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STRATEGY PAPER FOR LOW-HALON CONSUMING COUNTRIES

(submitted by UNDP)

**STRATEGY PAPER AND ACTION PLAN FOR
LOW HALON-CONSUMING COUNTRIES**

EXECUTIVE SUMMARY

1. **BACKGROUND** The ending of halon production in developed countries has resulted in low halon-consuming developing countries (LHCC) facing three options: (a) adopt an accelerated halon phaseout schedule; (b) meet their anticipated future demand for halon through recovered halon from international halon banks; or (c) import halon from other developing countries.
2. At the 13th Meeting of the Executive Committee (ExCom) of the Multilateral Fund in July 1994, UNDP was requested to prepare a paper on a strategy and action plan for the LHCC for consideration by the ExCom. UNDP wanted this to be a joint effort among those involved and a working group was constituted comprising all implementing agencies, the Fund Secretariat, LHCC representatives, the UNEP Halons Technical Options Committee (HTOC) and from representative bilateral programmes. The report was based on case studies prepared by UNDP's halons sector expert in Bahrain, Ecuador, Kenya, Panama, Sri Lanka and Uruguay, and has benefitted from valuable comments from all working group members. It is still a UNDP report rather than a working group report. The Executive Summary has been submitted at present; following review of the full paper at the MLF consultants meeting during 5-7 July 1995 in Paris, the final report will be distributed at the 17th ExCom Meeting.
3. **DEFINITION OF LHCC** To come up with a definition of LHCC, the only available information comprises halons import figures from several representative Country Programmes. Accordingly, LHCC have been defined as those whose annual consumption (import) was less than or at most equal to 15 tonnes of H-1211 and H-1301 combined. In addition, the annual demand for halons, after implementing a halon management programme for servicing and refilling of present halon equipment, should be less than 5 tonnes of H-1211/H-1301 combined per year, and any production of portable halons fire extinguishers will be converted as part of the action plan.
4. **WHY IS SUCH A PROGRAMME NEEDED?** The recommendation for a halon phaseout action plan for LHCC stems from the fact that the Protocol does not limit actual use of halons for fire equipment in Article 5 para 1 countries and permits a 10-year grace period for phaseout. As Parties to the Protocol, LHCC are eligible to receive necessary technical and financial assistance. However, due to the small amount of halon involved, none of their projects would meet ExCom cost effectiveness thresholds. The programme recognizes that LHCC will be affected by the loss of halon supply, especially since

national capacity in their fire protection sectors is limited and their market is too small to attract international fire equipment companies. The aim of this programme is to adopt an accelerated phaseout schedule while ensuring a halons supply for existing uses for a transitional period of five years.

5. **HALON PHASEOUT PROGRAMME OBJECTIVES** The objectives of a halon phaseout programme would thus be to: (a) ensure that present fire safety requirements are met; (b) limit user phaseout cost; (c) avoid continued import of halons; (d) eliminate unnecessary halon emissions; (e) assist the fire protection industry in making halon alternatives available in the market; and (e) assisting fire extinguishers manufacturers in converting their production away from halons.
6. **THE THREE OPTIONS** The supply of halon for existing halon equipment is a critical issue in a halon phaseout action plan. Several methods of handling existing halon equipment and installations have been proposed and reviewed. A first option is the "market force" approach that would leave the solution to market forces and result in no financial assistance to LHCC from the Multilateral Fund; a second option is to eliminate the use of halons in non-essential uses through recovery and retrofitting of existing halon equipment and fire extinguishing systems; and a third option to set up a halon recycling and banking programme.
7. The first option - the "market force" approach that would leave the solution to market forces with no involvement by the Multilateral Fund - will lead to continued import of halons and growth in the use of halons. If the fire protection industry chooses not to supply halons, the result would be lack of halons for refilling existing equipment, which would leave installations either underprotected or force them to pay very high retrofitting costs. The import of new halons to cover existing uses would likely cost the LHCC around \$80,000 per year per country and the forced retirement/replacement option would add an additional one-time cost of \$5-6 million.
8. The second option is to eliminate the use of halons in non-essential uses through recovery and retrofitting of existing halon equipment and fire extinguishing systems. This recovery/retrofitting operation combined with destruction of recovered halons, although highly recommended, is too costly for LHCC countries, since it would involve a one-time cost to the LHCC of \$3-4 million for recovery/retrofitting with an additional \$200,000 - \$300,000 to cover halon destruction costs.
9. The third option is to establish a halons recycling and banking programme. Given the small amount of halons use in

LHCC, their programme costs will be higher per unit of halons recycled than in larger countries. It is estimated that this option would result in direct costs to LHCC of \$300,000 - \$400,000 per year. If not enough halon is forthcoming, special action may be required to make halon available for critical uses. This least-cost option is selected, and a special halon management, recycling and banking programme for LHCC countries is proposed.

10. **THE PROPOSAL** An umbrella programme will provide the necessary technical support to implement a halon management programme and that will simultaneously require LHCC countries to take various actions on their own is proposed as the most cost-effective mechanism to enable the Multilateral Fund help LHCC adopting an accelerated halon use phaseout schedule and implement a halon phaseout action plan.
11. **ACTIONS REQUIRED** LHCC countries will be required under this programme to take the following actions:
 - a) assess their existing halons uses and identify their future need for halons to supply existing equipment and installations;
 - b) commit themselves to ban the import of halons and halon-using fire equipment;
 - c) stop their production of halon fire extinguishers in order to freeze halons supply at current levels;
 - d) minimize halon emissions and recover halons from non-critical uses; and
 - e) identify a lead agency and a resource person to work with the national ozone secretariat.
12. The cost of supplying halons will be the responsibility of the fire protection industry in cooperation with users, with the countries deciding how to obtain halons during the phaseout. Possibilities include self-financed national exchange programmes, import from other halons banks, or a one-time import of new halons. One of the justifications for limiting the programme to countries with a previous servicing demand for halons of 5 metric tonnes or less per year is that with the implementation of a halon management programme, demand will be significantly reduced and it is physically possible to establish an initial halon bank to cover the demand for a five-year phaseout period and manage it under the programme.
13. **TECHNICAL AND FINANCIAL SUPPORT** The umbrella programme would provide LHCC with the following technical and financial assistance:
 - o assessment of halon use, as well as halon required for servicing and refilling;

- o development of an action plan;
- o training and education of key personnel and resource persons;
- o set-up a halon recycling station to ensure the supply of halons for existing uses;
- o technical assistance to phaseout the main halon users.
- o the capability of the national ozone office (financed by the Fund) should be utilized with the addition of just one halon resource person.

14. Templates for most of the elements described above have already been developed. The material available includes:
- o questionnaire on halon use, developed from studies carried out in several countries;
 - o training and education packages on fire protection engineering, system design and installation, recycling training, etc. are available;
 - o templates for small H-1211 and H-1301 recycling stations have been developed;
 - o guidelines for main/critical users halon phaseout plans have also been developed.

15. **IN-COUNTRY COSTING: FOR EACH LHCC** The following example illustrates the type of technical and financial assistance involved per country:

A LHCC has an average annual consumption of 4 tonnes of H-1211 and 2 tonnes of H-1301. The total installed halon capacity is estimated at 20 tonnes of H-1211 and 30 tonnes of H-1301. All fire equipment and fire protection systems are imported. The main halon uses are in communication, computer rooms, power supply, oil installations, ships, aviation and defense equipment.

COST ESTIMATE:

a)	Data collection and phaseout action plan	\$ 5,000
b)	Training and education programme*	10,000
c)	Recycling/Recovery station and storage**	31,000
d)	Main users phaseout programmes**	<u>10,000</u>
	Total cost per LHCC	\$61,000

* Based on joint training programmes covering more than one country

** Development of a main users halon phaseout plan involves technical assistance and consultancy fees

16. **TOTAL IN-COUNTRY COSTING: FOR 40 LHCC** On the assumption that 40 LHCC countries will participate in the programme, the total in-country cost of the programme would be \$2,440,000.

17. **TECHNICAL ASSISTANCE AND ADVISORY SERVICE COSTS:** International/regional consultants will be required for the implementation of the umbrella programme. The costs here will include consultancy fees, travel costs, and other miscellaneous costs. The programme, which would run over three years, would economize on travel costs by scheduling visits to several countries one after the other. The estimated cost for this component is \$25,000 per LHCC (assuming joint visits) which covering all 40 LHCC amounts to \$1,000,000.
18. **OVERALL UMBRELLA PROGRAMME COSTS** The overall umbrella programme costs would thus be \$2,440,000 + \$1,000,000 = \$3,440,000. UNDP project support costs would be additional.
19. The umbrella programme will offset some of the overall national phaseout cost but the LHCC will still have to cover the costs of halon, the cost of retrofitting existing installations, and cost of new non-halon alternatives.

ANNEX

THE 10-POINT ACTION PLAN FOR
LOW HALON CONSUMING COUNTRIES

1. Identify a lead agency who can support the ozone office in the activity to be implemented.
2. Inform the fire protection industry, and other halon users on the halon phaseout activity strategy and objectives.
3. Collect information on halon uses in the country and identify main and/or critical users.
4. Estimate the demand for halons over the coming five years assuming that halon users freeze their consumption at current levels and that a halon management programme will eliminate unnecessary emissions.
5. Physically establish a national halon bank and obtain an initial halon stock either through an exchange/retrofitting programme or through a one-time import of recycled halons.
6. Establish a national recycling & recovery centre/network.
7. Assist industry introduce non-halon alternatives and convert present halon fire extinguisher production to non-halons alternatives.
8. Provide training and education to the fire protection industry.
9. Ban the import of halon, limit new applications to essential uses only and recover halon from existing equipment and installations whenever possible.
10. Require that recycling equipment and trained staff be used for servicing and maintaining halon fire equipment.

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(HALON-ES)