



zonAction



UNEP DTIE quarterly publication • OzonAction Programme under the Multilateral Fund

A newsletter dedicated to the protection of the ozone layer and implementation of the Montreal Protocol

ISSN 1020-1602

Viewpoint



*Dr Klaus Töpfer,
Executive Director,
UNEP*

Africa: rising to the challenge

As the Parties to the Montreal Protocol prepare for their meeting, in Burkina Faso, they will find that, while much has been accomplished since their last meeting, new

challenges have also arisen.

Africa's contribution to the Montreal Protocol cannot be underestimated. Its commitment is not only evident in the number of African countries that have ratified the Protocol and its amendments, but also in the number of projects that have been approved for the region and are currently being implemented.

In the period between the 11th and this 12th Meeting of the Parties, a major milestone for Article 5 countries has been reached: the freeze of CFCs which came into effect on 1 July 1999. At the start of this compliance period for Article 5 countries, Africa should be seen as a leader in meeting commitments. Most of its countries are meeting the freeze, and efforts are being made to ensure that the subsequent control measures will be undertaken as well. Some African countries have taken the initiative in phasing out their remaining ozone depleting substances (ODS) through phase-out plans. Intensive training of Customs Officers is also being undertaken to combat the emerging problem of illegal ODS trade.

As the Meeting of the Parties unfolds in Africa, we should recognize the region's contribution to ozone protection, which is a testament to the collective recognition by Africans of the urgency of the issue, to their willingness to promote responsible environmental management and to their determination to play a full part in global environmental protection.



*H.E. Dr Fidèle Hien,
Minister for
Environment and
Water, Burkina Faso*

Every action counts

Contrary to a widely held belief that ozone depletion is exclusively the concern of developed countries, we in Burkina Faso believe that the universal nature of the problem requires a commitment from the entire international

community. Burkina Faso adopted the slogan 'Protect the ozone layer, every action counts' a long time ago, and embarked with zeal in the process that will lead to conservation of our precious ozone shield. The first measures to control ODS in Burkina Faso were introduced in 1992.

I speak of zeal because I am aware that our offer to host the 12th Meeting of the Parties to the Montreal Protocol may be greeted with surprise. Why should a country suffering from other serious environmental problems such as desertification and drought make such efforts and give such high priority to protection of the ozone layer?

Developments in recent years have shown that we are right. While the developed countries have introduced measures for the effective phase out of many ODS, there has been an increase in transfer of outmoded technologies and obsolete equipment to the developing nations, especially to Africa. In spite of the large sums disbursed by the Multilateral Fund, emissions will continue so long as the developed countries allow export of equipment using ODS to the developing ones, and the developing countries do not have the regulatory instruments to control imports. If this situation persists, ozone will continue to be depleted and the developing countries will receive a stream of waste of a new type which will further burden their economies.

Contents

Viewpoint	1
News from international agencies	2
TechTalk	3
Web Watch	4
Network news	5
World Policy Roundup	5
Workshops	6
<i>Save Our Sky: Protect yourself; Protect the Ozone layer: International Day for Preservation of the Ozone Layer</i>	7
<i>Feature: Moving into compliance: time for a new approach</i>	9
The National Ozone Unit interview	10
Forthcoming meetings	10
Status of ratification	10

By offering to host the Meeting of the Parties, Burkina Faso hopes to provide an appropriate framework for significant progress on measures preventing export and import of obsolete equipment, and for the developing countries to obtain appropriate support to protect them from possible adverse consequences of such measures.

Any action by a country as small as Burkina Faso may appear ineffectual and without any real consequences for the ozone layer. But imagine for a second what would happen if we took the opposite course and opened our territory to any industry using ODS. There would certainly be enough room in Burkina Faso to produce and emit sufficient ODS to maintain and accelerate ozone depletion. It is only then that we can see just how much *every action by every member of the international community counts* if we are to save the ozone layer.

12th Meeting of the Parties to the Montreal Protocol

The 12th Meeting of the Parties to the Montreal Protocol will be held in Ouagadougou, Burkina Faso, on 11-14 December 2000. Full information about the meeting agenda and venue can be found at:
<http://www.ozone2000.bf/environnement/information4.htm>



News from international agencies



Fund Secretariat

The Fund Secretariat's Chief Officer organized a meeting of government officials from six Central American

countries with the Chair and Vice-Chair of Ex Com. The meeting, held in 2000 in San Jose, Costa Rica, discussed progress by the countries towards compliance with the Montreal Protocol. Of three countries not Parties to the London and Copenhagen amendments, two have finalized ratification of both amendments since the visit and the third is in the process of doing so.

A meeting was also organized in La Habana, Cuba, on 30–31 August 2000, to discuss Cuba's status of compliance with the Protocol as well as future assistance to the country from the MLF. A similar meeting was held in Kampala, Uganda, with high officials from Kenya, Tanzania and Uganda, on 23–25 October 2000.

In cooperation with the implementing agencies, the Secretariat sought information from Article 5 countries on activities they may include in their 2001 and 2002 business plans, discussed at a coordination meeting on 6–8 September 2000, in Montreal, Canada.

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UNEP DTIE OzonAction Programme

UNEP's networks continue to provide assistance to developing countries to meet their targets under the Montreal Protocol. The ODS Officers Network for Southeast Asia and the Pacific (SEAP) discussed disposal of unwanted ODS and illegal trade at its annual meeting held in Laos, in October (see page 5).

UNEP updated its Trends Analysis document based on data submitted for 1999. A booklet highlighting Africa's achievements in the Montreal Protocol will be launched in Burkina Faso, along with OASIS-CD-Version 2.

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UNEP Ozone Secretariat

The Ozone Secretariat has issued the working documents for the 12th

Meeting of the Parties to the Montreal Protocol, in Ouagadougou, Burkina Faso, in December 2000. The Secretariat has also made documents available on its website including the draft decisions of the Open Ended Working Group meeting, held in July 2000 in Geneva. The data provided by Parties on their production and consumption of ODS in 1998, and analysis of these data as at 15 October 2000, are also available. This information will be reviewed by the Implementation Committee for compliance with the control measures agreed by the Parties. The conclusions of the Implementation Committee will be placed before the 12th Meeting of the Parties for decision on any necessary action.

Contact: Mr Michael Graber, UNEP Ozone Secretariat, P.O. Box 30552, Nairobi, Kenya, tel: +254 2 623 885, fax: +254 2 623 913/623601, e-mail: michael.graber@unep.org <http://www.unep.org/ozone>



UNDP

UNDP has submitted 53 investment

projects, requiring US\$16.15 million of funds, for approval by the 32nd ExCom Meeting. The projects would phase out 2,551 ODP tonnes in the foams, halons, refrigeration and methyl bromide sectors in 20 countries. Notable are projects to eliminate all use of methyl bromide in Malawi and all remaining use of CFC in the foam sector in Mexico.

UNDP has also developed an innovative type of incentive programme to assist CFC phase out in the critical end-user refrigeration sector in LVCs. Three such projects, for Burkina Faso, Ghana and Sri Lanka, will be submitted to the 32nd ExCom Meeting. If approved, UNDP hopes to replicate this type of programme in six other LVCs.

A technical exchange meeting of national and international experts was organized by UNDP, in November 2000 to assist Costa Rica in preparing for phase out of use of methyl bromide for melons and cut flowers.

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<http://www.undp.org/seed/eap/montreal>



UNIDO

UNIDO completed projects in the aerosol sector in Syria. At the

Mazira company 90 Mt of CFCs were phased out in the production of 880,000 aerosol cans and, at Dina Cosmetics, 70 Mt of CFC-12 were phased out for production of 1,675,000 aerosol cans. The chosen alternative propellant is a butane/propane mixture.

An international workshop on alternatives to methyl bromide for tobacco seed beds was organized as part of a demonstration project in Zimbabwe. The workshop, organized by the Tobacco Research Board of Zimbabwe, facilitated exchanges of experience on floating tray technology and implementation of phase-out programmes.

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World Bank

Thailand confirmed its commitment to use funds from its Energy

Conservation Fund to leverage an additional US\$30 million from other sources for the MLF/GEF Building Chiller Replacement Project. Procurement of the first 24 chillers should begin in November.

China and the World Bank agreed on operational procedures under the sector approach, to utilize its inherent flexibility for substitute development. One of the first initiatives under these procedures will be an HFC-134a plant feasibility study.

The Bank also participated in a workshop organized by China and UNEP to finalize the 'Ozone Policy Training Strategy for Local Authorities in China' document.

At the ExCom's 31st Meeting, the Bank received approval of US\$15 million to phase out 518.5 Mt ODP in seven countries and eliminate production of another 1,882 Mt CFC in India.

Contact: Mr Steve Gorman, World Bank, 1818 H. Street, N.W. Washington D.C. 20433, USA, tel: +1 202 473 5865, fax: +1 202 522 3258, e-mail: sgorman@worldbank.org <http://www-esd.worldbank.org/mp/>

TECH•TALK

UNEP DTIE welcomes information from industry and will mention as many new technologies and products as possible in this newsletter.

REFRIGERATION

HC freezer cabinets introduced in Australia

Unilever has announced that it is intending to introduce more freezer cabinets using hydrocarbon (HC) based refrigerants after completion of a pilot HC freezer cabinet project launched at the Sydney Olympics. The company also said that by 2005 it will not purchase ice cream freezers containing hydrofluorocarbon (HFC) refrigerants if viable alternatives, such as HC, are commercially available.

For its Sydney pilot project, Unilever used 50 production-line freezers, with HC based refrigerants, specially designed to operate at minus 20 °C in warm ambient conditions. Following the pilot, the company hopes to be able to introduce this technology in Australia by February 2001.

Contact: Unilever, tel: +31 10 217 4844, fax: +31 10 217 4843, website: <http://www.unilever.com>

SP34E added to SNAP List

Solpower Corporation recently announced that the US EPA has decided to add the company's SP34E refrigerant—a near 'drop-in' HFC replacement for CFC-12—to the list of environmentally acceptable refrigerants under its Significant New Alternatives Policy (SNAP) programme.

SNAP approval means that SP34E can be used in the USA in medium-

temperature refrigeration and air conditioning applications, including domestic refrigeration, commercial refrigeration, refrigerated transport, commercial air conditioning and motor vehicle air conditioning. Solpower noted that the refrigerant is subject to certain use conditions similar to those in place for R-134a.

The company's recent acquisition of Canada's Protocol Resource Management is providing Solpower with the capacity to produce 18,000 tonnes of SP34E per year. The plant is currently producing and supplying SP34E to Canadian and international customers.

Contact: Trond Matteson, Dominion Capital, tel: +1 480 947 4477

HALONS

EPA finalizes acceptability decision on halon substitutes

The US EPA has issued a final rule listing IG-100 and hydrochlorofluorocarbon (HCFC) Blend E as acceptable halon substitutes for certain fire-fighting applications.

According to the rule, IG-100 (100 per cent nitrogen) is an acceptable substitute for Halon-1301 for total flooding applications, under certain conditions. To protect employees or anyone who may be present in areas where IG-100 is discharged, the system must be designed to maintain an oxygen level of 10 per cent. IG-100 systems producing oxygen levels lower than this may only be used in areas which are normally unoccupied and from which anyone exposed to the chemical can evacuate within 30 seconds.

HCFC Blend E, made up of an HCFC, an HFC and an additive, is accepted as a substitute for Halon-1211 as a streaming agent in non-residential applications. The ozone-depletion potential (ODP) of the HCFC in the blend is 0.2 and all of the other components have 0 ODP. Due to health risks arising from combustion of HCFCs and HFCs, Blend E is not authorized for residential use.

Contact: US EPA, fax: +1 202 2096

ETEC to develop fire suppressant agent

The US EPA recently awarded a Phase I Small Business Innovation Research (SBIR) project to the Environmental Technology and Education Center (ETEC). The aim of the project will be to establish the feasibility of using a 'total flooding' fire suppressant agent with no ozone-depleting

Industry objects to US EPA proposal

A US EPA proposal to restrict the use of two hydrochlorofluorocarbons (HCFC-22 and HCFC-142b) as foam blowing agents before the USA's existing 2010 production phase-out deadline is causing concern in the foam manufacturing industry. Controversy has arisen over the EPA's proposed decision under the SNAP programme, following a recent request by the Atofina company to allow use of HCFC-142b, -22, as well as HCFC-124, as alternative blowing agents to HCFC-141b. Some companies have claimed that the EPA's proposal is tantamount to creating a monopoly for Honeywell's HFC-254fa, already listed as an acceptable alternative to HCFC-141b. Production and import of HCFC-141b are due to be phased out in the USA on 1 January 2003.

Several non-ozone depleting alternatives, including HFCs, CO₂, water and hydrocarbons are considered viable alternatives for many foam applications although no single solution has emerged for all foam types and economic barriers may exist in some cases. For some applications, such as extruded polystyrene, several commentators objected to EPA's preliminary determination that a transition from HCFCs could be achieved in the USA by the proposed 2005 deadline.

EPA is now reviewing the comments and plans to issue a follow-up to the proposal by the middle of 2001. In the meanwhile, producers in the USA and Europe in various foam sectors have already begun a transition to non-ozone-depleting alternatives.

Contact: Jeff Cohen, US EPA, tel: +1 202 564 0135.

Military workshop announcement

A workshop on 'The Importance of the Military Organizations in Stratospheric Ozone Protection and Climate Protection' (6-9 February 2001, Brussels) is being jointly organized by the OzonAction Programme, USEPA and USDoD, with support provided by 10 military and environment agencies, industry cooperatives and NGOs. For details, visit the workshop web site at: www.uneptie.org/ozat/military/home.htm

potential (ODP) and a lower global warming potential (GWP) than current agents such as Halon-1301. The product will be known as ETEC Agent A.

ETEC Agent A could be used to replace Halon-1301 in fighting fires in aircraft, computer rooms and delicate equipment areas. Unlike other replacements for Halon-1301—many of which require two or three times the amount of fire-fighting agent to be effective and therefore larger systems—the ETEC agent can be used as a direct replacement. This makes it particularly suitable for applications such as fighter aircraft, where space and weight considerations are important. According to ETEC, this new suppressant could save millions of dollars in retrofitting costs to government and industry as well as protecting the ozone layer.

Contact: ETEC, **website:** <http://www.etec-nm.com>

METHYL BROMIDE

Phosphine fumigant approved for food

Cytec Industries Inc. has recently received US EPA regulatory approval for ECO2FUME, its phosphine fumigant for food applications. ECO2FUME can be used as an environmentally-friendly alternative to methyl bromide in stored-product or enclosed applications such as

control of insects in commodities such as grain, nuts and fruits.

Contact: William Cleary, Cytec,
tel: +1 973 357 3298,
website: <http://www.cytec.com>

USDA creates pest management centres

The US Department of Agriculture (USDA) recently announced that it will create four new regional pest management centres designed to research, develop and deliver alternative pest management strategies to farmers and ranchers. The centres will focus on pest management issues that are common to agricultural production within a region and across state boundaries and will strengthen the connection between production agriculture, research and extension programmes, and agricultural stakeholders throughout the USA.

Contact: Maria Bynum, USDA,
tel: +1 202 720 4623,
e-mail: maria.bynum@usda.gov

AEROSOLS

US FDA approves new CFC-free inhaler

The US Food and Drug Administration recently announced its approval of a new metered dose inhaler (MDI) containing a beclomethasone (BDP) solution and no chlorofluorocarbon propellants.

According to its makers, 3M Pharmaceuticals, the new MDI, known as the QVAR, is designed to use ozone-friendly hydrofluoroalkane (HFA) propellants to deliver smaller particle-sized medication to the large, intermediate and small airways of asthma sufferers.

Contact: Laura Sutton, 3M Pharmaceuticals,
tel: +1 651 733 9134

AIR CONDITIONING

New ozone-friendly and energy saving air conditioning units

Daikin Industries Ltd. (Japan) has announced that it is to market new energy-saving regenerative commercial air conditioners using ozone-friendly R-407C as refrigerant.

Design modifications in piping and to the compressor scroll mean that the new EXG50Z model is 16 per cent more efficient than previous models. The EXG50Z air conditioners will be available in eight models ranging from 10 to 20 horsepower.

Contact: Daikin, **website:** <http://www.daikin.com>

WEB Watch

UNEP's Trends Analysis: country-by-country compliance status

UNEP DTIE's OzonAction Programme has developed a database tool, the 'Analysis of Trends in Consumption and Production of Ozone Depleting Substances in Developing Countries' that helps track, monitor and assess the status of individual

Article 5 countries or groups of countries in relation to the 1999 CFC 'freeze' target.

This web version of UNEP's Trends Analysis provides graphical illustration of past consumption and production of ODS for Article 5 countries accompanied by country reports giving an indication of likely future reductions.



The Trends Analysis is available on the Internet at <http://www.uneptie.org/ozat/nou/datareport.html>

British Antarctic Survey: latest news and background on Antarctic ozone

The British Antarctic Survey (BAS) website is for anyone interested in a

'blow-by-blow' account of what is happening to the ozone above the Antarctic or looking for clear information on the background to ozone depletion. A very useful feature of the site is an animated sequence using satellite data

to show development of the ozone hole.

Available at <http://www.antarctica.ac.uk>

Success story ...

Saleem Automotive Industries Ltd., Pakistan:
a small company with a big initiative

Saleem Automotive Industries Ltd. has become the first company in Pakistan to phase out the use of CFCs under the World Bank's Montreal Protocol ODS Phase-Out Project. The project for Saleem, a 100 per cent Pakistani-owned small manufacturer of automotive seats, was approved at the November 1998 ExCom meeting. Funds of US\$33,875 were approved to phase out the use of 2.5 Mt ODP and the project was expected to take 1.5 years for completion.

Implementation of the project was highly satisfactory. The company eliminated the use of CFC-11, through conversion to a water-based technology for the manufacture of flexible molded polyurethane foam in only four months, a remarkably short time and well ahead of schedule. Furthermore, implementation was within budget and, not only did the company experience no difficulty in switching to the all-water blown technology, it also reports improved product quality.

Although the ODS phase-out impact of Saleem's project is limited, the leadership shown by this small company should encourage bigger companies in Pakistan to follow in its footsteps.

Contact: World Bank, tel: +1 202 473 5865,
fax: +1 202 522 3258,
<http://www-esd.worldbank.org/mp/>

NETWORK NEWS

SEAP Network sounds the alert on illegal ODS

At their October meeting, held in Vientiane, Laos, ODS Officers from the South East Asia and Pacific Network expressed concern over the increasing entry into their countries of mislabelled ODS and their alternatives, and called for more stringent measures on ODS monitoring. They also emphasized the need to identify means to dispose of unwanted and contaminated ODS, as this is becoming a real problem as recovery programmes become more successful.

A number of suggestions for solutions to the mislabelling problem emerged from the meeting's discussions, including the urgent need for training of Customs Officers responsible for checking entry of such substances into countries in the region. As most countries already have a licensing or permit system in place, NOUs felt that such training could, and should, be implemented rapidly in order to build the capacity of their Customs Officers. A

good start was made earlier this year with a joint ozone/customs officers workshop held in Thailand, organized jointly by Sweden and Japan.

On the issue of ODS disposal, participants in the meeting recognized that this is a new area that requires more study. They also said that they would welcome information on the experience of developed countries in tackling the

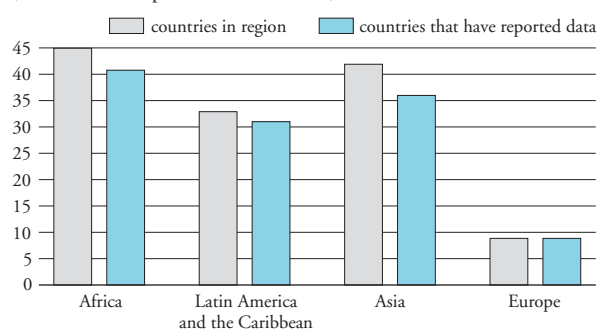
problem. Australia has useful experience in this area which, as developed country partner to the network, is to be shared with other network members.

The meeting, hosted and admirably well organized by the Government of Laos, also included a visit to a hydroelectric power plant, allowing participants to observe the plant's fire-fighting equipment.

Data reporting shows striking improvement

The graph shows region-by-region reporting of baseline data which will be the basis for compliance for developing countries.

Region-by-region reporting of baseline data, 1995–97
(total number of parties: 130, Article 5)



WORLD POLICY ROUNDUP

Russia adopts draft on ODS production phase out

The Russian government recently adopted a draft agreement to phase out the production of ODS within the Russian Federation. Production of ODS in Russia is currently suspended.

Under the agreement, funds will be provided to support the US\$26.2 million project by means of a grant from the International Bank for Reconstruction and Development (IBRD). The project would be implemented between 2000 and 2005. Russian officials signed an agreement with the IBRD for the grant in August 2000.

Contact: Mr Andrey Kosov, fax: +7 095 334 2933, e-mail: kosov@gefz.msk.ru

Uganda to phase out ozone-depleting refrigerants

Uganda's National Environment Management Authority (NEMA) recently

announced that the country intends to phase out its imports of ODS.

Of the 42 tonnes of ODS consumed annually by Uganda, 98 per cent is used for refrigeration, with the remainder being used in the cut flower industry and for fire extinguishers.

NEMA has established a national programme to recover and recycle refrigerants. Training for technicians and engineers in recovery and recycling of ODS is also being offered at the country's Nakawa Vocational Training Institute.

Contact: Mr Rwothumio Thomiko, fax: +256 41 25 75 21/23 26 80, e-mail: neic@starcom.co.ug or nema@imul.com

European Union introduces new ODS limits

Supply and use of HCFCs, CFCs, halons and other ODS in the European Union (EU) became subject to new controls as of 1 October 2000. From that date onwards, EU countries are required to place a ban on the sale and use of most CFCs, carbon tetrachloride and 1,1,1 trichloroethane. In addition, the use of HCFCs in most new refrigeration and air conditioning equipment will be prohibited as from 1 January 2001. Production and sale of

methyl bromide will be prohibited from the start of 2005.

Contact: Dr Tom Batchelor, e-mail: tom.BATCHELOR@cec.eu.int

Environment Canada proposes amendments to ODS regulations

Environment Canada (EC) recently proposed amendments to the 1998 regulations on ODS that would introduce additional requirements under the Montreal Protocol, improve control on ODS and address administrative issues.

The EC's proposal would introduce international reduction schedules for methyl bromide and add bromochloromethane (Halon 1011) to the Canadian Government's list of controlled substances, as well as prohibiting its production and consumption by 2002.

Other proposals include introduction of reporting requirements for holders of permits for import and export of recovered, recycled, reclaimed or used HCFCs and a rule prohibiting reuse of controlled substances from metered-dose inhalers except for essential purposes.

Contact: Environment Canada, website: <http://www.ec.gc.ca/ozone>

WORKSHOPS

UNEP helps South Asian countries fight illegal trade in ozone depleting substances

'To control ODS imports and exports, extensive cooperation is needed from every country. Therefore, the Chinese Government attaches great importance to this workshop. We believe that it will play an important role in enhancing regional cooperation, facilitating information and exchange of experiences, and improving ODS imports and exports control.' These are the words of Mr Zhu Guanyao, Vice-Minister of the Chinese State Environmental Protection Agency (SEPA) in his opening address to a regional workshop, held in Dalian, China, on 9–13 October 2000, to help South Asian countries fight the illegal trade in ODS. The workshop, part of a major new initiative launched by UNEP, was the first of its kind in the region.

Thirty-six participants from 10 South Asian countries attended the event to discuss ways in which they could establish or improve their legal and institutional systems to control and monitor ODS consumption, in particular imports and exports. Curbing illegal trade is a priority for these countries in their efforts to phase out ODS under the Montreal Protocol and meet their compliance targets.

At the end of the workshop each country representative set out a National Action Plan (NAP) to establish or improve

existing national ODS licensing system, and provided details on how the plan and related policy and regulatory frameworks would be implemented. They also made a number of recommendations, including:

- development of ODS licensing systems in countries that still lack them;
- adoption of measures to prevent the re-exporting of ODS;
- ratification by the participating countries of the Copenhagen, Montreal and Beijing Amendments to the Montreal Protocol;
- close cooperation and exchange of information between environmental and customs authorities on the national and regional levels;
- organization of national training workshops for customs officers;
- development of 'National ODS Customs Handbooks' to assist customs authorities in detecting illegal trade in ODS; and
- development of Guidelines on how to deal with seized illegal shipments of ODS as most countries in the region do not have appropriate destruction facilities for ODS.

The workshop was funded by the Government of Japan.

Experts learn about alternatives to methyl bromide

Experts from Bulgaria, China, Costa Rica,

Kenya and Morocco learned about methods for soil disinfestation which do not make use of methyl bromide during a short course organized by UNEP, the Italian Ministry of Environment and the University of Turin.

The objective of the course, held in Albenga and Turin, Italy on 16–20 September 2000, was to increase the experts' knowledge of available alternatives to methyl bromide, of how to implement them and of how to foster transfer of technologies already validated in southern Europe to countries with similar environments and cultural conditions.

The course covered alternative techniques including soil solarization, biocontrols, soil amendments and pesticides, as well as farm visits, practical experiments and hands-on training activities to demonstrate the use of alternatives.

UNEP also sponsored the participation of these experts in the 11–15 September 2000 Symposium on 'Chemical and Non-Chemical Soil and Substrate Disinfestation', where they shared their experience at a UNEP Roundtable on Implementing Alternatives to Methyl Bromide.

For further information on both these articles contact: OzonAction Programme, UNEP DTIE
fax: +33 1 44 37 14 74,
e-mail: ozonaction@unep.fr

Jamaica: the power of training

The successful completion of Jamaica's 'Good Practices in Refrigeration' programme is a clear demonstration that training can be a powerful tool in the fight to save the ozone layer. A train-the-trainers session by a single UNEP consultant at the start of June 1999 led to training of 126 technicians in good refrigeration practices by February 2000.

This programme, part of Jamaica's Refrigerant Management Plan, was implemented by UNEP on behalf of Environment Canada and in cooperation with the Jamaican Natural Resources Conservation Authority (NRCA) as the local coordinating agency.

Phase I—train-the-trainers

In June 1999, Mr Ron Vech, a UNEP Consultant from Canada's Heating, Refrigeration and Air Conditioning Institute (HRAI) conducted a 5-day training workshop that was successfully completed by 25 local trainers.

Phase II—training the technicians

Between October 1999 and February 2000, the 25 local trainers organized eight 3-day workshops after which 126 technicians were awarded certificates of achievement and participation by Jamaica's National Training Agency's Vocational Training Development and NRCA.

Phase III—monitoring and evaluation

After completion of the training programme, 70 per cent of the technicians were found to be applying good refrigeration practices and recovery and recycling, resulting in a 20 per cent reduction in their use of CFCs.

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Ms Veronica Alleyne, Ozone Officer, Natural Resources Conservation Authority Jamaica, Mr Timothy Kasten, Senior Programme Officer UNEP/CAR RCU and Mr Franklin McDonald, Executive Director, Natural Resources Conservation Authority Jamaica

SAVE O₃UR SKY: Protect yourself; Protect the Ozone layer



International Day for Preservation of the Ozone Layer, 16 September 2000

'Save our Sky: Protect yourself; Protect the Ozone layer' was the theme of this year's International Day for Preservation of the Ozone Layer celebrated all over the world. As in previous years, NOUs in different countries organized original events and we are pleased to present a selection of these here.

For more information, contact: OzonAction Programme, UNEP DTIE,
Tour Mirabeau, 39-43 quai Andre Citroën, Paris 75739 Cedex 15, France
tel: +33 1 44 37 14 59, fax: +33 1 44 37 14 74, <http://www.unep.ie/org/ozonaction.html>

Message from Kofi Annan, United Nations Secretary General

'Through education efforts, public cooperation, and pledges to use only ozone-friendly chemicals and products, we can make a huge difference in protecting both our Earth's and our own health, and in establishing higher standards of life for future generations on this planet.'

Bahrain: reaching out via the Internet

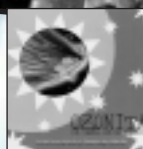
Bahrain organized an Ozone Competition for Children and sent advice and comments to customers using ODS via the Internet. (See also 'voluntary pledge' box on the following page.)

Bangladesh: creating awareness and new policies

Special supplements were published in daily newspapers to raise awareness about ozone depletion. Awareness posters and postcards were also printed on the

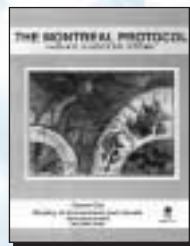
Other events included:

- an exhibition highlighting companies that have converted from ODS use;
- presentation of alternatives to products to the general public;
- certification of technicians in good refrigeration practices; and
- a free film to allow disadvantaged children to learn more about the ozone layer.



India's success story

India put the focus on success, with release of the 'The Montreal Protocol: India's Success Story' booklet describing the country's commitment to the Montreal Protocol and outlining everyday actions to help protect the ozone layer. An exhibition of children's paintings and presentation of



Iran: caricatures exhibition

The NOU organized a caricatures competition on the theme of 'Protecting the Ozone Layer'. A week long exhibition of the entries was set up in Iran's most popular Cultural House. Prizes were distributed to the winners.

Jamaica: companies pledge to protect the ozone layer

Jamaica's National Focal Point organized a five-day radio quiz competition to help to raise the general public's understanding of ozone layer protection. (See also 'voluntary pledge' box on the following page.)

Jordan: ozone-friendly alternatives

Jordan inaugurated a factory that has recently switched to ozone-friendly substances. National efforts on ODS phase out were the subject of a film shown on TV.

Kenya:

Kenya hosted its Ozone Day celebrations at Twiga Chemical Industries Limited, one of the largest private companies in the country. The company was chosen because it has initiated conversion of its Aerosol Plant

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_12437

