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**FINAL EVALUATION REPORT ON HALON BANKING PROJECTS FOR
COUNTRIES WITH LOW VOLUMES OF INSTALLED CAPACITIES**

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I. Background

1. The evaluation of halon banking and management projects in countries with low level of installed halon capacities is part of the 2004 Monitoring and Evaluation Work Programme. Its purpose is to supplement the evaluation report on the halon sector presented to the 40th meeting of the Executive Committee, (document UNEP/OzL.Pro/ExCom/40/08) which had focused on countries with large volumes of installed halon capacity. The present report also analyzes regional halon banking projects.

2. Halon Banking, Recovery and Recycling (HBR&R) projects and halon management plans have a key role to play in sustaining existing halon fire installations for critical users. During the transitional period of adjustment from ODS to non-ODS fire fighting, fire suppression and fire control agents and technologies, halon banks are expected to provide the buffer needed. The HBR&R will allow for maintaining critical levels of occupants safety and property protection during the transition. This period could extend for many years for certain critical applications while the total quantity of halon installed and needed to sustain these systems would gradually diminish.

3. The MLF has very early on recognized the importance of recovery and recycling of halons. Particularly bilateral agencies, partly in cooperation with UNDP, initiated and implemented from 1992 onwards a series of R&R projects in several countries, which were later combined with halon management projects.

4. The 18th Meeting of the Executive Committee approved on an interim basis guidelines for the type of equipment and volume of funding eligible for high, medium and low-level consuming countries (Decision 18/22, para. 51):

- (i) countries with high-level installed capacities exceeding 250 MT of halon 1301 and 1,000 MT of halon 1211 should qualify for reclamation facilities for halon 1301 and halon 1211, respectively;
- (ii) countries with a medium level of installed capacity (250 MT of halon 1301 and 1,000 MT of halon 1211) should be supported for servicing requirements with halon 1211 and halon 1301 recycling and recovery machines;
- (iii) countries with a low level of installed halon capacities should qualify for a one time funding of US\$ 25,000.

5. Pre-condition for approvals is that regulations facilitating production and import bans should be established within six months after the reclamation centre is set up. It was further stipulated that the costs for providing capital equipment and management would range from US \$250,000 to US \$500,000. Funds for halon 1211/halon 1301 reclamation centres could, if appropriate, be provided on a concessional basis containing a 25 per cent grant component. In order to facilitate a final decision by the Executive Committee on halon banking guidelines, the Secretariat and the Implementing Agencies should closely monitor these projects as a basis for assessing the interim guidelines in terms of their commercial viability and their financial impact on the Fund, and for assessing the possibility of establishing a regional halon banking programme, including the possibility of a concessional loan component.

6. At its 26th Meeting, the Executive Committee approved the development of a halon bank management plan for six English-speaking Caribbean countries to the amount of US\$ 177,410 or US\$ 29,568 per country, on the understanding that, with the exception of two other similar regional projects that were in the pipeline, no other such projects should be submitted for approval until more experience in their implementation had been gained. These two projects in four Gulf countries were approved at the 30th Meeting for implementation by Germany and France, for a total amount of US\$ 235,000 or US\$ 58,750 per country. This was preceded by a survey of installed halon capacities and the institutional framework with a combined funding of US\$ 35,000. Implementation started with a regional halon conference organized by UNEP with a budget of US\$ 50,000. Developing import restrictions for virgin halons, promoting recovery and recycling, public awareness and training about the use of alternatives are the key components of these projects.

7. A halon management project for Vietnam was approved at the 29th Meeting, to be implemented by UNIDO with funding of US\$ 25,000. This was followed by approvals at the 35th and 37th Meetings of regional projects for seven countries in Eastern and Southern Africa as well as six countries in West and Central Africa, to the amount of US\$ 350,000 and US\$ 300,000 respectively, corresponding to US\$ 50,000 per country in both cases. At the 37th Meeting, also the halon management project for Macedonia was approved with an allocation of US\$ 25,000, after some discussions about a regional approach for the countries of former Yugoslavia didn't result in a common approach.

8. Subsequently, four individual projects were approved at the 41st, 42nd and 43rd Meetings for Chile and Croatia (US\$ 60,000 each) and for Bosnia and Herzegovina and Oman (US\$ 64,600 each). The above projects show that the Guidelines were applied by the Executive Committee with considerable flexibility, both in terms of funding for each country and the approval of regional projects for which the amount of US\$ 25,000 per country was doubled. Table 1 in the Annex provides a list of the 27 countries with national halon banks, and shows also the 23 countries participating in regional halon bank projects, with the Meetings when they were approved and the related project preparation funding.

II. Evaluation Issues and Approach

II.1 Evaluation Issues

9. The main evaluation issues were defined in the terms of reference as follows:

- (a) What can limited funds of US \$25,000 (or higher for several countries in this category) achieve in countries with low volume of installed halon capacities?
- (b) What experiences have been made with regard to national or regional halon banks?
- (c) What results have been obtained in implementing national halon management plans without R&R facility?

- (d) What further activities will appear necessary in light of compliance requirements and phase-out performance and project results observed so far?

10. In more detail, the questions related to halon management were:

- (a) To what extent have the governments established import bans for virgin halon, and issued regulations for servicing existing installations and mobile fire extinguishers?
- (b) What measures have been taken to inform the users and the general public about the phase-out schedule and the use of alternatives?
- (c) Have the main users (incl. the Armed Forces and oil companies) been identified, registered and consulted about their participation in the phase-out plan?
- (d) Have critical users been identified and their future demand been assessed?
- (e) What measures have been taken to train fire protection services and halon users about options for and use of alternative systems, e.g. FM200, Inergen or CO₂?

11. For those countries with halon banks in place, the case studies prepared during the first phase of the evaluation allowed to draw a number of preliminary conclusions which should be taken into account in implementing on-going HBR&R projects and preparing new ones (see section IVc of document UNEP/OzL.Pro/ExCom/40/8). These lessons learnt needed to be further verified and were used as evaluation issues for the planned case studies:

- (a) Is a Government agency or a private company running the halon bank?
- (b) Is the HBR&R project achieving the intended results and is it a profitable operation or does it need permanent Government subsidies?
- (c) How are operators of halon banks supervised by the Government and industry in order to guarantee good quality and fair pricing?
- (d) To what extent are the installed halon capacities and the replacement needs known and recorded?
- (e) Are the time schedules foreseen for the projects realistic and appropriate?
- (f) What about monitoring and reporting after equipment installation and commissioning?
- (g) What are the prospects that the halon banking will become a sustainable operation?
- (h) How has the regional dimension of halon banks been planned in the respective projects (political agreements, logistical considerations, trade regulations between participating countries, maintenance provisions for the equipment, etc.)?

II.2 Evaluation approach

12. The regional halon banking projects in the Gulf countries and English-speaking Caribbean countries as well as anglophone and francophone African countries were evaluated, together with two national halon management plans (Vietnam and Macedonia). In addition to visits to selected countries (Bahrain, Jamaica, Kenya, Lebanon, Qatar, South Africa, Trinidad and Tobago, Vietnam and Yemen), discussions were held twice with Ozone Officers and Implementing Agencies at meetings of the West Asia and the anglophone and francophone African regional networks. The network of English speaking Caribbean countries discussed the draft evaluation report and provided comments for the final version.

13. Specific questions were formulated for each project, based on an analysis of documentation (project documents, progress reports, PCR's) as well as discussions with Ozone officers at the Extraordinary Meeting of the Parties in Montreal, 24-26 March 2004.

14. The information obtained during the field visits was summarized by a consultant for each project in a project evaluation report, which includes an analysis of related policy regulations as well as the remaining tasks in the sector to achieve full phase-out. These reports will be made available on request and on the Intranet site of the Secretariat, in the section 'Executive Committee'. Common findings, conclusions and recommendations are presented in this synthesis report which was prepared by the Senior Monitoring and Evaluation Officer, based on the case studies and additional inputs from the consultant.

15. Comments on the present synthesis were received by Environment Canada, GTZ/PROKLIMA (Germany), UNIDO, the IBRD, UNDP and UNEP. Bahrain, Botswana, Lebanon, Qatar, RSA, Vietnam and Zambia commented on the project case studies. The comments received were taken into account when finalizing the reports. The project case studies are made available on request and on the Intranet of the Secretariat.

III. Halon Consumption Trends and Compliance Situation of Art. 5 Countries

16. For the majority of countries with reported halon consumption, various halon projects, including management plans and R&R projects, have already been approved (45 of 63 countries, including the regional projects). It is encouraging to note that 56 countries with halon consumption have met the freeze (scheduled for 2002), and of these, 44 countries have already phased-out more than 50% of their baseline consumption (scheduled for 2005). 66 countries have no halon baseline and also did not report halon consumption in subsequent years (see overview in Table 1 below and details by country in Table 2 in the Annex).

17. However, 6 countries have as yet to meet the freeze. Haiti and Somalia may need additional projects to achieve compliance with the freeze and the 50 % reduction in 2005 while Mexico and Pakistan could achieve compliance with the freeze by fully implementing the approved projects. The other two which appear to be not in compliance (Lesotho and Yemen) have already a halon banking project as part of a regional project stipulating that this was the last assistance received for full halon phase-out albeit the halon phase-out target was not quantified.

The action required in all these cases is to implement the approved projects in a timely and comprehensive manner.

Table 1
HALON: OVERVIEW OF COMPLIANCE AND BANKING PROJECTS

Category	Freeze	50% Reduction	Number of Countries that Received Halon Projects	Number of Countries with Halon Bank Projects
Countries that appear to be in compliance	58	49	44	38
Countries that could achieve compliance with implementation of approved projects	1	N/A	1	1
Countries that may need additional actions to achieve compliance	4	14	2	2
Countries with No Consumption	68	68	7	4
Countries with insufficient data	2	2	0	0
Total	133	133	54	45

18. The figures above indicate the progress made and the advanced state of phase-out achieved in the halon sector. While no more regional halon bank projects are being planned, several national projects are under preparation or discussion, mostly in countries with low and medium levels of installed capacities (Georgia, Kuwait, Libya, Morocco, Romania). Vietnam has applied for additional funding for halon phase-out in the context of a National Phase-out Plan presented to the 44th Meeting of the Executive Committee.

19. A number of the countries without reported halon baseline and consumption might still have some installed halon capacities from imports in years before 1995, like Uruguay and Venezuela, both of which received projects. Four countries without reported consumption take part in regional halon banks (Bahamas, Barbados, Grenada, and Lebanon). Some installed capacities might be from undeclared halon imports, in particular for the Armed Forces, airlines and petroleum offshore companies. Moreover, halons were imported as part of systems and as fire extinguishers, which are as final products not controlled under the Montreal Protocol and are therefore not recorded as consumption.

IV. Assessment of Project Results

IV.1 Compliance Situation and Phase-out Achieved

20. The most important result is that with a few exceptions the countries benefiting from a halon management project have reduced their consumption in accordance with the targets set by or even ahead of the Montreal Protocol schedules. Of the 25 countries covered by the projects evaluated, only two (Lesotho and Yemen) have not achieved the freeze yet. Other countries (Cameroun, DR Congo, Qatar and Vietnam), which were considered to be in non-compliance in 2003 could return to compliance, thanks to the implementation of an action plan (Cameroun) or

following the correction of data on halon imports which had erroneously included recycled halons which are not to be counted as controlled substances.

21. The large majority (19) of the 25 countries covered by the projects evaluated have already realized the 50 % reduction required to be reached in 2005. Only Botswana, Cameroon, Ethiopia, Lesotho, Qatar and Yemen have still to reach this goal; in particular Lesotho and Yemen have substantial reductions to realize (see Table 2 in Annex).

IV.2 Overview of Implementation Status of the Projects Evaluated

22. The projects in Macedonia and Vietnam have been recently completed while the regional projects are still on-going (see also overview in Table 5 in Annex 1). Macedonia has successfully run an awareness programme among halon users and established very early regulatory controls for halon phase-out which were strictly enforced by the Ministry of Interior. Existing halon systems were progressively changed to non-ODS fire protection systems, beginning with the largest users. Decommissioned halon is stored and considered as a valuable asset by the owners, due to the high prices that could be realized from its sale. Recovered halons are traded within the country, a virtual halon bank is being established. The national phase-out plan was implemented, after initial considerations about a regional approach with other countries which were formerly part of Yugoslavia didn't appear feasible. Now possibilities for using a recycling facility in Serbia are being examined, in particular the cost of transportation and recycling as well as legal obstacles to move halon over the border. The project was completed almost in time and within the budget of US\$ 25,000, implementing agency was UNIDO.

23. UNIDO also implemented the project in Vietnam, this time encountering several problems. A Halon Management Group was established and an inventory database prepared a workshop with stakeholders organized and a halon management plan developed. This project could not resolve the total phase-out of halons in the country. The World Bank developed a proposal for additional funding in the context of a National Phase-out Plan for CFC's and halons. This proposal which includes a request for R&R equipment is before the 44th Meeting of the Executive Committee. Halon import data in recent years were contradictory and made Vietnam appear to be in non-compliance before it was clarified that imported halon 2402 was not virgin halon but recycled. The origin of some of the imports is still not clear, however. Prices quoted for these imports are very high and losses during servicing existing fixed installations are estimated to be between 20 and 25 % per year, much above internationally accepted levels of maximum 3 %. The NOU seems to have difficulties in coordinating with the other Government agencies and to exercise control over the main halon users which represent powerful companies in vital sectors of the economy.

24. The regional projects in the Caribbean, West Asia, Eastern and Southern Africa as well as West and Central Africa are in advanced stages of implementation. The surveys of installed capacities have been prepared and the national stakeholder workshops were completed in most countries while import restrictions and regulations are still mostly in drafting stage (for more details see next section below). The planning with regard to the R&R equipment has been revised in all four projects. The equipment has been delivered and installed in the Caribbean albeit some technical problems have still to be sorted out in Jamaica and there seems to be no

need for the halon 1211 equipment delivered to Trinidad and Tobago. Bahrain's Armed Forces have prepared a building and were about to install the equipment at the time of the visit in May 2004 while in the Republic of South Africa it was still being kept in a container on the premises of the private company selected to host the centre. According to most recent information, the recycling operations have not started yet in both centres, apart from some training during the installation of the equipment in Bahrain. Cooperation with the recently established R&R centre in Nigeria is under preparation for the project with West and Central African countries and operational details are being worked out (more details in section IV.4 below).

IV.3 National Surveys, Stakeholder Workshops, Training and Legislation

25. In almost all countries covered by the projects evaluated, national surveys of installed halon capacities have been finalized. National consultants contacted all known halon users and many have responded to the questionnaire sent out, followed, as far as possible, by personal visits. International consultants have provided training with respect to the methodology to be used. Details, format and completeness of the reports vary. Some provided data on each major user contacted and consist of many pages, while others are rather brief and summative. In some cases, misunderstandings and errors in the data collection occurred, mostly by counting recycled halon as virgin or by including alternative fire extinguishing agents as halons. Nevertheless, the reports provide useful insight into the quantity and pattern of installed capacities and current consumption.

26. Cooperation by halon users, including the Armed Forces, was generally good, once an initial barrier had been overcome and a level of trust established. This was very visible during the evaluation visit to Qatar. During discussions between the NOU and the Armed Forces, senior officers were very interested and reacted positively to advice on how to proceed with the halon management. Bahrain where the Army houses the R&R centre is another example for a successful co-operation. In Guinea, the Armed Forces participated actively in the national stakeholder workshop and in follow-up discussions. In some countries, data collection is still difficult and cooperation very limited with oil companies which use halon systems on off-shore platforms and supply vessels, often in significant quantities. These companies want to determine their own phase-out schedules and are sometimes reluctant to disclose data and not willing to invest in alternative systems. In other cases, not all regions could be covered, like for example the Katanga region in the D.R. Congo. In Kenya, some fire contractors reportedly discouraged users from disclosing their halon stocks and created fear that a rapid and forced halon ban would disadvantage the users.

27. The surveys showed that the large majority of the remaining halon capacities are installed in military equipment, civil aviation, oil companies, as well as ships, mines, telecommunication and electricity generation and distribution facilities. Usually a half dozen or so companies or users account for 80% of all installations. This facilitates their identification and follow-up contacts but requires also a skilful approach in order to minimize opposition to the phase-out.

28. In Vietnam, Macedonia and most of countries participating in the regional projects, national workshops of stakeholders have been conducted with active participation, in particular by government authorities, including the fire services, and the larger companies and other users as well as some fire equipment contractors. These workshops served to increase awareness of the

Montreal Protocol and the resulting obligations for the country. There were also the main instruments to transmit information on alternative fire agents and systems, presented by international consultants and supplier companies. While the general awareness was often already prepared by the mass media and the NOU's, concrete and neutral technical information about alternatives is still not sufficient, and prevailing knowledge often distorted by fire equipment contractors. Their primary interest is to promote their particular products rather than to present clients with an optimum choice.

29. The workshops provided a platform to discuss the necessary changes in fire protection regulations which were presented in draft form by the international consultant to start a process of consultations which in most countries is not yet concluded. However, with the exception of Macedonia and Vietnam where the fire services are part of the Ministry of the Interior which strictly enforces all related regulations, in the African and Caribbean countries the fire services usually have limited authority to define and enforce fire protection regulations. Their role is often confined to life protection while halon is related to property protection which in terms of supervision is mostly left to insurance companies. They request and supervise the application of building bylaws and fire protections standards following international codes and practices. However, life and property protection cannot be fully separated and the development and enforcement of the new fire regulations and standards require a more active role of the fire authorities in many countries.

30. The required legislation, decree or regulation needs to establish a list of critical users and to define a phase-out schedule while assuring the supply of recycled halon from either a national recovery and recycling scheme and/or under an import licensing system which allocates temporary quotas and defines a date for banning the imports of virgin halons. Such legislation or regulations are in place only in a few of the countries evaluated but they are in various stages of preparation in the others, with help from the projects and with some technical assistance by the CAP teams. According to the Halon Banking Guidelines, import bans should be established within six months after the reclamation centre has been set up. This does not apply to countries with low volumes of installed capacities as they are not entitled to reclamation facilities. Correspondingly the project approvals do not include this condition but stipulated only that the funding approved would be the last one for the benefiting countries.

IV.4 Recovery and Recycling Projects: Plans, Revisions, and Problems

31. While the two national projects in Vietnam and Macedonia had not included R&R equipment, the four regional projects had substantive investments planned for such equipment. In West Asia the project document had foreseen to provide each of the four participating countries with two R&R machines for halon 1211 and 2 for halon 1301. In the Caribbean project, a physical halon bank was planned and the supply of two R&R machines for halon 1211. In the project for seven Eastern and Southern African countries seven reclamation units for halon 1211 were foreseen. For the six francophone countries in West Africa, halon R&R equipment for halon 1211 and 1301 was planned but the numbers not specified. Storage tanks for each of the countries, halon identifiers and installation costs completed the lists.

32. Shortly after project approval for all four regions, project planning was substantially revised in regional meetings of the Ozone officers. The Caribbean countries agreed on establishing a clearing house rather than a physical halon bank and changed the equipment to one for the R&R of halon 1211 for Trinidad and Tobago and one for halon 1301 for Jamaica. The countries in West Asia and in Eastern and Southern Africa agreed to establish in each region only one R&R center for halon 1301 which after starting in Bahrain and RSA (originally not part of the project because not eligible for funding from the MLF) would then rotate through the other participating countries with a planned stay of six months in each country. The countries in West Africa renounced on any R&R equipment and decided to concentrate project funds on training, awareness rising and legislation and to use the new R&R centre in Lagos/Nigeria which was about to become operational with the assistance of GTZ. The capacities and willingness for cooperation of privately operated R&R centres in the regions or in neighbouring countries, like one modern and well equipped centre near the Gulf coast in Saudi Arabia and another modest one in Johannesburg/RSA or recycling facilities in the USA for Caribbean countries were not systematically explored, neither in the initial planning nor in the re-orientation phase.

33. Various reasons were given for these changes of approach which are partly similar, partly different for the various regions. Firstly, the national surveys of installed halon capacities showed that there were less halon 1211 fire extinguishers left than initially estimated and more importantly, there would be very little demand for servicing them as they were being rapidly replaced by dry powder, foam, CO₂ or water mist based extinguishers (except for civil aviation and some military applications). Secondly, the budgets would not allow to provide all countries with high quality R&R equipment for halon 1301 which turned out to be much more expensive than foreseen in the project proposals. Concerns arose also whether R&R centres would not need higher volumes of through-put than likely to occur, in order to cover operating cost without continuous government subsidies which were unlikely to come forward. Airlines and ships for example might prefer R&R services offered in other regions at very competitive rates. They or other users could also import recycled halons for which prices have fallen to unexpectedly low levels, due to the accelerated phase-out of halon in the European Union. Large amounts of cheap recovered and recycled halon 1211 and 1301 became available on the international market.

34. An additional factor casting doubt on the viability of halon R&R centres in these regions is that according to information collected from various stakeholders during the evaluation missions, the rate of contaminated halon is much higher than anticipated. For some countries, in particular RSA and Kenya, estimates of 80 % contamination beyond recycling possibility, were advanced. These estimates need corroboration through representative sampling and testing of recovered halon and of installed stocks in systems. While the preliminary evidence doesn't allow definite quantitative estimates, it seems likely that the level of contamination is much higher than expected. The main problem seems to be that local fire equipment contractors top up extinguishers and systems during servicing with all kind of cheaper products, including various CFCs, water and even kerosene. Cleansing possibilities with recycling equipment are limited and less than with reclamation equipment. Halon mixed with other chemicals can only be stored and send for destruction. If their share in recovered halon is high, sales volumes for the R&R centre would be further limited and storing cost would increase substantially. Cylinders for safe storage are costly and storage space is usually limited, resulting in high risk of venting if no outlets for destruction can be found.

V. Conclusions

35. Though only a limited sample of projects were evaluated, most of them still on-going, a number of general conclusions for halon banking and management projects in countries with low volumes of installed capacities appear which are presented below:

- (a) The most important result is that with a few exceptions the countries benefiting from a halon management project have reduced their consumption in accordance with or advancing the Montreal Protocol schedule. Albeit the causal link between projects activities and phase-out is not always direct and quantifiable, the projects evaluated contributed significantly to achieving the freeze, accomplished by 23 of the 25 countries covered by the projects evaluated (only Lesotho and Yemen have not achieved the freeze yet). A few countries assumed to be in non-compliance in 2002 or 2003 could clarify that the halon imports reported consisted in fact of recycled halon not subject to controls under the Montreal Protocol and returned therefore to compliance. The large majority (19) of the 25 countries covered by the projects evaluated have already realized the 50 % reduction step required in 2005.
- (b) The Halon Banking Guidelines approved by the 18th Meeting of the Executive Committee limit the financial support to US\$ 25,000 for countries with low levels of installed halon capacities. While the countries have full flexibility to use these funds to achieve the phase-out, the standard package foreseen is to (i) put in place a halon management program so that halons are recovered when no longer needed for a given application, (ii) develop the necessary policies and regulations, (iii) provide some training to the fire protection industry and critical users to ensure their technical capacity to safely manage halons and their replacement by substitutes, and (iv) if possible within the budget, acquire simple recovering equipment to ensure safe recovery of halons.
- (c) The guidelines have been applied in subsequent funding decisions with considerable flexibility. Although they have effectively put a cap on project proposals by linking the eligibility of equipment and thus the volume of funding to the level of halon capacities installed, the actual funding has been higher than foreseen for the majority of countries with low volumes of installed halon capacities. In fact, for only two such countries (Vietnam and Macedonia), the approved funds were limited to the one time funding of US \$25,000 foreseen by the Guidelines (Decision 18/22, para 51 iii). For the regional projects, the amounts approved when divided by country were about US \$30,000 for six Caribbean, US \$50,000 for 13 African and US \$58,750 for four West Asian countries, followed by two individual projects with funding levels of US \$ 60,000 (Chile and Croatia) and another two with US \$64,600 for Oman and Bosnia and Herzegovina. In view of the high OPD value of halon 1301 these projects still show a good cost-effectiveness. As example: if the import of only 5 MT or 50 ODP tonnes of halon 1301 can be avoided through recycling, a project budget of US \$74,000 would be feasible applying the cost-effectiveness ratio of US \$1.48 per ODP kg used for other projects in the halon sector. This assumes that the

alternative of importing recycled halons or using foreign recycling centres are not possible or considered to be too risky in terms of long-term cost and availability of halon for critical users.

- (d) All projects evaluated except one (Macedonia) showed difficulties in their implementation. They represent a challenge for both the NOU's and the Implementing Agencies concerned. These difficulties are partly inherent to the nature of such projects which depend on many stakeholders and external factors and are comparable not to investment projects with individual companies but rather with RMPs. The regional dimension adds another layer of complexity due to divergent interests and time schedules of the countries as well as different attitudes of the main halon users, who often prefer to recycle their halon outside the region or to buy recycled halon from the world market instead of using regional or national R&R facilities. Some countries also have restrictions for trading recovered halons considered as hazardous waste, even if destined for recycling. Some of the information for project planning was not available at the time of approval, but its collection was part of the project's activities, such as the collection of detailed data on installed halon capacities and the attitudes of the main users. The survey results were often different from those expected and, jointly with emerging differences in Government priorities, put into doubt the viability of regional approaches to R&R.
- (e) The most important changes in external factors concern the international supply and demand for recycled halons and resulting price decreases. The international prices for recovered and recycled halons dropped drastically as a result of a forced rapid phase-out in the European Union from 2000 onwards. To date these prices have not recovered, they are currently about 7-8 US\$/kg for recycled halon 1301, making the holding of halon and its recovery and recycling a much less attractive commercial option than it seemed to be. The prices are likely to go up when production in China and South Korea will further decline and stop. Based on the agreement between China and the Executive Committee, production of halon 1211 will stop by the end of 2005 and the phase-out of halon 1301 production, presently ongoing to 2009, might be accelerated to 2007. South Korea is mainly producing halons for its own consumption with a very limited export. Hence, newly produced halon 1211 will not any longer be available and global supply of halon 1301 will be reduced significantly during the next couple of years. There is no production of halon 2402 any longer as Russia stopped some years ago. Halons recovered from existing halon equipment and stockpiles will be the only available sources of halon supply when production ceased. The scarcity of available halon will increase but the trend is not pronounced yet and the Halon Technical Options Committee has so far not come up with a prognosis for prices.
- (f) From all projects it appears that a well positioned and active NOU coordinating with other Government agencies and the main users of halons has a key role to play. The introduction and enforcement of import restrictions for halon and of new fire protection regulations by convincing the main halon users that early

phase-out is advisable and that alternatives are available and worth the investment, is not an easy task. Some large users might try to avoid controls and a joint approach, and some importers and fire equipment contractors might actively undermine such efforts. The organization of national stakeholder workshops was instrumental for awareness raising and provision of competent and neutral information on halon alternatives as well as advice about standards and regulations.

- (g) The main difficulty in installing a successful R&R centre is not in providing the right equipment but finding a competent and financially strong host company or institution and making the operation economically viable. In countries and regions where quantities of recoverable and re-usable halons are small and users dispersed, it is hard to see how operational cost can be fully covered by revenues from sales of recycled halons, unless prices for recycled halons are artificially increased and import restrictions enforced. This is particularly so when transport and storage cost are high and international prices for recycled halons very low like in the last years. As government subsidies are difficult and in most cases impossible to come by, host companies or institutions need to have a solid financial base and larger and longer-term business or institutional interests, to keeping the recovery and recycling business going, even in absence of profits for some time to come. Such objectives can be the building of a green image for an importer/distributor of chemicals, or servicing the larger needs of a client base for fire equipment and systems, or safety and self-reliance for the Armed Forces. More detailed business plans, including calculations of operational cost and assessments of markets and competitors are needed before venturing successfully into such activity.
- (h) This complexity makes it rather unlikely that the R&R centre can be rapidly moved around between different countries. While transporting the equipment is technically feasible the risk of long periods required for installation and start-up is high, if the centre is not managed continuously by one company or institution which maintains control over the whole rotation period. In such circumstances, the temporary dispatch of the recovery pump and analyzer or even the full centre including the separator and recycling unit to another country could be considered on a case by case basis, weighing the costs and risks of the various alternatives. If the start-up periods become longer than a few weeks, the envisaged duration of stays of six months in each country might not be enough to process all halons in the country, thus delaying the countries waiting in line and resulting in the need for additional storage capacities. The countries in the West Asia and the Eastern and Southern Africa region need to analyze and discuss the alternative of moving their halon to a centre in or outside the region rather than to rotate the equipment to all participating countries.

- (i) Moving halon to the R&R centre instead of moving the R&R centre around to the halon capacities installed in the countries seems preferable in particular for countries with very low levels of installed halon. However, as halon in systems is under high pressure, it needs to be either decanted into larger, lower pressure storage tanks which would require a recovery pump and a sufficient number of tanks, or to at least be security-capped for transport. European safety regulations have been tightened in recent years and it is no longer allowed to ship halon 1301 in the original cylinders used for their installation in systems. Other countries still allow such transport, provided safety caps prevent the accidental discharge that would turn the cylinder into a fast spinning object with significant destruction capacities. Both methods need qualified technicians from specialized companies. The international transport of halons also requires customs authorities to be aware that such halon is for recycling and not to be considered as hazardous waste. It would moreover require a memorandum of understanding between the participating countries that defines in detail the modalities of cooperation, in particular the sharing of cost for transport and the level of fees for recycling and storage in case of contamination. It has also to be clarified which part of the cost and for what period can be covered from remaining project.
- (j) While not quantifiable without further analysis, the level of contamination of halon in systems and extinguishers is reportedly much higher than expected. This results mainly from the deliberate adding of cheaper materials by some contractors during servicing. Such contamination makes the profitable operation of a R&R centre even more difficult to reach as the cost of transport, analysis and storage increase while revenues from sales of recycled halon diminish. Without subsidies for halon destruction, it is likely that a good amount of contaminated halons will be vented in the near future. In addition to destruction technologies approved by the Fourth Meeting of the Parties (listed in Annex VI of the Report UNEP/OzL.Pro.4/15), the Argon Plasma Arc has been approved as a destruction technology for halon under Decision XIV/6 of the 14th Meeting of the Parties. Various destruction facilities are available in several industrialized countries at a cost of 3-5 US\$/kg, including transport, the actual fees depending on quantities and transport distances and modalities. The 14th Meeting of the Parties also decided to consider, at the 24th Meeting of the Open-ended Working Group, the need to review the status of destruction technologies in 2005, including an assessment of their environmental and economic performance, as well as their commercial viability (Decision XIV/6).

VI. Recommendations

36. The following recommendations are resulting from this evaluation. The Executive Committee may wish to:

- (a) Continue to consider the volume of funding for countries with low volumes of installed capacities with some degree of flexibility regarding the one-time funding of US\$ 25,000 foreseen in the Halon Banking Guidelines, in view of the particularly high ODP values of halons.

- (b) Decide that countries with low volumes of installed halon capacities should concentrate project activities on stakeholders workshops, training, development of import controls/bans and awareness-raising, and consider the creation of a regional clearing house providing information on sources for recycled halons and on alternatives.
- (c) Decide that recycling equipment should only be funded (i) if a significant volume of installed halon capacities in the country or region has been clearly established (ii) if alternative recycling facilities in the country or region are not available or secure in the medium and long-term, and (iii) if the technical competence and economical viability of the proposed host company or institution has been demonstrated.
- (d) Request Implementing Agencies concerned to assist the companies or institutions hosting R&R centres to develop a business plan which would include calculations of operational cost and projections of revenues, as well as cost and modalities for transporting halon and/or equipment to and from clients.
- (e) Request GTZ/PROKLIMA to develop for the regional halon projects in West Asia and Eastern and Southern Africa, in cooperation with the countries concerned, within the framework of the funding approved and taking into account R&R facilities in the countries and regions, an updated plan to realize full phase-out of virgin halon consumption while assuring the supply of recycled halons from either national or regional R&R centres, and to report upon its preparation and implementation in the Progress Report covering the year 2004.
- (f) Decide that countries participating in regional projects with R&R equipment should develop, during project preparation, a clear understanding and agreement about the use of the R&R equipment funded, including the processing fees and transport and storage cost, and the coverage of deficits, if they arise, as well as the lifting of any impediments to trade with recovered and recycled halons in the region, if such restrictions exist. In this context, the use of funds under the projects for temporary assistance to funding operating cost should be defined as well.
- (g) Request the Fund Secretariat to retain a consultant to conduct a feasibility study on halon destruction analyzing the quantities of contaminated halons installed and recovered, available destruction technologies and facilities as well as costs, taking into account also the installed capacities in countries without reported consumption, bearing in mind Decision XIV/6 of the 14th Meeting of the Parties.
- (h) Request UNEP to fully use the capacities of the recently recruited CAP officer for the halon sector, located in ROWA/Bahrain, for providing interested parties with information on alternatives to halon and on regulations and standards, via presentations to network meetings and national stakeholder workshops, individual advice by way of phone, e-mail and if necessary missions to selected Art. 5 countries, in particular in cases of non-compliance.

ANNEX I

TABLE 1: APPROVED HALON BANKING AND RECOVERY/RECYCLING PROJECTS

Country	Halon Banking and/or Recovery/Recycling			Project Preparation (All Halon Projects)	
	Original Approved Funds	Total Funds Approved Including Adjustments	Approved at Meeting	Original Approved Funds	Total Funds Approved Including Adjustments
Uruguay	18,000	18,000	13, 15		
Macedonia	25,000	24,952	37		
Vietnam	25,000	17,824	29		
Dominican Republic	40,000	40,000	38		
Ecuador	58,000	58,000	13		
Chile	60,000	60,000	42	40,000	40,000
Croatia	60,000	60,000	43	16,500	16,500
Latin America	60,000	44,842	6		
Bosnia and Herzegovina	64,600	64,600	42		
Oman	64,600	64,600	41	17,000	17,000
English-Speaking Caribbean (1)	177,410	177,410	26		
Pakistan	209,400	209,400	41	22,000	22,000
Serbia and Montenegro	249,700	249,700	35	20,000	19,886
Algeria	259,500	259,500	35	10,520	10,520
Argentina	290,620	290,620	26		
West and Central Africa (2)	300,000	300,000	37		
West Asia (3)	320,000	320,000	28, 30		
Syria	343,472	343,472	29, 34		
Eastern and Southern Africa (4)	350,000	350,000	35		
Jordan	382,250	382,250	29	15,000	15,000
Egypt	405,000	405,000	32	30,000	30,000
Thailand	420,750	420,750	29	8,000	8,000
Turkey	439,250	439,250	38	15,000	10,000
Indonesia	486,200	486,200	27	18,000	18,000
India	491,400	491,400	32	30,000	30,000
Nigeria	499,000	499,000	37	19,420	19,420
Brazil	499,360	479,329	19		
Mexico	500,000	500,000	35	35,000	35,000
Iran	511,175	511,175	28	31,500	31,500
Malaysia	800,000	798,850	6, 9	45,000	16,884
Venezuela	824,020	644,956	9, 11, 13, 19		
China	1,161,000	1,233,000	11, 12	501,500	425,511
Global	1,227,000	1,206,012	6, 7, 8, 9, 12, 16, 19, 21, 23		
Morocco				10,520	10,520
Total	11,621,707	11,450,092		884,960	775,741

(1) English-speaking Caribbean (Bahamas, Barbados, Grenada, Guyana, Jamaica, and Trinidad and Tobago).

(2) West and Central Africa (Benin, Burkina Faso, Cameroon, Congo, Congo DR, and Guinea);

(3) West Asia (Bahrain, Lebanon, Qatar and Yemen);

(4) Eastern and Southern African countries (Botswana, Ethiopia, Kenya, Lesotho, Namibia, Tanzania and Zimbabwe);

TABLE 2: HALON CONSUMPTION AND COMPLIANCE BY COUNTRY (ODP TONNES)

Annex I

As of October 26, 2004

Column Number	Region	Status	Latest Consumption		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Country			Year	Source	Halon baseline	Latest consumption	Amount needed to meet the freeze	Phase-out approved but not yet implemented (as of October 2004)	Date for completion of approved projects	Future phase-out needed to meet the freeze	ODS phase-out in Final 2004 business plan	50% halon reduction	Balance from approved projects	Additional phase out needed to meet 50% halon reduction	Halon banking approved (Yes/No)	Received assistance from Fund
							(2) - (1)			(3)-(4)		(1)*.50	(2)-(4)	(9)-(8)		
Countries that appear to be in compliance																
Algeria	AFR	Non-LVC	2003	A7	237.33	169.00	0.00	195.00	100% by 2005	0.00		118.67	-26.00	-144.67	Yes	Yes
Antigua and Barbuda	LAC	LVC	2003	A7	0.27	0.00	0.00	0.00	N/A	0.00		0.14	0.00	-0.14	No	No
Argentina	LAC	Non-LVC	2003	A7	167.80	0.00	0.00	200.00	100% by 2004	0.00		83.90	-200.00	-283.90	Yes	Yes
Bahrain	ASP	LVC	2003	A7	38.87	4.37	0.00	0.00	N/A	0.00		19.44	4.37	-15.07	Yes	Yes
Benin	AFR	LVC	2003	A7	3.90	0.00	0.00	0.00	N/A	0.00		1.95	0.00	-1.95	Yes	Yes
Bosnia and Herzegovina	EUR	LVC	2003	A7	4.14	4.14	0.00	0.00	N/A	0.00	4.10	2.07	4.14	2.07	Yes	Yes
Botswana	AFR	LVC	2002	A7	5.20	4.20	0.00	0.00	N/A	0.00		2.60	4.20	1.60	Yes	Yes
Brazil	LAC	Non-LVC	2003	A7	21.34	2.10	0.00	0.00	N/A	0.00		10.67	2.10	-8.57	Yes	Yes
Burkina Faso	AFR	LVC	2003	A7	5.30	0.00	0.00	0.00	N/A	0.00		2.65	0.00	-2.65	Yes	Yes
Cameroon	AFR	LVC	2003	A7	2.38	2.00	0.00	0.00	N/A	0.00		1.19	2.00	0.81	Yes	Yes
Chile	LAC	Non-LVC	2002	A7	8.50	0.00	0.00	0.00	N/A	0.00	40.00	4.25	0.00	-4.25	Yes	Yes
China	ASP	Non-LVC	2003	A7	34,186.67	4,959.16	0.00	0.00	N/A	0.00	671.30	17,093.33	4,959.16	-12,134.17	Yes	Yes*
Colombia	LAC	Non-LVC	2003	A7	187.67	0.00	0.00	0.00	N/A	0.00		93.83	0.00	-93.83	No	Yes*
Congo	AFR	LVC	2003	A7	5.00	0.00	0.00	0.00	N/A	0.00		2.50	0.00	-2.50	Yes	Yes
Congo, DR	AFR	Non-LVC	2003	A7	218.67	27.86	0.00	0.00	N/A	0.00		109.33	27.86	-81.47	Yes	Yes
Croatia	EUR	LVC	2003	A7	30.10	5.00	0.00	0.00	N/A	0.00	3.00	15.05	5.00	-10.05	Yes	Yes
Dominican Republic	LAC	Non-LVC	2003	A7	4.23	0.00	0.00	3.00	100% by 2004	0.00		2.12	-3.00	-5.12	Yes	Yes
Ecuador	LAC	LVC	2003	A7	5.48	0.00	0.00	0.00	N/A	0.00		2.74	0.00	-2.74	No	Yes
Egypt	AFR	Non-LVC	2003	A7	705.00	180.00	0.00	756.00	100% by 2004	0.00		352.50	-576.00	-928.50	Yes	Yes
El Salvador	LAC	LVC	2003	A7	0.75	0.00	0.00	0.00	N/A	0.00		0.37	0.00	-0.37	No	No
Ethiopia	AFR	LVC	2003	A7	1.08	0.90	0.00	0.00	N/A	0.00		0.54	0.90	0.36	Yes	Yes
Georgia	EUR	LVC	2003	A7	42.53	37.40	0.00	0.00	N/A	0.00		21.27	37.40	16.13	No	No
Guatemala	LAC	LVC	2003	A7	0.20	0.00	0.00	0.00	N/A	0.00		0.10	0.00	-0.10	No	No
Guinea	AFR	LVC	2003	A7	8.60	1.60	0.00	0.00	N/A	0.00		4.30	1.60	-2.70	Yes	Yes
Guyana	LAC	LVC	2003	A7	0.15	0.00	0.00	0.00	N/A	0.00		0.08	0.00	-0.08	Yes	Yes
Haiti	LAC	LVC	2003	A7	1.50	1.50	0.00	0.00	N/A	0.00		0.75	1.50	0.75	No	No
India	ASP	Non-LVC	2002	A7	1,249.43	317.20	0.00	950.40	100% by 2004	0.00		624.72	-633.20	-1,257.92	Yes	Yes*
Indonesia	ASP	Non-LVC	2003	A7	354.00	0.00	0.00	972.00	100% by 2005	0.00		177.00	-972.00	-1,149.00	Yes	Yes
Iran	ASP	Non-LVC	2003	CP	1,420.00	0.00	0.00	0.00	N/A	0.00		710.00	0.00	-710.00	Yes	Yes
Jamaica	LAC	LVC	2003	A7	1.00	0.00	0.00	0.00	N/A	0.00		0.50	0.00	-0.50	Yes	Yes
Jordan	ASP	Non-LVC	2003	A7	210.00	35.00	0.00	190.80	100% by 2004	0.00		105.00	-155.80	-260.80	Yes	Yes
Kenya	AFR	LVC	2003	A7	5.33	0.00	0.00	0.00	N/A	0.00		2.67	0.00	-2.67	Yes	Yes
Kuwait	ASP	Non-LVC	2003	A7	3.00	0.00	0.00	0.00	N/A	0.00		1.50	0.00	-1.50	No	No
Liberia	AFR	LVC	2002	A7	19.50	19.50	0.00	0.00	N/A	0.00		9.75	19.50	9.75	No	No
Macedonia	EUR	Non-LVC	2003	A7	32.07	0.00	0.00	0.00	N/A	0.00		16.04	0.00	-16.04	No	Yes
Malaysia	ASP	Non-LVC	2003	A7	8.00	0.00	0.00	0.00	N/A	0.00		4.00	0.00	-4.00	Yes	Yes
Mexico	LAC	Non-LVC	2003	A7	124.57	103.80	0.00	230.00	100% by 2005	0.00		62.28	-126.20	-188.48	Yes	Yes
Moldova	EUR	LVC	2003	A7	0.40	0.00	0.00	0.00	N/A	0.00		0.20	0.00	-0.20	No	No
Morocco	AFR	Non-LVC	2003	A7	7.00	0.00	0.00	0.00	N/A	0.00	7.00	3.50	0.00	-3.50	No	Yes
Mozambique	AFR	LVC	2003	A7	0.90	0.00	0.00	0.00	N/A	0.00		0.45	0.00	-0.45	No	No
Namibia	AFR	LVC	2003	A7	8.27	0.00	0.00	0.00	N/A	0.00		4.13	0.00	-4.13	Yes	Yes
Nepal	ASP	LVC	2003	A7	2.00	0.00	0.00	0.00	N/A	0.00		1.00	0.00	-1.00	No	No
Nigeria	AFR	Non-LVC	2003	A7	285.33	191.20	0.00	0.00	N/A	0.00		142.67	191.20	48.53	Yes	Yes
Oman	ASP	LVC	2003	A7	13.66	0.66	0.00	0.00	N/A	0.00		6.83	0.66	-6.17	No	Yes
Philippines	ASP	Non-LVC	2003	A7	103.90	0.00	0.00	0.00	N/A	0.00		51.95	0.00	-51.95	No	Yes
Qatar	ASP	LVC	2003	A7	10.65	8.25	0.00	0.00	N/A	0.00		5.33	8.25	2.93	Yes	Yes
Romania	EUR	Non-LVC	2003	A7	3.49	0.00	0.00	0.00	N/A	0.00		1.74	0.00	-1.74	No	No
Serbia and Montenegro	EUR	Non-LVC	2003	A7	3.83	0.00	0.00	370.00	100% by 2004	0.00		1.92	-370.00	-371.92	Yes	Yes

TABLE 2: HALON CONSUMPTION AND COMPLIANCE BY COUNTRY (ODP TONNES)

As of October 26, 2004

Column Number	Region	Status	Latest Consumption		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Country			Year	Source	Halon baseline	Latest consumption	Amount needed to meet the freeze	Phase-out approved but not yet implemented (as of October 2004)	Date for completion of approved projects	Future phase-out needed to meet the freeze	ODS phase-out in Final 2004 business plan	50% halon reduction	Balance from approved projects	Additional phase out needed to meet 50% halon reduction	Halon banking approved (Yes/No)	Received assistance from Fund
							(2) - (1)			(3)-(4)		(1)*.50	(2)-(4)	(9)-(8)		
Sierra Leone	AFR	LVC	2003	A7	16.00	15.00	0.00	0.00	N/A	0.00		8.00	15.00	7.00	No	No
Sudan	AFR	Non-LVC	2003	A7	2.00	0.00	0.00	0.00	N/A	0.00		1.00	0.00	-1.00	No	No
Syria	ASP	Non-LVC	2003	A7	416.87	366.20	0.00	410.00	100% by 2005	0.00		208.43	-43.80	-252.23	Yes	Yes
Tanzania	AFR	LVC	2003	A7	0.33	0.00	0.00	0.00	N/A	0.00		0.17	0.00	-0.17	Yes	Yes
Thailand	ASP	Non-LVC	2003	A7	271.67	0.00	0.00	436.00	100% by 2004	0.00		135.83	-436.00	-571.83	Yes	Yes
Trinidad and Tobago	LAC	LVC	2003	A7	46.59	0.00	0.00	0.00	N/A	0.00		23.29	0.00	-23.29	Yes	Yes
Tunisia	AFR	Non-LVC	2003	A7	104.33	42.00	0.00	0.00	N/A	0.00		52.17	42.00	-10.17	No	No
Turkey	EUR	Non-LVC	2003	A7	141.00	40.90	0.00	118.00	100% by 2007	0.00		70.50	-77.10	-147.60	Yes	Yes
Vietnam	ASP	Non-LVC	2003	A7	37.07	0.00	0.00	0.00	N/A	0.00		18.53	0.00	-18.53	Yes	Yes
Zimbabwe	AFR	Non-LVC	2003	A7	1.50	0.00	0.00	0.00	N/A	0.00		0.75	0.00	-0.75	Yes	Yes
Countries that could achieve compliance with implementation of approved projects																
Pakistan	ASP	Non-LVC	2003	A7	14.20	15.00	0.80	24.20	100% by 2006	0.00		7.10	-9.20	-16.30	Yes	Yes
Countries that may need additional actions to achieve compliance																
Lesotho	AFR	LVC	2002	A7	0.20	1.80	1.60	0.00	N/A	1.60		0.10	1.80	1.70	Yes	Yes
Libya	AFR	Non-LVC	2003	A7	633.07	714.50	81.43	0.00	N/A	81.43	54.40	316.53	714.50	397.97	No	No
Somalia	AFR	LVC	2003	A7	17.70	25.71	8.01	0.00	N/A	8.01		8.85	25.71	16.86	No	No
Yemen	ASP	Non-LVC	2003	A7	2.80	11.50	8.70	0.00	N/A	8.70		1.40	11.50	10.10	Yes	Yes
Countries with No Consumption																
Albania	EUR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Angola	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Bahamas	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	Yes	Yes
Bangladesh	ASP	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Barbados	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	Yes	Yes
Belize	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Bolivia	LAC	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Brunei Darussaleem	ASP	LVC	2003	CP	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Burundi	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Cambodia	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Cape Verde	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Central African Republic	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Chad	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Comoros	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Costa Rica	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Cote D'Ivoire	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Cuba	LAC	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Djibouti	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Dominica	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Fiji	ASP	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Gabon	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Gambia	AFR	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Ghana	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Grenada	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	Yes	Yes
Guinea Bissau	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Honduras	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Kiribati	ASP	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Korea, DPR	ASP	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Kyrgyzstan	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No

ANNEX I

UNEP/OzL.Pro/ExCom/44/10

TABLE 2: HALON CONSUMPTION AND COMPLIANCE BY COUNTRY (ODP TONNES)

Annex I

As of October 26, 2004

Column Number	Region	Status	Latest Consumption		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Country			Year	Source	Halon baseline	Latest consumption	Amount needed to meet the freeze	Phase-out approved but not yet implemented (as of October 2004)	Date for completion of approved projects	Future phase-out needed to meet the freeze	ODS phase-out in Final 2004 business plan	50% halon reduction	Balance from approved projects	Additional phase out needed to meet 50% halon reduction	Halon banking approved (Yes/No)	Received assistance from Fund
							(2) - (1)			(3)-(4)		(1)*.50	(2)-(4)	(9)-(8)		
Lao People's Democratic R	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Lebanon	ASP	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	Yes	Yes
Madagascar	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Malawi	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Maldives	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Mali	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Marshall Islands	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Mauritania	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Mauritius	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Micronesia	ASP	LVC	2000	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Mongolia	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Myanmar	ASP	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Nicaragua	LAC	LVC	2003	CP	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Niger	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Palau	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Panama	LAC	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	Yes
Papua New Guinea	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Paraguay	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Peru	LAC	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Rwanda	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Saint Kitts and Nevis	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Saint Lucia	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Saint Vincent and the Gren	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Samoa	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Sao Tome and Principe	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Senegal	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Seychelles	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Solomon Islands	ASP	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Sri Lanka	ASP	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Suriname	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Swaziland	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Togo	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Tonga	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Tuvalu	ASP	LVC	2002	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Uganda	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Uruguay	LAC	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	Yes
Vanuatu	ASP	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Venezuela	LAC	Non-LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	Yes
Zambia	AFR	LVC	2003	A7	0.00	0.00	0.00	0.00	N/A	0.00		0.00	0.00	0.00	No	No
Countries with insufficient data																
Afghanistan	ASP	NDR			NDR	NDR		0.00	N/A						No	No
Bhutan	ASP	NDR			NDR	NDR		0.00	N/A						No	No

* Countries with an approved Halon phase-out plan/project.

ANNEX IV

TABLE 4

HALON CONSUMPTION (Metric Tonnes)

In Countries with low Level Installed Halon Capacities and National or Regional Halon Banks

According to Country Programme Data

Country	Chemical	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Bahamas	HAL-1211	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Bahrain	HAL-1211	7.14	2.70	3.00	2.50	2.50	2.00	0.00	0.00	1.46	21.30
	HAL-1301	2.21	3.00	2.60	0.50	1.00	1.00	0.50	0.00	0.00	10.81
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barbados	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benin	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Botswana	HAL-1211	0.10	0.10	0.10	0.60	0.50	0.40	0.50	0.40	N/A	2.70
	HAL-1301	0.60	0.00	0.00	0.40	0.30	0.10	0.30	0.30	N/A	2.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00
Burkina Faso	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cameroon	HAL-1211	0.50	0.11	0.10	N/A	2.70	N/A	N/A	8.10	N/A	11.51
	HAL-1301	0.50	0.00	0.00	N/A	0.00	N/A	N/A	0.00	N/A	0.50
	HAL-2402	0.00	0.00	0.00	N/A	0.00	N/A	N/A	0.00	N/A	0.00
Congo	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.50	0.50	0.50	0.50	0.50	0.80	0.80	0.00	0.00	4.10
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Congo, DR	HAL-1211	N/A	N/A	N/A	N/A	1.00	0.00	0.00	0.00	0.00	1.00
	HAL-1301	N/A	N/A	N/A	N/A	3.00	3.00	30.00	30.00	2.00	68.00
	HAL-2402	N/A	N/A	N/A	N/A	4.05	3.00	32.00	32.00	1.31	72.36
Dominican Republic	HAL-1211	N/A	1.80	1.40	1.80	2.00	2.20	1.00	0.00	N/A	10.20
	HAL-1301	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00
	HAL-2402	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00
Ecuador	HAL-1211	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00
	HAL-1301	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00
	HAL-2402	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00
Ethiopia	HAL-1211	1.00	0.05	0.03	0.30	0.30	0.30	0.30	0.30	0.30	2.88
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grenada	HAL-1211	0.00	0.00	0.00	0.00	N/A	0.00	0.00	0.00	N/A	0.00
	HAL-1301	0.00	0.00	0.00	0.00	N/A	0.00	0.00	0.00	N/A	0.00
	HAL-2402	0.00	0.00	0.00	0.00	N/A	0.00	0.00	0.00	N/A	0.00
Guinea	HAL-1211	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.13	0.17
	HAL-1301	1.10	0.84	0.60	0.02	0.01	0.01	0.01	0.01	0.12	2.72
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Guyana	HAL-1211	0.10	0.07	0.08	0.08	0.08	0.08	0.02	0.00	0.00	0.51
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jamaica	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kenya	HAL-1211	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
	HAL-1301	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lebanon	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lesotho	HAL-1211	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
	HAL-1301	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
	HAL-2402	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Macedonia	HAL-1211	0.00	0.00	1.29	0.00	0.00	0.00	0.00	0.00	0.00	1.29
	HAL-1301	3.00	3.00	3.24	0.00	0.00	0.00	0.00	0.00	0.00	9.24
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ANNEX IV

TABLE 4

HALON CONSUMPTION (Metric Tonnes)

In Countries with low Level Installed Halon Capacities and National or Regional Halon BanksAccording to Country Programme Data

Country	Chemical	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Namibia	HAL-1211	2.40	2.10	2.10	1.87	2.19	0.00	0.00	0.00	0.00	10.66
	HAL-1301	0.30	0.10	0.10	0.11	0.11	0.00	0.00	0.00	0.00	0.72
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oman	HAL-1211	2.05	1.85	1.78	1.78	1.12	1.28	0.46	0.37	0.22	10.90
	HAL-1301	0.88	0.84	0.69	0.42	0.21	0.34	0.40	0.51	0.00	4.28
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Qatar	HAL-1211	N/A	N/A	N/A	N/A	3.00	2.50	3.24	1.20	2.75	12.69
	HAL-1301	N/A	N/A	N/A	N/A	2.00	1.00	2.10	1.00	0.00	6.10
	HAL-2402	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Tanzania	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.05	0.05	0.00	0.00	1.07	0.00	0.00	0.00	0.00	1.17
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trinidad and Tobago	HAL-1211	3.00	3.06	3.06	3.06	0.00	0.00	0.00	0.00	0.00	12.18
	HAL-1301	3.70	3.77	3.77	3.77	0.50	0.00	0.00	0.11	0.00	15.62
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uruguay	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vietnam	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	1.00	1.00	3.00	4.20	4.00	4.00	0.00	3.40	0.00	20.60
	HAL-2402	2.00	2.20	6.00	6.00	6.00	6.00	0.00	10.60	0.00	38.80
Yemen	HAL-1211	4.00	3.00	3.00	2.00	3.50	2.50	2.70	2.40	N/A	23.10
	HAL-1301	13.00	15.00	11.00	11.00	9.00	10.00	8.40	6.50	N/A	83.90
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00
Zimbabwe	HAL-1211	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HAL-1301	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50
	HAL-2402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	HAL-1211	22.31	14.85	15.95	13.99	18.89	11.26	8.22	12.77	4.86	123.09
	HAL-1301	29.34	28.40	25.50	20.92	21.70	20.25	42.51	41.83	2.12	232.56
	HAL-2402	2.00	2.20	6.00	6.00	10.05	9.00	32.00	42.60	1.31	111.16
Grand Total		53.65	45.45	47.45	40.91	50.64	40.51	82.73	97.20	8.29	466.80

N/A: Not Available

**OVERVIEW OF HALON BANKING PROJECTS EVALUATED
MACEDONIA, VIETNAM AND REGIONAL PROJECTS**

Country	Code	Agency	Status*	Type	Sector	Sub-sector	Project Title	Project Description	ExCom Provision	ODP To Be Phased Out	ODP Phased Out*	Date Approved	Approved Planned Date of Completion	Revised Approved Planned Date of Completion for Implementation Delays*	Date Completed*	Planned Date of Completion for Ongoing Projects*	Original Approved Funds	Total Funds Approved Including Adjustments	Funds Disbursed*	Approved Cost-Effectiveness	PCR Received
Region: AFR	AFR/HAL/ 35/TAS/29	Germany	ONG	TAS	HAL	Banking	Establishment of a regional halon bank for Eastern and Southern African countries (Botswana, Ethiopia, Kenya, Lesotho, Namibia, Tanzania and Zimbabwe)	Establishment of a regional halon bank for East Africa to ensure that the countries meet their obligations under the Montreal Protocol. It will provide halon banking, promotion of recovery and recycling of halons, recovery services for halons in the case of maintenance of a fire protection system, storage of halon recovered and recycled, a system of distribution of halons for essential uses, provisions for the trade of recycled halons, and regional co-ordination of activities. It will be developed by a team of international and national halon bank experts. Each country will ban the importation of new produced halons with the establishment of the halon bank, except for essential uses as decided by the Parties to the Protocol.	Approved on the condition that this would be the final project in the halon sector for the participating countries.	27.0		Dec-01	Jan-05			Jan-05	350,000	350,000	178,060	1.30	
Region: AFR	AFR/HAL/ 37/TAS/31	UNDP	ONG	TAS	HAL	Banking	Sectoral phase out programme: establishing a regional halon bank for West and Central Africa (Benin, Burkina Faso, Cameroon, Congo, Congo DR, and Guinea)	It includes formulation of national halon banking strategies, provision of recovery and recycling, storage and quality control equipment, training program to recovery and recycling personnel, the identification of international trade opportunities, development of halon regulations, a database and promotion All participating countries are active members of the African regional network. The network meetings of ozone officers will provide co-ordination activities for knowledge exchange of halons and information regarding use of alternatives. Each country will ban the importation of new produced halons at the time of the establishment of the halon bank		61.0	0.0	Jul-02	Aug-05			Aug-05	300,000	300,000	82,372		
Region: ASP	ASP/HAL/ 8/TAS/29	France	FIN	TAS	HAL	Banking	Survey for halon banking management plan in West Asia (Bahrain, Lebanon, Qatar and Yemen)	Use expert assistance to establish the regional institutional framework of co-operation between the countries concerned and organize the halon bank.		0.0		Jul-99	Feb-00			Feb-00	17,500	17,500	17,500	0.00	

**OVERVIEW OF HALON BANKING PROJECTS EVALUATED
MACEDONIA, VIETNAM AND REGIONAL PROJECTS**

Country	Code	Agency	Status*	Type	Sector	Sub-sector	Project Title	Project Description	ExCom Provision	ODP To Be Phased Out	ODP Phased Out*	Date Approved	Approved Planned Date of Completion	Revised Approved Planned Date of Completion for Implementation Delays*	Date Completed*	Planned Date of Completion for Ongoing Projects*	Original Approved Funds	Total Funds Approved Including Adjustments	Funds Disbursed*	Approved Cost-Effectiveness	PCR Received
Region: ASP	ASP/HAL/28/TAS/39	Germany	FIN	TAS	HAL	Banking	Survey for halon banking management plan in West Asia: Bahrain, Lebanon, Qatar and Yemen	Use expert assistance to establish the regional institutional framework of co-operation between the countries concerned and organize the halon bank.		0.0	0.0	Jul-99	Feb-00		Mar-00		17,500	17,500	17,500	0.00	
Region: ASP	ASP/HAL/30/TAS/36	Germany	ONG	TAS	HAL	Banking	Halon banking management plan in West Asia countries: Bahrain, Lebanon, Qatar and Yemen (jointly implemented with France)	Formulation of a regional halon banking management plan, the organization of a workshop for presentation of the results and dissemination among the regional countries, and demonstration of activities for the use of alternative and recovery and recycling of halons (UNEP would conduct the workshop). It will build awareness of the ozone depletion problem, commit to phase out use of newly manufactured halon, reduce unnecessary emissions and uses of halons, develop halon banks and recycling, and eliminate the need for newly manufactured halons.		0.0		Mar-00	Oct-01			Apr-05	117,500	117,500	97,525		
Region: ASP	ASP/HAL/30/TAS/37	France	COM	TAS	HAL	Banking	Halon banking management plan in West Asia countries: Bahrain, Lebanon, Qatar and Yemen (jointly implemented with Germany)	Formulation of a regional halon banking management plan, the organization of a workshop for presentation of the results and dissemination among the regional countries, and demonstration of activities for the use of alternative and recovery and recycling of halons (UNEP would conduct the workshop). It will build awareness of the ozone depletion problem, commit to phase out use of newly manufactured halon, reduce unnecessary emissions and uses of halons, develop halon banks and recycling, and eliminate the need for newly manufactured halons.		0.0		Mar-00	Oct-01			May-03	117,500	117,500	0		

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Region: ASP	ASP/HAL/30/TRA/38	UNEP	ONG	TRA	HAL	Banking	Workshop for halon banking management plan in West Asia countries: Bahrain, Lebanon, Qatar and Yemen	Formulation of a regional halon banking management plan, the organization of a workshop for presentation of the results and dissemination among the regional countries, and demonstration of activities for the use of alternative and recovery and recycling of halons (jointly implemented by France and Germany). It will build awareness of the ozone depletion problem, commit to phase out use of newly manufactured halon, reduce unnecessary emissions and uses of halons, develop halon banks and recycling, and eliminate the need for newly manufactured halons.		0.0	0.0	Mar-00	Oct-01			Apr-04	50,000	50,000	43,906		
Region: LAC	LAC/HAL/26/TAS/28	Canada	ONG	TAS	HAL	Banking	Development of a regional halon bank management plan for the English-speaking Caribbean	The Halon Management Plan is a comprehensive and integrated national strategy for the cost-effective management of halons that will help support countries in meeting the 2002 freeze and future phase-out targets. The goal is to enable these countries to maintain their current level of fire protection safety and to avoid economic disruption while gradually reducing their dependence on halons and ensuring that essential uses are provided for. The countries to be included in the projects are: Bahamas, Barbados, Grenda, Guyana, Jamaica, and Trinidad and Tobago.	The countries included in the project should be made aware that no further funding would be made available for the halon sector in their countries.	0.0		Nov-98	Jun-00			Dec-04	177,410	177,410	139,172		

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MACEDONIA, VIETNAM AND REGIONAL PROJECTS

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Macedonia	MDN/HAL/37/TAS/19	UNIDO	COM	TAS	HAL	Technical assistance/support	Technical assistance in preparation of the national halon management plan	Review and analysis of data on the installed halon capacity in various sectors, verification of the qualifications and competence of the staff involved in and procedures applied for equipment maintenance and inspection, identification of training requirements, and recommendations on the activities to be implemented under the halon management plan including the rules and regulations. An institution will be selected to perform the role of a focal point for co-ordination of project implementation and follow-up; a working group will be established comprising representatives of respective Government authorities, business and industrial communities and other parties concerned to deal with the issues of halon stock management. It also includes awareness component and workshops on training and alternative fire protection technology		0.0	0.0	Jul-02	Jan-03		May-03		25,000	24,952	24,952		
Vietnam	VIE/HAL/29/TAS/23	UNIDO	COM	TAS	HAL	Technical assistance/support	Technical assistance in preparation of the national halon bank management programme			0.0	0.0	Nov-99	Dec-00		Jan-03		25,000	17,824	17,824		