrigerators	Ban on imports of ODS based refrigerators.	December 1999	Reductions in future charge.
	Ban on the production of ODS based domestic refrigerators.	January, 2001	Reduction in initial and recharge consumption. Expected savings due to ban/ discontinuing production is 130.70 MT between 2000 – 2010.
	Encourage recharging ODS based domestic refrigerators by using ODS substitutes.	January, 2004	Reduction in recharge consumption. Expected savings is 12.30 MT between 2000 – 2010.
Commercial refrigeration equipment	Ban on imports of ODS based commercial refrigeration equipment.	December, 1999	Reductions in future charge. Expected savings due to ban/ discontinuing production is 2.76 MT between 2000 – 2010.
	Encourage recharging ODS		Reduction in recharge consumption.

Sector	Action	Timing	Intended effect
	based equipment by using ODS substitutes.	As and when commercially available	Expected savings is 0.03 MT between 2000 – 2010.
Industrial refrigeration equipment	Ban on installation of ODS based industrial refrigeration equipment. Retrofit of centrifugal chillers	December, 1999 January, 2006	Reductions in future recharge. Expected savings is 21.50 MT between 2000 – 2010. Reduction in recharge. Expected savings is 1.55 MT between 2000 – 2010.
Mobile Air-conditioners	Ban on import of vehicles fitted with ODS based air-conditioners / ODS based compressors Ban on use of ODS based air-conditioners in vehicles	December, 1999 January, 2004	Reductions in future charge. Eliminate the consumption of ODS. Expected savings due to ban/ discontinuing imports of ODS based A/Cs is 466.7 MT between 2000 – 2010.

3. Project Summary

<i>Name of Project</i>	Date	Estimated Cost (US\$)	Amount Requested from Fund (US\$)
Institutional Strengthening (UNEP)	1999 – 2001	84,000	76,000
Development of Refrigeration Management Plan (UNEP)	1999	30,000	30,000
Conversion of manufacturing facility of domestic refrigerators (Daewoo Electronics) from ODS based to non-ODS based equipment		To be developed in consultation with an Implementing Agency	
TOTAL		114,000	106,000

Note: The above costs are estimated based on the Cost Effectiveness Guidelines given under the Protocol. NCEA is in the process of identifying other potential projects for phaseout of ODSs.

4. Costs

Cost of activities and projects in Country programme USD 114,000

Estimated costs of complete phaseout USD 223,700

(Note : The above costs does not include the costs of training, related equipment and recovery & recycling related costs)

Estimated cost effectiveness USD 1.48/kg

EXECUTIVE SUMMARY

The Union of Myanmar (Myanmar) acceded to the Vienna convention for the Protection of the Ozone Layer and the Montreal Protocol in November, 1993 and qualifies as an Article 5 country based on its per capita consumption, which was less than 0.01 kg per capita in 1995.

In order to comply with the provisions of the Protocol, the Government of the Union of Myanmar has formulated a Country Programme with financial assistance from the Multilateral Fund and technical assistance of UNEP. This Country Programme provides data on consumption and usage of ODSs in the country and expresses the commitment of the Government to phaseout use of ODSs in terms of a defined strategy, actions by Government and Industry and projects which would require assistance from the Multilateral Fund. The National Commission for Environmental Affairs (NCEA) played a lead role in formulating the Country Programme.

Myanmar does not produce ODSs and imports these substances from countries like Singapore, United Kingdom, India, China etc. The ODSs imported by the country include CFC-11, CFC-12 and R-502. There are four large importers importing these substances for subsequent distribution. Besides the above importers, the large users such as the refrigerator manufacturer directly import ODSs for their use.

The ODSs are used predominantly in the Refrigeration and air-conditioning (RAC) sector in Myanmar. In RAC sector, about 85% of the ODSs are used in the Mobile Air-Conditioners (MACs). The consumption in this sector includes both consumption as initial charge for new equipment and consumption for recharge of MACs fitted in second hand cars imported in large numbers in the last three years. The end use consumption of ODSs has seen an increase in the recent past due to the general opening up of the economy of the country and growth consequent thereon.

Table 1 shows the consumption of ODSs in Myanmar based on the on the imports in 1997.

Substance	All figures are in MT					
	Production	Imports	Exports	Consumption	ODP	ODP Tonnes
Annexure A Group I						
CFC-11	-	-	-	-	1	-
CFC-12	-	54.790	-	54.790	1	54.790
CFC-115	-	-	-	-	0.6	-
Total		54.790		54.790		54.790

Source: Survey report.

Note : The consumption of Methyl Bromide and HCFC-22 in the year 1997 is 16.00 MT and 48.05 MT, respectively.

The ODS consumption under unconstrained scenario is expected to grow from about 48 MT in 1997 to 113 MT by 2010.

The Government of Myanmar is committed to phaseout of ODSs under Annex A Group I of the Montreal Protocol in accordance with the timeframe defined under the Protocol. As the country is totally dependent on imports of ODSs as well as a significant proportion of appliances/equipment using ODSs, the phaseout strategies will be determined by forces within and outside the country. The phaseout strategy will also take into consideration minimum cost to the consumer, thus keeping the large stock of the assets serviceable till the end of their useful life.

The imports of ODSs would be monitored and controlled by the Ministry of Commerce along with the Customs Department. Ministry of Science and Technology would undertake the monitoring of end-uses, dissemination of information on technical alternatives and coordinating training of technicians. The other Ministries will also play their role, which will be in accordance with specific steps required for Country Programme implementation.

Based on this strategy, the country expects to achieve a gradual phaseout of ODSs in the given timeframe. The actions need to be implemented by the country with immediate effect in order to comply with the time based phaseout pattern defined under the Protocol.