

Information on compliance with article 9 of the Montreal Protocol, regarding research, development, public awareness raising and exchange of information on substances controlled by the Protocol

The Secretariat for Environment and Natural Resources (SEMARNAT), through the General Directorate of Air Quality Management and Pollutant Release and Transfer Registry and the Ozone Layer Protection Unit, has carried out the following capacity-building activities, which include the transfer of technology for the handling of ozone-depleting substances, as well as awareness-raising and information exchange on the adoption of alternatives to the use of these substances.

Chlorofluorocarbons

The Ozone Layer Protection Unit has carried out the following training courses:

1. Train-the-trainers course in best practices in refrigeration and air-conditioning systems

Five courses in all were held in the cities of Mexico City; Mazatlan; Sinaloa; Leon; Guanajuato; Ciudad Juarez; Chihuahua and Gomez Palacio; Durango. The courses were held between June 2006 and December 2007.

A total of 103 trainers from 20 public education institutions took part in the courses. All these trainers, as part of their curriculums, specialized in refrigeration and air conditioning. Two campuses of the National Polytechnic Institute took part (higher schools of mechanical and electrical engineering of Culhuacan and Azcapotzalco); eight institutes of the General Directorate of Industrial and Technological Education (vocational secondary schools and centres for industrial and technological studies); six branches of the Centre for Marine Technological Studies under the General Directorate for Education in Science and Marine Technology; three technological institutes (in Tapachula, Leon and Minatitlan); and the Autonomous University of Baja California.

The laboratories of each college received equipment and tools from SEMARNAT-UNIDO to enable all the refrigeration and air-conditioning technicians, and also graduates from the various institutes, to take part in the courses in best practices in refrigeration and air-conditioning systems.

The 20 colleges which have qualified trainers are carrying out a national programme to train technicians in best practices in refrigeration and air-conditioning systems.

The location of the 20 branches is shown in the following map:

2. National capacity-building programme for technicians in best practices in refrigeration and air-conditioning systems

The national capacity-building programme is currently under way and it aims by the year 2008 to train a total of 5,000 technicians in best practices in refrigeration and air-conditioning.

The courses are being held in 20 colleges which have been adequately equipped and which have fully trained teachers.

3. National methyl bromide programme

Methyl bromide is a substance used for the fumigation of agricultural soils and flour and grain warehouses, as well as in packaging and pre-shipment and quarantine systems. Although it is very effective in pest control, it causes damage to the ozone layer, so the international community is calling for an end to its use in the fumigation of soils and warehouses and its replacement by other substances and practices.

A project is now being developed on capacity-building and technical assistance to reduce the use of methyl bromide in agriculture and storage, which includes outreach, training and technical assistance activities.

The agricultural aspect of the training includes the holding of workshops in various regions of the country, aimed at producers of strawberries, melons, watermelons, tomatoes and flowers, all of which use high levels of methyl bromide in their soil fumigation.

Training workshops in the agricultural sector

Place	Crop	No. of participants	Date
Guerrero City, Mexico State	Flowers	15	Jan 2006
Cuernavaca, Morelos	Flowers	18	Jan 2006
Culiacan, Sinaloa	Tomatoes	15	Feb 2006
Tecoman, Colima	Melons, watermelons	20	May 2006
San Quintin, Baja California	Strawberries	63	May 2006
Ixtapan de la Sal, Mexico State	Flowers	59	Aug 2006
Ixtapan de la Sal, Mexico State	Strawberries	54	Aug 2006
Culiacan, Sinaloa	Tomatoes	50	Aug 2006
Total		294	Sep 2006

In the storage sector, four outreach and training workshops were held in alternatives to the use of methyl bromide.

Training workshops in the storage sector

Place	No. of participants	Date
Monterey, Nuevo Leon	45	8 Dec 2006
Ciudad Obregon, Sonora	75	26 Jan 2007
Tulitlan, Mexico State	90	23 Feb 2007
Guadalajara, Jalisco	60	28 Mar 2007
Total	270	

In all, 270 workers from within the storage sector in Mexico (company technicians and fumigators) took part in these workshops. Also taking part were national and international experts with a deeper knowledge of the alternatives to methyl bromide.

Within the technical assistance component pilot projects were developed on methyl bromide alternatives, demonstrating their application and efficacy to the users of methyl bromide from both sectors.

The pilot projects rely on the contribution of international consultants as well as immediate follow-up from national experts. In these projects priority is given to those methyl bromide alternatives, chemical and non-chemical, which have been tried and tested in all their technical, environmental and economic aspects. They also encourage the participation of companies offering alternative methods to methyl bromide use in our country, with a view to incorporating all the sectors concerned into the process.

There are 21 pilot projects for the agricultural sector:

Place	Crop	No. of projects	Start	End
Vicente Guerrero, Baja California	Tomatoes	1	June 07	Apr 08
San Quintin, Baja California	Tomatoes	2	June 07	Apr 08
Ciudad Obregon, Sonora	Tomatoes	1	July 07	Apr 08
Colima, Colima	Melons	1	Aug 07	May 08
Guayamas, Sonora	Melons	1	Dec 07	May 08
Colima, Colima	Watermelons	1	Aug 07	May 08
Guayamas, Sonora	Watermelons	1	Dec 07	May 08
Tencaningo, Mexico State	Cut flowers	1	July 07	May 08
Zumpahuacan, Mexico State	Cut flowers	1	July 07	May 08
Villa Guerrero, Mexico State	Cut flowers	1	July 07	May 08
Xochimilco, Federal District	Live flowers	5	Oct 07	May 08
Tangancicuaro, Michoacan	Strawberries	2	Aug 07	May 08
Vicente Guerrero, Baja California	Strawberries	1	Sept 07	May 08
San Quintin, Baja California	Strawberries	2	Oct 07	May 08
		21		

There are 10 pilot projects under way for the storage sector, distributed throughout Monterey, Ciudad Obregon, Guadalajara, the Mexico Valley and Culiacan.

In 2005 Mexico succeeded in reaching its goal of reducing methyl bromide use by 20 per cent. It still, however, has to reach the goal of total elimination of methyl bromide use by 2015.

To facilitate this it is proposed that an investment project should be drawn up for the elimination of methyl bromide use in the agricultural and storage sectors.

This new project would follow a gradual phase-out schedule. The agricultural sector would concentrate first on those crops for which alternatives have already been found, moving on finally to crops and regions where the use of alternatives poses more difficulties.

In this way, by the second half of 2008, the SEMARNAT project would be in a position to provide financial assistance to methyl bromide users to enable them to adopt some of the available alternatives and to give a commitment to eliminating the use of methyl bromide completely.

The investment phase would cover a project which would enable Mexico to eliminate, in the shortest time possible, the use of methyl bromide in the country by following a phase-out schedule.

The project will consider whether, in the event that by 2014 any of the sectors using methyl bromide still had not identified viable substitutes, (technical, environmental and economic), they should request critical use exemptions in accordance with the Montreal Protocol.

4. Creation of a postage stamp to commemorate the twentieth anniversary of the Montreal Protocol

SEMARNAT held a special ceremony on 1 October 2007, to mark the twentieth anniversary of the Montreal Protocol. At this ceremony, Felipe Calderon Hinojosa, President of the Republic of Mexican United States, launched the new postage stamp which had been issued by the Mexican Department of Postal Services in two denominations.

5. Outreach programme for children

With the cooperation and assistance of the Ozone Layer Protection Unit and in coordination with the El Naranjo publishing house, in 2006 and 2007 three illustrated books for children between the ages of six and twelve were published. These books narrate the origin of the ozone layer, the damage we have caused to it, the action we are now taking and the legacy we are handing down to the future generation. The books have been distributed in schools, through story telling sessions and in national museums (Papalote Museum, Museum of the Child, Museum of Technology, etc.) with the aim of educating children and raising their awareness of the importance of protecting the ozone layer.

Themes and titles of the books:

1. Origins of the ozone layer: "Once upon a time there was an ozone layer...."
2. Damage to the ozone layer: "Who damaged the ozone layer?"
3. Restoration of the ozone layer: "The day we restored the ozone layer".

6. Awareness-raising through magazines

By placing material in magazines throughout 2006 and 2007, an awareness-raising message was sent to the public on the importance of protecting the ozone layer, emphasizing the actions taken by Mexico in this regard.

Results:

2006 awareness-raising campaign in magazines				
Title	Date of sale	Date of circulation	Issues	Close of publication
<i>Vanidades</i>	11 September	September	19	15 August
	25 September	September	20	29 August
<i>Padres e Hijos</i>	28 September	October	10	5 September
	29 October	November	11	9 October
<i>Muy Interesante</i>	30 August	September	9	15 August
	27 September	October	10	11 September
<i>National Geographic</i>	25 September	October	21-4	22 August
	26 October	November	21-5	19 September
<i>National Geo. Kids</i>	31 August	September	9	13 August
	22 September	October	10	6 September
<i>Newsweek Continental in Spanish</i>	3 September	1st week of September		
	10 September	2nd week of September		
	17 September	3rd week of September		
	24 September	4th week of September		
	1 October	1st week of October		

2007 awareness-raising campaign in magazines				
Title	Date of sale	Date of circulation	Issues	Close of publication
<i>Vanidades</i>	14 August	August	17	18 July
	28 August	August	18	1 August
<i>Padres e Hijos</i>	27 July	August	8	5 July
	29 August	September	9	8 August
<i>Popular Mechanics</i>	23 July	August	8	4 July
	22 August	September	9	3 August
<i>Muy Interesante</i>	27 July	August	8	11 July
	30 August	September	9	15 August
	27 September	October	10	11 September
<i>National Geographic</i>	25 July	August	8	20 June
	24 August	September	9	18 July
	25 September	October	10	22 August
<i>National Geo. Kids</i>	31 July	August	8	11 July
	31 August	September	9	11 July
<i>Newsweek</i>	13 August	August		
	27 August	August		
	3 September	September		
	10 September	September		
	17 September	September		
	24 September	September		

6.1 Other information formats

Dissemination materials 2006

1	Leaflets	2,000
2	Postcards	5,000
4	Posters	1,000
5	Dividers	2,000
6	Stickers	1,000
7	Fridge magnets	100
8	Folders	300

Dissemination materials 2007

Type of material	Quantity
Brochures	2,000
Postcards	5,000
Posters	1,000
Stickers	2,000
