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执行蒙特利尔议定书
多边基金执行委员会
第四十三次会议
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多边基金在研究 HCFC 淘汰活动的管理问题方面的责任
以及为获得此种供资可能需要的资格

(第 42/7(b)号决定)

政策文件

多边基金在研究 HCFC 淘汰活动的管理问题方面的责任 以及为获得此种供资可能需要的资格

德国政府通过联合王国代表团提交执行委员会

讨论的历史背景和本文件的任务规定

1. 德国提交了一份题为“为在中国长期管理 HCFC-22 和其他 HCFC 制定一项适当战略”（中国 HCFC 管理问题研究）的项目提案。该项目提议为中国的 HCFC 长期管理制订一项战略。
2. 多边基金秘书处在提交执行委员会的筹备文件¹中指出，执委会从未核准过这样的项目；多边基金政策明确规定，不为淘汰 HCFC 和改用非 ODS 物质的第二阶段工业改造活动提供经费；技术和经济评估小组的“2003--2005 年多边基金资金补充所需资金评估报告”也没有把为有关 HCFC 的活动提供的经费包括在内。此外，有文件²指出，指示性增支费用清单并不包括政策或体制支助活动，尽管可以把这个项目提案视为属于项目(c)(三)，即最后用途：为减少消耗臭氧层物质的消费量和意外排放量提供技术援助的经费。
3. 执行委员会就这个项目提案进行了深入的内部讨论，并为此举行了一次非正式小组会议。执行委员会的报告指出：“虽然某些代表担心地指出，根据多边基金的规则，所提交的提案在当前不符合供资条件，而且如果得到核准，可能被人们看作为核准类似项目树立了一个先例，但其他代表认为，提议的研究将提供有用的信息，以帮助中国和其他第 5 条国家国家管理 HCFC 的使用。代表们指出，鉴于最终必须淘汰 HCFC 的使用，关于各种国内政策选择的研究很重要，将有助于各国淘汰这类物质”。
4. 执行委员会注意到，一些代表对关于 HCFC 淘汰活动管理工作的研究是否符合供资条件表示了不同看法，从而决定：
 - (a) 请德国政府考虑到执行委员会第四十二次会议期间的非正式小组会议就多边基金能否资助 HCFC 淘汰管理的研究所表达的不同看法，并考虑到通过电子邮件向德国的双边执行机构 GTZ-Proklima 提出的进一步看法和意见，但条件是应于执行委员会第四十三次会议前 10 周提出这些看法和意见；以及
 - (b) 还请德国政府通过联合王国代表团向多边基金散发关于多边基金的责任和这一研究可能需要的资格规定的政策文件，并修订项目提案，以提交执行委员会第四十三次会议，供其用作审议依据。

¹ UNEP/OzL.Pro/ExCom/42/7，第 35 段和 UNEP/OzL.Pro/ExCom/42/16，第 5 段。

² UNEP/OzL.Pro/ExCom/42/16。

5. 本文件即是执委会第 42/7 号决定要求提交的政策文件。

对中国 HCFC 管理工作进行研究的目的是

6. 关于中国 HCFC 管理工作的研究将提供依据来制订 HCFC 管理政策，并向中国政府提出各种不同的备选政策。制订政策的依据是根据各种用途以及中国的具体社会、经济和气候条件对各种不同技术选择（限制技术、替代技术等等）的供应情况和适当性进行一次评估。为此，需要在中国的不同地区进行大量的数据收集工作，并需要进行由上至下和由下至上的数据收集和比较。

7. 将作为这项战略的一部分所制订的政策是为了使中国政府得以管理技术和经济评估小组所预测的 HCFC 消费量的增加，并随后实行一项政策，鼓励用户在陈旧的 HCFC 设备（例如发泡机、空调设备等等）使用寿命结束时将其换成无 ODS 设备，从而逐步淘汰 HCFC。与 HCFC 设备的使用寿命相比，HCFC 的供应尚有剩余，因此，这样一项战略在《蒙特利尔议定书》下首次具有了可行性，将免除改造设备的必要，从而把第 5 条国家的技术改造费用降到最低限度。

8. 将在本项目结束时编写一份个案研究报告，在其中提出收集的资料和得到的经验教训。这次个案研究的开展方式将确保使其报告能够供今后的类似活动参考。

就该项目提案所涉政策问题举行的讨论

总方针

9. 在多边基金历史上，大多数项目都是为了通过改造使用 ODS 的设备，或通过培训等等这样的措施，来减少 ODS 消费量，并支持以负责任的方式使用 ODS 和采用替代技术。鉴于在 2040 年之前的很长时期内仍有 HCFC 供应，人们普遍同意，可以把这种物质用作可以容易地使用并具有成本效益的临时替代物质，以帮助迅速淘汰各类 CFC，但条件是，受援者理解并同意，多边基金将不为淘汰 HCFC 的第二阶段改造工作提供费用。

10. 近年来，若干第 5 条国家的经济情况大大好转，从而使其投资于新的制造设备。与每一种经济环境一样，在选择技术时作出的决定通常考虑到各种备选技术的费用和供应情况。人们经常选择 HCFC 技术作为这种投资的基础技术。因此，这些投资正在形成对 HCFC 供应的长期依赖。

11. 对于已经得到改造活动资助，用 HCFC 代替 CFC 的制造设备，多边基金不负责进一步改造的费用³。多边基金也不负责为在 1995 年之后安装的生产能力提供改造费用⁴。相关的 HCFC 消费及其随后的限制和逐步淘汰由于不属于对改造活动承担的责任，成为第 5 条国家面临的一个问题。HCFC 淘汰时间表可能使这个问题更加严重，因为该时间表要求在

³ 第 19/2 号决定。

⁴ 第 17/7 号决定。

不断消费 25 年之后，一次性地把消费量从基准的 100%降至 0%。

12. 由于自筹资金的改造活动将给第 5 条国家及其企业带来沉重负担，一个也许在今后可行的办法是控制与 HCFC 有关的生产能力的进一步安装，并倡议和随后要求根据使用年限或经济原因报废与 HCFC 有关的生产能力，代之以无 ODS 技术。一旦制定这样的政策，HCFC 的消费便可以自动地停止。因此，必须在淘汰日期尚未到来时，至少提前一轮设备使用寿命来核准、宣传和酌情强制执行相关的政策。

13. 多边基金在逐步淘汰各类 ODS 时取得的经验清楚显示，在提出一项措施之后，需要若干年的时间才能使大多数第 5 条国家对实施该措施作出承诺。此外，根据执行制冷剂管理计划和淘汰甲基溴的经验，人们了解到，为了制定出战略性的逐步淘汰方式和争取有关方面的参与，需要若干年的时间，随后的任何立法审批工作也需要这么长的时间。最后，必须宣传和执行订立的法律，这又是一个漫长的过程。图 1 概括性地表明了有关的时间问题，其中假设，第 5 条各国将进行评价，并随后决定以关于中国 HCFC 管理问题研究的个案研究报告所载经验为基础，实行类似的 HCFC 管理政策。从下图可以看到，为了采取这样一个具有成本效益的方式，需要很快采取初期步骤，以便能够在 2040 年的淘汰日期之前发挥作用。

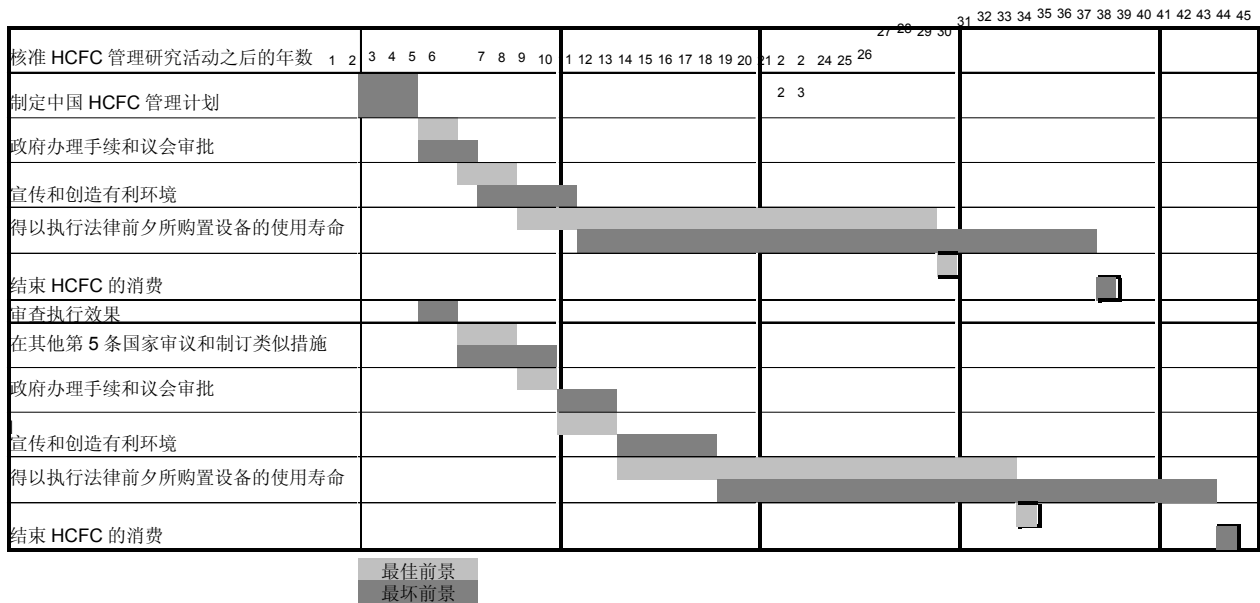


图1：HCFC管理问题研究和随后的HCFC淘汰活动的时间表

14. 上述方式具有明显的好处，将最终导致 HCFC 的淘汰，同时把淘汰成本将到最低，并远在 2040 年最后淘汰日期之前便使消费量大幅度减少。但是，为了采用这个方式，势必尽早开始所需要的工作。

15. 为了进行这样一次 HCFC 管理问题研究，中国是最适合的候选国家。中国政府已通过其在 ODS 淘汰活动中发挥的牵头作用证明，它愿意并且能够试行和迅速地推广新的 ODS 淘汰方式。根据技术和经济评估小组的 HCFC 特别工作组提交的报告，中国也是 HCFC，特别是 HCFC-22 的主要消费国，并将成为根据预测将在近期内出现的 HCFC-22 供应短缺的主要原因。实际上，技术和经济评估小组预测，如果维持现状，到 2015 年，中国的 HCFC-22 需求量将几乎占全世界消费量的 60%，所以，如果为中国进行一次 HCFC 管理问题研究，然后将研究成果转变为国家政策，将能够发挥最大限度的杠杆影响，来削减全世界的 HCFC-22 消费量。因此，这次 HCFC 管理问题研究将在很大程度上集中于 HCFC-22，同时也针对中国当前消费的其他各类 HCFC 提供信息和制订政策。中国 HCFC 消费情况和相关工业等方面的资料载于研究文件的附件 1，该研究文件题为：“‘为在中国长期管理 HCFC-22 和其他 HCFC 制定一项适当战略（中国 HCFC 管理问题研究）’项目提案的主要特点”。

多边基金的责任和该项研究获得资助的资格

16. 《蒙特利尔议定书》第 10 条（财务机制）指出，各缔约方应建立多边基金，用于同根据第 5 条第 1 款行事的缔约方进行财务和技术合作，从而使其能够执行第 2F 和 2H 条规定的任何控制措施⁵。在原则上不根据实施时间对任何预计的控制措施加以区别对待。可以把当前的 HCFC 消费控制情况视为大致相当于 1997 年之前的 CFC 和哈龙控制情况，或 1998 年之前的甲基溴控制情况；所有这些其他物质的淘汰工作都得到了大量资助来减少消费量，尽管甚至没有确定其消费基准；与现在提议的措施相反，当时的项目通常不是在国家一级举办的，因此无法对其作用进行准确的监测。

17. 《蒙特利尔议定书》还指出，多边基金应该支付第 5 条国家的所有商定增支费用，以使这些国家能够执行《议定书》所规定的控制措施。显然，HCFC 管理问题研究符合这些规定。由于类似活动在过去得到过资助，并由于像制冷剂管理计划准则这样的指导准则甚至把类似活动定为具备供资资格，本项目提案也具备一般性的资格⁶。

18. 中国 HCFC 管理问题研究不会导致任何设备的改造。因此，执委会第 17/7 号决定（不为 1995 年 7 月之后安装的生产能力提供改造经费）和第 19/2 号决定（不为第二阶段改造活动提供经费）对本项目提案没有任何影响⁷。

⁵ 第 2F 条就 HCFC 作出了规定。

⁶ 详细讨论见附件 3，特别是关于问题 3 的部分。

⁷ 附件 3，尤其是关于问题 1 至 8 的部分更加详细地讨论了资格问题，并答复了在执委会第四十二次会议期间提出的问题。

进行研究的时间

19. 人们提出了若干与中国 HCFC 管理问题研究项目的举办时间有关的问题，例如：考虑到与 2005 和 2007 年最后淘汰期限有关的项目享有的优先地位，存在资金的稀缺；应该把这样一个项目摆在什么样的优先地位；技术的成熟发展程度和信息问题。这些问题都得到了详细讨论⁸。人们认为，尽管这些问题都很重要，但当前可以得到的资金、执行委员会有关供资问题的各项决定、技术发展情况以及这次研究的目标都表明，如果现在核准中国 HCFC 管理问题研究，不会有任何障碍，所提出的各种问题不大可能对研究的结果或质量产生任何不利影响⁹。

20. 在所有这些担心中，主要的问题看来是现在离最后淘汰日期还有 35 年，此时开始举办任何 HCFC 淘汰项目是否有意义。这个问题涉及两方面的因素：一方面是技术性因素，涉及从核准项目开始直至产生实地影响所需的时间，另一方面是政治性因素，涉及《蒙特利尔议定书》的总目标，即，尽量减少消耗臭氧层化学品的消费量和产量。

21. *技术性因素*：上文图 1 显示，在成功地制定了 HCFC 管理问题研究报告，而且其他国家决定根据榜样采取类似措施的情况下，将出现什么样的最佳前景和最坏前景。正如所显示的那样，可以预计，将在核准中国的 HCFC 管理问题研究活动之后 34 至 43 年内最后淘汰各类 HCFC。德国无疑准备讨论所假设的 20 年和 25 年使用寿命有多么现实，并讨论如果在此期间采取行动，可以在什么地方缩短所需时间。应该指出，在执行工作中，很多国家的立法和宣传过程都会证明非常缓慢。最后，尽管无法准确估计这样一个项目的执行工作所需全部时间，但由于此处得出的估计日期接近或部分超过了 2040 年淘汰日期，迫切需要开始有关工作。

22. *政治因素*：《蒙特利尔议定书》的总目标是减少消耗臭氧层化学品的消费和生产。技术和经济评估小组的 HCFC 特别工作组报告显示，在可以预见的将来，HCFC 的消费量将大大增加¹⁰。根据该小组的报告，这一增加还可能导致对新的 HCFC 生产设施的投资，而这些投资很可能使第 5 条各国超出实际需要的时间继续使用 HCFC。此外，HCFC-22 预生产的副产品之一是 CTC，生产 1 ODP 吨的 HCFC-22 会产生大约 8 ODP 吨的 CTC 副产品，因此，会有很多 CTC 需要销毁。上文介绍的各种活动如果与 HCFC 管理问题研究结合起来，将成为一种成本效益很好和可行的办法，通过及早开始需求管理工作来避免 HCFC 消费量和产量的大量增加。另一方面，这些措施的成功与否取决于它们是否在安装了大量生产能力之前得到执行；如果拖延，将危及尽早降低预测的需求增加幅度所带来的好处。

23. 根据以上所述，应该核准中国 HCFC 管理问题研究项目，并尽早予以执行。这个项目的成果将帮助中国管理本国的需求，并将缓和紧张的 HCFC 供应情况，由此产生的个案研

⁸ 附件 2 概述了执委会成员以及多边基金秘书处提出的各种问题。

⁹ 附件 3 的问题 9 至 14 详细答复了人们表示的各种担心。

¹⁰ 关于 HCFC 消费量预测的更详细资料载于技术和经济评估小组的 HCFC 特别工作组报告（2003 年），本文件的附件 1 开列了特别关于中国及其在 HCFC-22 消费中所起作用的数据。

究报告将使得人们能够评估已采取的措施以及今后可能的方针。

建议的今后行动

24. 鉴于以上解释，谨提议执委会考虑核准为中国进行一次 HCFC 管理问题研究的申请，以帮助该国开始采取措施来管理 HCFC，特别是 HCFC-22 消费量的大幅度增加。这个项目既是为了向中国提供支持，也是为了改善供应情况，特别是 HCFC-22 的供应情况，从而能够减少或消除技术和经济评估小组在其 HCFC 特别工作组报告中所预测的对新的 HCFC-22 生产能力的需求。执委会要求提交一份详细的个案研究报告，该报告除了其他内容之外，应该列入所收集的技术信息和数据、予以考虑的政策措施以及根据中国的具体情况对这些措施的评价。

ANNEX 1:

Main characteristics of the project proposal “Development of a suitable strategy for the long term management of HCFC-22 as well as other HCFC in China” (China HCFC Management Study)

General

A consumption forecast for China’s HCFC consumption until 2015 was developed as part of the work of TEAPs HCFC Task Force. This forecast shows huge growth, in particular in the HCFC-22 consumption, leading to a tripling in consumption until 2015. These forecasts are confirmed by new production data of the China State Environmental Protection Agency, which also indicates a significant increase in HCFC-22 production over the last few years. More moderate growth is also expected for the use of other HCFC, in particular HCFC-141b. One of the conclusions of that TEAP report, that “*HCFC-22 and HCFC-141b are, and will remain, the most significant HCFCs in use particularly in Article 5(1) countries*”, is also correct for China. Of these two substances, in particular HCFC-22 seems to undergo a very worrisome trend.

China is in a unique situation, being the largest manufacturer of air conditioners world wide. Only an early management of the expected growth of HCFC-22 consumption by the Government of China will enable the phase-out of HCFC-22 consumption latest by the year 2040 including the service demand, without seeking additional funding. China is producing more than 60% of the air conditioners manufactured in Article 5 countries, dominating export markets. Policy decisions in China might lead to a lower export of HCFC-22 air conditioners, with subsequently a lower HCFC-22 service demand in many Article 5 countries. Consequently, the project has excellent prospects for additional benefits for other countries.

Preliminary information gathering suggest that the consumption in HCFC-22 originates to a large extent from capacities installed after 1995, mainly in the sector of unitary air conditioning (to a large extent split units). The service refrigerant demand of split units is significant because of their specific design with non-permanently sealed couplings, leaking refrigerant over time. China has become the largest manufacturer of such air conditioning products world wide. The HCFC-22 air conditioning units are to a large part being exported, also to other Article 5 Countries; commercial data suggests that presently more than 2/3rd of the total production is being exported. Potential changes in Chinas policy concerning HCFC-22 use in manufacturing new equipment could therefore influence the HCFC-22 service sector consumption in other Article 5 Countries as well.

The China HCFC Management Study aims at developing the necessary data and options, e.g. technology and policy options, for policy makers for HCFC-22 and also for HCFC-141b . This work is meant to be well documented and converted into a case study, showing the information needs, the ways of collection and assembly of such information, its evaluation and the extrapolation into a consumption forecast. The case study will further show how different options for action were evaluated, including their benefits and drawbacks. This documentation will be made accessible to A5 Countries for supporting them in long-term HCFC-22 management.

The future growth of HCFC-22 consumption might be managed by the Government of China to ensure the phase-out of HCFC-22 consumption in China latest by the year 2040 including the service demand. In addition, a China HCFC Management Study might support strongly a large number of Article 5 Countries in their efforts to subsequently phase out the manufacturing and service related consumption of HCFC-22 in their respective countries.

The objective of this China HCFC Management Study is to develop

- Detailed HCFC-22 supply and demand data and forecast as a basis for the development of policy options
- A strategy to control the growth in the consumption of HCFC-22 in China until 2015 and to allow meeting the subsequent total phase-out of HCFC-22 consumption with minimum economic disruption, and
- Policy options for the Chinese Government in order to address HCFC-22 growth and associated problems
- Supply and demand data for other HCFC, such as HCFC-141b and HCFC-123, and, where appropriate and meaningful, inclusion of those in the policy options
- A case study on HCFC-22 consumption patterns and possible steps for its management; this case study is to be distributed among A5C as a contribution to formulating HCFC-management policy.

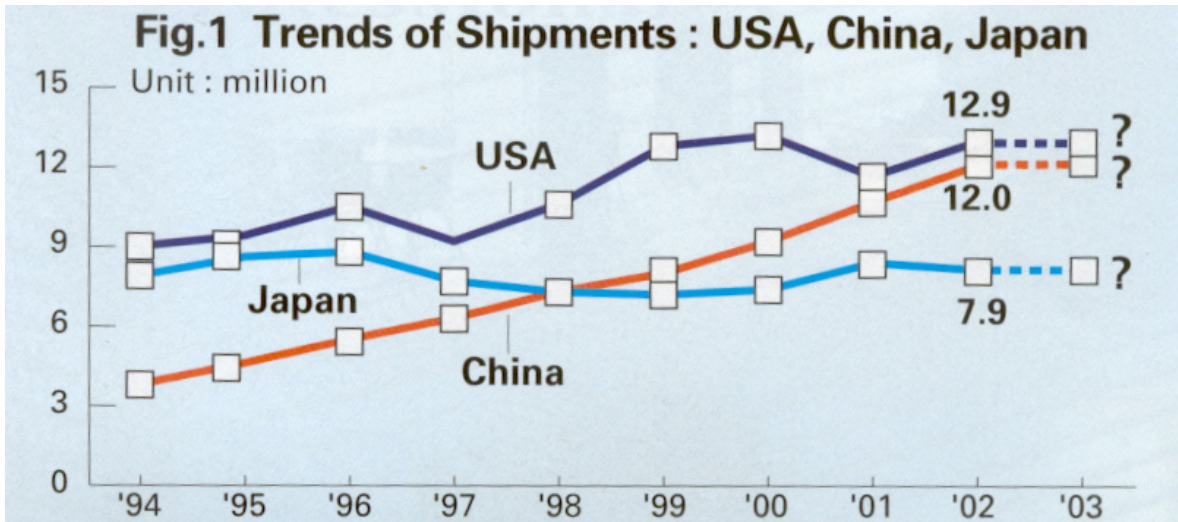
The China HCFC Management Study will not lead to a conversion funding request towards the MLF but is meant to support the Chinese Government in their search for a sustainable, responsible policy for the future use of HCFC-22. The study will not lead to phase-out of HCFC-consumption, but to a better understanding of the challenges to be met in case of unconstrained growth, which might lead to HCFC growth limitations through e.g. national policy. Nevertheless, this project proposal for a China HCFC Management Study does not prescribe any such outcome.

Background

As already outlined above, for China an only moderate growth of HCFC-141b consumption is expected, while a very substantial growth of HCFC-22 consumption is forecasted. In addition, HCFC-141b use, largely associated with foaming operations, does not require constant supply after goods are being manufactured. HCFC-22, being largely used as refrigerant, is needed for a long time after the equipment has been manufactured in order to keep it functional and protect the related investment. Consequently, the project proposal focuses stronger on HCFC-22 than on HCFC-141b despite the fact that these two are both important HCFCs.

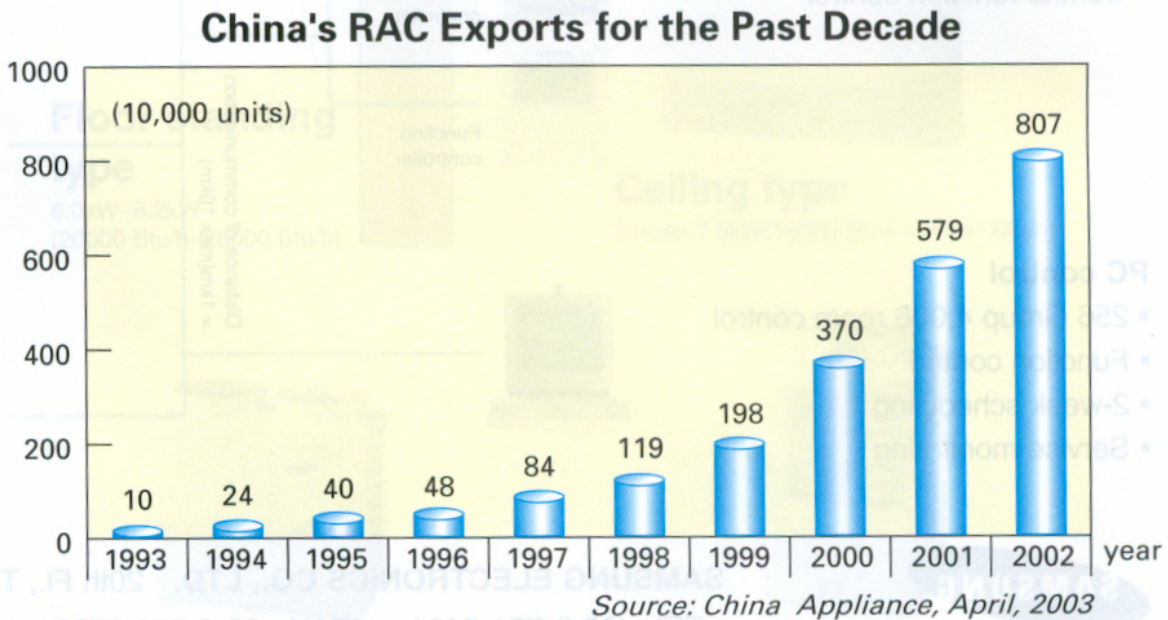
HCFC-22 is a low ODP refrigerant which has been traditionally used in unitary air conditioner products, such as window air conditioners and split air conditioners. A second important user of HCFC-22 is the small to medium capacity chiller market. In addition, HCFC-22 has also been used as CFC-replacement in commercial refrigeration equipment, and has developed as the standard choice for the increase in manufacturing capacity for new commercial refrigeration equipment. The air conditioning use is believed to be the predominant use and, at the same time, the use influencing through exports of equipment also other countries.

The importance of China as a manufacturer of air conditioning products can be seen in graph 2 displaying the situation mid 2003. The actual shipment information from both China and US from October 2003 (latest available data) suggest that in a presently fast growing world wide air conditioning market, China will have produced 16.8 million units vs. a US production of 15.7 million units. Thus, China is apparently now being the largest producer of air conditioning units world wide. Estimated data for 2003 suggest that China manufactures more than 30% of the total world production and well more than 2/3rd of the air conditioners produced in A5 Countries.



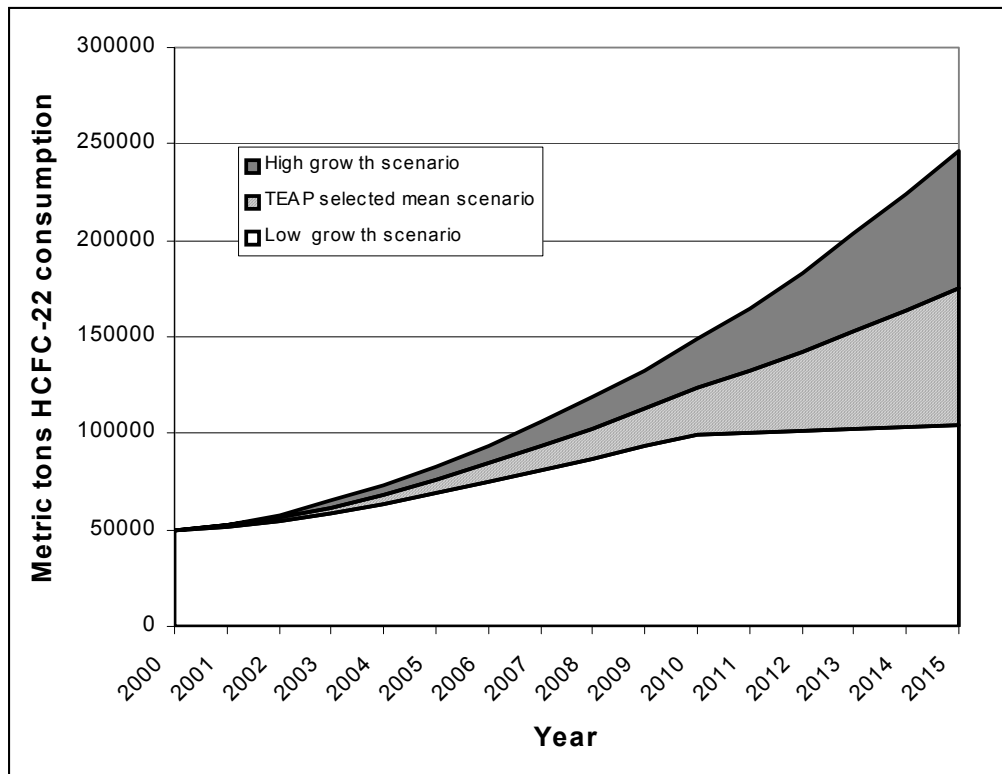
Graph 2: Trends of shipments of World Wide Unitary A/C market

China produces predominantly national brands (Haier, Kelon, Gree, ...). Presently, a large portion of the units produced are being exported, although only a part of them from national brand production (19.5% in 2002). While no consolidated data is available, the known data suggests that the main markets for at least the national brand air conditioning products are other Article 5 Countries, predominantly in South and South-East Asia. Information showing the export history of China is given in Graph 3.



Graph 3: China's room air conditioners exports for the past decade

Based on recent data developed by TEAP, it became apparent that the increase in HCFC-22 consumption in China is significantly higher than expected, and is assumed that there will be a tripling in HCFC-22 consumption until 2015. TEAP estimated a minimum and a maximum growth scenario, and used the arithmetic mean of both for the final version of the study. An overview of the data used by TEAP to forecast the HCFC-22 consumption in China is given in graph 4.



Graph 4: TEAP – determined scenarios for China's HCFC-22 growth

The HCFC-22 consumption forecasted shows an increase of HCFC-22 consumption between 2002 and 2015 of more than 6500 ODP-tons or 310%, based on the medium scenario. Looking at the high growth scenario, an increase of more than 400% compared to the 2002 consumption seems possible.

These forecasts are based on a business as usual scenario, i.e. assuming that exclusively the economic conditions are driving the development of the HCFC-22 market, plus existing legal constraints in the export markets (largely Europe).

Depending on data and subsequent measures to be developed under the China HCFC Management Study, China could decide to monitor, influence and/or control the HCFC-22 consumption and might therefore force a deviation from the business as usual scenario developed by TEAP. For such an undertaking, a good understanding of the consumption sector is important – this understanding is meant to be developed under this project.

The study will as well target the HCFC-141b consumption, although with a lower intensity. The HCFC-141 consumption forecast for China is at the moment not available with reasonable detail. Consequently, no forecast and no policy measures can be envisioned at the present point in time. The study will attempt to form the basis for a subsequent evaluation of HCFC-141b data by the Chinese Government, followed, if appropriate, by measures to manage the HCFC-141b consumption..

Content

The China HCFC Management Study to be undertaken will need several nation-wide surveys. These will ensure that the data collected presents a sufficient basis for action on a national level or, if meaningful, on provincial levels.

The China HCFC Management Study involves and combines different fields of expertise: Technical, logistical, economical, administrative and political. Thus, the study is a fairly

complex undertaking, involving several national and political actors as well as bilateral support for transfer of A2C experience.

The China HCFC Management Study is aiming at data development from a top-down as well as a bottom-up approach and will therefore cover the following :

- Historic HCFC-22 consumption data collection
- Collection and evaluation of information available within SEPA, at the National Planning and Development Committee, accessible in other administrative bodies and in research institutes
- Distribution pathway survey:
 - o Distribution pattern
 - o State wise distribution of consumption
 - o Manufacturers vs. service enterprises
 - o Increase in amount of manufacturing, amount of service over the past years
- Refrigeration equipment survey
 - o Existing quality standards; adaptation of those standards in practice
 - o Tooling of the assembly/service sector, procedures followed in assembly, maintenance
 - o Leak prevention, testing for leaks
 - o Operation conditions of refrigeration equipment, expected lifetime, limiting factors, amount of compressor failures, amount of repairs requiring opening of refrigeration cycle
- User survey
 - o Income level when purchasing luxury goods
 - o Replacement culture / reselling of equipment / customer lifetime expectations
 - o Use of HCFC-22 refrigeration equipment in supermarkets – characteristics, expected life, ...
 - o Forecast of income development (for consumer goods – a/c); spreading of supermarkets (for commercial); other
- Unconstrained HCFC-22 demand forecast
- Other HCFCs user pattern and consumption forecast – unconstrained
- Pattern and forecast of HCFC use not constituting consumption
- Development of possible measures to manage growth in HCFC-22 use
 - o Technical possibilities to utilise non-ODS alternatives to HCFC-22 and other HCFCs (HFCs, HCs, NH₃, other); technical constraints
 - o Existing standards (national and international) supporting or limiting the use of different alternatives
 - o Cost and market implications of using alternatives
 - o Improving assembly and maintenance, including viability of recovery and recycling
 - o Legal possibilities to manage supply of HCFC-22, potentially other HCFCs to the market
 - o Legal possibility to manage demand of HCFC-22, potentially other HCFCs to the market
 - o Assessing the environmental impact of continuous HCFC use and use increase
 - o Technical, regulatory and other possibilities to minimise the environmental impact of HCFC use
- Kick-off and interim workshop to ensure that the study covers the necessary information and policies and to keep national stakeholders fully involved.

- National focused workshop with national and international experts to discuss the results of the strategy and, if deemed appropriate, to develop recommendations
- Development of a national strategy document concerning HCFC demand, supply and related data, both in terms of the present situation as well as a long-term forecast. This document will also describe the related policy options for the Government of China
- Development of a case study document detailing the information collected, experience gained, different technologies, policies and scenarios evaluated, their specific benefits and drawbacks

ANNEX 2:

Views of delegations expressed on the eligibility of funding and other aspects

The representatives of the government of Germany, being part of the UK Delegation, noted duly all the views expressed in the forum of ExCom as well as in the informal group discussions on the eligibility of funding by the Multilateral Fund for HCFC phase-out management studies in general and the China HCFC Management Study in particular. No further comments have been received by the Government of Germany within the time frame specified in ExCom decision 42/7.

Since the objective of this policy paper is to provide information relating to concerns of members of the ExCom about eligibility, funding, content or other aspects of such a HCFC Management Study, the below list of comments is almost exclusively focussing on the more critical comments of members. Nevertheless, it should be noted that a large part, according to the understanding of the German representatives actually the majority of delegations participating in the discussion felt that a HCFC Management Study would be useful and that they supported its idea.

The comments fall into a number of groups and can be summarized as follows:

Responsibility of the MLF and eligibility of a study

The contributions of members of the ExCom were focussing on the following issues:

- (1) There was some uncertainty if the MLF would be the appropriate body to undertake a China HCFC Management Study as planned, as compared to the GEF or TEAP
- (2) Some ExCom members pointed to the indicative list of incremental cost, mentioning that policy support is not specifically mentioned there and, therefore, might not be eligible.
- (3) There was some uncertainty if and to what degree the support of a countries policy formulation are covered by the mandate of the Multilateral Fund, and if such activities would be eligible for funding.
- (4) In that regard, it was also discussed if the proposal might be divided into an eligible and a non-eligible part. It was suggested to assume that the eligible part would be the investigation into the present status (technical part) and the non-eligible part would be the development of policy measures (policy part).
- (5) With a view on the uncertainty of the eligibility assumed by some delegates, it was discussed if additional funding might be found to supplement for study parts found to be non-eligible

In addition to the above remarks, the MLF Secretariat, in their comments in documents UNEP/OzL.Pro/ExCom/42/7 and UNEP/OzL.Pro/ExCom/42/16, had also raised the following issues

- (6) The Fund policy specifically excludes funding of any second-stage industrial conversions from HCFCs to non-ODS substances (Decision 19/2).
- (7) The ExCom has established a policy not to fund the conversion of capacity installed after July 25th, 1995 (decision 17/7).
- (8) No such project has so far been approved

Timing of a study

The contributions of members of the ExCom were focussing on the following issues:

- (9) The last negotiations on replenishment in 2002 used as one important element for the determination of the replenishment level a study performed by TEAP named "Assessment of the Funding Requirement for the Replenishment of the MLF for the

period 2003-2005". This study did not foresee any funding for the phase-out of HCFCs in the current triennium. Consequently, there might not be sufficient funding available for such an undertaking at the present point in time.

- (10) In 2003 the resources of the MLF were assessed as being very scarce to fulfil only the most urgent needs, i.e. the necessary support for all A5 parties to achieve compliance with the control schedules for CFC, Halon, MeBr and CTC in the 2005-2007 period. HCFCs were not addressed in the 3-year phase-out plan and none of the criteria for accelerated phase-out/maintaining momentum apply to HCFC consumption. Again, this might indicate that after high-priority projects have been funded, insufficient funding might remain for such a project.
- (11) The technical progress for CFC phase-out has been rapid, thus, until 2040, it could be expected that new solutions for HCFC replacement might be developed which could not be taken into account in a study performed in the near future
- (12) The phase-out of HCFCs is a significant task for A5C governments in the future, when both in A2C as well as A5C awareness of ODS and related issues will probably be lower than today. It is therefore very meaningful to address these issues and make the necessary decisions at a time when the ODS issue has still a high visibility and the MLF is still a strong organisation.
- (13) It was pointed out that such a country-specific study, relating to China, might lead to a subsequent demand for a similar undertaking from other countries, which might cause further demand on the scarce resources of the MLF. Other delegations suggested to broaden the scope of the study by including additional countries.

In addition to the above remarks, the MLF Secretariat, in their comments in document UNEP/OzL.Pro/ExCom/42/16, had also raised the following issue:

- (14) The submission of the project raises the policy issue of the priority to be accorded at the present time to the funding of projects addressing HCFCs.

Content expected / Benefits of a study

Many delegations formulated their expectations towards such a study:

- (15) The study should take into account the existing information, in particular the TEAP HCFC Task Force Report of 2003.
- (16) The study must clearly be targeted to help China to cease the consumption of HCFCs
- (17) The study should be formulated in a realistic and practical way, and should not be overly academic
- (18) The study should take into account the transfer of information from A2 Countries which have already limited or phased out HCFCs, and facilitate information transfer from A2 Country experience to A5 Countries.
- (19) Since TEAP in its HCFC task force report had predicted a shortfall in the supply of certain HCFC, in particular HCFC-22 in the near future, policies developed through such a study might help to reduce the shortfall and manage within the existing supply. This aspect should find its way into the study.
- (20) One important HCFC, HCFC-22, is being manufactured using CHCl_3 as a necessary pre-product. Manufacturing this pre-product, CCl_4 (CTC) is inevitably co-produced. Consequently, the management of HCFC-22 is expected to also influence CTC surplus.

Germany would like to use this opportunity to sincerely thank the participants in the discussions for their remarks, efforts and insights.

ANNEX 3:

Direct replies to views of delegations and the MLF Secretariat expressed on the eligibility of funding and other aspects

Responsibility of the MLF and eligibility of a study:

- (1) *There was some uncertainty if the MLF would be the appropriate body to undertake a study as planned, as compared to the GEF or TEAP*

According to the GEF's operational procedures, the GEF provides support for ODS phaseout in cases where activities in an A5 Country (such as China), while consistent with the objectives of the Montreal Protocol, are of a type not covered by the Multilateral Fund. The precondition for funding of such an HCFC study by the GEF would therefore be that this *type* of activity is not covered by the MLF. As shown below e.g. in the reply to issue (2), the MLF has already funded this type of activity in the past for other ODS, when those were in a similar status in terms of a not-yet fixed baseline etc. Consequently, the GEF is not allowed to take over the funding of such an activity.

The mandate of TEAP, aside from those related to changes in the control mechanism, are specific mandates given from time to time from Meetings of the Parties. According to its Terms of Reference, "TEAP analyses and presents technical information. It does not evaluate policy issues and does not recommend policy. The TEAP presents technical and economic information relevant to policy. Furthermore, the TEAP does not judge the merit or success of national plans, strategies, or regulations."¹¹ It can therefore be concluded that a study as the one proposed does not fall under the Terms of Reference of TEAP.

As outlined above, the objective of the China HCFC Management Study is to develop the basis for policy making and, subsequently, policy options with and for the Government of China. TEAP, by definition, is a body operating on the level of the Meeting of the Parties, not a single country. The information from TEAP is supposed to provide advice concerning the policy options of the level of the MoP, not a national level. The TOR specifically exclude any judgement on national issues.

- (2) *Some ExCom members pointed to the indicative list of incremental cost, mentioning that policy support is not specifically mentioned there and, therefore, might not be eligible.*

Article 10 (Financial Mechanism) of the Montreal Protocol states that the Parties shall establish a mechanism for the purposes of providing financial and technical co-operation to Parties operating under paragraph 1 of Article 5 of this Protocol to enable their compliance with *any* control measures in Articles 2F to 2H¹². The mechanism shall meet all agreed incremental costs of such Parties in order to enable their compliance with the control measures of the Protocol." The Indicative List of Incremental Cost provided by the Meeting of the Parties does not mention policy support measures as such, although, the List included the more general statement to

¹¹ Annex V of the report of the Eighth Meeting of the Parties

¹² Article 2F deals with HCFC

cover the cost of providing technical assistance to reduce consumption and unintended emission of ozone depleting substances.

Independently, incremental costs that once agreed are to be met by the Financial Mechanism include not only those in the Indicative List of Categories of Incremental Costs. If incremental costs other than those mentioned in the Indicative List are identified and quantified, a decision as to whether they are to be met by the Financial Mechanism shall be taken by the Executive Committee consistent with any criteria decided by the Parties and elaborated in the guidelines of the Executive Committee.¹³ According to its Terms of Reference, the MLF shall meet the agreed incremental costs; other than those, it is only meant to fund clearinghouse functions and the secretarial activities. Consequently, any project approval not specifically relating to clearinghouse functions constitutes an identification of incremental costs. A number of examples for activities closely mirroring the activities proposed for the study can be found below in the comments relating to issue (3)..

- (3) *There was some uncertainty if and to what degree the support of a countries policy formulation are covered by the mandate of the Multilateral Fund, and if such activities would be eligible for funding.*

The support of a countries policy formulation concerning ODS phase-out has been funded frequently by the Multilateral Fund, and has therefore been accepted as eligible for funding. An example are the guidelines for Country Programmes:

The Fifth Meeting of the Executive Committee decided that country programmes should be prepared by countries to the extent possible based on the guidance approved by the Executive Committee. The country programme is expected to contain, inter alia, a description of policy framework, regulatory and incentive systems, a description of government and industry activities in response to the Protocol, an action plan encompassing investment and technical assistance projects, pre-investment studies, and any policy analysis required.¹⁴

Another example are the guidelines for the development of an RMP. The RMP preparation requires to undertake country-specific review and analysis of the consumption of ODS and their availability, sources of supply and distribution channels, production of equipment; characterization of the relative importance of sub-sectors on the basis of level of consumption of ODS, economic importance and trade orientation; assessment of the available and feasible options, including technical options, policy options such as legislation and regulations and economic instruments; evaluation of alternative options for cost-effectiveness, feasibility, timing and maximum impact; formulation of a management policy.¹⁵

For MeBr projects, non-investment projects have been defined as one project category. These are specified as “projects focused on creating and disseminating information and/or educating stakeholders, and the provision of assistance, where needed, on the creation of policy instruments to restrict or ban the use and/or import of MB.”¹⁶

¹³ UNEP/OzL.Pro/2/3 Appendix I of Decision II/8, para. 2; UNEP/OzL.Pro/4/15 Decision IV/18 Annex VIII

¹⁴ UNEP/OzL.Pro/ExCom/3/18/Rev.1 Annex III (section II.1.2), UNEP/OzL.Pro/ExCom/5/16, para. 22-23

¹⁵ Guidelines for the preparation of Refrigerant Management Plans

¹⁶ Revised strategy and guidelines for projects in the Methyl Bromide Sector

Consequently, it can be stated that all the various technical, economic, logistical and policy parts planned for the proposed China HCFC Management Study have been performed in a similar way for other substances and other countries.

- (4) *It was also discussed if the proposal might be divided into an eligible and a non-eligible part. It was suggested to assume that the eligible part would be the investigation into the present status (technical part) and the non-eligible part would be the development of policy measures (policy part).*

Since the project is as per above explanations fully eligible, a division is not meaningful and necessary.

- (5) *With a view on the uncertainty of the eligibility assumed by some delegates, it was discussed if additional funding might be found to supplement for study parts found to be non-eligible.*

It was not possible to find additional funding for a China HCFC Management Study, in particular because the eligibility of the study was demonstrated, which prohibits the use of GEF funds for such an undertaking in an Article 5 Country.

- (6) *The Multilateral Fund policy specifically excludes funding of any second-stage industrial conversions from HCFCs to non-ODS substances (Decision 19/2).*

The purpose of the China HCFC Management Study is to allow China as well as, on the basis of Chinas experience, other Article 5 Countries to establish policies and enforcement measures which will support the use of non-ODS technologies when equipment depending on HCFC has reached the end of its useful life and therefore has to be replaced by its user. Thus, no conversion takes place, and no conversion project is being funded. Therefore, neither does the strategy to be developed constitute funding for a second conversion, nor is the explicit or implicit objective of it to develop projects on that basis.

- (7) *The ExCom has established a policy not to fund the conversion of capacity installed after July 25th, 1995 (decision 17/7).*

Out of the same reason explained in the comment concerning issue (6) above, decision 17/7, specifying not to fund the conversion of capacity installed after July 25th, 1995, is not applicable for the study or its intended results.

- (8) *No such project has so far been approved*

So far, no project specifically and solely addressing the phase-out of HCFCs has been approved. But HCFCs have been addressed in a number of phase-out projects jointly with CFCs or other substances. Another example are the RMP guidelines, which require specifically addressing HCFC and which are asking for similar assessments to be performed as is the case in the China HCFC Management Study.

Timing of a study:

- (9) *The last negotiations on replenishment in 2002 used as one important element for the determination of the replenishment level a study performed by TEAP named “Assessment of the Funding Requirement for the Replenishment of the MLF for the period 2003-2005”. This study did not foresee any funding for the phase-out of HCFCs in the current triennium. Consequently, there might not be sufficient funding available for such an undertaking at the present point in time.*

The study mentioned served as advice for the replenishment discussions and was and is not at all policy prescriptive. Independent of this study, ExCom has decided and continues to decide to fund projects at levels which are similar, lower or higher than assumed in that study, and to fund other or additional projects not included in the study. The important factor limiting the freedom of ExCom is not a two year old forecast, but the actually available funds (see issue 10).

- (10) *In 2003 the resources of the MLF were assessed as being very scarce to fulfil only the most urgent needs, i.e. the necessary support for all A5 parties to achieve compliance with the control schedules for CFC, Halon, MeBr and CTC in the 2005-2007 period. HCFCs were not addressed in the 3-year phase-out plan and none of the criteria for accelerated phase-out/maintaining momentum apply to HCFC consumption. Again, this might indicate that after high-priority projects have been funded, insufficient funding might remain for such a project.*

In the 42nd meeting of ExCom, the MLF Secretariat reported that the 2004-2006 business plans addressed all the phase-out needs up to and including 2007, and that funds will remain. On that background, ExCom noted that all projects in the bilateral and implementing agencies business plans could be considered for funding in 2004, since sufficient funding is available.¹⁷ The China HCFC Management Study had actually already been included in Germany's 2003 business plan, was again included in the 2004 business plan and falls therefore in the category of projects which can be considered for funding in 2004.

- (11) *The technical progress for CFC phase-out has been rapid, thus, until 2040, it could be expected that new solutions for HCFC replacement might be developed which could not be taken into account in a study performed in the near future.*

The development of alternatives for HCFCs for the main uses of HCFCs – HCFC-22 for refrigeration and air-conditioning, HCFC-141b for rigid PUR foams - has not progressed significantly in the last years. Non-ODS replacements for HCFC-141b for rigid polyurethane foaming have been developed several years back, today essentially three technologies are commercially available (HFC-245fa, HFC-356mfc, pentane). For the replacement of HCFC-22 as refrigerant, several HFC (R407C, R410A, R507) and hydrocarbon (propane, propene) refrigerants are available. Alternatives are needed in the EU where HCFCs are banned from 1.1.2010 (in foams already from 1.1.2004) onwards. Presently, it is not visible that any efforts are undertaken to develop this selection of available and sufficient substances further. Since a large number of alternative candidates has been screened

¹⁷ UNEP/OzL.Pro/ExCom/42/54 para. 32.b, 38

and tested, and a sufficient number of alternatives has been materialized, further developments are in the opinion of Germany rather unlikely.

It should be noted, though, that the objective of the China HCFC Management Study is also not to demonstrate technical solutions or to transfer know-how as part of that undertaking. Rather, it is aimed at demonstrating in which sectors and/or which regions available technical solutions are feasible given the circumstances prevailing in the country, and in which cases and with which preparation any administrative or legislative steps to phase-out HCFCs can be taken. If more alternatives emerge over time, this will be highly beneficial for the users, but is only secondary to the purpose of the China HCFC Management Study.

- (12) *The phase-out of HCFCs is a significant task for A5C governments in the future, when both in A2C as well as A5C awareness of ODS and related issues will probably be lower than today. It is therefore very meaningful to address these issues and make the necessary decisions at a time when the ODS issue has still a high visibility and the MLF is still a strong organisation.*

This statement is self-explanatory and needs no further comment, other than we agree with it and find it to address a very important issue.

- (13) *It was pointed out that such a country-specific study, relating to China, might lead to a subsequent demand for a similar undertaking from other countries, which might cause further demand on the scarce resources of the MLF. Other delegations suggested to broaden the scope of the study by including additional countries.*

Although all elements of the China HCFC Management Study as proposed are eligible and not uncommon in ODS phase-out projects in the MLF, the thrust of the China HCFC Management Study is unique in its attempt to minimize conversion needs by developing and implementing a long term strategy. While it is expected that such an undertaking will yield significant benefits for related Article 5 Countries as well as the MLF, its merits and first lessons learned should be assessed on the basis of a pilot undertaking, before guidelines for such projects are being issued. Consequently, it seems the most appropriate way forward to carry out, on a pilot basis, such a HCFC Management Study for one suitable country. Results and experiences from that study will then be available for the ExCom as guidance in the decision if and how such type of activity might be pursued further.

- (14) *The submission of the project raises the policy issue of the priority to be accorded at the present time to the funding of projects addressing HCFCs.*

The aim of the policy to be formulated under such a project as proposed is to allow equipment using HCFC to operate until the end of its useful life, thus avoiding conversion costs and minimizing efforts to switch technologies. For both foaming equipment as well as for refrigeration and/or air conditioning equipment, the useful life in developing countries is typically between 14 and 30 years; in case of medium to large size refrigeration applications it could be more than 50 years. If policies are developed, adapted and communicated not to continue purchasing HCFC dependent equipment, the HCFCs have still to be around for this period of time to allow utilization of the invested capital. One can safely assume a mean lifetime of 20 years for HCFC-using equipment (refrigeration and foaming alike). If one allows

for the necessary piloting of one HCFC Management Study, policy and guideline formulation by ExCom, development of strategies in/for other countries, time for discussion and adoption of proposed legislation by parliaments, communication and built-up of enforcement support, the time until 2040 is just sufficient to discontinue the use of HCFCs by then.

Content expected / Benefits of a study

- (15) *The study should take into account the existing information, in particular the TEAP HCFC Task Force Report*

The China HCFC Management Study will take into account the existing technical and other information insofar as it fits the purpose of the study, which is to provide the Government of China with a full overview of the situation in the country, options to avoid unnecessary consumption, the available alternatives and their characteristics, possible actions the government might want to take and associated time lines.

- (16) *The study must clearly be targeted to help China to cease the consumption of HCFCs*

The China HCFC Management Study will have the focus to manage, i.e. limit the increase in China's HCFC use, as well as, subsequently, cease the HCFC use in the country. The measures suggested in the study will be targeted at the complete phase-out of HCFC consumption.

- (17) *The study should be formulated in a realistic and practical way, and should not be overly academic*

The data collection parts of the China HCFC Management Study will include both top-down as well as bottom-up approaches. Data for bottom-up approaches, forming the basis for forecasts, will be developed through extensive field visits. The technical parts of the study will also be based on field experience, and will take into account both the general technical possibilities as well as the challenges that new technologies will or might face in the economic, social and climatic environments found in China.

- (18) *The study should take into account the transfer of information from A2 Countries which have already limited or phased out HCFCs, and facilitate information transfer from A2 Country experience to A5 Countries.*

There are two types of experiences made in A2 Countries concerning HCFC replacement and subsequent phase-out. There is for once the technical experience, which is already fairly well documented. Where necessary, the available documentation will be further developed, and/or exchange of experts up to visits might be organized to clarify specific questions. The second type of experience is the political and legal experience developed. In particular the EU member states, which have essentially phase-out the use of HCFCs already, can provide related advice; but also other countries will have experience in the assessment of their specific HCFC phase-out plans and results. Through various means, such as questionnaires, exchanges and, potentially, visits, the existing experience in A2

Countries will be made available to China as well as, subsequently and also through this process, to the other Article 5 Countries. The project will put a large focus on proper documentation of the information gained, thus aiming at forming a compendium of possible policies and technologies which might be used later by other countries as resource.

- (19) *Since TEAP in its HCFC Task Force Report had predicted a shortfall in the supply of certain HCFC, in particular HCFC-22 in the near future, policies developed through such a study might help to reduce the shortfall and manage within the existing supply. This aspect should find its way into the study.*

Among other reasons the TEAP report and, specifically, its findings concerning HCFC-consumption in China was one of the criteria leading to the selection of China as the candidate for a pilot study on HCFCs, in particular HCFC-22. Because of the magnitude of China's HCFC-22 consumption, which the TEAP HCFC-report forecasts to be almost 60% of world HCFC-22 consumption in 2015 (2002: below 40%) , the early HCFC-22 management in China can reduce the world-wide demand for HCFC-22 significantly. China is the country where any given reduction in consumption would have the largest leverage in terms of the world HCFC-22 market.

- (20) *One important HCFC, HCFC-22, (CHClF_2) is being manufactured using CHCl_3 as a necessary pre-product. Manufacturing this pre-product, CCl_4 (CTC) is inevitably co-produced. Consequently, the management of HCFC-22 is expected to also influence CTC surplus.*

The production of HCFC-22 needs the pre-product CHCl_3 , which in turn can only be co-produced with CTC. It is correct that management of HCFC-22 would reduce the related output of CTC and, thus contribute to reduction of CTC production. Both China as well as India as the two major producers of CTC in Article 5 Countries have entered into agreements with the Multilateral Fund, which foresee the reduction and, subsequent, phase-out of CTC in production and consumption.