



**United Nations
Environment
Programme**

Distr.: General
3 October 2008

Original: English



**Twentieth Meeting of the Parties to the
Montreal Protocol on Substances
that Deplete the Ozone Layer**
Doha, 16–20 November 2008

Item 4 (a) (i) of the provisional agenda*

**Discussion of Montreal Protocol-related issues:
replenishment of the Multilateral Fund for the
Implementation of the Montreal Protocol:
presentation and consideration of the supplemental report of the
Technology and Economic Assessment Panel Replenishment Task Force**

**Executive summary of the supplemental report of the Technology and
Economic Assessment Panel Replenishment Task Force**

Note by the Secretariat

The annex to the present note contains the executive summary of the supplemental report of the Technology and Economic Assessment Panel Replenishment Task Force. The executive summary is presented as received from the Panel and has not been formally edited.

* UNEP/OzL.Pro.20/1.

Annex

Executive summary of the supplemental report of the Technology and Economic Assessment Panel Replenishment Task Force

1. After considering the report of the Technology and Economic Assessment Panel on replenishment, the Open-ended Working Group at its twenty eighth meeting requested the Panel to investigate a number of specific issues, and to present its findings in the form of a Supplementary Report. The Replenishment Task Force's Supplementary Replenishment Report was placed on the Ozone Secretariat's website on 7 October 2008 and sent to Parties soon thereafter. The report of the RTF includes a separate chapter on each of the issues that the Open-ended Working Group asked it to investigate. This chapter is a summary of the discussions and findings in chapters three to twelve of this supplementary report.

2. As a first request, the Working Group asked the Panel to study the impact that varying inflation on all activities would have on the replenishment. In that regard, the Parties asked the Panel to assume several different inflation rates, and to explain the rationale for using the rates that were selected. After considering various source materials on inflation, the Panel decided to calculate the impact of applying both a 3 and 5.5% inflation rate to funding components that it believed could be adjusted for inflation. The Panel then considered the application of these rates to both the baseline and 2012 scenarios that it had developed for the original May 2008 replenishment report. In the case of the baseline scenario, the Panel found that the application of the 3% and 5.5% inflation rates resulted in an increase in the funding requirement of about US \$4.5 million for each percent inflation. In the case of the 2012 funding scenario, that Panel found that applying those rates resulted in an increase of funding of about US \$9 million for each percent inflation.

3. The Panel also studied the Parties' request that it look at institutional strengthening (IS) funding scenarios that considered the needs likely to be encountered in the next triennium in implementing all aspects of the work programme, giving adequate attention to Group 4 countries. After reviewing the body of Executive Committee work on this issue, and considering the case that has been made by various Parties, the Panel concluded that it was difficult to find good arguments to justify either a specific level of decrease or a specific level of increase in IS funding. It also noted, however, that the funding already suggested by the Panel for HCFC servicing included several elements that could be considered as institutional strengthening activities. As a result, the Panel suggested that the funding scenarios published in the May 2008 replenishment report could be considered to contain an implicit increase of IS funding, even if the direct IS component was kept constant.

4. The Parties also requested the Panel to perform an analysis of the costs that might arise in the collection, transport and destruction (or re-deployment) of existing stocks of contaminated or confiscated CFCs and halons. To support this effort, the Open-ended Working Group had requested Article 5 Parties to submit information on their available stocks of contaminated or confiscated CFCs and halons to the Ozone Secretariat by 15 August 2008. Data from the 28 responses received to this request were extrapolated by the Panel, which reached a conclusion that an upper bound of contaminated or confiscated CFCs and halons that might be available for destruction would be about 1500 tonnes of CFCs and halons. Because the original RTF report assumed that three times this level (4500 tonnes) could be destroyed with the US \$27 million allocated in the report to destruction activities, the Task Force's supplementary report concluded that the US \$27 million that was included in the original RTF report would be sufficient to cover all possible costs related to the transport and destruction of assembled contaminated or confiscated stocks of CFC and halon in the next triennium.

5. The Panel also studied the Parties' request for an estimate of the impact that alternative cut-off dates (30 September 2007, 1 January 2004, as well as 1 January 2000 and 1 January 2010) would have on this replenishment and the next two replenishments. As a reminder, the notion of cut-off dates refers to a date after which capacities for manufacturing chemicals, products and equipment would not be eligible for funding. The Multilateral Fund has had a cut off date of 25 July 1995 for all sectors and chemicals, but has not taken a decision on what cut-off date might apply to HCFC projects in the aftermath of the Parties decision to accelerate the HCFC phase-out. While the historic application of the cut-off date guideline by the Multilateral Fund relied primarily on a project by project evaluation of the implementing agencies to determine when new capacity was installed in related firms, it was not possible for the Task Force to undertake anything approaching such a detailed review. Instead, the Task Force used consumption as a surrogate for added capacity and made the assumption that all

consumption beyond the level that was reported for the cut-off year would be ineligible for funding. Because some portion of the consumption increases that occur after the cut-off date (year) is likely to be associated with greater utilisation of existing capacity (rather than the addition of new capacity) the impact estimated by the Task Force should be considered as an upper bound estimate of the actual impact that would result from the cut off dates noted.

6. The Panel's complex analysis of these items showed that, as could be expected, the selection of earlier cut-off dates (e.g., 2000 or 2004) resulted in lower levels of consumption being eligible for funding. However, due to the fact that many Parties did not increase their HCFC-141b foams consumption until after 2000, the Panel found that earlier cut-off dates would require Parties to bring forward higher cost refrigeration and air-conditioning projects to meet the initial freeze and the subsequent 10% reduction obligations. As a result, the Panel concluded that an early cut-off date would actually lead to an increased funding requirement in the next triennium 2009-2011 (or in the next two trienniums), although it would be lower thereafter. For example, the Panel found that with a cut-off date of 2000, the baseline scenario would yield a funding requirement for HCFC capital costs that would be about US \$16 million higher than for a cut-off date of 2007, while an assumption of HCFC capital costs plus 2 years operating costs would necessitate an increase in funding of about US \$105 million for the same cut-off date of 2000. Also of note is the Panel's finding that, even though the funding needed to ensure compliance would increase if an earlier cut-off date would be used, the higher level of funding actually supports fewer Parties. This is because many Parties undertook most of their shift to HCFC-141b in foams after 2000, and Parties in this position would have a relatively small HCFC-141b consumption. For example, in the case of a 2000 cut-off date, several Parties would not have any eligible reduction activities beyond the first 10% reduction step that will occur in 2015.

7. In addition to the issue of cut-off dates, the Panel was also asked to consider scenarios for funding different components of second stage conversions (that is, conversions of plants that were previously converted by the Multilateral Fund from CFC-11 to HCFC-141b). Specifically, the Panel was requested to consider funding only incremental capital costs, incremental operating costs and technical assistance for such projects, taking into consideration Decision XIX/6. Also in this case the Panel used available HCFC consumption reports; specifically, in undertaking this analysis, the Panel was able to use available MLF project completion data to calculate the percentage of second conversions in the total HCFC-141b foam consumption for different cut-off dates.

8. The consideration of cut-off dates is made more complex by the fact that there are two ways of considering second conversions of foam operations: (1) assuming that these conversions take place in a gradual manner over time, as a percentage of the total conversions, and (2) assuming that they take place as soon as possible, and before any conversions from new HCFC equipment are considered. The analysis of these different assumptions was largely undertaken in an aggregate (country group) manner, and leads to substantial differences in funding requirements in different trienniums. Because this analysis cannot be really done on a country specific basis, the resulting funding impact findings should be considered to indicate reductions in funding relative to an assumption that all second conversions would be eligible. Compared to a scenario that assumes full funding of second conversions, a decrease in the funding requirement in the range of US \$0-50 million was calculated for the next triennium for the various scenarios and for the cut-off dates of 2007 and 2004. A decrease in the range of US \$0-80 million was determined for the triennium thereafter. While values for the third triennium are somewhat more difficult to summarise, it is clear that a 2000 cut-off date would lead to lower values because there is no consumption that is left as eligible for funding. As it relates to all of these scenarios and the funding estimates suggested, it needs to be emphasised that the actual funding differences that would take place would be highly dependent on when a specific Party will undertake second conversions, and on the actual consumption levels faced by related firms (as opposed to the aggregate estimates by the Task Force). It is also important to note that while the area of second conversions may be important in some Parties, in others, it may not be an issue. Estimates of the impact of the way of funding second conversions have also been given for the 2012 funding scenario, in order to make a comparison with the baseline funding scenario.

9. As requested by the Parties, this Supplementary Report also provides a more complete explanation of how cost-effectiveness factors have been constructed in different sectors, and which effects were taken into account. It also attempted to address the Parties request for a review of the effect that the conversion of equipment at the end of its useful life would have on the cost-effectiveness figures for the consumption sector and the overall funding requirement. As regards this latter issue, the Panel concluded that it was difficult to determine precise quantitative impacts, and that the funding impact of conversions of equipment would be sensitive to the cut-off dates agreed by the Parties and the assumptions on the lifetime of related equipment.

10. Chapter 8 of this report deals with climate effects. In this chapter, the Panel gives qualitative considerations for a replenishment scenario (the May 2008 funding requirement scenarios), a baseline, a functional unit and a technical potential scenario. It also describes the way a functional unit approach/scenario would look at the issues of GWP, energy efficiency and costs. However, since there are uncertainties related to energy efficiency for the different replacement options available, since the technology options are not clear and since capital and operating costs will evolve in currently unpredictable directions over the next years that the Fund will be operated, the chapter concludes that it is too early to come up with quantitative estimates for each of the scenarios.

11. Chapter 9 of this report deals with the issue of additional reference data (i.e., HCFC consumption data for the year 2007). Since only a third of the Group 1 and 2 countries had submitted HCFC consumption data for 2007 by the time this report was completed, it was not possible for the Task Force to calculate the precise impact on the funding requirement scenarios as published in the May 2008 report. However, of the six Group 2 Parties that did report 2007 HCFC consumption data, three Parties reported an aggregated HCFC consumption that was 8-15% higher than in 2006, and three reported a 40-80% higher consumption level. If this trend were to continue after 2007 (which the Panel thought likely) the Panel believed that the funding requirement for the next triennium 2009-2011 could well increase.

12. Chapter 9 also deals with the resubmission of Chinese data for the years 2005 and 2006. The originally submitted Chinese export data were not correctly registered, which led to wrong consumption levels being published for the different HCFCs for China for the year 2005, as well as for 2006. The Task Force has studied the resubmitted data and, as requested, has made new funding requirement calculations for the three trienniums. The corrected (new 2005-2006) Chinese data result in a slight reduction of the funding requirement, i.e., the baseline funding for the next triennium will be reduced by US \$1.5-2.5 million, and the 2012 funding requirement will be reduced by US \$5-7 million. Similar reductions would apply to the trienniums thereafter.

13. The Panel's Supplementary Report also includes a chapter dealing with the Parties' request that the Panel reconsider its figures for demonstration projects taking into account the different applicability of technologies due to climate diversity among countries. In its analysis, the Panel was asked to make the corresponding cost adjustments to the remaining HCFC compliance activities on the assumption that the demonstration activities would in fact produce HCFC reductions. In this regard, the Panel suggested establishing 10 demonstration projects, two in each of five different temperate regions. It also assumed that the cost of these demonstration projects would be twice as high as normal phase-out projects due to the inclusion of more specific construction elements and the addition of temperature and power monitoring stations. Taking into account this array of demonstration projects, and factoring in the reductions that they would be expected to achieve, the panel calculated that related costs would be about US \$2.7 million, which would imply a corresponding reduction of about US \$2.7 million from what the Panel had originally proposed for demonstration projects.

14. Chapter 11 considers the impact of export percentages and the share of multinational ownership that would be ineligible for funding in Article 5 companies. In accordance with Multilateral Fund rules, project funding is reduced by the percentage that a firm exports to non-Article 5 Parties and by the percentage multinational ownership share of a firm. In addressing this issue, the May 2008 report had assumed a 20% reduction in the funding due to exports and multinational ownership in the refrigeration and air conditioning sectors. As no further reliable data on the export and multinational factors have been obtained since the May 2008 report, this assumption has been retained in the Supplementary Report. However, to correct the fact that the May 2008 report had not considered the application of the export and multinational ownership factors to the foams sector, the Supplementary Report investigates the impact of a 20% export and multinational ownership assumption for the foam sector. The inclusion of this assumption results in a reduction of US \$10-15 million dollars in the total funding requirement for the next triennium. The impact of even higher percentages of exports and multinational ownership were also calculated and are included in the report.

15. In conclusion, as of September 2008, the Replenishment Task Force estimated the total funding for the 2009-2011 replenishment to enable the Article 5 Parties to comply with all relevant control schedules under the Montreal Protocol to be in the range of *US \$338.7-629.8 million*. Specifically, the baseline funding scenario considers estimated required funding to be in the range of *US \$338.7-387.2 million*, while the 2012 funding scenario estimates required funding to be in the range of *US \$510.6-629.8 million*. These numbers showed only small changes compared to numbers in the May 2008 Replenishment Task Force report (about US \$5 million in case of the baseline scenario and about US \$10 million in case of the 2012 funding scenario). Specifically, the changes were related to

the re-calculation of the funding requirement after the re-submission of Chinese data (which were not dealt with properly in the May 2008 report), and the re-calculation of the demonstration projects impact on the total funding requirement. All other factors that may have an impact on the funding requirement and which have been analysed in the Supplementary Report are presented solely for the Parties' consideration.

16. Chapter 12 gives concluding remarks and summarises the impact of different factors on the total funding requirement, in particular for the next triennium.

17. Annex 1 gives the list of issues requested for further investigation. Annex 2 presents again the funding requirement tables from the May 2008 Replenishment Report. As requested by the Open-ended Working Group, Annex 3 gives a risk analysis for non-compliance if a Party has to deal with a large (9%) growth in HCFC consumption in the period 2010-2012, which would have to be reduced again to the baseline level by the year 2013.
