

# THE UNITED NATIONS ENVIRONMENT PROGRAMME'S ROLE IN ELIMINATING HALON DEPENDENCY IN DEVELOPING COUNTRIES

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## THE SUCCESSFUL PHASEOUT OF HALON IN DEVELOPED COUNTRIES

Halons were the first ozone-depleting substance to be successfully phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer, when developed countries stopped their production by 1 January 1994.<sup>1</sup> This landmark success was achieved because of a number of cross-cutting elements:

- Developed and developing countries cooperating to set the policy goals (the “level playing field”), and providing the means for developing countries to meet those goals, that has earned the reputation of the Montreal Protocol as an example for other international environmental agreements to follow
- A “neutral” technology assessment process led by UNEP’s Halon Technical Options Committee (HTOC) that provides policy advice to the Parties to the Protocol and proposes a workable global strategy
- Industry and the research community rising and meeting the challenge by the rapid development and commercialization of a wide range of chemical agents and alternative technologies, a feat without precedent in so short a time period
- The fire protection community, halon users, standards organizations, government policy-makers, and the public in those countries committing themselves to, and acting upon, a strategy to reduce unnecessary emissions and uses of halons, switching to alternative fire protection methods, recovery and recycling, and halon bank management

## WHERE WE STAND

Recognizing the special conditions of developing countries (known as “Article 5 countries”), the Montreal Protocol stipulates different control measures deadlines for developing and developed countries. In practical effects, this means that developing countries should be able to benefit from the technology and expertise developed, tested, and commercialized in developed countries. The control schedule for Annex A Group II substances (1211, 1301, 2402) is shown below.

Although the 100% phaseout deadline of 2010 may appear remote to halon uses in developing countries, the reality of the first control measure is not far off.

The production of halons in developed countries has fallen swiftly from a high of about 180,000 ODP tons in 1986 to virtually nil in 1995 (except for essential uses), while during the same

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<sup>1</sup>Except for remaining agreed “essential uses.”

TABLE 1. HALON PHASEOUT SCHEDULE PER MONTREAL PROTOCOL.

Developed Countries	
1 January 1992	Freeze of halon consumption
1 January 1994	100% phaseout of halons
Article 5 (Developing) Countries	
1 January 2002	Freeze of halons at 1995-1997 average levels
1 January 2005	Halons reduced by 50% from 1995-1997 average
1 January 2010	100% phaseout of halons

\* with exemptions for essential uses

period production in developing countries has climbed from about 10,000ODP tons to 40,000 ODP tons (Figure 1).

In terms of halon consumption in developing countries, we see that there has been an increasing trend of late if we discount early data when reporting methods were imprecise (Figure 2). There are a number of problems with the accuracy of the data, but they are useful for showing the overall consumption trend.

The developed countries have already met their target of stopping halon production by 1 January 1994. The focus now shifts to developing countries, and the need to achieve the phaseout by promoting alternatives, halon banking, “rethinking” fire protection needs, and other methods.

### CATEGORIES OF HALON-USING DEVELOPING COUNTRIES

The HTOC has identified the following categories of countries:

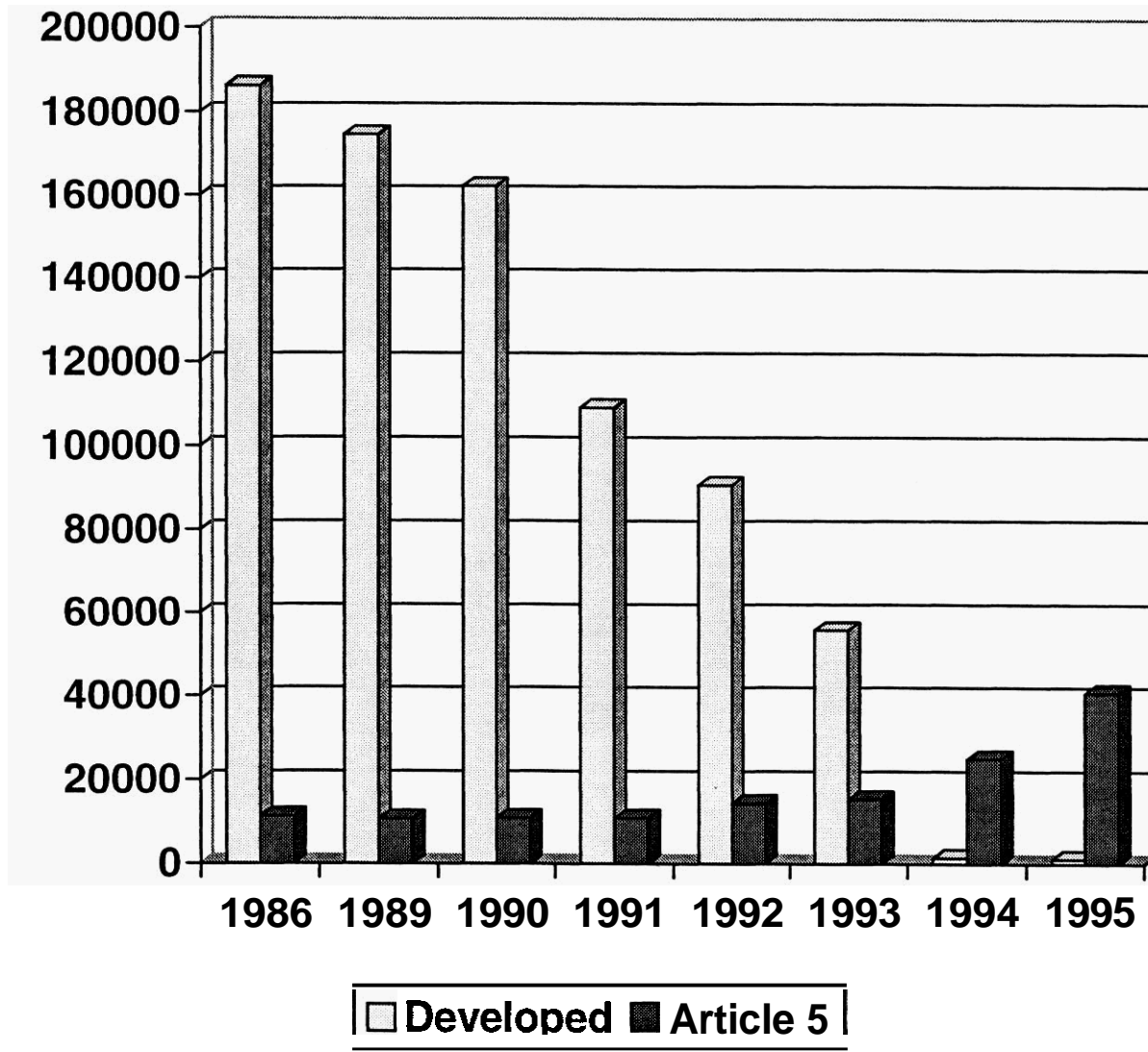
- Category 1. Countries that both produce halons and manufacture halon-based fire protection equipment
- Category 2. Countries that consume (i.e., import) halons and manufacture halon-based fire protection equipment
- Category 3. Countries that consume halons and import halon-based fire protection equipment

Most developing countries fall into the third category, some fall into the second category, and only a few fall into the first.

The halon management and phaseout approaches for these types of countries are different.

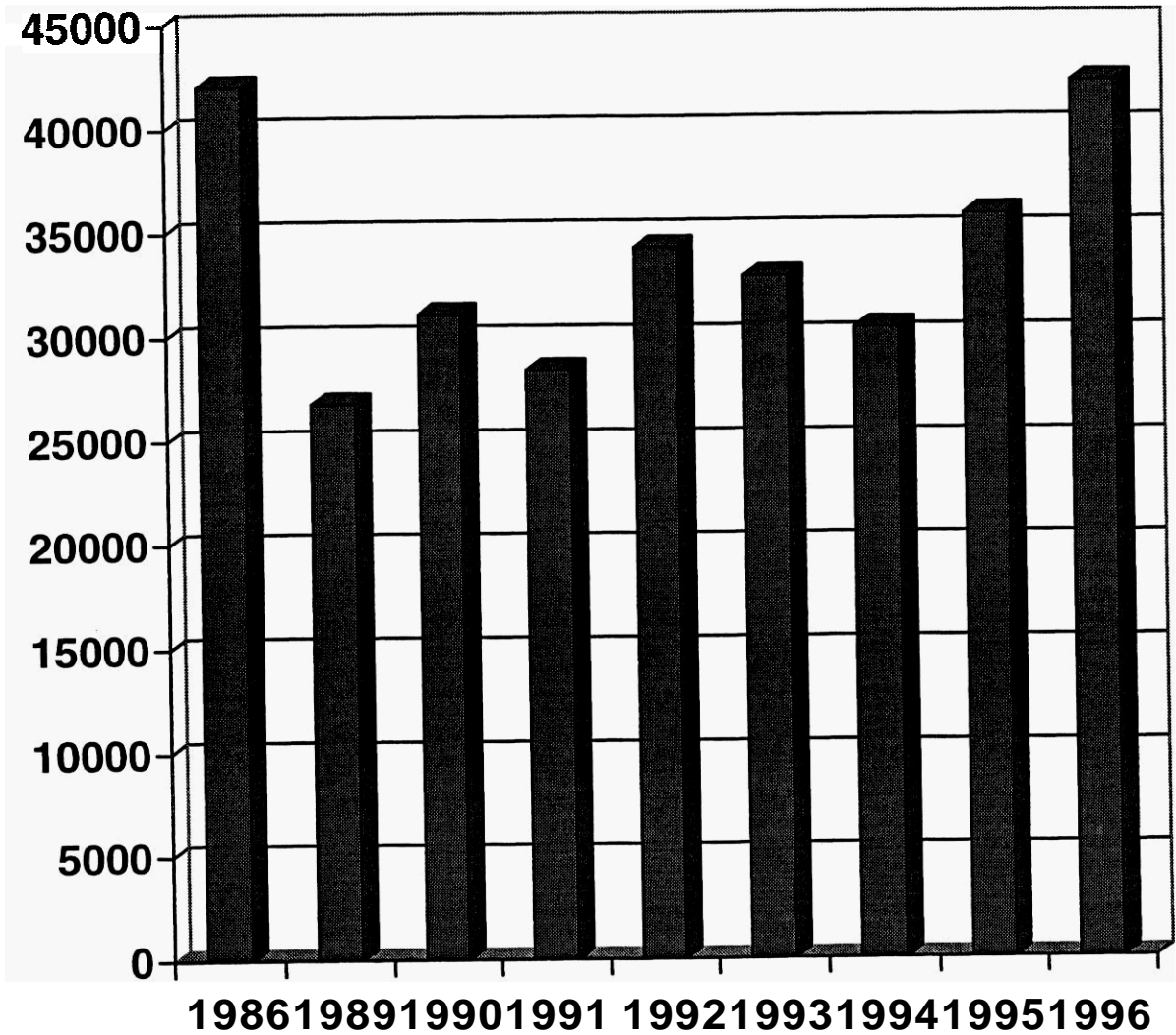
China, a large Category 1 country, has in place a Halon Sector Strategy developed by the State Environmental Protection Agency and the World Bank that will phase out consumption and production of Halon 1211 by 2006 and Halon 1301 by 2010. This will be achieved through a combination of production facility closures, operation of a halon banking system and training programmes, promotion of substitutes, and establishment of policy instruments.

A small Category 3 country such as Trinidad & Tobago is at the other end of the spectrum, with a small installed base (<50 MT Halon 1211 and 1301 combined). It imports halons and does not produce fire protection equipment. It is designing a Halon Bank Management Plan that will enable



Analysis of Article 7 data submitted by 10 countries to UNEP Ozone Secretariat, as reported in *Production & Consumption of ODS 7986-7995* (S. Oberthur, GTZ, 1997). Data are combined for Annex A, Group II substances (i.e., Halons 1211, 1301, 2402)

**Figure 1**



Analysis of Article 7 data submitted by 83 Article 5 countries to UNEP Ozone Secretariat as of Sept 1997, except 1996 data, which is unofficial. Data are combined for Annex A, Group II substances (i.e., Halons 1211, 1301, 2402)

**Figure 2**

it to meet the 2002 freeze and prepare for the subsequent phaseout targets. This approach includes conducting a survey to determine the current uses and supply of halon, decide essential needs and eliminate unnecessary consumption, establish a recovery and recycling programme, and create linkages between halon users and external halon banks (e.g., Venezuela's FONDOIN, the United States' MARC).

## UNEP'S ROLE

UNEP, through the OzonAction Programme located at the Industry & Environment Centre (Paris), has the mandate under the Multilateral Fund to provide a clearinghouse function to developing countries related to all ozone-depleting substances, including halons. The OzonAction Programme provides the following services to Article 5 countries:

- **Information Exchange** to enable decision makers to take informed decisions on policies and investments. Information and management tools already provided for developing countries include the OzonAction Information Clearinghouse (OAIC) diskette and World Wide Web site, a quarterly newsletter, sector-specific technical publications for identifying and selecting alternative technologies, and policy guidelines.
- **Training and Networking** that provide platforms for exchanging experiences, developing skills, and tapping the expertise of peers and other experts in the global ozone protection community. Training and network workshops build skills for implementing and managing phaseout activities, and are conducted at the regional level (support is also extended to national activities). The Programme currently operates seven regional and sub-regional Networks of ODS Officers comprising more than 80 countries, which have resulted in member countries' taking early steps to implement the Montreal Protocol.

The Parties have accorded great importance to the concept of international and national halon banking because of its role in enabling the global management and phaseout of halons. In their Copenhagen Amendment (November 1992), the Parties requested UNEP to establish the International Halon Bank Management Information Clearinghouse within the OzonAction Programme to collect and disseminate information relevant to international halon bank management.

## INTERNATIONAL RECYCLED HALON BANK MANAGEMENT INFORMATION CLEARINGHOUSE

The International Recycled Halon Bank Management Information Clearinghouse (IRHBMIC) services are designed in close cooperation with the HTOC, and are aimed at supporting and reinforcing existing national and regional initiatives. As such, they are delivered mainly through the Regional Networks of ODS Officers.

Although the IRHBMIC primarily acts as a "pointer" to direct the user to existing experts and halon banks worldwide, it also develops and delivers the following specific services:

- (1) Maintaining and disseminating an up-to-date contact list of national halon banks
- (2) Forwarding requests from companies and governments that seek recycled halons to all halon banks worldwide

- (3) Responding to technical queries from halon users on alternative fire protection practices and substances
- (4) Assisting the HTOC with data collection projects, such as collecting data on developed countries' halon surplus/deficits per a Decision of the Parties to Montreal Protocol
- (5) Working with bilateral agencies to formulate halon banking projects
- (6) Developing and disseminating publications and databases, such as:
  - *Halon Management: Banking for the Future*
  - *Inventory of Trade Names of Chemical Products Containing Ozone Depleting Substances & Their Alternatives*
  - World Wide Web site
  - *Self-help Guide for Low Volume Halon Consuming Countries*
  - Collection of halon banking/halon alternatives case studies

### **THE PATH TO ELIMINATING HALON DEPENDENCY IN DEVELOPING COUNTRIES**

Following the lead of the HTOC, UNEP's services to developing countries reinforce and promote the elimination of halon dependency through these steps:

1. ***Build awareness of the problem of ozone depletion***  
The fire protection community within the country must be made aware that in addition to their environmental threat, halon-based fire protection equipment is a poor investment because it will be unsupportable in the future.
2. ***Commit to phase out of halons***  
The fire protection community and the government should agree to cap halon availability at existing levels as soon as possible, agree upon a schedule to reduce availability of halons annually and eliminate dependency on newly produced halons.
3. ***Reduce unnecessary halon emissions and uses***  
Change regulations to ensure that Halon 1211 portable fire extinguishers are not required for local fire protection regulations, use recovery, and recycling equipment during maintenance and during inspections. Eliminate discharge testing of fixed systems by alternative test methods, and improve detection and maintenance procedures.
4. ***Switch to alternative fire protection methods***  
If, after examination the need is not truly "critical" and all other appropriate fire protection measures have been taken, then consider alternative fire protection methods and/or agents.
5. ***Develop halon bank management and recycling***  
Once halon supply is restricted, recycling becomes a cost effective way to extend the life of halon fire protection equipment, protect capital and investment, and meet critical fire protection needs.
6. ***End halon imports or production***  
Develop and enact regulations and other policy instruments to stop imports or production.

## CHALLENGES THAT LIE AHEAD

Based on the OzonAction Programme's close interaction with developing countries, we foresee the following challenges that lie ahead for the total phase out of halons:

### Adopt alternative agent: Exchange information

- Identify remaining critical needs
- Develop and commercialize alternatives
- Ensure that suppliers inform and provide information on the alternatives throughout developing countries, including those with small halon consumption levels

### Rethink fire protection needs: Build skills

- Teach the fire protection authorities and halon using community on the proper management of existing halon stocks
- **Make** appropriate expertise and know-how available to developing countries to ensure adoption of alternatives and elimination of unnecessary uses

### Promote halon banking: Cooperate

- Find "champions" in developing countries (individuals and/or organizations) who can make the halon phaseout issue a priority for the country and lead its implementation.
- Assist countries to develop and manage their own inventories and information centres to monitor, track, and exchange halon supplies
- Promote regional halon banking for those areas where installed capacity does not justify a national halon bank, and integrate the region into the international network of halon banks.