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执行蒙特利尔议定书
多边基金执行委员会
第四十四次会议
2004年11月29日至12月3日，布拉格

加工剂：缔约方会议 X/14 和 XV/7 号决定的执行情况

导言/背景

1. 在 X/14 号决定 (附件一)中, 缔约方特别指出, 执行委员会可以考虑采用一系列选择方案, 以便把受控物质由于第 5 条缔约方在使用加工剂过程中产生的排放减少到“执行委员会同意的、以成本效益的方式可以合理实现的水平, 而不需要草率地放弃一些基础设施”。采取包括工艺转换、工厂关闭、排放控制技术 & 工业合理化等在内的措施的目的, 就是为了把受控物质的排放量减少到上述水平。包含这一系列措施的增支成本必须按照多边基金执行委员会的规则和指导方针具备接受资助的资格。X/14 号决定中的第三段还授权执行委员会同意上述的“可以合理实现的”排放水平。在此基础上, 如果排放限制在执行委员会同意的“可以合理实现的”水平上, 把受控物质作为加工剂使用将不会被当作第 5 条国家的消费。执行委员会因此对加工剂项目采取了框架性指导方针/一般性原则, 执行委员会将依据这样的原则考虑为停止使用加工剂的增支成本提供资金。(第 27/28 号决定, 附件二)

2. 执行委员会目前已经批准了 13 个单个项目, 以便淘汰作为加工剂使用的 1,214 ODP 吨四氯化碳的消费, 总费用为 5,192,304 美元 (附件三)。为完全消除四氯化碳的使用, 所有的单个项目都进行了工艺转换, 这样就避开了具体列明可接受残留物排放水平的要求。三个多年期四氯化碳淘汰计划 (中国、朝鲜民主主义人民共和国和印度) 已经原则上得到批准, 并已开始进行年度供资。朝鲜民主主义人民共和国和印度的四氯化碳淘汰计划也设想改变所有应用四氯化碳的工艺, 不留下任何剩余消费。中国的四氯化碳淘汰计划设想对目前四氯化碳的两项应用进行排放控制。但是所建议的技术和预计最终排放额的详细情况将在执行项目的后期公布, 详细情况现在无法得到。

3. 在 XV/7 号决定 (附件四) 中, 全体缔约方要求被批准使用加工剂的第 5 条缔约方向执行委员会报告减少加工剂使用中受控物质的排放方面的进展情况, 以及不使用消耗臭氧层物质的减少排放技术和替代工艺的落实和开发情况。全体缔约方还要求技术和经济评估小组和执行委员会在第二十五次会议 (2005 年年中) 上向不限成员名额工作组就同一议题进行报告。

4. X/14 号决定还要求第 5 条缔约方对加工剂应用 (即, 包含在 XV/6 号决定 (附件四) 和 XV/7 号决定批准的列表中所述的应用) 中使用的消耗臭氧层物质数量向臭氧秘书处进行报告。臭氧秘书处正在收取第 5 条缔约方就加工剂应用中使用的四氯化碳数量提出的报告, 并就下列问题征询了基金秘书处的意见: 执行委员会是否就 X/14 号决定第 3 段中规定的可以合理实现的排放水平得出了任何结论。

第 5 条各国的消费水平

5. 13 个第 5 条国家已经通过向基金秘书处提交国家方案执行情况进度报告的方式提供了加工剂行业国家消费方面的资料 (详细情况在附件五中)。消费主要是四氯化碳, 但一些 CFC-113 也与很少量的甲基氯仿一起被报告。所提供的有关中国、朝鲜民主主义人民共和国和印度的信息很容易理解, 因为这些国家已经与执行委员会缔结了国家四氯化碳淘汰协定。对于另外 9 个国家, 个别的加工剂应用没有具体列明, 因此也就不能确定所有的这些报告用途是否有资格获得资金。一些国家必须进一步澄清实际的使用情况。

将采取的行动

6. 秘书处告知臭氧秘书处，由于执行委员会还没有详细地审议含有排放减少技术在内的项目，委员会也就没有机会审议 X/14 号决定所规定的可以合理实现的减少水平。在这方面，秘书处指出，对于目前已经审议过的项目，转换前的排放水平与相关企业所报告的四氯化碳消费总额相当。
7. 由于执行委员会（以及技术和经济评估小组）被要求于 2005 年年中的第二十五次会议向不限成员名额工作组进行报告，秘书处建议于 2005 年年初根据 XV/7 号决定，要求第 5 条国家提供相关资料，并拟写一份报告草稿，供执行委员会第四十五次大会审议。
8. 中国国家四氯化碳淘汰计划 2005 年度方案（UNEP/OzL.Pro.44/33 号文件）包括一份中国的应用报告，其中建议通过部分地减少排放来减少四氯化碳的消费。然而，对于 X/14 号决定中的要求，这只是一个部分的或第一步的解决办法。在设想的数量级的排放水平达到被认为属于该决定所述的可以合理实现的范围之前，在执行行业计划中的稍后阶段需要采取进一步的措施。因此，行业计划中的措施在目前阶段与执行 X/14 号决定无关。
9. 关于减少加工剂使用中的排放水平的全部问题在技术上非常复杂。为了保证报告草稿全面地并在技术上都包括了各方要求解决的各种问题，秘书处必须考虑聘请专业咨询机构来帮助收集和分析信息。
10. 谨提请执行委员会注意以上的内容，并对可能采取的行动提供它认为相关的任何指导，以便查明第 5 条国家根据 X/14 号决定第 3 段在加工剂的使用方面可以合理实现的排放水平。

Annex I

Decision X/14: Process Agents

Noting with appreciation the report of the Technology and Economic Assessment Panel and the Process Agent Task Force in response to Decision VII/10,

Noting the findings of the Technology and Economic Assessment Panel that emissions from the use of ozone-depleting substances as process agents in non-Article 5 Parties are comparable in quantity to the insignificant emissions of controlled substances from feedstock uses, and that yet further reductions in use and emissions are expected by 2000,

Noting also the Technology and Economic Assessment Panel's findings that emissions from the use of controlled substances as process agents in countries operating under Article 5, paragraph 1, are already significant and will continue to grow if no action is taken,

Recognizing the usefulness of having the controlled substances produced and used as process agents clearly delineated within the Montreal Protocol,

1. That, for the purposes of this decision, the term "process agents" should be understood to mean the use of controlled substances for the applications listed in table A below;
2. For non-Article 5 Parties, to treat process agents in a manner similar to feedstock for 1998 and until 31 December 2001;
3. That quantities of controlled substances produced or imported for the purpose of being used as process agents in plants and installations in operation before 1 January 1999, should not be taken into account in the calculation of production and consumption from 1 January 2002 onwards, provided that:
 - (a) In the case of non-Article 5 Parties, the emissions of controlled substances from these processes have been reduced to insignificant levels as defined for the purposes of this decision in table B below;
 - (b) In the case of Article 5 Parties, the emissions of controlled substances from process-agent use have been reduced to levels agreed by the Executive Committee to be reasonably achievable in a cost-effective manner without undue abandonment of infrastructure. In so deciding, the Executive Committee may consider a range of options as set out in paragraph 5 below;

4. That all Parties should:
 - (a) Report to the Secretariat by 30 September 2000 and each year thereafter on their use of controlled substances as process agents, the levels of emissions from those uses and the containment technologies used by them to minimize emissions of controlled substances. Those non-Article 5 Parties which have still not reported data for inclusion in tables A and B are urged to do so as soon as possible and in any case before the nineteenth meeting of the Open Ended Working Group;
 - (b) In reporting annual data to the Secretariat for 2000 and each year thereafter, provide information on the quantities of controlled substances produced or imported by them for process-agent applications;
5. That the incremental costs of a range of cost-effective measures, including, for example, process conversions, plant closures, emissions control technologies and industrial rationalization, to reduce emissions of controlled substances from process-agent uses in Article 5 Parties to the levels referred to in paragraph 3 (b) above should be eligible for funding in accordance with the rules and guidelines of the Executive Committee of the Multilateral Fund;
6. That the Executive Committee of the Multilateral Fund should, as a matter of priority, strive to develop funding guidelines and begin to consider initial project proposals during 1999;
7. That Parties should not install or commission new plant using controlled substances as process agents after 30 June 1999, unless the Meeting of the Parties has decided that the use in question meets the criteria for essential uses under decision IV/25;
8. To request the Technology and Economic Assessment Panel and the Executive Committee to report to the Meeting of the Parties in 2001 on the progress made in reducing emissions of controlled substances from process-agent uses and on the implementation and development of emissions-reduction techniques and alternative processes not using ozone-depleting substances and to review tables A and B of the present decision and make recommendations for any necessary changes.

(Tables A and B not reproduced)

Annex II

Process agents: implementation of decision X/14 (paragraphs 3, 5, and 6) of the Tenth Meeting of the Parties

109. Having taken note of the comments and recommendations of the Sub-Committee on Project Review (UNEP/OzL.Pro/ExCom/27/13, paras. 122-126), including the draft Framework Guidelines/Broad Principles for Process Agent Projects proposed by the Sub-Committee for adoption by the Executive Committee (UNEP/OzL.Pro/ExCom/27/13, para. 124), the Executive Committee decided:

- (a) That initial implementation of decision X/14 could proceed using the parallel approach outlined in document UNEP/OzL.Pro/ExCom/27/40;
- (b) To adopt the draft Framework Guidelines/Broad Principles for Process Agent Projects proposed by the Sub-Committee on Project Review, as contained in annex III to the present report;
- (c) That, on the basis of the broad principles that have been agreed, Implementing Agencies could submit a limited number of projects conforming to the agreed broad principles, for consideration at the Twenty-eighth Meeting;
- (d) To note, as additional projects were considered and approved, a body of information on cost-effectiveness, emissions limits, and other requirements concerning eligibility and the determination of incremental costs would emerge. This information could form the basis for the Executive Committee to report to the Parties on emissions limits (for the purposes of administering decision X/14) and for the possible development at a later stage of more detailed guidelines for each of the process agent applications listed in the decision.

(Decision 27/78)

Annex III

Process agent phase-out projects approved by the Executive Committee

Country	Agency	Project Title	ODP To Be Phased Out	Date Approved	Total Funds Approved
Individual projectst					
India	IBRD	Phase-out of use of carbon tetrachloride as process agent in the production of endosulphan by Excel Industries Limited	375.0	Jul-99	366,000
India	UNIDO	Conversion of carbon tetrachloride as process solvent to ethylene dichloride at Satya Deeptha Pharmaceuticals Ltd., Humnabad	27.9	Dec-00	260,133
India	UNIDO	Conversion of carbon tetrachloride as process solvent to trichloromethane at M/S Alpha Drugs India Ltd., Patiala	69.7	Dec-00	145,505
India	UNIDO	Conversion of carbon tetrachloride as process solvent to ethylene dichloride at Svis Labs Ltd., Ranipet	54.2	Dec-00	249,463
India	UNIDO	Conversion of carbon tetrachloride as process solvent to ethylene dichloride at Doctors Organic Chemicals Ltd., Tanuku	94.6	Dec-00	288,180
India	UNIDO	Conversion of carbon tetrachloride as process agent to monochlorobenzene at M/S Benzo Chemical Industries, Tarapore	23.0	Jul-01	136,786
India	UNIDO	Conversion of carbon tetrachloride as process agent to monochlorobenzene at Pradeep Shetye Ltd., Alibagh	133.9	Jul-01	279,001
India	UNIDO	Conversion of carbon tetrachloride as process agent to ethylene dichloride at Chiplun Fine Chemicals Ltd., Ratnagiri	16.7	Jul-01	155,830
India	UNIDO	Conversion of carbon tetrachloride as process agent to monochlorobenzene at FDC Limited, Roha	34.1	Jul-01	238,371
India	UNIDO	Conversion of carbon tetrachloride as process agent to monochlorobenzene at GRD Chemicals Ltd., Indore, M.P.	17.9	Jul-01	127,667
India	IBRD	Conversion of chlorinated rubber manufacture from carbon tetrachloride to non-ODS process at Rishirop Organics Pvt. Ltd.	248.8	Jul-01	2,074,300
India	UNIDO	Conversion of carbon tetrachloride as process agent to cyclohexane at Amoli Organics Limited, Mumbai	38.5	Dec-01	385,367
Pakistan	UNIDO	Conversion of carbon tetrachloride as process solvent to 1,2-dichloroethane at Himont Chemicals Ltd.	80.0	Dec-01	485,701
Sector plans					
China	IBRD	Phase out the production and consumption of CTC for process agent and other non-identified uses (phase I)		Nov 02	65,000,000
India	IBRD/France/ Germany/ Japan	CTC phase-out plan for the consumption and production sectors		Jul-03	52,000,000
Korea, DPR	UNIDO	Plan for terminal phase-out of CTC		Dec-03	5,684,844

Annex IV

Decision XV/6. List of uses of controlled substances as process agents

The Parties to the Montreal Protocol decided: to adopt the following uses of controlled substances as a revised table A for decision X/14:

Table: List of uses of controlled substances as process agents

No.	Process agent application	Substance
1.	Elimination of NCl_3 in the production of chlorine and caustic	CTC
2.	Recovery of chlorine in tail gas from production of chlorine	CTC
3.	Manufacture of chlorinated rubber	CTC
4.	Manufacture of endosulphan (insecticide)	CTC
5.	Manufacture of isobutyl acetophenone (ibuprofen – analgesic)	CTC
6.	Manufacture of 1-1, bis (4-chlorophenyl) 2,2,2- trichloroethanol (dicofol insecticide)	CTC
7.	Manufacture of chlorosulphonated polyolefin (CSM)	CTC
8.	Manufacture of poly-phenylene-terephthal-amide	CTC
9.	Manufacture of fluoropolymer resins	CFC-113
10.	Manufacture of fine synthetic polyolefin fibre sheet	CFC-11
11.	Manufacture of styrene butadiene rubber	CTC
12.	Manufacture of chlorinated paraffin	CTC
13.	Photochemical synthesis of perfluoropolyetherpolyperoxide precursors of Z-perfluoropolyethers and difunctional derivatives	CFC-12
14.	Reduction of perfluoropolyetherpolyperoxide intermediate for production of perfluoropolyether diesters	CFC-113
15.	Preparation of perfluoropolyether diols with high functionality	CFC-113
16.	Bromohexine hydrochloride	CTC
17.	Diclofenac sodium	CTC
18.	Phenyl glycine	CTC
19.	Production of Cyclodime	CTC
20.	Production of chlorinated polypropene	CTC
21.	Production of chlorinated EVA	CTC
22.	Production of methyl isocyanate derivatives	CTC
23.	Production of 3-phenoxy benzaldehyde	CTC
24.	Production of 2-chloro-5-methylpyridine	CTC
25.	Production of Imidacloprid	CTC
26.	Production of Bupropfenzin	CTC
27.	Production of Oxadiazon	CTC
28.	Production of chloradized N-methylaniline	CTC
29.	Production of Mefenacet	CTC
30.	Production of 1,3- dichlorobenzothiazole	CTC
31.	Bromination of a styrenic polymer	BCM (bromochloro-methane)

Decision XV/7. Process agents

The Parties to the Montreal Protocol decided:

1. To note that decision X/14 called on the Technology and Economic Assessment Panel and the Executive Committee to review the list of process agent uses in table A of that decision, and to make appropriate recommendations for changes to the table;
2. To note that several Parties are submitting requests to have certain uses reviewed by the Technology and Economic Assessment Panel for inclusion in table A of decision X/14 as process-agent uses;
3. To request the Technology and Economic Assessment Panel to review requests for consideration of specific uses against decision X/14 criteria for process agents, and make recommendations to the Parties annually on uses that could be added to or removed from table A of decision X/14;
4. To remind Article 5 Parties and non-Article 5 Parties with process-agent applications listed in table A to decision X/14, as revised, that they shall report in accordance with paragraph 4 of decision X/14 on the use of controlled substances as process agents, the levels of emissions from those uses, and the containment technologies used by them to minimize emissions. In addition, Article 5 Parties with listed uses in table A, as revised, shall report to the Executive Committee on progress in reducing emissions of controlled substances from process-agent uses and on the implementation and development of emissions-reduction techniques and alternative processes not using ozone-depleting substances;
5. To request the Technology and Economic Assessment Panel and the Executive Committee to report to the Open-ended Working Group at its twenty-fifth session, and every other year thereafter unless the Parties decide otherwise, on the progress made in reducing emissions of controlled substances from process-agent uses and on the implementation and development of emissions-reduction techniques and alternative processes not using ozone-depleting substances;
6. To note that, because the 2002 report of the Technology and Economic Assessment Panel lists the process-agent applications in the table below as having non-negligible emissions, those applications are to be considered process-agent uses of controlled substances in accordance with the provisions of decision X/14 for 2004 and 2005, and are to be reconsidered at the Seventeenth Meeting of the Parties based on information reported in accordance with paragraph 4 of the present decision and paragraph 4 of decision X/14;

7. To note that, because the two uses of controlled substances at the end of the table below were submitted to the Technology and Economic Assessment Panel but not formally reviewed, those applications are to be considered process-agent uses of controlled substances in accordance with the provisions of decision X/14 for 2004 and 2005, and are to be reconsidered at the Seventeenth Meeting of the Parties based on information reported in accordance with paragraph 4 of the present decision and paragraph 4 of decision X/14;

Annex V**Consumption in the process agent sector as reported to the Fund Secretariat by Article 5 countries in annual reports on progress with implementation of country programmes**

Country	Chemical	Sector Consumption ODP tonnes	Year
Brazil	CTC	68.38	2003
China	CFC-113	17.11	2003
China	CTC	20,014.36	2003
Ecuador	TCA	2.27	2003
Egypt	CFC-12	51.00	2003
India	CFC-113	23.58	2002
India	CTC	2,065.80	2002
Korea, DPR	CTC	731.50	2003
Mali	TCA	0.20	2002
Mexico	CFC-113	26.40	2003
Oman	CTC	0.099	2003
Oman	TCA	0.003	2003
Pakistan	CTC	88.00	2003
Romania	CTC	157.30	2003
Sri Lanka	CTC	16.65	2003
Sudan	CTC	1.10	2003