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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
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INFORMATION ON PREVIOUS CONVERSIONS FUNDED BY THE MULTILATERAL FUND, AND DESCRIBING THE CONDITIONS UNDER WHICH AGREEMENTS WERE SIGNED WITH ARTICLE 5 COUNTRIES ON THE PHASE-OUT OF CFCS

Background

1. During the discussion of the HCFC phase-out plans (HPMPs) submitted to the 65th meeting, one member noted that in a number of instances the information provided to the Executive Committee was not sufficient to enable an assessment of the need for funding second-stage conversion projects either because they are required for meeting up to the 35 per cent compliance target in 2020, or because they are the most cost-effective projects that the country can undertake to achieve those targets. There were also instances of HPMPs that had been submitted to the Committee in which countries were seeking funding for second-stage conversions to phase out HCFC-141b contained in imported pre-blended polyols, which had not been reported under Article 7, and therefore not required to be addressed for compliance.

2. Situations where eligible enterprises had received funding for conversions from CFC but not all production lines had been converted, or where new lines had been added following the conversion were also raised as an additional issue relating to second-stage conversions. Therefore, a further clarification was needed as to whether the eligibility for further conversions should be considered line by line or for the enterprise as a whole. These issues were further discussed in a contact group at the 65th meeting.

3. Based on the report of the contact group, the Executive Committee requested the Secretariat to prepare for the 66th meeting a document containing information on previous conversions funded by the Multilateral Fund, and describing the conditions under which agreements were signed with Article 5 countries for the phase-out of CFCs (decision 65/12 (a)).

Scope of the document

4. This document consists of the following sections:

(a) Conditions of approval of CFC phase-out projects based on HCFC technology;

(b) Eligibility for funding conversions of new production lines in second-stage conversion enterprises;

(c) Funding second-stage conversion projects to phase out HCFC-141b contained in imported pre-blended polyols; and

(d) Recommendations.

Conditions of approval of CFC phase-out projects based on HCFC technology

5. One of the underlying principles of the Executive Committee governing the phase-out of CFCs and other ODS was the presumption against the use of HCFCs as alternative chemicals. Thus, decisions taken on HCFCs had the objective of avoiding to the extent possible the introduction of technologies based on those substances. A principle that influenced the preparation, approval and implementation of projects, recognizing that HCFCs were transitional substances for which beneficiary enterprises assumed funding for subsequent (second-stage) phase-out by themselves. A summary of the key elements of relevant decisions on HCFCs adopted by the Executive Committee together with projects that were approved for replacing CFCs with HCFCs is presented in Table 1, while a more detailed description of these decisions is provided in Annex I to this document.

Table 1. Key elements of decisions regarding conversion to transitional HCFC technology

Meetings	No. of projects	CFCs (ODP t)	Summary of relevant decisions by the Executive Committee
(1)	(2)	(3)	(4)
Up to 12th	36	1,544	• Proposals should only be submitted for specific sectors and where no non-HCFC alternatives were available (12th meeting)
13th to 15th	41	1,957	• Agencies should note the presumption against HCFC; • Justification required for the selection of HCFC; • Requirement for the estimated costs of a second conversion (15th meeting)
16th to 20th	119	5,236	• Full explanation for the selection of HCFC required; • Need for enterprises to have agreed to bear the cost of a second conversion to non-HCFC technology(decisions 19/2 and 20/48)
21st to 23rd	135	6,087	• Project evaluation sheets should contain information on the conversion technology, reasons for selection of HCFC, and estimated length of time that the enterprise intends to use transitional HCFC technology (decision 23/20)
24th to 26th	83	2,359	• Full information provided in the project proposal should be included in the project evaluation sheet (decision 26/26)
27th	26	619	• Mandatory letter from the Government indicating it had reviewed the projects and its commitments under Article 2F, and had determined that the use of HCFC for the projects was justified, and that it understood that no funding would be available for second conversion (decision 27/13)
28th to 34th	301	9,487	• Letters from governments concerned explaining the reasons for the choice of HCFC-141b in projects (as per decisions 23/20 and 27/13) should be included in the meeting documentation (decision 34/51)
35th to 36th	62	1,891	• Agencies to provide data concerning import restrictions into non Article 5 countries; • Letters to be sent to ozone units recalling that HCFC projects will be excluded from funding in the future (decision 36/56)
37th to 38th	16	968	• The Government had endorsed the choice of technology and was informed that no additional funding could be requested for second conversion (decision 38/38)
38th to 54th	28	3,465	• Last project approved for conversion to HCFC technology at the 54th meeting (i.e., 6th tranche of a sector phase-out plan)
Total	847	33,613	

(1) Meetings of the Executive Committee.
(2) Number of projects approved for conversion to HCFC during the meetings specified in column (1).
(3) Amount of CFC used by enterprises that selected HCFC (the ODP of the relevant HCFC has been deducted). The CFC associated with the foam sector plan for China has not been included, as no detailed information on the various technologies selected is easily available.
(4) Key elements of relevant decisions on HCFCs adopted by the Executive Committee.

6. Upon review of the projects submitted for approval up until the 54th meeting, when the last project was approved to use HCFC technology, it can be concluded that implementing agencies had duly informed governments and enterprises during project preparation of the presumption against the choice of HCFCs. Analysis of the information provided by the implementing agencies when conversion from CFC-based to HCFC-based technology was proposed, shows that decisions on HCFCs adopted by the Executive Committee had been applied during the project preparation and submission process. It is evident that implementing agencies had advised recipient enterprises of the availability of alternative

technologies and associated environmental, technical and financial impacts of the conversion. On this basis enterprises were able to select the most viable alternative technologies and provide full justification for selecting HCFC technology. Since May 1996, all stakeholders were also informed that no funding would be available from the Fund for the conversion from HCFC to a non-ODS technology. Recipient governments were also aware of the technologies selected by enterprises since they had to endorse project proposals prior to submission to the Executive Committee in line with the guidelines of the Multilateral Fund. Moreover, from the 28th meeting, any project proposal requesting approval of funding for conversion to HCFCs had to be accompanied by an official letter from the Government concerned indicating agreement with the conditions associated with potential approval of such requests.

Eligibility for funding conversions of new production lines in second-stage conversion enterprises

7. During the review of HPMPs submitted to the 65th meeting, the Executive Committee raised a concern on the eligibility of funding new production lines in enterprises that had received assistance from the Fund to completely phase-out the use of CFCs, e.g. through the use of cyclopentane. It was argued that in as much as the requested funding had been based on a defined manufacturing capacity of production lines, any additional lines set up after the conversion was completed should not be considered in second-stage conversion projects. A concern was also raised about the possibility of using funds approved for the conversion to non-CFC technology to install additional new production lines. Another point of view was that enterprises receiving assistance from the Fund were committed to converting the CFC production lines that were established and operating at the time of the approval of the project. However, it was not clear what commitments were made by the enterprises in the letters submitted by their governments regarding future liability of the Multilateral Fund with respect to changes to the baseline production facilities. Therefore, a further clarification was needed as to whether eligibility for further conversions should be considered line by line or for the enterprise as a whole.

8. The issue under consideration is closely related to the two decisions adopted by the Executive Committee concerning the cut-off date and its application by the Secretariat when reviewing project proposals. The first decision adopted in July 1995, stated that any projects to convert any ODS-based capacity installed after 25 July 1995 would not be considered (decision 17/7). The second decision adopted in April 2010, stated that any projects to convert HCFC-based manufacturing capacity installed after 21 September 2007 would not be considered (decision 60/44(a)). In both decisions the emphasis is on the installed baseline capacity (i.e., actual production lines, main production equipment items installed) at a precise date decided by the Executive Committee and not only on the date of establishment of the enterprise *per se*.

9. On this basis, the current procedure applied by the Secretariat when reviewing projects is to determine the eligibility of the enterprise as a whole, each production line as a whole, and major equipment items installed with reference to the cut-off date. The following three examples are pertinent:

(a) At the 62nd meeting, eight stand-alone project proposals for the phase-out of HCFC-141b used as a foam blowing agent were submitted by Egypt[1]. One project was for a panel manufacturer founded in 1993, where one of the equipment items (i.e., a panel press) had been installed in 2008. Another project was for an enterprise established in 1991 specialized in spraying and pouring of foam, where four of the nine high pressure dispensers had been purchased in 2008 and 2009. In both cases, the costs associated with the conversion of the equipment added after the cut-off date of 21 September 2007 were considered ineligible;

[1] UNEP/OzL.Pro/ExCom/62/30.

(b) The HPMP of Ecuador[2] submitted to the 65th meeting, included one investment project for the phase-out of HCFCs used by a domestic refrigerator manufacturer established in 1972. In 1993 the enterprise received funding for the conversion to CO_2/water blown technology resulting in the complete phase-out of CFC-11. After the conversion had been completed, the enterprise used HCFC-141b as blowing agent instead of CO_2/water blown technology, and in the process installed three foam dispensers, one of them after the cut-off date of 21 September 2007. Funding associated with the conversion of the dispenser established after the cut-off date was not requested, while costs associated with the modification of the production line that had been previously funded for conversion to CO_2/water were considered ineligible. However costs associated with conversion of the other two new lines established before 21 September 2007 were recommended for funding;

(c) The HPMP of Egypt[3] submitted to the 65th meeting, included one investment project for an enterprise that had previously received funding at the 12th meeting to convert two foam lines that were then in operation to cyclopentane technology. In 2005-2006 the enterprise installed a new line based on HCFC-141b pre-blended polyols. Although the two lines converted to cyclopentane were operational, they were in fact using HCFC-141b due to technical problems. As a result, the enterprise decided to install a new line based on HCFC-141b technology. The cost of the project included in the HPMP related only to the new production line. Although the HCFC consumption associated with the new line was 48.50 mt (5.34 ODP tonnes), it was agreed that once this line has been converted, the total HCFC consumption by the enterprise of 107.50 mt (11.83 ODP tonnes) will be deducted from the starting point.

10. The other concern raised by the Committee on this issue focussed on the commitments made by the enterprises in the letters submitted pursuant to decision 27/13. Governments were requested to verify that they had reviewed the specific situations related to the projects as well as their HCFC commitments under Article 2F (i.e., control measures for HCFCs), state if they had nonetheless determined that, at the time of submission, the projects needed to use HCFCs for an interim period and that they understood that no funding would be available for the companies involved for future conversion from HCFCs.

11. To address this concern, the Secretariat referred back to contents of a sample of letters submitted by several Article 5 countries where enterprises had selected HCFC technology[4]. While all letters provided the information requested under decision 27/13 none of them included any commitment made by the enterprises not to introduce HCFC-based capacity in the future. Only the reasons for selecting HCFC were provided in these letters stating, *inter alia*, that HCFC was a transitional technology and that the enterprise concerned would convert with its own resources once a final non-HCFC-based technology became commercially available. The main reasons for the selection of HCFC technology included: a better insulation value of foams blown with HCFC-141b as compared to other blowing agents that were available; lower capital and operating costs of HCFC-based technologies; safety issues and local regulatory constraints related to the introduction of a flammable technology; and availability of HCFC-141b based pre-blended polyols in local markets.

[2] UNEP/OzL.Pro/ExCom/65/31.
[3] UNEP/OzL.Pro/ExCom/65/32.
[4] Letters were selected from projects approved between the 28th (July 1999) and the 48th (April 2006) meetings for several Article 5 countries (Argentina, Brazil, China, Colombia, India, Libya, Morocco, Thailand and Bolivarian Republic of Venezuela).

Funding second-stage conversion projects to phase-out HCFC-141b contained in imported pre-blended polyols

12. The issue of funding of projects based on imported polyols containing HCFC-141b was addressed by the Executive Committee at its 61st meeting (July 2010) based on a document prepared by the Secretariat in consultation with the Ozone Secretariat[5]. During the discussion of this issue the Executive Committee noted "the importance of the matter and the desire to ensure that all eligible enterprises using HCFC-141b in pre-blended polyols could benefit from Multilateral Fund assistance"[6], and agreed to establish a contact group to discuss the issue, resulting in adoption of decision 61/47. At that time, it was not possible to foreshadow the potential implications of the decision on second-stage conversions adopted at the 60th meeting as no projects for phasing out HCFC-141b in imported polyols had yet been approved.

13. This issue became relevant at the 65th meeting in the context of the HPMPs of Dominican Republic[7] and Zimbabwe[8] which included requests for funding of second-stage conversion enterprises to phase out HCFC-141b contained in imported pre-blended polyols, as presented below:

(a) In Dominican Republic a foam sector plan was proposed to completely phase-out 177.00 mt (19.47 ODP tonnes) of HCFC-141b contained in imported pre-blended polyols used by 13 foam enterprises, with a commitment by the Government to ban HCFC-141b in bulk as well as amounts contained in pre-blended polyols not later than 1 January 2016. Implementation of the plan would also avoid the emission into the atmosphere of over 126,500 tonnes of CO_2. Two of the enterprises had received assistance from the Fund to convert their CFC-11 production lines to HCFC-141b, and would need to be converted since they rely on the same systems houses supplying polyols to all the foam enterprises; and

(b) In Zimbabwe a foam sector plan was proposed to phase-out 55.50 mt (6.11 ODP tonnes) of HCFC-141b contained in imported pre-blended polyols used by 5 enterprises manufacturing foam, with a commitment by the Government to ban import of HCFC-141b in bulk and contained in pre-blended polyols not later than 1 January 2015. Implementation of the plan would also avoid the emission into the atmosphere of approximately 39,700 tonnes of CO_2. Funding of US $306,713 was approved for three of the enterprises to convert to non-CFC technologies at the 20th meeting (October 1996) of which only US $34,064 was related to the phase-out of CFC-11.

14. During the consideration of the two aforementioned HPMPs, the above issues raised a concern with the Executive Committee for two reasons. Firstly, the phase-out of the amount of HCFC-141b contained in imported polyols would not assist the Parties to comply with the Montreal Protocol control targets as that amount is not subject to reporting under Article 7. Secondly, under the HCFC guidelines (decision 60/44), second-stage conversion projects were considered for full funding of eligible incremental costs only if they were necessary or were the most cost-effective projects (measured in ODP) in the manufacturing sector to meet the control targets up to the 35 per cent reduction in 2020. As phasing out the amount of HCFC-141b contained in imported polyols will not assist the Parties concerned to meet the control targets, those enterprises should only be entitled to funding associated with installation, trials and training. However, after due consideration of the situation prevailing in each country and noting the commitments by the governments to ban imports of HCFC-141b, both in bulk and in imported

[5] UNEP/OzL.Pro/ExCom/61/58.
[6] Paragraph 112 of the Report of the 61st meeting of the Executive Committee (UNEP/OzL.Pro/ExCom/61/58).
[7] UNEP/OzL.Pro/ExCom/65/30.
[8] UNEP/OzL.Pro/ExCom/65/52.

pre-blended polyols by a specific date, the Executive Committee approved full funding of eligible incremental costs of the projects for both HPMPs.

15. In Dominican Republic and Zimbabwe all the HCFC-141b used in foam applications was based on imported pre-blended polyols. However, the situation in Egypt[9] and Viet Nam[10] was more complex, given that HCFC-141b was imported both in bulk by systems houses or large foam enterprises for *in situ* blending (and reported under Article 7), and in pre-blended polyols by systems houses and chemical distributors. As all polyols locally pre-blended or imported were treated the same by the systems houses and chemical distributors, the foam enterprises were unable to discriminate between locally manufactured or imported polyols. Under these circumstances, it is not possible to ascertain whether the HCFC-141b used at each enterprise will contribute to meeting the control targets under the Montreal Protocol. Furthermore, foam enterprises in countries which by necessity have to rely only on imported HCFC-141b-based pre-blended polyols (such as Dominican Republic or Zimbabwe) could be seen to have been treated differently from similar enterprises in countries where the HCFC-141b-based polyols are locally pre-blended from imported HCFC-141b (i.e., Egypt or Viet Nam).

16. From the above, the following observations might be relevant to consider.

(a) Although the phase-out of HCFC-141b contained in imported polyols would not assist the countries concerned to meet the control measures, the actual physical elimination of the consumption of HCFC-141b would in effect be achieved by the foam enterprises in those countries. Accordingly, converting enterprises using HCFC-141b imported in pre-blended polyol could contribute as much to the overall reduction in consumption as those using HCFC-141b in bulk or HCFC-141b in domestically manufactured pre-blended polyol as they reduce the demand for HCFC-141b globally;

(b) The approach being adopted for funding HCFC-141b phase-out would provide for more equitable and fair treatment of all foam enterprises using HCFC-141b as a foam blowing agent irrespective of whether pre-blended locally at an enterprise or a systems house or being imported pre-blended;

(c) The reduction of the consumption of HCFC-141b globally would have a positive impact on the climate given that the global warming potentials of alternative blowing agents introduced so far to replace HCFC-141b have been lower than that of HCFC-141b[11]; and

(d) There is a strong commitment by Article 5 countries to ban imports of HCFC-141b, both in bulk and in pre-blended polyols, once approved projects have been implemented and the entire sector has been converted.

17. In light of the above, the Executive Committee might wish to continue considering funding second-stage conversion projects to phase-out HCFC-141b contained in imported polyols on a case-by-case basis.

[9] In 2010, 126.23 ODP tonnes of HCFC-141b were imported for the production of foam while 100.87 ODP tonnes of HCFC-141b were contained in imported polyols (UNEP/OzL.Pro/ExCom/65/32).

[10] In 2009, 52.60 ODP tonnes were imported for the production of foam while 170.00 ODP tonnes of HCFC-141b were contained in imported polyols (UNEP/OzL.Pro/ExCom/63/55).

[11] In the few cases that HFC-245fa has been selected as the replacement of HCFC-141b, it has been co-blown with water, resulting in a lower amount of blowing agent used as compared to HCFC-141b and thus resulting in a lower impact to the climate.

Recommendations

18. The Executive Committee may wish to:

(a) Note document UNEP/OzL.Pro/ExCom/66/49 containing information on previous conversions funded by the Multilateral Fund, describing the conditions under which agreements were signed with Article 5 countries for the phase-out of CFCs;

(b) Consider that conversions of new HCFC production lines in second-stage conversion enterprises that were established after the enterprises were converted to a non-CFC alternative are entitled to full funding of eligible incremental costs provided that the new lines were established prior to the cut-off date of 21 September 2007, and on the understanding that the cost of replacement or retrofit of any equipment item installed after the cut-off date will not be eligible for funding; and

(c) Consider full funding of eligible incremental cost for second-stage conversion projects to phase-out HCFC-141b contained in imported polyols on a case-by-case basis on the understanding that the governments concerned agree to make commitments to ban imports of HCFC-141b, both in bulk and in pre-blended polyols, immediately after all eligible enterprises have been converted and are no longer using HCFC-141b as a foam blowing agent.

Annex I
Brief analysis of relevant decisions on HCFCs

Introduction

1. Although prior to 2007 the only control targets for production and consumption of HCFCs for Article 5 Parties to the Montreal Protocol were the freeze in 2016 and the complete phase-out in 2040, decisions addressing specific aspects of consumption and phase-out of HCFCs have been taken by the Parties since November 1993 (5th meeting), and by the Executive Committee since March 1994 (12th meeting)[12].

Decisions related to the selection of HCFCs as replacement for CFCs

2. After the 12th meeting, projects submitted to the Executive Committee proposed conversion to HCFC technology only in specific sectors and were approved for use only in areas where more environment-friendly and viable alternative technologies were not available. By a decision adopted at the 15th meeting in December 1994[13] (and later reaffirmed in decision 17/17), the Committee requested implementing agencies when preparing projects for the conversion of manufacturing of foam insulation for domestic refrigerators to note a presumption against HCFCs. It also requested that proposals should include a full justification for the selection of HCFC technology and an estimated potential future cost of a second-stage conversion. In accordance with decisions 19/2 (May 1996) and 20/48 (October 1996), in addition to providing a full explanation for the selection of HCFC-based technology, the implementing agencies were also requested to make it clear that the enterprises concerned had agreed to bear the cost of subsequent conversion to non-HCFCs.

3. In response to decision 23/20 (November 1997) all project proposals that were submitted by the implementing agencies from the 24th meeting (March 1998) onwards included a comprehensive outline of the reasons for the selection of HCFC technology, and where possible, the length of time the enterprise intended to use it. Following the 26th meeting the full information regarding the selection of HCFCs contained in the project document was also included in project evaluation sheets prepared by the Secretariat (decision 26/26).

4. At the 27th meeting (March 1999) the Executive Committee expressed its appreciation for the increased information and justification provided for the selection of HCFC, and further urged the implementing agencies to take seriously the obligations relating to providing Governments with information on available alternatives, and further requested agencies to provide a letter from the Government concerned for projects where HCFC-based technology was selected. In the letter, the country should "verify that it had reviewed the specific situations involved with the project(s) as well as its HCFC commitments under Article 2F; state if it had nonetheless determined that, at the present time, the projects needed to use HCFCs for an interim period; and state that it understood that no funding would be available for the future conversion from HCFCs for these companies" (decision 27/13).

5. Since the 27th meeting, all project proposals for which HCFC technology had been proposed were accompanied by the mandatory letter from the beneficiary governments addressing decision 27/13. Project proposals submitted to the Secretariat without the Government's letter were considered as incomplete and were not forwarded to the Executive Committee for consideration. The letters from

[12] The decisions on HCFCs adopted by the Parties up to their nineteenth meeting in September 2007, and the Executive Committee up to the 54th meeting in April 2008 are presented in chronological order in Annex I of document UNEP/OzL.Pro/ExCom/55/47.

[13] Paragraph 129 of the Final Report of the 15th meeting of the Executive Committee (UNEP/OzL.Pro/ExCom/15/45).

governments explaining the reasons for the choice of HCFC-141b in projects were included in meeting documents as per decision 34/51 (July 2001).

6. Pursuant to decision 36/56(c) (March 2002), information on restrictions on imports into non-Article 5 countries with regard to products made with or containing HCFCs and the cost situation for alternatives to CFCs was included in all project proposals. Also pursuant to decision 36/56(d), from the 37th meeting the Secretariat sent letters to national ozone units in countries for which HCFC-based projects had been approved, with copies to their Ministries of the Environment and Foreign Affairs, recalling that HCFC-141b projects would be excluded from funding in the future for second-stage conversion.

7. In its decision 38/38(b) (November 2002), the Executive Committee reaffirmed as a condition for approval that for projects to phase out CFCs by conversion to HCFC technologies, governments should have officially endorsed the choice of technology and it should have been clearly explained to them that no further resources could be requested from the Multilateral Fund for funding any future replacement for the transitional HCFC technology that had been selected. After that meeting and prior to the 19th meeting of the Parties (September 2007), decisions on HCFC taken by the Executive Committee were related to the eligibility of funding HCFC phase-out management studies (decision 42/7, April 2004), and the approval of the project for the "development of a suitable strategy for the long-term management of HCFCs, in particular HCFC-22, in China" (decision 43/19, July 2004).

Decisions on second-stage conversions and their application to phase-out projects

8. In 2007 Parties to the Montreal Protocol agreed that the funding available through the Multilateral Fund in the upcoming replenishments shall be stable and sufficient to meet all agreed incremental costs to enable Article 5 Parties to comply with the accelerated phase out schedule for HCFCs, and based on that understanding, directed the Executive Committee to make the necessary changes to the eligibility criteria related to the post-1995 facilities and second conversions (paragraph 5 of decision XIX/6). Pursuant to the aforementioned decision the issue for funding for second-stage conversion projects was considered by the Committee at its 53rd meeting in November 2007[14].

9. Deliberations on this and other issues[15] continued until the 60th meeting (April 2010) when the Executive Committee decided[16] that full funding of eligible incremental costs of second-stage conversion projects will be considered in those cases where an Article 5 Party clearly demonstrates in its HPMP that such projects are necessary to comply with the HCFC targets up to and including the 35 per cent reduction step by 1 January 2020 and/or are the most cost-effective projects measured in ODP tonnes that the Party concerned can undertake in the manufacturing sector in order to comply with these targets. Funding for all other second-stage conversion projects will be limited to funding for installation, trials, and training (decision 60/44(b)).

10. In light of the principles contained in decision 60/44(b), the Secretariat reviewed second-stage conversion projects submitted by Dominican Republic[17] and Morocco[18] as stand-alone projects, and by

[14] Paragraphs 36 to 42 of document UNEP/OzL.Pro/ExCom/53/60 recommended that, in the process of developing HPMPs, implementing agencies and the Ozone Units should include, inter alia, a survey of the enterprises that had converted to HCFCs, indicating the year of the conversion, the technology currently used, the capacity at the time of conversion, the level of HCFC consumption in the previous years, and the planned timing for the next conversion.
[15] The other policy issues were: cut-off date for installation of HCFC-based manufacturing equipment; starting point for aggregate reductions in HCFC consumption; and eligible incremental costs of HCFC phase-out projects.
[16] Principles for the first stage of HPMP to achieve the 2013 and 2015 HCFC phase out targets to be reviewed by the Executive Committee no earlier than the last meeting in 2013.
[17] UNEP/OzL.Pro/ExCom/61/37.
[18] UNEP/OzL.Pro/ExCom/62/41.

Indonesia[19] and the Islamic Republic of Iran[20] as part of their HPMPs to the 61st and 62nd meetings. In the respective project evaluation sheets, the Secretariat provided information related to enterprises that were previously funded for conversion to HCFC technology and the reasons given for including them in stage I of the HPMPs. However, at its 62nd meeting the Executive Committee concluded that the analysis presented in the meeting documentation did not fully demonstrate that such projects were necessary to comply with the 35 per cent reduction in HCFC consumption. Accordingly, the Committee provided further guidance for the justification of second-stage conversion projects by requesting the submission of the following information:

(a) The proportion of HCFCs consumed by enterprises that received assistance for CFC phase-out, as a percentage of: total HCFC consumption; total HCFC consumption in the manufacturing sector; and total consumption of HCFC-141b in the foam sector; and

(b) The estimated cost-effectiveness value, in ODP and metric tonnes, of the proposed second-stage conversion projects as compared with the estimated cost-effectiveness of phasing out HCFC consumption in other manufacturing enterprises in all sectors (decision 62/16).

11. Stage I of HPMPs addressing second-stage conversion projects were submitted by the governments of Brazil[21], China (solvent sector plan)[22], Dominican Republic[23], Egypt[24], Jordan[25], Lebanon[26], Malaysia[27], Mexico[28], Viet Nam[29] and Zimbabwe[30] between the 63rd and the 65th meetings. Based on the information provided in the project proposals, further discussions with relevant bilateral and/or implementing agencies, and in light of the requirements of decisions 60/44(b) and 62/16, the Secretariat included more detailed information in these submissions with regard to second stage conversions than had been in previous meetings. However, as noted by the Executive Committee, the information provided was still not sufficiently detailed to assess whether funding of second-stage conversion projects was necessary to meet compliance targets, or was the most cost-effective means of achieving those targets, particularly in the cases of the HPMPs for Egypt and Malaysia and the solvent sector plan for China. In these three cases, during the meeting concerned, the Secretariat prepared a more detailed analysis of the matter and submitted it to relevant contact groups that had been constituted to review the individual HPMPs. Based on the additional information, the Executive Committee was able to approve the two HPMPs and the sector plan.

12. Noting that the information that was being provided to the Executive Committee was not sufficient for assessing whether funding of second-stage conversions was necessary to meet compliance targets or not, following the 65th meeting the Secretariat prepared a sample justification for second stage conversion projects (based on the detailed analysis prepared by the Secretariat for the HPMP for Malaysia submitted to the 65th meeting) and forwarded it to relevant bilateral and implementing agencies to be used for submitting second-stage conversion projects in future. For ease of reference this analysis is contained in the paragraphs below.

[19] UNEP/OzL.Pro/ExCom/62/35 and Add.1. The HPMP was approved at the 64th meeting.
[20] UNEP/OzL.Pro/ExCom/62/36 and Add.1. The HPMP was approved at the 63rd meeting.
[21] UNEP/OzL.Pro/ExCom/64/25 and Add.1.
[22] UNEP/OzL.Pro/ExCom/65/28.
[23] UNEP/OzL.Pro/ExCom/65/30.
[24] UNEP/OzL.Pro/ExCom/65/32.
[25] UNEP/OzL.Pro/ExCom/65/39.
[26] UNEP/OzL.Pro/ExCom/64/37.
[27] UNEP/OzL.Pro/ExCom/65/41.
[28] UNEP/OzL.Pro/ExCom/64/39 and Add.1.
[29] UNEP/OzL.Pro/ExCom/63/55 and Add.1.
[30] UNEP/OzL.Pro/ExCom/65/52.

Analysis of second-stage conversion projects: an example

13. The foam sector plan of Malaysia will phase out 94.6 ODP tonnes of HCFC-141b, including 68.86 ODP tonnes by enterprises that received funding for conversion of CFC-11 to HCFC-141b. The proportion of HCFCs consumed by enterprises that received assistance from the Fund to phase-out CFCs, as a percentage of: total HCFC consumption; total HCFC consumption in the manufacturing sector; and total consumption of HCFC-141b in the foam sector, is presented in Table 1 below.

Table 1.

	HCFC (mt)	**HCFC consumption by enterprises previously assisted and included in the proposal (%)**
Total baseline HCFC consumption	515.75	13.4
Total HCFC consumption in manufacturing sectors	271.24	25.4
HCFC-141b consumption in foam sector	146.85	46.9
HCFC-141b consumption by enterprises already assisted	115.88	59.4
HCFC-141b consumption by enterprises previously assisted and included in project proposal	68.86	100

14. The estimated cost-effectiveness value, in ODP and metric tonnes, of the proposed second-stage conversion projects as compared with the estimated cost-effectiveness of phasing out HCFC consumption in other manufacturing enterprises in all sectors, is presented in Table 2 below.

Table 2.

Manufacturing sector	**HCFC**	**Consumption (ODP tonnes)**	**C/E (mt)**	**C/E (ODP tonne)**
RAC non-Article 5 companies	HCFC-22	99.44	7.00	127.27
RAC local companies	HCFC-22	24.04	7.00	127.27
XPS Foam	HCFC-22; HCFC-142b	0.60	5.00	84.03
Fire fighting	HCFC-123	0.26	5.00	250.00
Solvents	HCFC-225	0.05	13.00	185.71
Foams first conversions included in stage I	HCFC-141b	25.74	9.79(*)	89.00
Foams first conversions not included in stage I	HCFC-141b	5.22	9.79	89.00
Subtotal enterprises that did not receive assistance		155.35		
Foams second conversions included in stage I	HCFC-141b	68.86	8.04(*)	73.09
Foams second conversions not included in stage I	HCFC-141b	47.02	9.79	89.00
Subtotal second-stage conversions		115.88		
Total Manufacturing Sector		271.23		
Total eligible manufacturing sector in Malaysia (excluding non-Article 5 companies)		171.79		
Total eligible manufacturing sector in Malaysia that has not received previously assistance		55.91		

(*) Real cost effectiveness as recommended by the Secretariat

15. The analysis of the need for second stage conversions to comply with the 35 per cent target in 2020 is presented below:

(a) HCFC consumption baseline: 515.75 ODP tonnes

(b) Tonnage required to achieve 35 per cent reduction: 180.51 ODP tonnes

(c) HCFC consumption in the manufacturing sector eligible for funding from enterprises that have not received funding in the past: 155.35 ODP tonnes

(d) Since the country has to reduce 180.51 ODP tonnes by 2020, only 25.16 ODP tonnes could come from second-stage conversions

(e) However, as shown in Table 2 above, the cost-effectiveness of enterprises previously funded is better than that of non-second stage enterprises.

16. Conclusion: The second-stage conversions proposed are the most cost-effective conversions, measured in ODP tonnes that the Party can undertake in the manufacturing sector in order to comply with the 2020 target. Therefore, the 68.86 ODP tonnes of consumption in previously assisted enterprises is eligible for funding according to decision 60/44.

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