# 20 years of Success

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#### UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)

UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. We are on the ground in 166 countries, working with them on their own solutions to global and national development challenges. As they develop local capacity, they draw on the people of UNDP and our wide range of partners.

World leaders have pledged to achieve the Millennium Development Goals, including the overarching goal of cutting poverty in half by 2015. UNDP's network links and coordinates global and national efforts to reach these goals. Our focus is helping countries build and share solutions to the challenges of:

- Democratic Governance
- Poverty Reduction
- Crisis Prevention and Recovery
- Energy and Environment
- Information and Communications Technology
- HIV/AIDS

UNDP helps developing countries attract and use aid effectively. In all our activities, we encourage the protection of human rights and the empowerment of women.

### THE MULTILATERAL FUND (MLF) FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

The Multilateral Fund was established by a decision of the Second Meeting of the Parties to the Montreal Protocol (London, June 1990) and began its operations in 1991. The main objective of the Multilateral Fund is to assist developing country Parties to the Montreal Protocol whose annual per capita consumption and production of ozone-depleting substances (ODS) is less than 0.3 kg to comply with the control measures of the Protocol. Currently, 146 of the 191 Parties to the Montreal Protocol meet these criteria. They are referred to as Article 5 (1) countries.

Contributions to the Multilateral Fund from the industrialized countries, or non-Article 5 countries, are assessed according to the United Nations scale of assessment. As of March 2007, pledges from some 49 industrialized countries (including countries with economies in transition) totaled over US\$ 2.2 billion.

The Fund is managed by an Executive Committee assisted by the Fund Secretariat. Projects and activities supported by the Fund are implemented by four international implementing agencies (UNDP, UNEP, UNIDO, World Bank) and a number of bilateral government agencies.

Since 1991, the Executive Committee of the Multilateral Fund has approved over 5,500 projects and activities in 144 countries. These activities include industrial conversions, technical assistance, training and capacity building and have, as of 31 December 2006, resulted in the elimination of the annual consumption of 215,462 ODP tonnes and production of 158,737 tonnes of ODS.

#### GLOBAL ENVIRONMENT FACILITY (GEF)

The Global Environment Facility (GEF) was established to forge international cooperation and finance actions to address four critical threats to the global environment: biodiversity loss, climate change, degradation of international waters and ozone depletion. Launched in 1991 as an experimental facility, the GEF was restructured after the 1992 Earth Summit in Rio de Janeiro. The facility that emerged after restructuring was more strategic, effective, transparent and participatory.

During its first decade, the GEF allocated US\$ 6.2 billion in grants, and generated over US\$ 20 billion in co-financing from other sources to support over 1,800 projects that produce global environmental benefits in 140 developing countries and countries with economies in transition. GEF funds are contributed by donor countries. Every four years, donors commit money through a process called the "GEF Replenishment." In August 2006, 32 donor countries pledged US\$ 3.13 billion to the fourth GEF Replenishment, which will fund operations between 2006 and 2010. In addition to its original mandate, the May 2003 GEF Council approved two new focal areas. The GEF now provides financial assistance for the mitigation and prevention of land degradation and persistent organic pollutants (POPs). GEF-funded projects are managed through the implementing agencies: UNDP, UNEP and the World Bank. The GEF also benefits from having the following executing agencies: African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Food and Agricultural Organization, Inter-American Development Bank, International Fund for Agricultural Development and the United Nations Industrial Development Organization.

### Foreword

2007 marks the 20<sup>th</sup> anniversary of the Montreal Protocol on Substances that Deplete the Ozone Layer, the international treaty that aims to protect the ozone layer by phasing out consumption and production of ozone depleting substances (ODS) used in a myriad of applications around the world.

The Protocol was built through recognition that while ozone depleting substances permeated modern life and played an important role with respect to human development, they also can pose significant risks to both the environment and human health. At the time of its adoption in 1987, the Protocol was at the vanguard as it signaled the global community's acceptance of the first legally binding international multilateral environmental agreement, heralding a new era of environmental responsibility. It was established through a participatory process that brought government decision-makers, scientists and academics, industry partners and civil society to the table in search of a solution for the protection of a global good. Today, the Montreal Protocol is widely lauded as an example of international cooperation at its best!

Complemented in 1991 by the establishment of its dedicated financial mechanism, the Multilateral Fund for the Implementation of the Montreal Protocol (MLF), the Protocol has set the standard for cooperative and concerted global environmental partnership. As it prepares to enter its third decade, lessons on how it has achieved its success will be valuable in informing the global environmental community as well as its own future work, encouraging new partnerships and synergies. Indeed, one such important message is that the Montreal Protocol has played a dual role. Certain ozone depleting substances are also greenhouse gases and hence their elimination serves to protect not only our earth's ozone layer but also the global climate.

We, at UNDP, advocate for the importance of addressing issues related to the protection of the global environment. Integrating sound chemicals management schemes into national development policies and plans forms part of this work. As one of the implementing agencies of the MLF and the Global Environment Facility (GEF), UNDP has managed a portfolio worth US\$ 500 million to assist more than 100 countries to meet the aims of the Protocol.

Our organization is proud to have had the opportunity to contribute to the global success of the Montreal Protocol. This publication focuses on UNDP's contribution to the Montreal Protocol process and highlights our ongoing commitment to the important work that remains to be done to protect the ozone layer.

Hav K

Olav Kjorven Director Bureau for Development Policy United Nations Development Programme

Introduction - 4

 $\mathbf{1}_{ullet}$  The Science of Ozone Layer Depletion and its Impacts - 6 2. Protecting the Ozone Layer – the Montreal Protocol - 10 3. Adapting to Changing Needs: **Evolution of ODS Phase-Out Policy - 12 4.** Building National Capacity to Deliver **Results through Institutional Strengthening - 20** 5. Phasing-out ODS Use in Foams - 22 **6.** Phasing-out ODS Use in Refrigeration and Air-Conditioning - 26 **7.** Phasing-out CFCs in Metered Dose Inhalers (MDIs) - 32 8. Phasing-out ODS Use in Solvents - 34 **9.** Phasing-out Methyl Bromide - 36 **10.** Remaining Challenges / Future Opportunities - 40

The Montreal Protocol came into force on 1 January 1989 when it had been ratified by 29 countries and the European Economic Community (EEC). It now boasts 191 Parties.



# Introduction

In the 1970s, scientists discovered that certain man-made compounds contributed to the depletion of the ozone layer, the protective shield that encompasses the earth. At the time, these chemical compounds were widely used in many industrial and agricultural processes, and were so common as to be found in every-day household items such as styrofoam cups, refrigerators, spray deodorants and cushions.

Ozone Depleting Substances (ODS), as this broad family of chemicals came to be known, damage the ozone layer by causing it to thin. This thinning poses a significant danger to the global environment and human health as it allows increased levels of ultraviolet (UV) radiation to reach the earth's surface. Increased UV radiation in turn leads to higher incidence of skin cancer and eye cataracts, can compromise the immune system, and threaten the ecological balance of watersheds, agricultural lands and forests.

International attention was drawn to the urgency of need for appropriate measures in 1984 when it was confirmed that the ozone layer over Antarctica was disappearing, resulting in the apparition of an 'ozone hole'. The Montreal Protocol on Substances that Deplete the Ozone Layer, the first global legally-binding environmental treaty, was signed in 1987. Its aim: to protect the ozone layer by phasing out the production and consumption of substances responsible for its depletion. 2007 marks the 20th anniversary of the signing of the Protocol.

With the financial support of the (MLF) for Multilateral Fund the Implementation of the Montreal Protocol, the Global Environment Facility (GEF) and various bilateral donors, the United Nations Development Programme (UNDP) has been working with a broad range of partners, including governments, industry, representative organizations such as technical associations, agricultural institutes, academia and civil society, to help developing countries and countries with economies in transition adopt and implement strategies that target the preservation of the ozone layer and sustainable development.

Although in the early years of the Montreal Protocol, concern was expressed that no economical, safe and/or environmentallyfriendly alternatives were available that could offer the same advantages as ODS, such wariness and doubt was rapidly dispelled. Initial skeptics failed to see the potential and weight that emerging partnerships - between governments, international and national organizations and institutions, chemical companies and end-user industries - could lend in supporting ozone-layer protection by providing leadership and pledging to achieve phase-out. And so, "... early pessimism gave way to technical optimism, innovative product development

and profitable commercialization' [1] and these ground-breaking partnerships fundamentally began to change the way the world did business.

Through provision of targeted policy advice and technical assistance, training and technology transfer services, UNDP has worked for well over a decade to develop capacity and help countries meet their commitments under the Montreal Protocol by phasing-out the use of ODS in industrial production, refrigeration servicing and mobile air-conditioning, fire protection and agricultural production. Besides provision of expertise to largescale investment projects that result in high ODS phase-out impact, UNDP has also reached out to small and mediumsize enterprises (SMEs) and Least Developed Countries (LDCs), working with them to design programmes that address their specific national concerns and circumstances.

Since 1992, UNDP has managed a global programme in more than 100 countries worth over US\$ 500 million of largely MLF funding, supporting more than 1,900 projects. When fully implemented, these projects will have prevented over 63,000 tonnes of ODS being released into the earth's atmosphere. On the ground, these projects have allowed UNDP to engage in partnerships with industry associations worldwide, to assist UNDP works to help countries reduce the vulnerability of their poor to health and environmental stresses; facilitates the integration of environmental issues into national environmental and poverty reduction planning frameworks; and helps increase access to the best available and affordable alternative and environmentally-friendly technologies.

thousands of enterprises in addressing their ODS phase-out objectives, and to reach out to over 100,000 refrigeration and airconditioning servicing technicians and 500,000 agricultural producers globally.

Since the Montreal Protocol came into effect, atmospheric concentrations of the most important ODS have either leveled off or decreased, and the production of ODS that exceeded 1.8 million tonnes annually in 1987, had been reduced to some 83,000 tonnes in 2005. As a result, the thinning of the ozone layer leveled off in 1998 and is now projected to return to pre-1980 levels between 2050 and 2075 [2].

There is much to applaud in the Montreal Protocol experience and indeed, it has been recognized as being an extremely successful international environmental agreement. Nevertheless, challenges still face the ozone layer protection effort and, 'maintaining momentum and funding for the final phaseout is crucial to a happy conclusion to this unprecedented international success story.'[3]

Issues such as the continued production of ODS, the illegal trade in these substances, the escalating increase in HCFC production and consumption, and the steady growth of ODS stockpiles and the potential that they may be disposed off in an unsound manner, could have negative effects on the repair of the ozone layer. And, given that certain ODS also have a high global warming potential, attendant and synergistic benefits with respect to curbing global warming can emanate from the total global phase-out of ODS.

UNDP works to help countries reduce the vulnerability of their poor to health and environmental stresses; facilitates the integration of environmental issues into national environmental and poverty reduction planning frameworks; and helps increase access to the best available and affordable alternative and environmentally-friendly technologies.

Proud of its role as a partner in the global ozone family, UNDP remains committed to assisting developing countries and countries with economies in transition to meet their compliance targets under the Montreal Protocol and manage the manufacture, use and disposal of unwanted ODS, as well as other chemicals, as such efforts are considered an important element in helping countries make progress with respect to the Millennium Development Goals (MDGs).



## The **Science of Ozone** Layer Depletion and its Impacts

### What is ozone?

Ozone is a gas in which each molecule is made up of three oxygen atoms ( $O_3$ ). It occurs both in the earth's stratosphere, which extends from 10km to 60km above the earth's surface, and at ground level. Ozone is much less stable than atmospheric oxygen ( $O_2$ ).

### Good ozone

Ozone in the stratosphere is considered 'good' because it blocks harmful ultraviolet (UV) radiation from reaching the earth's surface.

#### **Bad ozone**

At ground level, ozone is considered to be a health and environmental risk and is a main component of urban smog, produced mainly by

### What is the ozone layer and how do human activities deplete it?

The ozone layer, which contains 90 percent of the world's ozone, is found between 15 and 35 km above the surface of the earth in the lower stratosphere. The ozone layer acts like a shield and absorbs most of the sun's harmful ultraviolet-B (UV-B) radiation that otherwise would reach the earth's surface.

In 1973 two chemists, Frank Sherwood Rowland and Mario Molina, began studying the impacts of chlorofluorocarbons (CFCs) in the earth's atmosphere. They discovered that CFC molecules were stable enough to remain in the atmosphere until they reached the middle of the

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