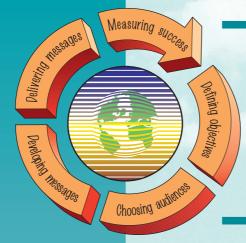


UNITED NATIONS ENVIRONMENT PROGRAMME INDUSTRY AND ENVIRONMENT OZONACTION PROGRAMME



# Five Steps for Raising Awareness on Ozone Depletion

A Handbook for National Ozone Units

United Nations Publication ISBN: 92-807-1539-9

© UNEP 1996 United Nations Environment Programme, Industry and Environment (UNEP IE) 39–43 quai André Citroën, 75739 Paris Cedex 15, France

Any part of this Handbook may be freely reproduced; please acknowledge UNEP IE.

The designation employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the United Nations Environment Programme concerning the legal status of any country, territory, city or area or of its authorities, or concerning delimitation of its frontiers or boundaries. Moreover, the views expressed do not necessarily represent the decision or the stated policy of the United Nations Environment Programme, nor does citing of trade names or commercial processes constitute endorsement.

# Five Steps for Raising Awareness on Ozone Depletion:

# A Handbook for National Ozone Units



# Acknowledgements

Five Steps for Raising Awareness on Ozone Depletion was prepared by the OzonAction Programme of the United Nations Environment Programme, Industry and Environment centre (UNEP IE), with funding from the Multilateral Fund for the Implementation of the Montreal Protocol.

#### UNEP IE staff leading the project were:

Jacqueline ALOISI DE LARDEREL, Director, UNEP IE Rajendra SHENDE, Coordinator, OzonAction Programme Cecilia MERCADO, Information Officer Ingrid KVALE, Information Assistant Editor: Nicholas Rowcliffe UNEP consultants: Pamela Foster, Annika Nilsson Illustrations: Martine Netter Design, layout and printing: Words and Publications, United Kingdom

UNEP would like to thank the following individuals who kindly reviewed the handbook: Angelita BRABANTE (Philippines), Robin CLARKE (France), William ELACHI (Kenya), Jorge LEIVA (Chile), Jesper PETERSEN (Denmark), Luis SANTOS (Uruguay), Ousmene SY (Senegal) and S. M. Si AHMED (UNIDO)





# Preface

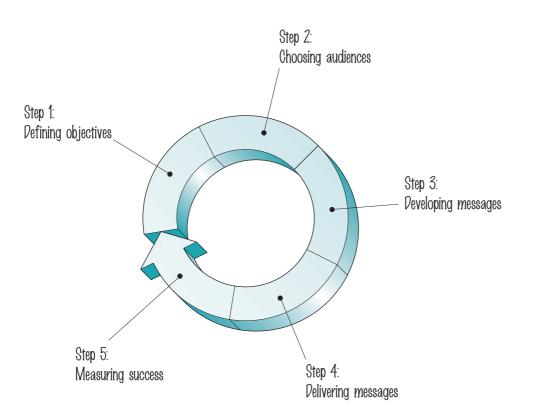
This Handbook has been produced by the UNEP IE's OzonAction Programme in its capacity as an information clearinghouse under the Multilateral Fund of the Montreal Protocol on Substances that Deplete the Ozone Layer. It is part of an 'information kit' consisting of posters, a video and video booklet, and slide and overhead directories designed to assist governments in countries operating under Article 5 of the Montreal Protocol (i.e. developing countries) to raise awareness on ozone layer depletion and protection.

The Handbook will help ODS Officers to plan focussed efforts, aimed at the public and industry, to raise awareness on ozone-depletion issues. A five-step planning cycle is presented. Each step is illustrated by examples of awareness-raising activities on ozone-depletion issues from developing countries.

Though the Handbook's main intended audience is national ozone units, UNEP hopes that the information presented may also be useful to others, such as non-governmental organizations, industry associations and companies, who wish to initiate awareness-raising activities on ozone depletion.

# Contents

| The importance of raising awareness | 2  |
|-------------------------------------|----|
| Step 1: Defining objectives         | 4  |
| Step 2: Choosing audiences          | 6  |
| Step 3: Developing messages         | 8  |
| Step 4: Delivering messages         | 10 |
| Step 5: Measuring success           | 19 |
| Case studies                        | 23 |
| Guide to resources                  | 25 |







# The importance of raising awareness



The ozone layer is being depleted, endangering all life on earth. Your government has committed itself to combating ozone depletion by ratifying the Montreal Protocol on Substances that Deplete the Ozone Layer. However, governments alone cannot solve the problems posed by ozone depletion. Industry, non-governmental organizations (NGOs) and the public all have roles to play in protecting the ozone layer.

Industry must eventually cease all production and consumption of ozonedepleting substances (ODS) phased out under the Montreal Protocol. Under the terms of the amended Protocol, industry in developing countries must stop manufacturing ODS or purchasing newly produced CFCs, halons and carbon tetrachloride by 2010, and methyl chloroform by 2015. Export of newly produced ODS to developed countries has to stop immediately, except for essential uses, because these countries have agreed to stop importing from the end of 1995. Meeting your country's commitments under the Montreal Protocol will require technical conversions of perhaps hundreds of companies, as well as the adoption of 'good practices' to avoid unnecessary emissions from equipment containing ODS.

The public also has an important role to play. Through their purchasing power,

consumers can strongly influence how fast non-ODS technologies are adopted by industry. Public concern about ozone depletion can make it easier for governments to pass and enforce laws aimed at protecting the ozone layer. The public must also meet the health challenges posed by increasing ultraviolet radiation due to ozone depletion.

Raising awareness is the key to ensuring that industry and the public play an active role in meeting the challenges posed by ozone depletion.

Unless individuals in these groups are aware that the ozone layer is in jeopardy, and of the potential consequences of this, they will not be concerned about it. Nor will they feel a sense of responsibility for ozone depletion, though their personal or professional behaviour may contribute to it. A lack of awareness of ozone depletion makes national efforts to phase out ODS less likely to be supported by key individuals in society, and more likely to be met with indifference or opposition. Therefore, awareness raising is an important requirement for a rapid and effective ODS phase out.

Raising awareness to achieve the goal of ozone layer protection is not an easy

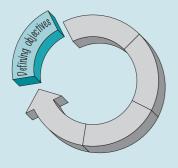
task. UNEP hopes that the steps outlined in this Handbook will assist you to plan and organize awarenessraising activities and awareness campaigns.



# Awareness is a precondition to successful ODS phase out

"All elements of society must work together... Programmes to enhance awareness and dissemination of information on the ozone layer have to continue."

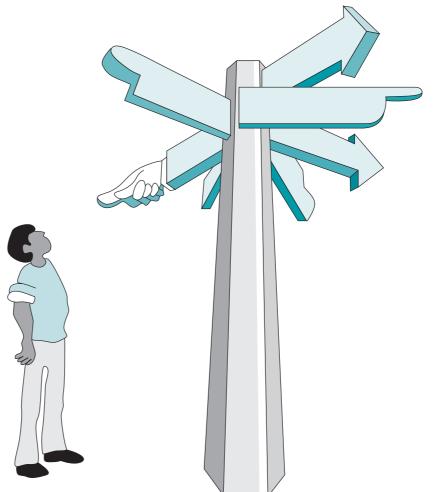
Elizabeth Dowdeswell, Executive Director of UNEP, International Day for the Preservation of the Ozone Layer, 16 September 1995.



# Step 1: Defining objectives

# Awareness raising is key to protecting the ozone layer. As an ODS officer, your aim will be to assist in eliminating the use of ODS. You can only accomplish this goal through ensuring the widest possible awareness in your country of the importance of phasing out ODS, and the options available for ODS phase out. You may also want to minimize the health risks of ozone depletion.

Beyond these general goals, you should define specific objectives for your awareness-raising efforts. You cannot tell everybody everything, so it is important that you focus your activities by clearly defining what you want to say and to whom. Taking the time to formulate objectives for your awarenessraising activities will assist you to:



## What We Did ...

The People's Republic of China's National Environmental Protection Agency set an objective to increase sales of CFC-free appliances. To assist in increasing consumer awareness, the government of China entered into partnership with industry associations that represent manufacturers of these alternative technologies. Together, the government and industry hosted an Ozone Day event in a popular marketplace where the Minister and others spoke of ozone depletion, and posters, T-shirts and hats were distributed.

One of **India's** awareness-raising objectives is to facilitate conversion to non-ODS technology by small companies.

.

**Malaysia's** government created a Public Awareness Committee to organize and implement its awareness campaign on ozone depletion. Committee members come from CFC suppliers, industry associations and non-governmental organizations. The Committee works closely with Malaysia's Department of Environment.

**Malaysia** hopes that awareness raising will help to reduce CFC releases from mobile air conditioners and chillers used in high rise apartment buildings.

- focus your efforts;
- engage appropriate partners to assist you; and
- evaluate your actions.

Your objectives for awareness-raising activities or campaigns describe what your activities are intended to achieve. Objectives should be specific, attainable, prioritized and measurable. Clear objectives should also form the basis of your planning for the allocation of financial and other resources. To assist in determining objectives, it may help to ask yourself questions like the following:

- Which ODS is most used in your country?
- Which ODS is most used in your country when calculated in terms of its ODP (ODP x number of tonnes)?
- Which ODS, when phased out, will achieve the greatest environmental benefits?
- Which ODS will be phased out the soonest as per your national implementation programme under the Montreal Protocol?

- Which ODS is the most important to your national economy?
- Which ODS-using industry sector is least aware of the Montreal Protocol?
- How aware are key groups in your country of ozone depletion as an issue?
- Which groups are most likely to be interested in knowing about ozone depletion?
- Which industry sector could phase out rapidly if it was more aware of the technical or economic advantages of available alternatives?

It is important to try and involve people with experience in raising awareness and members of your general audience to decide on objectives and activities. Members of your specific target audience should be invited to participate after Step 2 (*Choosing audiences*). For example, a number of national ozone units have included representatives from industry, consumer groups, NGOs and government ministries on their planning teams.

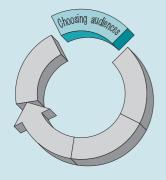
# How to Define Objectives

Before launching an awarenessraising campaign, a country assesses the main problems it faces implementing the Protocol, in order to determine specific objectives. For example:

- Its aerosol sector uses the most ODS—alternative technology is available and cost-effective.
- Its CFC producers which export to non-Article V countries have to phase out immediately.
- Its refrigeration sector is the most complicated from a technological point of view.
- The refrigeration servicing sector is a large consumer of ODS and most difficult to identify as service centres are numerous and unorganized.
- For the most part, the public is not aware that ozone layer depletion is an issue.

Therefore, the established planning committee decides to have three awareness activities, each with separate objectives:

- 1.To reduce by 50 per cent consumer purchases of CFC aerosols by raising consumer awareness.
- 2. To reduce venting through increasing awareness of the refrigeration service sector of its economic and environmental impacts.
- 3. To increase awareness among school children, ages 5–12, of the depletion of the ozone layer.



### How to Choose Audiences

The National Ozone Unit in a country has the objective of speeding up conversions in the aerosol sector to non-ODS technologies. There are ten large aerosol producers and hundreds of aerosol fillers scattered throughout the country. You estimate that the small- and medium-sized enterprises account for one-third to one-half of all CFCs imported for this sector. You decide to focuse efforts on the small fillers because:

- the large producers are proceeding with conversions as most have links with their parent companies abroad;
- it is the small aerosol fillers that require information the most as their livelihood is highly dependent on CFC availability;
- an awareness-raising campaign is the most cost-effective way to reach this audience as they are difficult to identify and locate.

# Step 2: Choosing audiences

Having chosen objectives for your awarenessraising activities, you undoubtedly have an idea of the groups you want to reach, be they members of the public or industry. Few messages are appropriate for everyone in such large groups, given the diverse needs, concerns and priorities represented among them. Therefore, it is important to be as specific as possible when defining your target audience.

To assist you to name the groups of people whom you most want to influence, you should ask yourself the following questions.

- Can a broad audience, such as the 'refrigeration sector', for example, be divided into more specific groups according to their different roles in ozone layer protection?
- How many groups should be targeted with awareness-raising messages?
- Who is in the best position to act on information?



- Who are the key decision-makers?
- Which audiences are the most costeffective to reach?
- Who needs information the most?

In answering these questions, you are likely to find that you want to reach several distinct groups, and therefore you may have to plan several awareness-raising activities appropriate for each target audience.

You may also find that there are audiences who you would like to influence but who are difficult to reach—either because they are very numerous, such as school children, or because they are difficult to locate, such as small and medium sized enterprises (SMEs).

In all cases, it is important to differentiate between final and intermediate audiences. A *final audience* is one you want to influence. An *intermediate audience* can help you reach your final audience.

Intermediate audiences are those who have the means to deliver information to your final audience more effectively and directly. For example, your objective may be to persuade school children to protect themselves from the effects of increased ultraviolet radiation due to ozone depletion. Teachers or school nurses are potential intermediate audiences.

For SMEs, for instance, industry associations are useful intermediate audiences and can be used to reach many enterprises. However, since many SMEs may not be members of an industry association, the media might then be an appropriate intermediate audience to reach this group. Having identified potential audiences for your awareness-raising campaign, you should prioritize them. Since you will have limited resources for awareness raising, you may want to pick the one or two most important final audiences and concentrate your efforts on them. Alternatively, you may find that you can achieve more by working entirely with intermediate audiences, who can distribute your messages for you.

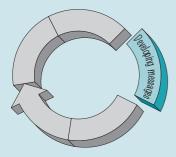
Remember, you may not be able to control how your intermediate audience communicates your information to final audiences. It is also more difficult to evaluate the impact of your efforts when using intermediate audiences. You will have to balance your loss of direct control against potentially greater costeffectiveness and efficiency when choosing your audiences.



#### What We Did

**Ghana** selected owners of domestic refrigerators as a target audience for awareness raising. To reach individuals in the audience, Ghana chose students as an intermediate audience. An Education Team visited schools, where they showed a video entitled 'Ozone: Protecting the Invisible Shield', made presentations and took questions.

**Mauritius** identified six audiences: importers of ODS, users of ODS, government bodies, NGOs, schools and the general public as consumers.



Messages are the two or three things you want the audience to understand and remember.

Good messages are:

- understandable to the audience;
- relevant to the audience;
- easy to remember; and
- provide a basis for the audience to take action.

# Step 3: Developing messages



The most important question to ask when planning awareness-raising activities is "What are the two or three things you want the audience to understand and remember?" This will help you define the messages you want to communicate. Remember, the audience should know and understand your message so they can react accordingly.

Let us say that your awarenessraising objective is to inform SMEs in the solvents sector about phase-out dates under the Montreal Protocol. Keeping in mind your objectives, you should extract from the available information the one or two points that you want to get across. These points are the messages you must concentrate on communicating. In this case, a message might be simply:

> CFCs are being phased out there are available alternatives.

You may not use exactly these words in materials you produce, but you should

be clear about the key points you wish to communicate. However you get your messages across to audiences—whether through television, workshops, posters or other means—it should be consistent and clear.

A message cannot, and is not intended to reflect all the dimensions of a problem. When developing a message it is important to be as clear and direct as possible, without sacrificing accuracy. No audience will remember all the information you communicate to it, however sophisticated that audience may be. They will, however, remember one or two key points that are most relevant to them.

By way of example, a message for the refrigeration industry is that CFCs are being phased out, so companies must convert to other, ozone-friendly refrigerants. Refrigerator service technicians might be less appropriate as a target audience for this message than technical managers, as they have less direct means of responding to such a message. But if the main point you want to get across is the need to reduce CFC emissions/venting when servicing old refrigerators, then service technicians will be a very important target audience. Having decided on the messages you want to communicate, these have to be tailored to make them relevant to

particular target audiences. This may involve rephrasing messages in different ways for different audiences. Ask yourself the following questions to make sure that your messages are appropriate to your audiences:

- Is the language used too technical?
- Will the audience understand the jargon you have used?
- How much does the audience know and understand already?
- Having understood the message, can the audience take any action in response?

The more you understand about your target audiences, the easier it is to develop effective messages for awareness-raising activities. It is important to have members of your target audiences or intermediate audiences on your planning team.



#### What We Did

The People's Republic of China used a popular ancient fairy tale about a woman who worked to patch a hole in the heavens to explain ozone depletion to the public. The message that everyone has a responsibility to protect the ozone layer was tailored to its audience by using a well-known and easily understood story.



# Step 4: Delivering messages

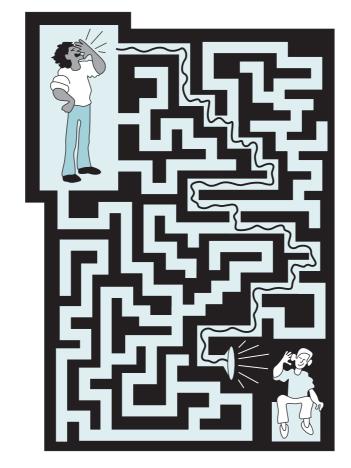
You know what you want to say and to whom. Deciding when and how to deliver your messages can be the hardest part of awareness raising.

Deciding when to deliver your messages is as important as the methods you use. Coordinating awareness-raising efforts with events such as International Ozone Day or national environment weeks will maximize interest and media coverage. If your objective is to sensitize beachgoers of the health risks of sunbathing, then the summer is a good time to communicate this message.

Determining when to implement your awareness-raising efforts is only one part of delivering your message. Another equally important step is to decide what method to use to communicate to your chosen target

> audience. In determining the best method, factors such as the budget, the messages and the target audience have to be taken into account.

For example, going doorto-door to explain ozonedepletion issues directly to individuals is often a very effective way of raising awareness. However, it would take an impossibly long time to communicate your messages to most audiences this way. Therefore, in this example, the method is not appropriate considering the time, and probably the resources, that you have available



Another example is that of influencing SMEs that use ozone-depleting solvents. In most countries, this is likely to be a numerous, geographically dispersed and unorganized group. Unlike larger companies, many such enterprises will not belong to a trade association which would otherwise have been a potentially effective intermediate audience. Encouraging the formation of a trade association would be a good, although potentially long-term project. How then can you communicate with SMEs in the meantime?

You could reach them through the use of ODS suppliers that could distribute awareness-raising material as they make sales. If the ODS suppliers are not known or not interested in participating in your awareness-raising efforts, you could communicate via the media instead—for example, through radio advertisements or by encouraging news coverage of ozone depletion issues in trade magazines. You could also organize a trade fair to promote ODS-free technology. This scenario highlights the importance of considering all available alternatives when deciding what method to use to communicate with your audience.

There are many possible methods of communicating awareness-raising messages. The box on pages 12, 13, 16 and 17 presents some key advantages and disadvantages of widely-used awareness-raising methods and tools. You can use this information as a basis for your approach, adding points of your own and additional awareness-raising tools with which you are familiar.

# Working with the media

Working with the media is a key to raising awareness. The media can deliver many messages to many audiences, often in a very cost-effective and efficient manner. It is, however, not easy to ensure that the media communicates your messages as you want them to be. For these reasons, the following section describes in detail some approaches to making more effective use of the media.

Many people's relations with the media begin and end with the issuing of a news release. It is important to remember that the media is comprised of people who can be your partners for the purpose of raising awareness. It is therefore crucial to build a working relationship with them to make your efforts to use radio, television and print media to deliver your messages more effectively. The following will help in this goal.

### Know the media

Identify radio and television programmes, magazines and newspapers that might cover ozonedepletion issues. Be imaginative. For example, a sports and leisure magazine might be interested in covering the ozone depletion issue from a health angle by discussing personal protection from the sun. A community radio station might like to report on local companies that are converting to non-ODS technologies.

Make contact with correspondents and journalists who might be interested in ozone-depletion issues. Specialists in the fields of environment, technology, science, consumer affairs and

#### What We Did

The People's Republic ofChina adapted two of UNEP IE'sozone posters and distributed80 000 copies for Ozone Day.

**India** has hosted workshops on the Montreal Protocol for different industry sectors. The workshops bring together scientists, industry, government and NGOs.

**Malaysia** has produced a 22minute video aimed at industry. The video discusses the implications of ozone depletion and the Montreal Protocol, and presents examples of industrial companies that have phased out ODS use. Its main message is that ODS-using companies must convert to alternative technologies as soon as possible. The video cost US\$25 000 to produce.

**Uruguay** has distributed pamphlets on ozone depletion aimed at beach-goers during the summer.



# What We Did

**St. Lucia** broadcast a discussion on local television entitled 'Issues and Answers'. This programme discussed problems associated with ozone depletion and focused on the actions proposed in their country programme.

In 1994, **Malaysia** began providing journalists with regular monthly information updates on ozone depletion issues.

**The Philippines** has produced three radio announcements in two languages, aimed at female consumers. The announcements encourage women to purchase ozone-safe products. international affairs are the most likely to cover ozone depletion issues. Identify TV or radio station managers and print media editors, as these are the individuals who decide what gets covered and published.

# Educate the media

Invite media representatives to workshops or conferences that you organize on ozone depletion issues. Alternatively, organize a workshop aimed at journalists, to explain scientific and other issues involved in ozone depletion. Educating the media in these ways will give journalists a good background knowledge of ozone depletion, which will help them to report ozone-related news in an informed and accurate way.

## Make news

Media interest in any issue will depend on how newsworthy a story or event is. You can determine newsworthiness by considering the following.

- Timeliness: does it deal with an event or issue that is about to happen or has just happened?
- Relevance: will the subject matter affect the lives of the audience?
- Human interest: is it of human interest, meaning does it elicit emotion or refer to shared human experiences?
- Entertainment value: is it entertaining? Does it involve local personalities?

If your event or story does not meet at least one of the following definitions of 'newsworthy', then you should not request the media to cover it. Do not try to turn non-events into news. When you are not sure of the newsworthiness of an event, you can make a difference through your presentation. For example, you are unlikely to achieve much media coverage from a news release headed:

# Major awareness raising tools

🖌 = advantages

× = disadvantages

# Workshops

- ✓ enable in-depth coverage of topics
- enhance learning through participation
- ✓ easy to evaluate impact
- **×** reach small numbers of people
- rely on good organization and management to be effective

# Lectures

- $\checkmark$  enable in-depth coverage of topics
- ✓ useful for groups
- ✗ require good speakers
- ✗ reach limited audiences

Government and foam-blowing industry discuss saving the ozone layer

You are more likely to get coverage of the same meeting if you stress an outcome, such as:

Agreement! No more ozone destroyers in furniture

or, as the case may be:

Go green, government tells furniture makers

#### Keep the media informed

You can remind the media that ozone depletion is an issue by distributing news releases regularly. News releases can be based on a wide variety of events such as speeches by government ministers on ozone depletion issues, industry successes in phasing out ODS use, and anniversaries of key events in the Montreal Protocol process, such as the discovery of the Antarctic ozone hole. Other potentially newsworthy events include International Ozone Day, meetings of the Multilateral Fund Executive Committee, meetings of the Open Ended Working Group of the Montreal Protocol and the Conference of the Parties to the Montreal Protocol.

# Methods of working with the media

#### News/press releases

These one- or two-page notices for distribution to the media are used to announce a major event about to occur, or to report on events that have just happened.

Pointers:

• Use straightforward language. Avoid bureaucratic and technical jargon.

... continued on page 17



### Guide to using visual aids

- Use visual aids, such as overheads and slides, sparingly – one every two minutes of your presentation.
- Use visual aids to communicate ideas that lend themselves to graphic presentation.
- Make one key point in each visual.
- Make sure that visuals can be seen from the back row.
- Make visuals attractive. If using colour, use high contrasts such as black on yellow or yellow on blue.
- Use visuals to help your presentation, not substitute for it.

# **Posters**

- can be made appropriate for most audiences through graphic design
- attention-getters; useful for visual learners
- effective in public spaces such as schools, bus shelters, hospitals
- ✗ less effective for complex messages
- can be costly to produce and distribute
- imes hard to evaluate impact

# **Pamphlets**

- provide a short introduction to concepts
- more widely read than longer publications
- cheaper to produce than longer publications
- ✗ cannot communicate detailed information
- ✗ require time and resources to distribute
- $\boldsymbol{X}$  hard to evaluate impact

# Labels & stickers

- ✓ especially effective with children
- ✓ can be used in many places and by many people
- ✓ can be used to differentiate products
- cannot communicate any detailed information
- ✗ for product labelling, mechanisms are required to ensure accuracy and consumer identification

continued on page 16 ...

Examples of posters (below) and other other items (page 15) from around the world which have been produced for public awareness campaigns on ozone depletion





Costa Rica

Malaysia



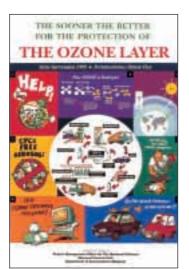
France



HEALING THE SKY

reling

#### Canada



Malaysia



People's Republic of China



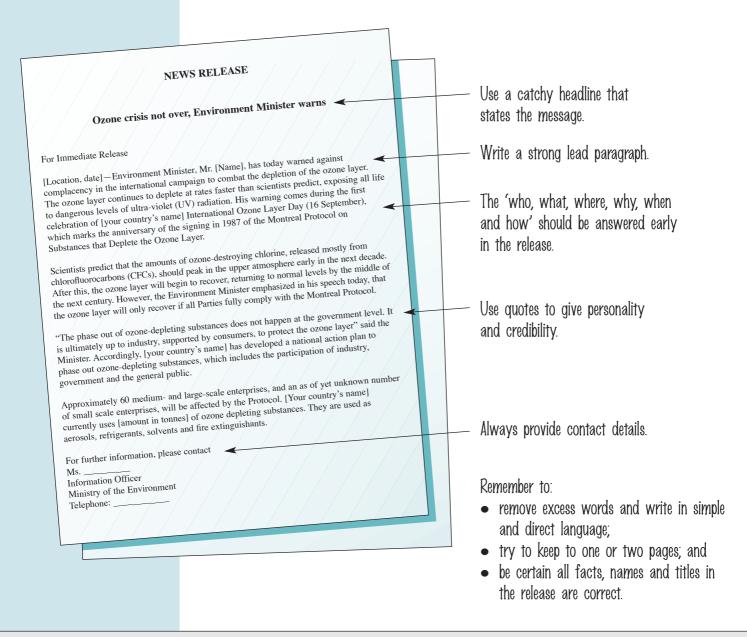
Chile



Industry poster produced by Epson



• Chile (balloon)



# Teachers' kits

- reach many students as well as teachers and parents
- encourage in-depth coverage of a topic
- ✓ easy to evaluate impact
- will not be used unless they correspond with established curricula
- must be adapted for each school subject
- ✗ must be appropriate for particular age level

# Videos

- very popular as an awarenessraising tool
- $\checkmark$  can reach many people at once
- combine audio and visual elements into an effective teaching tool
- **×** very costly to produce
- ✗ dependent on the availability of televisions and video recorders
- not useful to communicate complex ideas

# Slides

- help to keep audiences interested during lectures
- ✓ good for illustrating and demonstrating points
- ✓ cheaper to produce than videos
- dependent on the availability of slide projectors
- ✗ cannot individually display more than five lines of text

- Assume that your reader has no previous knowledge about the issue.
- When contacted about your release, be ready to refer the journalist to people with authoritative sources of information who could provide more of the story or more quotes. Keep a list of people and their phone numbers who can speak to the science, policy, technology and industry sectors etc.
- Follow up the release, if possible, with a phone call to key reporters.
   Ask if they have received the release and if they require further information to help them do the story.

### Holding a press conference

You may hold press conferences for a variety of reasons. Press conferences enable you to get messages across directly to journalists and to bring journalists into contact with experts and personalities involved in the issue. They are also a useful way of providing information or a variety of viewpoints on a complex topic.

### Pointers:

- Schedule press conferences to coincide with important events such as major policy announcements.
- Issue a media alert/invitation no earlier than ten days prior to an event, inviting media to the press conference. The media alert should provide the who, where, when and why of the conference, and contact names for further information.

### Radio and television interviews

You can get radio or television interviews by writing a letter to the hosts of programmes suggesting a story on ozone layer depletion, or proposing yourself and/or other ozone experts as guests on a talk show. This letter should make suggestions as to the topic, and describe why it is relevant to the programme and of interest to the



# Some quotable statistics from UNEP Scientific Assessment for radio interviews:

- For every one per cent increase in UV radiation reaching the Earth's surface, it is estimated that there will be a one per cent decrease in world food production.
- For every sustained one per cent decrease in the ozone layer, it is likely that non-melanoma skin cancers will increase by two per cent.
- A sustained ten per cent thinning of the ozone layer is expected to result in nearly two million new cases of cataracts per year globally.

# **Overheads**

- ✓ good for illustrating and demonstrating points
- cheap to produce and duplicate compared with slides
- overhead projectors are widely available
- dependent on availability of overhead projector
- 🗙 cannot display much text

# Advertisements and announcements

- ✓ appropriate for almost all audiences
- ✓ reach a wide audience easily
- can make use of personalities or celebrities to sell messages
- ★ television and cinema advertisements are costly to make and broadcast
- imes hard to evaluate impact
- ✗ only very simple messages can be communicated

# Ultraviolet radiation indexes

- publicises widely the health risks of ultraviolet radiation levels
- can help to maintain public awareness over time
- ✗ requires access to ozone monitoring data



# A sample radio announcement

Look around you. Is there an air conditioner? Foam under the carpet, in a chair or couch? Is there a car near by? A refrigerator? Computer equipment? Telephone? Fire extinguisher? There is a good chance that these products were made with, or contain, chemicals that deplete the ozone layer. The ozone layer protects all living things from being burnt by the sun. Protect the ozone layer. Buy products that don't contain chemicals which deplete the ozone layer. They exist; you just have to ask for them.

listeners/viewers and other possible interviewees.

Before an interview:

- Ask reporters for a list of questions they may ask or areas which they might cover.
- If you cannot get a list of questions, try and think of the questions that may be asked.
- Decide on the message you want to get across.
- Practice explaining concepts such as the science of ozone layer depletion, the Montreal Protocol and the Multilateral Fund in simple terms.

During interviews, remember:

- After each question, take a few seconds to think of the main points you want to get across in your answer, and organize it accordingly.
- Speak slowly.
- Never answer a question with just 'yes' or 'no'.
- Try not to use jargon or technical language. If you do, explain the terms.
- Speak in short, direct sentences which are 'quotable', as much as possible.
- Have a list of good quotable statistics and use when possible.
- Use examples and anecdotes as much as possible to support your points.

• Have on hand the names of other people the journalist may wish to interview.

# Writing articles for print

Community newspapers, general interest and trade magazines are often in need of articles and story ideas. A written article which is sent to a magazine or community newspaper is sometimes referred to as a 'matte' story.

- Call the editors proposing a story idea.
- If writing for community newspapers, try to cover a local interest story such as one about a local company, person, or school that is involved in ozone protection.
- If writing for a general interest magazine, it is important to think of who reads it and to tailor a story accordingly. For example, a gardening magazine might be interested in an article on the impacts of ozone layer depletion on plants; a fashion magazine may be interested in an article about skin cancer.
- Trade magazines might be interested in policy, technology or science issues as they relate to their specific area of interest.

# Step 5: Measuring success



Awareness raising is a continuous process



# Why evaluate?

Although evaluation involves looking back on something you have done, it is not just an end to your activities, it is also a beginning. Awareness raising is rarely, if ever, something you can do just once; learning from what you have done is crucial to maintaining and improving your future efforts.

Evaluating your awareness-raising efforts will help you to:

- determine whether you have met your objectives;
- demonstrate success to yourself and to others;
- identify the strengths and weaknesses in your planning or implementation; and
- enhance future awareness-raising efforts and share lessons learnt.

For example, through an evaluation process, you may learn that you have

failed to reach a particular target audience because your communication method was inappropriate. Alternatively, you may be able to demonstrate through an evaluation that your target audience has a much greater awareness of key issues as a result of your efforts, signalling that you can now place resources on other priorities.

80

100

90

# Making evaluations easy

While it is true there are specialists who use sophisticated techniques to evaluate programmes, in many ways evaluation is a natural process. Everyone reaches conclusions about the relative success or failure of their activities. To learn the most from your evaluation, however, it is important to make it a planned and organized effort.

Evaluation is not a task that can be successfully accomplished by tacking it onto the end of an activity. Evaluation goes hand-in-hand with planning. Good planning will greatly assist you to



# Measuring success an example:

A country decides that one of its awareness-raising campaigns has the objective of informing household consumers that chemicals in domestic refrigerators deplete the ozone layer. They decide to use labelling and pamphlets to deliver the message that everyone is responsible for the protection of the ozone layer. Together with domestic refrigerator manufacturers, the largest vendors of domestic refrigerators, and consumer groups, the following indicators are developed to assist them to evaluate their efforts:

- 70 per cent of all people who purchased a refrigerator this year received a pamphlet explaining about ozone layer depletion.
- 100 per cent of all new refrigerators in two years will have an ozone-destroyer label.
- 10 per cent of purchasers returned the 'request for more information on ozone depletion' card on the pamphlet.

evaluate your activities, and in turn, a good evaluation will assist you to plan better your next activities. The following are examples of good planning which are key to measuring your success.

### **Specific objectives**

Specific objectives allow you to judge whether or not you accomplished what you set out to do. Just as specific objectives direct each step of your planning, they also direct your evaluation by describing the desired outcome of your efforts.

### **Performance indicators**

Indicators can be thought of as milestones or distance markers. They allow you to monitor your progress towards meeting your objectives. They also require you to evaluate your activities as they are implemented.

## Specific target audience

Assessing whether you have raised awareness requires you to continue some contact with your target audience after the event has occurred. Therefore, the more specific your audience is, the more likely it is that you will be able to contact them to ask if your efforts made a difference. For example, if you air a video on national television, it is necessary to know who are likely to be viewers. Most stations will be able to tell you some demographic data of their audience.

## Participation of target audience

Step 1 (Defining objectives) mentioned the importance of involving members of your target audience in the planning and implementation of your awarenessraising efforts. Their participation in the process will enhance not only the activities but also the evaluation, as they too will be interested in knowing the results.

# Distribution of evaluation materials

Evaluation should occur as soon after the activity is completed as possible. It is therefore important to distribute evaluation materials at the activity or with the awareness-raising tools you are using. This will also save you resources.

# Two types of evaluation

## Impact evaluations

In evaluating the impact of awarenessraising activities, you will want to find out how far you succeeded and demonstrate your success to others. Did the target audience learn, act or make a change as a result of your awareness-raising activities?

It is useful to assess the impact of an activity by observing the activity's outcome or output. The outcome can be assessed, for example, by determining the number of people that attended an event, or the number of pamphlets that were distributed. To determine the impact of these activities, however, requires some kind of before-and-after comparison.

Information on the level of awareness prior to an activity is referred to as *baseline data*. These data can be gathered, depending on your activity, by using techniques such as:

- surveying your target audience through questionnaires;
- holding contests for school children or the public through the media; or

 holding a focus group made up of members of your target audience.

Depending on the type of awarenessraising effort and the size of your target audience, baseline data can be costly to collect. If you cannot afford to gather base-line data on the level of awareness prior to your campaign, it is still possible to measure a change in attitude, although the results may be perceived to be more subjective.

Think of why you wanted to raise awareness in the first place. Perhaps you had received requests from industry asking for more information. Maybe you learnt when collecting data for your country programme that knowledge of the Montreal Protocol was minimal. Or maybe you had seen too many inaccuracies about the causes and consequences of ozone layer depletion in school books and in the media. In any case, you had a general idea about the level of awareness. This information can function as baseline data if none other is available.

What is even harder than measuring a change in attitude, however, is attributing that change to your awareness efforts. Your awarenessraising activities are most likely not working in isolation. For example, NGOs and industry might be working on the issue; the media might be covering the issue independently from your efforts; or a change in the economic situation may have led to renewed interest in the environment. It is important to think of these factors as complementing your efforts. Even if your awareness activity is not the sole cause of a change in attitude, the objectives of your campaign will still be met if the level of awareness is ultimately increased.

The following are some examples of questions that can be used to evaluate awareness-raising activities for their impact:

- What is the audience's level of knowledge about the specific aspect of ozone depletion of which you are interested in raising awareness?
   Surveys, focus groups, essay writing contests for school children and quizzes on radio or television are all examples of evaluation techniques for this type of question.
- How well informed are consumers about ODS products? Survey a geographically-selected area or look at changes in buying habits through sales figures if possible.
- Has news coverage of ozone issues increased or improved? Collect newspaper and magazine articles for a defined period before and after your campaign.
- How well informed are industry sectors and key individuals about alternatives, or the Montreal Protocol, for example? Use questionnaires, focus groups or polls, or analyse consumption figures.
- Have industry or industry associations started any activities of their own to educate their employees or members as a result of your efforts?



## What We Did:

**The Philippines** has undertaken a baseline survey of levels of awareness in four major cities to assist them to evaluate their awareness-raising campaign. After the campaign, the same survey will be undertaken to measure the success of their efforts.



### Implementation evaluations

In evaluating the implementation of awareness-raising activities, you will want to find out whether the process and procedures you followed were efficient and cost-effective.

Evaluating the implementation of your awareness-raising efforts involves answering questions such as:

- Did the activities stay within budget? Why, or why not?
- Did the events stay on schedule? Why or why not?
- Were partnerships established?
- Were partnerships (e.g. with NGOs, industry associations, media) successful?

- What problems or weaknesses emerged during the process?
- Could different approaches have been more effective?

You can take a number of approaches to evaluate the implementation process, including contacting key journalists to discuss your relations with the media, and organizing focus groups from your planning team and partners to discuss how activities could have been better organized.

# Case studies

Now that you have worked through the planning cycle for awareness-raising activities, it might be useful to look at some examples of all the steps put together. We start with two hypothetical cases. These cases are followed by examples of awareness-raising activities planned by National Ozone Units in Article 5 countries.

# Case study 1

Problem: Industry does not feel there is a market for 'ozone-friendly' technologies in the domestic refrigeration sector.
Objective: To increase consumer awareness of ODS-containing products.
Target Audience: Purchasers of products which are made with or use ozone-depleting substances.

Intermediate audience: Consumer associations and environment groups. Messages: These products are harmful. You are a responsible consumer. You have the right to buy ozone-safe products.

Methods: Target purchasers via product labelling, pamphlet issued with each product, TV advertisements with images of products, and radio advertisements. Evaluation: Determine number of responses requesting more information via pamphlet distributed with products, carry out telephone survey of customers, organize focus group with consumer associations.

# Case study 2

Problem: SMEs in the solvent sector do not know about the Protocol.Objective: Inform SMEs that CFCs are to be phased out by a certain date.Audiences: 1. informal sector solvent users; 2. solvent vendors; and 3. small business associations.

Messages: These chemical cleaning products that you use are being phased out. Act now or pay later. Options exist. Assistance is available from your country's National Ozone Unit. Tools/resources: 1. local news coverage, public service announcements or press releases; 2. pamphlet on phase out and options on bill of sale; 3. workshops Evaluation tools: 1. survey sample of subscribers, determine number of stories published from press releases; 2. determine type or number of companies requesting information; 3. evaluate at workshop and follow up with telephone calls/ visits/ letters.

(see following page for examples of actual awareness-raising activities planned by National Ozone Units in Article 5 countries)



|                                  | Objective  | Audience  | Message   | Medium   |
|----------------------------------|--|---|---|--|
| Malaysia                         | <ol> <li>Increase conversions through<br/>awareness of alternatives</li> <li>Increase awareness of ozone</li> </ol>  | <ol> <li>Industry: CFC users and<br/>suppliers, MACs</li> <li>Public, students</li> </ol>   | <ol> <li>No use waiting for ten<br/>years, act now</li> <li>Ozone layer depletion is an</li> </ol>  | 1. Video for TV, brochures<br>2. Radio bulletins and quiz  |
|                                  | layer depletion among public   |   | environmental problem   |  |
| India                            | <ol> <li>Increase informal sector's<br/>awareness of control<br/>schedules of Montreal Protocol</li> <li>Decrease unnecessary<br/>emissions of ODS</li> </ol>  | <ol> <li>SME in refrigeration</li> <li>People who service<br/>refrigeration sector</li> </ol>   | <ol> <li>Can introduce alternative<br/>products</li> <li>Need to stop venting</li> </ol>  | <ol> <li>Industry association,<br/>workshops</li> <li>30-minute video for TV<br/>broadcast</li> </ol>  |
| Ghana                            | <ol> <li>Increase number of people<br/>committed to individual action<br/>to protect the ozone layer</li> <li>Increase safe handling of LPG<br/>in aerosol canisters in homes</li> <li>Decrease venting of CFCs<br/>from refrigerators in homes</li> </ol> | 1,2,3. Parents through teachers<br>and students   | <ol> <li>Ozone layer depletion is an<br/>environmental problem</li> <li>How to handle LPG aerosol<br/>safely</li> <li>Prevent frequent<br/>breakdowns of fridges</li> </ol>                     | <ol> <li>Video</li> <li>2,3. Presentations from experts,<br/>poem, musical interlude, oper<br/>forum for discussion</li> </ol>   |
| Egypt                            | Increase awareness of ozone<br>depletion among the public  | General public  | Ozone layer depletion is a problem and Egypt is working to solve it   | Invites press to workshops for<br>industry, press releases every<br>three to four months, one page<br>monthly press kit  |
| Philippines                      | Increase number of people who<br>know of problem of ozone<br>layer depletion   | School children, policy-makers,<br>industrialists, trade<br>associations, youth, consumers,<br>general public   | Ozone layer depletion is a<br>problem, causes of ozone<br>layer depletion, Philippines is<br>acting, there are resources<br>from the Multilateral Fund,<br>alternatives to ODS are<br>available | Poster contest at schools, radio<br>PSA, TV PSA, questions on ozone<br>layer depletion for popular TV<br>quiz shows, 1-minute film for<br>movie theatres, flyers at<br>workshops, insert in comic<br>magazines, industry workshops,<br>touring puppet show on ozone,<br>press releases |
| Mauritius                        | Increase number of people who<br>know ozone depletion is a<br>problem  | General public  | Ozone depletion is a problem  | Public talks, TV, radio PSAs,<br>seminars, exhibitions, pamphlets,<br>competitions (e.g. best painting,<br>essay) Environmental school, NGO  |
| People's<br>Republic<br>of China | <ol> <li>Increase number of people<br/>who accept CFC-free<br/>technologies</li> <li>Increase conversions by<br/>improving industry awareness<br/>of Protocol and Fund</li> </ol>  | <ol> <li>Consumers of domestic<br/>refrigerators, aerosols</li> <li>managers of enterprises and<br/>industry associations, both<br/>producers and users of ODS</li> </ol> | <ol> <li>Alternative technologies are<br/>better, use them</li> <li>ODS are being phased-out<br/>and the Fund exists to<br/>help you</li> </ol>   | <ol> <li>Presentations in marketplace,<br/>videos, posters, T-shirts, hats,<br/>labels</li> <li>Workshops, newsletter</li> </ol>   |
| Uruguay                          | Increase number of people who<br>know ozone layer depletion is a<br>problem and emphasize its<br>health effects  | General public, especially during<br>the summer months on the<br>beach<br>Industry  | Protect yourself and the<br>ozone layer<br>Don't use products which<br>damage the ozone layer<br>Protect yourself from the<br>sun during midday   | Labels and posters, e.g. 'Ozono<br>Amigo', bulletins, pamphlets  |

# Guide to resources

Every National Ozone Unit which undertakes activities to raise awareness on ozone depletion may have different objectives, audiences, messages, methods of communicating and evaluation. As the overall goal of ozone layer protection is common, however, there will be many experiences and materials which can be shared.

To help you learn from the awareness-raising efforts of others, this guide to resources has been divided into three parts. However, the information contained in each of the parts is in no way comprehensive as there are many organizations undertaking activities to increase awareness of ozone depletion worldwide. The resource organizations and resources listed here are examples of just some of those that are available to you.

#### Part I: Resource organizations

These organizations, governmental and non-governmental, are examples of those which have had experience in raising awareness on ozone depletion. Many of them have been highlighted in this Handbook. You may wish to contact these organizations, and others whom you know have experience in raising awareness, in order to benefit from their experiences and expertise when planning your own activities. Please remember that some of the organizations, notably NGOs, may not have the resources to respond to all your requests.

## Part II: Resource materials

Design costs for awareness-raising methods can be minimized by basing your tools on examples of those already produced. The full-colour pages at the centre of this Handbook give examples of posters and other materials from around the world which have been produced on ozone depletion. Some of these posters may be available for distribution you can write to their producers who are listed overleaf for more information.

## Part III: Resources available from UNEP IE's OzonAction Programme

UNEP IE's OzonAction programme assists developing countries in raising awareness about the problems and solutions to phase out ozone-depleting substances. It provides resources such as posters, videos and technical publications, as well as expertise. OzonAction's materials are available free of charge to developing countries.

(see overleaf for further details of organizations and resources)

# **Resource Organizations**

Australian Conservation Foundation (teacher's materials) GPO Box 2699 Canberra, Australia 2601 Telephone: (61 6) 247 2472 Telefax: (61 6) 247 5779

Ozone Protection Section Environment Protection Agency 40 Blackall St. Barton ACT 2600, Australia Telephone: (61 6) 274 1481 Telefax: (61 6) 274 1640

Friends of the Earth Canada 701, 251 Laurier Avenue West Ottawa, Ontario, Canada Telephone: (1 613) 230 3352 Telefax: (1 613) 232 4354

The KEY Foundation (teacher's materials) Box 155, Midhurst, Ontario L01 1X0 Canada Telephone: (1 705) 722 6711 Telefax: (1 705) 722 4803

Stratospheric Ozone Environment Canada Place Vincent Massey 351 Blvd. St. Joseph Hull, Quebec, Canada, K1A 0H3 Telephone: (1 819) 953 1676 Telefax: (1 819) 953 4936

Comision Nacional del Medio Ambiente 13 F, Alameda B O'higgins 949 Santiago, Chile Telephone: (56 2) 240 5600 Telefax: (56 2) 244 1262 Comision Gubernamental de Ozono (COGO) Ministerio de Recursos Naturales, Energia y Minas (MIRENEM) PO Box 73350 Apartado 2-3350-1000 San José de Costa Rica Telephone: (506) 223 1837 Telefax: (506) 257 8287

Jefe de la Unidad de Gestion Ambiental Ministerio de Industrias, Comercio, Integracion Y Pesca Quito, Ecuador Telephone: (593) 2 542 565 Telefax: (593) 2 546 691

Egyptian Environment Affairs Agency 11-A Hassan Sabry St. Zamalek, Cairo, Egypt Telephone: (202) 360 1191 Telefax: (202) 3610 764

International Ozone Campaign Vorstezen 53 20450 Hamburg Germany Telephone: (49 40) 31 86 439 Telefax: (49 40) 31 86 141

Ozone Office Environmental Protection Council Ministries Post Office 326 Accra, Ghana Telephone: (233 21) 664 697 Telefax:( 233 21) 662 690

Ozone Cell Ministry of Environment and Forests India Habitat Centre Zone IV, East Court, 2nd Floor, Lodi Road New Delhi 110 003, India Telephone: (91 11) 464 2176 Telefax: (91 11) 464 2175 Office of Project Management under the Montreal Protocol Department of Environment 12th Floor, Wisma Sime Darby Jalan Raja Laut 50662 Kuala Lumpur, Malaysia Telephone: (60 33) 296 4406 Telefax: (60 33) 293 1480

Ministry of the Environment and Quality of Life 10th Floor, Ken Lee Tower cr. Barracks & St. Georges Sts Port Louis, Mauritius Telephone: (230) 2127181 Telefax: (230) 2128324

Comision Gubernamental del Ozono Apartado 2048, Zona 1 Panama Telephone: (507) 262 2180 Telefax: (507) 262 0050

Environmental Management Bureau Topaz Building 99-101 Kamias Road Quezon City, Philippines Telephone: (63 2) 928 3773 Telefax: (63 2) 924 7540

Ministry of Planning, Personnel New Government Buildings PO Box 709 Castries, St Lucia Telephone: (809) 452 2611 Telefax: (809) 452 2506

Division of Global Change United States Environmental Protection Agency Mail Code 6205J, 401 M Street, S.W. Washington DC 20460 United States of America Telephone: (1 202) 233 9069 Telefax: (1 202) 233 9576 Friends of the Earth USA 1025 Vermont Avenue, NW Washington DC 20005, United States of America Telephone: (1 202) 783 7400 Telefax: (1 202) 783 0444

Public Affairs Office NASA Code 130.0, Goddard Space Flight Center, Greenbelt MD 20771, United States of America Telefax: (1 301) 286 2806

Global Atmosphere Division Department of the Environment Room B252, Romney House 43 Marsham Street London SW1P 3PY, United Kingdom Telephone: (44 171) 276 8339 Telefax: (44 171) 276 8509

Media-Communications Greenpeace UK Canonbury Villas London N1 2PN United Kingdom Telephone: (44 171) 354 5100

Comision Technica Gubernamental de Ozono Ministerio de Vivienda, Ordenamiento Territorial Zabala 1440 C.P 11.000 Montevideo, Uruguay Telephone: (598 2) 961 899 Telefax: (598 2) 961 895

# Resources available from UNEP IE's OzonAction Programme

UNEP can provide a wide range of information and advice to assist you in your awareness-raising campaigns. Materials available from the OzonAction programme through its information clearinghouse include:

 Video: a 15-minute video entitled 'Saving the Ozone Layer—Every Action Counts', which introduces the ozone depletion issue by providing a brief overview of the causes and effects of depletion, and of the Montreal Protocol. It is accompanied by a video booklet.

An extensive list of videos about ozone depletion and ODS phase out is also available.

- Posters: three posters are available. One informative poster describes the OzonAction programme. The other two are illustrative: one has the message that the ozone layer protects all life, the other communicates that ozone layer depletion is a global problem.
- Slides: a set of slides are available showing ODS-containing products, images of ozone depletion and other related topics.
- Overheads: colour and black and white overheads are available which illustrate the science of ozone depletion and the potential effects. They also include information about the Montreal Protocol as well as sector-specific information.
- The OzonAction Information

Clearinghouse (OAIC) on diskette: up-to-date technical and policy information via regularly updated databases supplied on diskette.

- The International Recycled Halon Bank Management Information Clearinghouse: provides information about halon banking, recycled halon availability and non-halon alternatives.
- The OzonAction Newsletter & Special Supplements: a quarterly newsletter available in Arabic, Chinese, English, French, Spanish and Portuguese.
- Sector-specific brochures & technology sourcebooks: technical publications that provide information on identifying and selecting alternative technologies to protect the ozone layer.
- Publications and videos listings: a list of all publications produced or distributed by the OzonAction programme.

The other major information resources produced by UNEP are the international reviews of scientific and technical aspects of ozone depletion and the ODS phaseout process, prepared in conjunction with other international organizations. The reports are produced annually by international groups of experts operating under the Montreal Protocol. They offer the most comprehensive, up-to-date, coverage of the science of ozone depletion, its effects and technical options for ODS phase out. Recent titles in the series include:

- Action on Ozone (UNEP 1995).
- The Changing Ozone Layer (UNEP/WMO 1995).
- UNEP Scientific Assessment of Ozone Depletion: 1994 (UNEP 1994).
- UNEP Environmental Effects of Ozone Depletion: 1994 Assessment (UNEP 1994).
- 1994 Report of the UNEP Economic Options Committee: 1995 Assessment (UNEP 1994).
- Report of the UNEP Technology and Economics Assessment Panel: 1995 Assessment (UNEP 1994).
- 1994 Report of the UNEP Technology and Economic Assessment Panel, including Recommendations on Nominations for Essential Use Production/Consumption Exemptions for Ozone-Depleting Substances (UNEP 1994).

In addition to the reports covering general scientific and technical issues, a further series of reports focuses on specific sectors that use ODS:

- Report of the UNEP Technical Options Committee for Aerosols, Sterilants, Miscellaneous Uses and Carbon Tetrachloride (UNEP 1994).
- 1994 Report of the UNEP Flexible and Rigid Foams Technical Options Committee: 1995 Assessment (UNEP 1994).
- Report of the UNEP Halon Fire Extinguishing Agents Technical Options Committee (UNEP 1994).

- 1994 Report of the UNEP Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee: 1995 Assessment (UNEP 1994).
- 1994 Report of the UNEP Methyl Bromide Technical Options Committee: 1995 Assessment (UNEP 1994).
- 1994 Report of the UNEP Solvents, Coatings and Adhesives Technical Options Committee: 1995 Assessment (UNEP 1994).
- Handbook on Essential Use Nominations: Prepared by the UNEP Technology and Economic Assessment Panel (UNEP 1994).

All UNEP Technical Options Committee Reports and Assessment Panel Reports can be obtained from the UNEP Ozone Secretariat.

For further information on resources available from UNEP, or for assistance with your public awareness campaigns, please contact:

#### United Nations Environment Programme

Ms Jacqueline Aloisi de Larderel (Director, UNEP IE) *or* Mr Rajendra M. Shende (Programme Coordinator, OzonAction Programme), UNEP Industry and Environment, 39–43 quai André Citroën, 75739 Paris Cedex 15, France.

Telephone: (33 1) 44 37 1450 Telefax: (33 1) 44 37 1474 E-mail: ozonaction@unep.fr



UNITED NATIONS ENVIRONMENT PROGRAMME INDUSTRY AND ENVIRONMENT

39-43, QUAI ANDRE CITROEN 75739 PARIS CEDEX 15, FRANCE TEL: 33 (1) 44 37 14 50 FAX: 33 (1) 44 37 14 74 E-MAIL: unepie@unep.fr