



zonAction



UNEP TIE 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

View point

Looking forward



*Mr Paul Horwitz,
Chairman of the
Executive
Committee of the
Multilateral Fund
of the Montreal
Protocol*

As the father of a new born son, I have a renewed appreciation for the efforts that the global community has made to protect the ozone layer—for our and future generations. Indeed, the progress made to date has been astounding. Since 1986, the world community has exceeded its

responsibilities under the Montreal Protocol and eliminated more than 1.2 million tonnes of CFCs and halons. While these actions are very significant, much work remains to be done if we are to ensure protection of the ozone layer.

Since 1990, developed countries have contributed more than US\$750 million to help Article 5 countries initiate reductions in their use of ozone-depleting substances (ODS). This assistance, and the actions that Article 5 parties have been taking to date, were designed to achieve early reductions and ozone layer benefits. However, beginning this year, Article 5 parties face a solemn treaty obligation. As envisioned under the Montreal Protocol,

they must follow in the footsteps of the developed countries and meet specific freeze and reduction targets. The assistance of the Multilateral Fund will remain an important tool in enabling Article 5 Parties to meet the Protocol's requirements. However, funding alone cannot ensure compliance. More importantly, the experience of the developed countries has demonstrated the essential need for all Article 5 countries to implement national policies designed to ensure compliance immediately. These policies must include restrictions on the import of CFCs and halons designed to ensure that the freeze and reduction targets are met and sustained.

A greater sharing of the policy experience from developed and developing countries which have completed their phase outs could help many Article 5 Parties to ensure full compliance and a smooth phase out. UNEP's Policy Mentor Programme provides a useful vehicle for such information transfer to take place. This programme emphasizes what is the very spirit of the Montreal Protocol—the world community working together to achieve nothing less than the protection of the planet for this and future generations. With this as our common objective, we cannot help but succeed.

Paul Horwitz is International Advisor with the US EPA.

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The 1999 freeze in production and consumption of CFCs in developing countries: five months to go

Parties to Montreal Protocol launch cooperation with Climate Change Convention

The 10th Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer was held in Cairo, Egypt, during 23–24 November 1998. Ministers and government experts from more than 100 countries met just weeks after scientists reported the largest Antarctic ozone 'hole' ever recorded.

One of the issues discussed was the challenge of how to make policies to

protect the ozone layer consistent with ongoing efforts to reduce the greenhouse gas emissions that cause climate change. Gases such as perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) are being used as ozone-safe substitutes for CFCs. Based on a recommendation made by the Open-Ended Working Group (OEWG) at its meeting in July, the Parties agreed to a

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Public awareness in action at Beijing University, China, using posters produced by UNEP

News from international agencies



Fund Secretariat

The Fund Secretariat communicated the decisions of the 26th Executive Committee (ExCom)

meeting to governments, distributed the final report of the meeting, and arranged the transfer of resources from the Treasurer to the implementing agencies.

The Secretariat reviewed and evaluated 276 projects and activities worth US\$89.6 million. It also reviewed the Business Plans of the implementing agencies, prepared the 1999 Consolidated Business Plan of the Multilateral Fund, and reviewed and consolidated project-completion reports submitted by the implementing agencies.

The Secretariat participated in several meetings and workshops, including Regional Networks of ODS Officers, the China Country Programme update workshop, and workshops on energy saving and CFC production phase out. It attended the meetings of the World Bank's OORG, the 12th Global Environment Facility (GEF) Council, the 20th Implementation Committee, the 18th OEWG, as well as the 10th Meeting of the Parties to the Montreal Protocol.

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UNEP TIE OzonAction Programme

Recurring Work Programme activities with a value of US\$3.8 million were approved

at the 26th ExCom Meeting. Five country programmes were submitted and approved at the Meeting (Antigua and Barbuda, Brunei, Burundi, Dominica and Nepal) along with funds for their institutional-strengthening projects. The country programmes for Antigua and Barbuda, Burundi and Dominica included, as an Annex, the development and implementation of Refrigerant Management Plans (RMPs).

The Regional Network of ODS Officers for West Asia held its 4th Annual Meeting in Doha, Qatar, on 6–7 December 1998 and the Caribbean Network held its follow-up meeting on 10–11 December 1998 in Trinidad and Tobago (see page 7).

National Train-the-Trainers workshops on good practices in refrigeration were also

held in the Bahamas and in Trinidad and Tobago in November 1998.

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UNEP Ozone Secretariat

The Ozone Secretariat serviced a number of meetings in November including the 10th Meeting of the Parties to the Montreal Protocol.

The Secretariat has communicated to all relevant partners the decisions taken at the Cairo meeting and is now concentrating on follow-up actions that need to be carried out.

The Secretariat is releasing new reports from the Assessment Panels and Technical Options Committees. A synthesis of these reports is now available from the Secretariat and also on its website. The Secretariat is also involved in the activities of the Task Force on the Replenishment of the Multilateral Fund, particularly in reviewing draft and final reports. In preparation for the OEWG Meeting to be held in June 1999, and the Eleventh Meeting of the Parties in Beijing in November 1999, the Secretariat has invited proposals from Governments for any adjustments.

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UNDP

The 26th ExCom Meeting in November

1998 approved US\$13.9 million for 65 UNDP investment projects that will eliminate 2082 ODP tonnes in 14 countries. In addition, four other projects amounting to US\$1.3 million were approved to test alternatives for methyl bromide use for tobacco (Argentina), soil fumigation (Lebanon), structural fumigation (Mexico) and bananas (Philippines). Institutional-strengthening renewals were also approved for China, Cuba, Ghana and Malaysia.

During the second half of 1998, UNDP completed 49 investment projects in the aerosol (1), foam (41) and refrigeration (7) sectors that eliminated a total of 3150 ODP tonnes. In September 1998 UNDP also

organized two workshops with China in Beijing: an international workshop to review China's country programme update and a solvent strategy workshop.

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



UNIDO

The 26th ExCom Meeting approved 22 investment projects for UNIDO,

worth US\$8.8 million, which will lead to the phase out of 861 ODP tonnes. Five methyl bromide alternative demonstration projects were also approved (Colombia, Dominican Republic, Indonesia, Jamaica and the Former Yugoslav Republic of Macedonia) as well as two investment projects (Cuba and Senegal). Funding of US\$3.22 million was approved for these methyl bromide projects.

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<http://www.unido.org>



World Bank

Investment projects were approved for Argentina, China, Colombia, Ecuador,

Pakistan, India, Thailand, Tunisia and Turkey at the 26th ExCom Meeting. Approximately US\$2.5 million of the approved amount is designated for a new chiller replacement programme in Thailand. This approval will complement another US\$2.5 million that was recently approved by the Global Environment Facility and will be used for establishing a revolving fund to support the demonstration phase of this project. If this proves successful, the US\$5 million will be used to leverage additional resources of US\$25 million to purchase energy efficient, non-CFC chillers. When completed, the project will decrease CFC demand in Thailand by about 440 tonnes and reduce carbon emissions by about 1.4 million tonnes of carbon a year. The Executive Committee also approved the renewal of the innovative ODS phase out project in Chile which applies market-based instruments to phase out ODS.

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<http://www-esd.worldbank.org/mp/>

Industry and technology updates

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

REFRIGERANTS

New refrigeration method to reduce emissions of ODS

A new study commissioned by Airgas Inc. and conducted by ICF Kaiser states that by using a 13.5 kg refillable cylinder for refrigerants, the industry can prevent the release of more than 5900 tonnes of refrigerants into the atmosphere each year. According to the study, as many as 75 percent of technicians certified by the US Environmental Protection Agency (EPA) use improper or sub-standard techniques for the recovery of ODS remaining in the cylinders after use, which leads to the release of the gases into the atmosphere.

**Contact: Airgas Inc, tel: +1 610 687 5253
fax: +1 610 687 1052, <http://www.airgas.com>
ICF Kaiser, tel: +1 703 934 3608**

New hydrocarbon-based air conditioners launched

IMI Air Conditioning has launched a range of air conditioning units which use hydrocarbons as the refrigerant. The new units are branded 'Impulse', 'Impact', 'Image' and 'DXD'. 'Impulse E' is a ceiling-mounted variant designed for use in commercial and retail applications. Four versions are available

with cooling capacities between 2 and 8 kW. 'Impact E' models have cooling capacities of between 2 and 10 kW, while 'Image E' models are ultra-slim units allowing for cooling in places where space is at a premium.

Contact: IMI Air Conditioning, tel: +44 1484 714361

METHYL BROMIDE

Dazitol: a new alternative for methyl bromide

The Florida-based company, Champon 100% Natural Products, Inc., has developed a new commercially available alternative for methyl bromide. Dazitol is a non-toxic natural liquid spray product whose active ingredients are essential oils from mustard and chilli peppers. Dazitol has been approved by the US EPA. Over the past year, Champon has reported that initial trials and in-field testing have been conducted on tomatoes on several farms in Florida showing that Dazitol controlled pests as effectively as methyl bromide. Dazitol is now being sold in nine countries, including some developing countries.

**Contact: Champon 100% Natural Products, Inc.,
tel: +1 954 587 1855, fax: +1 954 581 8526,
e-mail: champon@ix.netcom.com**

Vehicle air-conditioning conversion problems

A recent article in *Chemical and Engineering News* (vol. 76, no. 48, 30 November 1998) suggests that the phase out of CFC-12 has led to unexpected problems in the vehicle air-conditioning service industry in the United States.

The article points out that consumer confusion in the United States about the CFC phase-out law, in addition to the high cost of recycled CFC-12 and of conversions (now averaging US\$350–800 per vehicle), have created a market for unsatisfactory 'do-it-yourself' drop-in replacement kits using HFC-134a. Companies also market small cans of hydrocarbons or HFC-134a to top up low-charged CFC-12 equipment or air conditioners

As a result, some of the CFC-12 recycled from old vehicle air-conditioning systems is contaminated. According to Deborah A. Ottinger of US EPA's Stratospheric Protection Division, mechanics encounter 50-50 blends of CFC-12 and HFC-134a as well as mixtures of hydrocarbons,

CFC-12 and HFC-134a. That contamination has forced recycling facilities to purchase extra equipment to analyse what it is they are trying to recycle. HFC-134a servicing 'top-ups' also cause leaks in hoses and system breakdowns involving valves and compressor oils that were not designed to be HFC-134a compatible.

In July 1998, US EPA proposed a new rule that may alleviate some of these problems but will not solve them all. The rule would restrict the sale of HFC-134a to EPA-certified technicians only, thus making it impossible for owners to add HFC-134a to a system containing CFC-12 or to purchase retrofit kits to convert their vehicles from CFC-12 to HFC-134a. Yet, (while it is illegal under EPA rules to vent CFCs or HFCs) without ready means of recycling CFC-12 or HFC-134a, owners may let the coolant escape into the atmosphere, thus making a mockery of efforts made by industry and the government to control CFC-12 emissions.

Contact: US EPA, fax: +1 202 565 2096

Protests over HCFCs at Sydney Olympics

Greenpeace Australia is pursuing an injunction in the Federal Court of Australia to stop the Olympic Coordination Authority (OCA) from promoting the Sydney Olympics as the 'Green Games'. The case concerns the installation of an HCFC-123 air-conditioning system at the SuperDome multi-use arena which Greenpeace claims constitutes a violation of the environmental guidelines submitted in 1992 as part of Sydney's successful bid to host the games in 2000. The guidelines state that 'no ozone-depleting chemicals (CFCs, HCFCs, methyl chloroform and halons) will be used'.

Greenpeace claims that ammonia technology should be used for the SuperDome air-conditioning system instead of HCFC-123 because it does not deplete the ozone layer.

However, the counter argument is that the HCFC-123 chillers are more efficient than the ammonia system, hence reducing utility-generated greenhouse gas emissions.

Contacts: <http://www.greenpeace.org.au/Releases/ozone.htm>

<http://www.greenpeace.org.au/Olympics/HCFC123.htm>

SNAP bans MT-31 and HFP

MT-31, a commercially available refrigerant blend previously listed by US EPA's Significant New Alternatives Policy (SNAP) programme as an acceptable substitute for CFC-12 and HCFC-22, and sometimes used as a refrigerant in airport air-conditioning systems, ice machines and bus air-conditioning, has been declared unacceptable for all refrigeration and air-conditioning uses. The decision follows new toxicity findings on one of the chemicals in MT-31.

The manufacturer of MT-31 has declared the blend composition confidential and consequently US EPA is unable to identify the chemical that may pose toxicity problems. But, after analyses to determine probable exposure concentrations of MT-31 in occupational settings, US EPA has concluded that, when used as a refrigerant or as a component in a refrigerant blend, MT-31 may expose those involved in manufacturing, servicing or disposing of refrigeration and air-conditioning equipment to levels of this unidentified chemical that put them at risk of kidney damage.

In a separate SNAP ruling, the US EPA has also declared hexafluoropropylene (HFP) and any blend containing HFP unacceptable for all refrigeration and air-conditioning end-uses due to recent toxicity findings.

Contact: US EPA, fax: +1 202 565 2096

World moves closer to CFC phase out

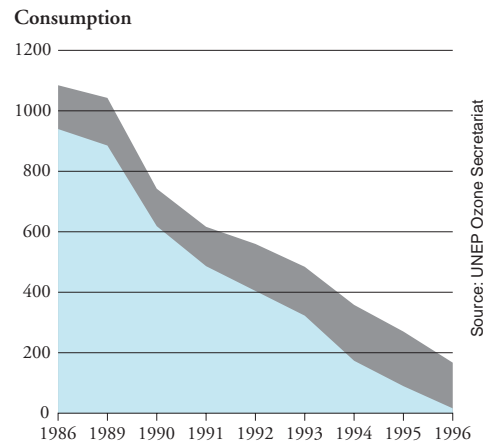
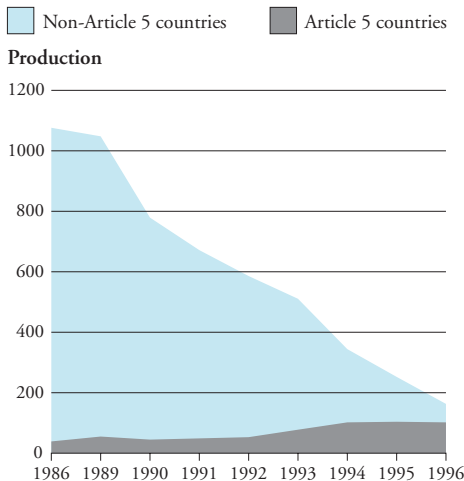
New data reported under Article 7 of the Montreal Protocol for the 1996 production and consumption of CFCs highlight the fact that while phase out of CFCs is well on its way, what is remaining is the responsibility of Article 5 countries and Countries with Economies in Transition (CEITs). Data reported by countries to the UNEP Ozone Secretariat indicated that by 1996, total CFC production worldwide had fallen to only 160 000 ODP tonnes, from an all-time high of more than one million ODP tonnes in 1986, a year after the Vienna Convention came into being.

The production of CFCs continues in China (54 120 ODP tonnes), India (22 460 ODP tonnes), the Russian Federation (16 770 ODP tonnes) and the Netherlands (13 293 tonnes). Although the data for The Netherlands appears surprising, this production is to help satisfy the needs of Article 5 countries. Under the terms of the Montreal Protocol, non-Article 5 countries are allowed to retain up to 15 per cent of their 1986 CFC production to satisfy the basic domestic needs of Article 5 countries.

The increase in production of CFCs in developing countries is allowed till 1999 under the Montreal Protocol. However, these countries have to freeze production starting from July 1999 at the average level of their production in 1995–1997.

The new figures released by the Ozone Secretariat cover production in 23 countries. Four of these countries stopped

CFC production and consumption (1000 tonnes ODP)



Source: UNEP Ozone Secretariat

producing in 1996. The data are reasonably complete except for a few gaps in the production figures for the Czech Republic, the People's Democratic Republic of Korea, the Republic of Korea, India and Romania for three years when these countries had not ratified the Montreal Protocol and were not required to report data.

The data reported by some 140 countries to the Ozone Secretariat (some countries have not yet reported) show that the consumption of CFCs in non-Article 5 country Parties (developed countries) fell from 946 500 ODP tonnes in 1986 to about 24 000 ODP tonnes in 1996, of which 16 000 ODP tonnes were consumed mainly by CEIT countries and 8000 ODP tonnes were attributed to essential uses for some non-Article 5

The graphs above show the fall (and rise) of CFC production and consumption over the period 1986 to 1996. Data have been assembled from official data reported by countries to the Ozone Secretariat. They can be downloaded from the Internet at the address shown below.

countries. Over the same period, consumption in Article 5 countries rose from about 135 000 ODP tonnes to 144 000 ODP tonnes. By 1996, 85.8 per cent of all CFC consumption was in Article 5 countries.

Contact: UNEP Ozone Secretariat, PO Box 30552, Nairobi, Kenya, tel: +254 2 623 885 fax: +254 2 623 913 e-mail: madhava.sarma@unep.org Internet: <http://www.unep.org/unep/secretar/ozone/pdf/Prod-Cons-Rep.pdf>

Phase-out successes

Significant reduction noted in developing countries' ODS consumption

The Implementation Committee under the Non-compliance Procedure of the Montreal Protocol has reported some success in reducing ODS use in developing countries. Data submitted to the 10th Meeting of the Parties in Cairo showed that, since 1996, overall consumption of CFCs had decreased by 84 percent, of halons by 79 percent and of methyl chloroform by 96 percent. The consumption of HCFCs has declined by 40 percent as compared to the 1989 baseline, while the consumption of methyl bromide had declined by 5 percent. Some notable decreases for the

period 1995–96 include:

- **China:** CFC use has decreased by more than 20 percent after six years of rising consumption;
- **Kenya** has decreased CFC consumption by 35 percent;
- **Ghana** has decreased consumption by more than 60 percent; and
- **Sudan, Thailand and Uruguay** have decreased CFC consumption by more than 30 percent.

The Committee was concerned, however, that seven Parties had never reported any data, nine Parties had not reported data for the past three years (which was crucial to establish baseline data for the CFC freeze) and some 15

countries had actually increased CFC consumption over the past three years in spite of having received assistance from the Multilateral Fund.

Eight non-Article 5 Parties were also considered to be in non-compliance. The Committee has noted the problems that these countries have been facing and has agreed on commitments as to how they can comply with the requirements of the Protocol.

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process for coordinating the work of the Montreal Protocol's scientific, technology and economic assessment panels with that of the UN Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change.

Some of the key outcomes include:

- Parties were satisfied that the non-compliance procedure of the Montreal Protocol is working satisfactorily. Another review will be carried out not later than 2003;
- eight countries are in non-compliance (Azerbaijan, Belarus, Estonia, Latvia, Lithuania, Russian Federation, Ukraine and Uzbekistan). These countries have undertaken to phase out ODS during 2000–2002. Continued international assistance was recommended but these countries were to be cautioned that stricter measures would be taken if they did not adhere to the new phase-out schedule;
- concern about new ODS such as chlorobromomethane, and n-propyl bromide that are being marketed as

replacements for other ODS, and the increase of halon-1202 in the atmosphere;

- terms of reference for a study on replenishment of the Multilateral Fund for the triennium 2000–2002;
- Parties noted a decision on HFCs and PFCs by the 4th Conference of the Parties to the UNFCCC in Buenos Aires, 2–3 November 1998, and agreed that the TEAP should provide information on HFCs and PFCs to the Scientific Subsidiary Body of the UNFCCC in 1999;
- recommendations for new measures to limit the export of products and equipment that require CFCs and other controlled substances; and
- a request for TEAP to prepare a report on quarantine and preshipment uses of methyl bromide.

The TEAP has recently formed a Task Force on HFCs/PFCs to prepare a report and initiate a dialogue with IPCC.

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Internet: <http://www.unep.org/unep/secretar/ozone/home.htm>

ODS regulations on the Web

Following recommendations made by its 1999 Informal Advisory Group, the UNEP TIE OzonAction Programme has now made available an on-line version of the full text of one of its key policy documents.

Regulations to Control Ozone-Depleting Substances is a reference document designed for use by ODS officers and others in Article 5 countries responsible for drafting and overseeing regulations to control and eliminate the use of ODS. It provides a brief overview of the structure of existing ODS regulations and of all government directives of a legally-binding

nature. It also contains information about government guidelines, voluntary agreements and cooperation with industry and industry associations, economic incentives, and labelling schemes.

The OzonAction Programme encourages Article 5 and developed countries to submit information regularly on their country's regulations so that these data resource can be updated.

Contact: tel: +33 1 44 37 14 50
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e-mail: ozonaction@unep.fr
Internet: <http://www.unepie.org/ozat/policy/regs/main.html>

Further halon phase out

The 10th Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, held in Cairo, Egypt, 23–24 November 1998, called on all countries to develop national or regional strategies to manage halons, reduce emissions and plan for their complete phase out.

In response to the Decision of the Parties, the TEAP issued the following statement:

'TEAP strongly advises Parties that efforts to recover halon 1211 and/or halon 1301 will only be successful if governments finance

collection, destruction and the cost of replacements. Unless great care is exercised in the development of programmes, procedures and regulations, there is a very real possibility that many owners will simply vent halon at a time when the ozone layer is most fragile. Parties may also wish to consider the difficulty of enforcement of regulations pertaining to a gas that leaves no trace. Furthermore, recovery of halon 1301 would have no environmental benefit because this halon is being successfully contained and recycled for essential uses. If halon 1301 were

collected and destroyed today, Parties may have to authorize new production for essential uses that as yet have no alternatives to the use of halon 1301.

In light of this situation, Parties may consider these issues seriously and allow TEAP to present a full explanation at the 1999 OEWG and Meeting of the Parties. However, TEAP does recommend that Parties continue to carefully develop national or regional strategies for the management of halon 1211.'

Contact: TEAP, tel: +31 40 250 3797
fax: +31 40 246 6627

In brief...

○ AES/Ntron of Exton, Pennsylvania, United States, has agreed to pay an US\$85,000 penalty to resolve alleged violations of federal CFC regulations. A complaint filed in April 1998 by the US Attorney's office on behalf of the US EPA alleged that recycling/recovery equipment manufactured in 1994 and 1995 was not certified by an EPA-approved testing laboratory, as required by the US Clean Air Act. The government also alleged that the company failed to label the equipment properly, and submitted incomplete and inaccurate responses to US EPA's requests for information.

Contact: US EPA, fax: +1 202 565 2096

○ US EPA has updated its lists of vendors selling substitutes for ozone-depleting solvents. Adobe Acrobat (PDF) versions of the lists are available for electronics cleaning, precision cleaning, and metals cleaning.

Contact: Electronics Cleaning:
http://www.epa.gov/ozone/title6/snap/lists/sol_elec.pdf

Precision Cleaning: http://www.epa.gov/ozone/title6/snap/lists/sol_prec.pdf

Metals Cleaning: http://www.epa.gov/ozone/title6/snap/lists/sol_met.pdf

Research

Skiers beware! Higher altitude may increase sunburn risk

Results from new research done by the Department of Dermatology at the New York University School of Medicine confirm that the higher the altitude, the quicker a person will develop sunburn. Dr Darrel S. Rigel, lead author of the study, said that direct ultraviolet-B (UV-B) levels at 2600 metres in Vail, Colorado, were approximately 60 per cent higher than at sea level in New York. They also discovered that these UV-B readings in Vail were the same as those in Orlando, a site 1250 km closer to the equator.

The intensity of UV-B exposure suggests that a person having an average complexion, with unprotected skin, would burn after only six minutes of sun exposure on a clear day at noon in Vail, as compared to 25 minutes of noon-time exposure in New York or 14 minutes of unprotected noon-time exposure in Orlando.

A person's exposure to ultraviolet light, especially UV-B rays, is one of the key factors in the development of skin cancer. An estimated 1 million new cases of skin cancer will occur in the United States this year and, at current rates, one in five Americans will develop skin cancer during his or her lifetime.

Contact: New York University School of Medicine, tel: +1 312 942 1199, ext. 285

India launches awareness programmes on ozone layer protection

As part of concerted efforts by the Ozone Cell of the Indian Ministry of Environment and Forests, the government of India has produced an information package aimed at building capacity to understand the various elements of protecting the ozone layer. Developed by the Centre of Environmental Education (CEE) based in Ahmedabad, India, this package is targeted for the teachers, NGOs media and school children.

A classroom display chart entitled 'Ozone—it's time to act' and a booklet entitled *Ozone Eleven: Information and Teaching Ideas on Ozone Depletion for Teachers* is part of this package. The contents and the approach were developed with teachers and students to ensure the user-friendliness of the package and determine the subject complexity. Four workshops were held with teachers using the train-the trainer approach in Calcutta, Delhi, Pune and Bangalore in December.

NASA launches new ozone research experiment

NASA has recently announced the launch of the Sage III Ozone Loss and Validation Experiment (SOLVE) whose primary objective is to elucidate the processes that control polar stratospheric ozone levels. This study is specifically designed to examine the processes controlling ozone levels at middle to high latitudes. Measurements will be made in the Arctic high latitude region in winter using the NASA DC-8 and ER-2 aircraft, as well as balloon platforms. The mission will also acquire correlative data needed to validate the Stratospheric Aerosol and Gas Experiments (SAGE) III satellite measurements that will be used to assess high-altitude ozone loss. SOLVE is co-sponsored by the Upper Atmosphere Research Program (UARP), Atmospheric Effects of Aviation project (AEAP), Atmospheric Chemistry Modelling and Analysis Program (ACMAP), and Earth Observing System (EOS) of NASA's Earth Science Enterprise (ESE) as part of the validation programme of the SAGE III instrument

Contact: NASA, tel: +1 800 257 6151
Internet: <http://www.daac.gfsc.nasa.gov>



Mr Gopichandran of CEE, India, showing a poster disseminated for awareness-raising about ozone depletion.

Additional components of the information package include a series of transparencies with messages on ozone protection. This part of the package was designed for the use of NGOs and the media for awareness-raising activities.

Contact: NOU, India, tel: (+91) 79 644 2642, e-mail: cee@ad.1.vsnl.net.in

Status of contributions to the Multilateral Fund as at November 1998

Party	Agreed contributions (US\$)	Outstanding contributions (US\$)
Australia	14 889 293	0
Austria*	7 801 649	15 162
Azerbaijan	279 084	279 084
Belarus	1 073 829	1 073 829
Belgium	10 439 537	0
Brunei Darussalam	0	0
Bulgaria	897 207	0
Canada	30 648 861	98 501
Cyprus	148 670	0
Czech Republic	3 226 531	0
Denmark	6 717 981	0
Finland	5 709 270	133 438
France	60 371 664	4 075 994
Georgia	0	0
Germany	89 030 762	0
Greece	3 636 581	0
Hungary	1 678 170	0
Iceland	296 191	0
Ireland	1 884 522	0
Israel	2 066 258	123 523
Italy	43 592 742	14 948 586
Japan	126 862 343	5 672 260
Kuwait	286 549	200
Latvia	0	0
Liechtenstein	93 731	0
Lithuania	0	0
Luxembourg	628 175	0
Malta	28 052	0
Monaco	78 162	12
Netherlands	15 343 665	0
New Zealand	2 369 528	0
Norway	5 465 964	0
Panama	16 915	0
Poland	1 095 069	1606
Portugal	2 213 583	0
Russian Federation	62 990 339	62 990 339
Singapore	531 221	0
Slovakia	1 107 963	0
Slovenia	61 290	27
South Africa	3 793 691	0
Spain	20 873 441	0
Sweden	11 526 906	30 000
Switzerland	11 339 418	0
Turkmenistan	116 321	116 321
Ukraine	2 791 263	2 005 663
United Arab Emirates	559 639	0
United Kingdom	49 862 812	0
United States	212 584 903	1 161 883
Uzbekistan	0	0
SUBTOTAL	817 014 747	92 726 429
Disputed contributions**	8 098 267	8 098 267
TOTAL	825 113 014	100 824 696

* Outstanding contributions wholly or partially withheld for bilateral cooperation

** In this table the amounts disputed by France, Germany, Italy, Japan and the United Kingdom have been deducted from their agreed 1996 contributions and are shown here as aggregate totals only.

26th ExCom approves activities to phase out 9290 ODP tonnes

The 26th Meeting of ExCom and its subcommittees was held 9–13 November 1998, in Cairo, Egypt.

Approval was given at the meeting to 193 projects worth a total of US\$66.4 million, leading to the phase out of 9290 ODP tonnes when implemented. The approvals included the 1999 disbursement of US\$10.67 million for China's halon sector strategy to phase out 5370 ODP tonnes in the production sector. Five country programmes (Antigua and Barbuda, Brunei Darussalam, Burundi, Dominica and Nepal) were also approved.

The contributions to the Multilateral Fund received by 10 November 1998 amounted to US\$120 million, of which US\$65 million were part of the current year's agreed contributions of US\$157.5 million, while the remaining consisted of payments of arrears. The total amount available for disbursement at the meeting was US\$36.9 million. The Committee urged Parties that had not yet done so to pay their outstanding contributions to the Fund. It also decided to use the funds available to allocate money initially to the most cost-effective projects, and to request the Fund Secretariat to instruct the Treasurer to transfer money to the remainder of the projects as soon as the

balance becomes available.

The ExCom meeting decided to:

- endorse project cancellation procedures in order to minimize project implementation delays;
- urge all recipient governments operating under Article 5 to expedite customs clearance and refrain from levying any taxes or duties on equipment and incremental costs during project implementation;
- maintain performance indicators for evaluation of Business Plans for both investment and non-investment projects;
- request the Fund Secretariat to update its summary status reports and associated data, and submit them to the second annual ExCom meeting each year;
- request the implementing agencies to finalize their 1999 Business Plans;
- request the Fund Secretariat to prepare a monitoring and evaluation Work Programme for 1999 for submission to the first 1999 ExCom meeting;
- request the implementing agencies to ensure the reliability and accuracy of ODS consumption project data (enterprises with projects in preparation should make ODS

purchase and use information available to the implementing agencies);

- endorse principles for incremental operating costs of compressors, requiring the countries concerned to provide the necessary information on their refrigeration sectors;
- adopt guidelines for baseline equipment valid for one year after which further guidance may be provided as required;
- expand the mandate of the Production Sector Subgroup to include discussions on actual project proposals and to formulate recommendations on projects relating to the closure of ODS production facilities;
- adopt a new administrative cost regime for the implementing agencies, with effect from the 26th Meeting of ExCom; and
- hold the first ExCom Meeting of 1999 during 22–26 March and the second in late June or July, confirming at the first meeting the dates of the second and third meetings, which will depend upon the date and venue of the 11th Meeting of the Parties.

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Ozone science news

In September this year, the hole in the ozone layer above Antarctica reached a record size of 25 million km², or 2.5 times the size of Europe. Data analysed by the World Meteorological Organization Northern Hemisphere Ozone Mapping Centre at the University of Thessaloniki, Greece, show that the area with ozone values of less than 180 m atm-cm (a deficiency of about 50 per cent from the pre-1975 values) declined in November to 13 million km². Yet this is the first time, since tracking of ozone levels began in the 1970s, that the hole has measured more than 10 million km² for nearly 100 days. The 219 m atm-cm average for the 65–90 °S polar area was the lowest ever in November (even in 1992 and 1993, the previous record-setting seasons, the average was 245 m atm-cm).

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Network news

The Caribbean

The Caribbean Network held its follow-up meeting in the Port of Spain, Trinidad and Tobago, on 10–11 December 1998. Attended by ODS Officers from the region, the meeting discussed issues relating to their countries' abilities to meet the 1999 freeze, alternatives in the refrigeration sector, data collection, and the issue of the dumping of second-hand equipment. The meeting concluded that it is urgent for the countries in the region to have national legislation to prevent the dumping of second-hand equipment. The ODS officers also reiterated the need for them to encourage their countries to establish licensing systems. A few countries have expressed difficulties in collecting data and requested specific help from the Regional Network Coordinator.

Contact: Catalina Mosler, Regional Network Coordinator for Latin America,
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West Asia

The Regional Network of ODS Officers for West Asia held its Fourth Meeting in Doha, Qatar, on 6–7 December 1998. All ODS Officers who attended this meeting made presentations on their country's 'freeze status' and expressed confidence that their countries will meet the 1999 freeze obligations. However, some identified certain conditions necessary for them to meet the freeze. The main recommendations that were agreed upon included the need for maintaining closer contact between countries in the region and those who attend the ExCom meetings to ensure that the specific concerns and perspectives of the member countries are taken into consideration. Another important recommendation was the need to translate a number of documents into Arabic so that they can be used efficiently in the region.

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Methyl Bromide Phase Out UPDATE

Conference highlights research efforts to develop methyl bromide alternatives

The Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions was held in Orlando, Florida, on 7–9 December 1998. The conference was sponsored by Methyl Bromide Alternatives Outreach in cooperation with the Crop Protection Coalition, the US EPA and the US Department of Agriculture (USDA).

More than 350 individuals from governments, grower associations, industry and non-governmental organizations participated in the conference to learn about viable alternatives to methyl bromide for soil, post-harvest and quarantine and pre-shipment (QPS) applications. The conference also focused on technology transfer issues and strategies to promote implementation of alternatives.

Some of the promising alternatives presented at the conference included:

- composts used for nutrient management as an alternative to methyl bromide for strawberry production;
- solarization, used alone or in combination with other practices, as an alternative to methyl bromide for vegetable production in Florida;
- crop rotation systems used in Mexico that effectively suppress root pathogens and do not rely upon methyl bromide; and
- natural fumigants, carbon dioxide, controlled atmospheres, steam and IPM systems as alternatives for post-harvest and pre-shipment and quarantine uses.

Conference proceedings can be found on the Internet at: <http://www.epa.gov/docs/ozone/mbr/mbrpro98.html>

GTZ organizes tour of Egyptian farms

Before the 10th Meeting of the Parties to the Montreal Protocol, some delegates had the opportunity to visit a farm in Egypt that is successfully using methyl bromide alternatives. On 21 November 1998, GTZ organized a tour of a farm using alternative pest-management practices to



Farmers putting plastic sheeting on strawberry fields in Egypt as part of a solarization alternative.

grow fruits and vegetables, including cucurbits, in greenhouses. A combination of resistant varieties, natural substrates and solarization is then used to control harmful pests and build up healthy nutrients in the soil. Although yields are lower than on farms using methyl bromide, profits are similar because of the high quality of the vegetables produced and their longer shelf-life.

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UNEP MBTOC meets to discuss QPS

The UNEP Methyl Bromide Technical Options Committee (MBTOC) met in San Francisco on 25–29 January 1999 to prepare a report to the Parties on QPS applications for methyl bromide. This report will provide input to the UNEP Technology and Economic Assessment Panel (TEAP) and has been compiled in response to a decision made by the 10th Meeting of the Parties.

At present, QPS applications of methyl bromide are exempt from controls under the Montreal Protocol.

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fax: +613 6334 8683

US delays methyl bromide phase out

On 21 October 1998, President Clinton signed a bill that includes a provision to push back the date for the US phase out of methyl bromide to 1 January 2005 consistent with the adjustments to the

Montreal Protocol. Originally scheduled for 1 January 2001 under the US Clean Air Act, this so-called 'rider' was initially included in an Agricultural Appropriations Bill that was earlier vetoed by the President. Section 764 of the bill amends the Clean Air Act by inserting a provision specifying that the EPA cannot terminate the production of methyl bromide before 1 January 2005. It also further specifies that US EPA must prepare rules for reduction in accordance with, but not earlier than, the schedule set out in the Montreal Protocol 'as in effect on the date of the enactment of this subsection'.

NGOs are concerned that the clause about the 'date of the enactment of this subsection' means that, should further adjustments be made to the methyl bromide phase-out schedule agreed upon by Parties to the Protocol, the United States would then be out of compliance.

Further information can be found on the US EPA website at <http://www.epa.gov/ozone/mbr/mbrqa.html>

Methyl bromide use may rise under interim rule

After the USDA Animal and Plant Health Inspection Service found numerous exotic plant pests associated with solid wood packaging material (SWPM) imported from China, the USDA passed an interim rule that may lead to the increased use of methyl bromide.

The interim rule requires that all SWPM imported into the United States from China be heat treated, fumigated or treated with preservatives prior to departure from China. Additionally, a certificate, issued by the Chinese government, stating that one of the named procedures has been implemented, must accompany each shipment from China that contains SWPM. Methyl bromide is used to fumigate SWPM imported from China to control the introduction of detrimental wood pests, particularly the Asian long-horn beetle. The USDA said it anticipated that most treatments conducted to meet the regulatory requirements will employ methyl bromide fumigation.

Contact: USDA, <http://www.aphis.usda.gov/lpa/press/1998/12/dec.html>

Egypt's First Lady honours schoolchildren: World painting competition on ozone layer protection

The four main winners and two Jury prize winners of the Children's Painting Competition for Protecting the Ozone Layer organized jointly by the UNEP TIE OzonAction Programme and the Egyptian Environmental Affairs Agency (EEAA) received their awards from Mrs Suzanne Mubarak, First Lady of Egypt, on 23 November 1998 in Cairo. The winners were *Laila Nuri* from Indonesia, *Rosa Kollantarpour* from Iran, *Bachari Saidou* from Niger, *Najla Husein Eid* from Egypt, *Nan Qu* from China and *Maria Rozica Popescu* from Romania.

In her statement, Mrs Mubarak said she was happy to welcome the winners of

Winners of the Children's Painting Competition who received awards in Cairo.



the Children's Painting Competition to Egypt, and to know that children at an early age are made aware of the environmental problems facing the world, especially ozone depletion. Mrs Mubarak is especially known in Egypt for her support of children's causes.

They received Certificates of Appreciation from the Government of Egypt and art supplies donated by the French company Lefranc Bourgeoise. The winners also went on a 5-day tour to Egypt as part of their prize.

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Status of Ratification

(as at 31 January 1999)

The Vienna Convention
169 Parties; no new Parties

The Montreal Protocol
168 Parties; no new Parties

The London Amendment
127 Parties; 4 new Parties: Costa Rica, Cuba, Latvia, Former Yugoslav Republic of Macedonia

The Copenhagen Amendment
86 Parties; 6 new Parties: Costa Rica, Cuba, Indonesia, Latvia, Former Yugoslav Republic of Macedonia, Slovenia

The Montreal Amendment
6 Parties; 3 new Parties: Australia, Germany and Norway

The OzonAction newsletter is available on line at <http://www.unepie.org/ozonaction.html>. Please notify us if you would like your name removed from the subscription list or if you receive duplicate copies. This will help us to continue to make this newsletter as cost-effective as possible.

Meetings and workshops

UNEP holds 10th Informal Advisory Group Meeting

Representatives from the ExCom, the Fund Secretariat, implementing agencies, bilateral agencies and other experts participated in the two-day Informal Advisory Group Meeting organized by the UNEP TIE OzonAction programme on 13–14 January 1999 in Paris. Originally designed to bring together a cross-section of experts to provide advice to UNEP for its Work Programme, this annual meeting has evolved into a wider forum for discussing broader issues related to Montreal Protocol implementation. The main issues discussed included how to improve the effectiveness of institutional-strengthening projects, challenges faced in small and medium-sized companies laying the groundwork for the 2002 freeze on methyl bromide and halons, and the status of the 1999 freeze in developing countries.

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Help for countries with economies in transition

Two Regional Workshops to assist countries with economies in transition (CEITs) to meet their commitments under the Montreal Protocol were held in Bratislava (9–11 December 1998) and in Kiev (14–16 December 1998) under the auspices of the UNEP TIE OzonAction Programme, with funding from the Global Environment Facility.

The 37 participants included National Ozone Officers from 20 CEIT countries and their national ministerial counterparts dealing with the licensing of ODS. Discussions were held on how to improve their legal and institutional systems to control and monitor ODS consumption, particularly with regard to imports and exports. The participating countries were Bulgaria, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. The Kiev meeting was attended by representatives from Armenia, Azerbaijan, Belarus, Georgia,

Kazakhstan, Moldova, Russia, Turkmenistan, Ukraine and Uzbekistan.

At the end of the workshops, each participating country presented a National Action Plan to establish or improve its National ODS Licensing System and the related policy and regulatory framework.

The development of well-designed and effective import/export licensing systems will be a crucial step for these countries in their efforts to comply with the decisions made by the 9th Meeting of the Parties in Montreal in September 1997. Effective licensing systems will also be instrumental in facilitating compliance with the Montreal Protocol phase-out schedule for some countries currently in non-compliance.

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The National Ozone Unit Interview

This is one of a series of articles featuring the views of national ODS Officers

Mr Luis Santos

Technical coordinator, NOU, Uruguay



What are the major achievements of your National Ozone Unit over the past two years?

We have reduced ODS consumption by 45 per cent since 1993—the first

year of implementation of the programme—thus exceeding our original goal of a 30 per cent reduction. We did this with assistance from the Multilateral Fund of the Montreal Protocol.

What have been your major difficulties?

At the beginning of the programme it proved difficult to identify all the sectors that consume ODS in the country. We needed to do this so that the assistance provided by the Multilateral Fund covered every sector without introducing economic imbalances.

What has helped you most in your job?

At the national level, the establishment of the Ozone Unit within the Ministry of Environment helped coordinate the activities of the Country Programme. At the international level, UNEP has been valuable with technical assistance and experience exchange among ozone officials through the Latin American network. Valuable technical assistance was also provided by the other implementing agencies—UNDP, UNIDO and the World Bank.

What steps are you taking to meet the 1999 freeze?

Uruguay has already exceeded the required reduction levels for the 1999 freeze.

Nevertheless, a Refrigerant Management Plan is currently being prepared in the remaining sector, and a decree is at its last stage of approval that will prohibit both importation and exportation of CFCs and products containing them.

What lessons have you learned that will be helpful to other developing countries in meeting the Protocol targets?

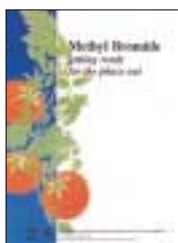
The need to cover all sectors at an early stage, directly through assistance from the Multilateral Fund and indirectly through training and public awareness raising, in order to establish control measures that will be complied with by all sectors. It is also important to provide any other means of indirect support which will enable individual consumers to change their consumption habits towards non-CFC products, an aspect that was successfully implemented in our country through the 'Ozono Amigo' (Ozone Friendly) label.

What use have you made of the products of the OzonAction Programme?

They have been a source of inspiration since the beginning of our programme in 1993, particularly in training our technicians. The specialized information materials prepared by UNEP have helped us produce public awareness material for national diffusion, and for diffusion through the Network. A summary of these activities and an evaluation of their effects have been included in the UNEP manual *Ozone Depletion: A Plan for Raising Public Awareness in Uruguay*, which was distributed at the 10th Meeting of the Parties in Cairo, Egypt, last year.

Mr Luis Santos is also part of Uruguay's delegation to the Climate Change Convention

New UNEP publications



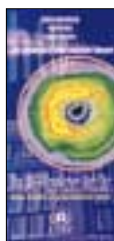
Top left: *Methyl Bromide: getting ready for the phase out*. UNEP TIE OzonAction Programme, Paris, 1998



Top right: *Protecting the Ozone Layer, Volume 6: Methyl Bromide*. UNEP TIE OzonAction Programme, Paris, 1998



Bottom left: *ODS Import/Export Licensing Systems: Policy Design and Setting Up of Legislation*. UNEP TIE OzonAction Programme, Paris, 1998



Bottom right: *Information, options, solutions ... to protect the ozone layer*. Brochure describing the UNEP TIE OzonAction Programme web pages. UNEP TIE OzonAction Programme, Paris, 1998

Forthcoming meetings

27–29 April 1999

9th Annual Halon Options Technical Working Conference (Albuquerque, New Mexico, United States).

Contact: Dr Robert E. Tapscott, Director, Center for Global Environmental Technologies, University of New Mexico, e-mail: tapscott@nmeri.unm.edu

28–30 April 1999

Fourth Meeting of the Ozone Research Managers to the Vienna Convention (Geneva, Switzerland)

26–28 May 1999

Joint IPCC/TEAP Expert Meeting on the Options for the Limitation of HFC/PFC Emissions (Energy Research Centre, Petten, The Netherlands)

Contact: Dr Lambert Kuijpers e-mail: lambermp@wxs.nl

27–28 September 1999

Earth Technologies Forum on the Pre-Eminent Conference on Global Climate Change and Ozone Protection Technology and Policy. (Washington DC)

Contact: Dave Stirpe, tel: +1 703 841 0626 e-mail: alliance98@aol.com

OzonAction, a quarterly publication, is available in Arabic, Chinese, English, French, Portuguese and Spanish. The contents of this newsletter are provided for information and do not necessarily represent the policy of UNEP.

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TECHNOLOGY, INDUSTRY AND ECONOMICS
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