



At a Glance

- Ozone impact: 70,287 tonnes of ozone-depleting potential (ODP)
- Number of projects: over 1,200
- Developing countries assisted: 98
- UNIDO's share of the portfolio of the Multilateral Fund for the Implementation of the Montreal Protocol: over 25 per cent
- As per expert estimates, by January 2010, the Montreal Protocol has reduced greenhouse gas emissions by about 11 giga tonnes of CO₂ equivalent per year through its phase-out activities of ozone-depleting substances (ODS), which amounts to five to six times reductions targeted by the Kyoto Protocol during its first commitment period of 2008-2012.



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

The Montreal Protocol and UNIDO

The Montreal Protocol is one of the most successful environmental agreements to date. Its widespread adoption and implementation are an example of exceptional international co-operation.

The Montreal Protocol on Substances that Deplete the Ozone Layer is an environmental treaty adopted by the international community to protect human health and the environment by phasing out a number of man-made chemicals with adverse effects on the ozone. At first these chemicals included refrigerants such as CFCs and halons, but the list of controlled chemicals under the Montreal Protocol today includes HCFCs, methyl bromide, and other ozone-depleting substances (ODS). Since 1987, every country in the world has ratified the Montreal Protocol and each one contributes to preserving the ozone layer and the global environment.

The United Nations Industrial Development Organization (UNIDO) became an implementing agency of the Montreal Protocol in 1992 and is proud to be associated with its success. Since then UNIDO has recognized the significance of meeting the global environmental challenge of ozone depletion while observing national priorities, and of making meaningful technological adjustments resulting in a higher

standard of living. UNIDO has particularly excelled in promoting innovative technologies based on ozone-friendly chemicals and clean manufacturing processes. Through the promotion of clean production, UNIDO eliminates at source the use of ODS through the use of ozone- and climate-friendly substances in manufacturing processes, or through product redesign, and thereby prevents releases of ODS into the atmosphere.

The Organization's performance is continuously highly rated by the Executive Committee of the Multilateral Fund. For example, out of ten evaluations between 2001 and 2010, UNIDO was ranked as the top implementing agency eight times, and second twice. UNIDO gained the distinction of being the premier implementing body in 2010 among all four implementing agencies of the Montreal Protocol. This annual evaluation is based on weighted performance indicators, such as targets met, speed of completion, timely submission of projects, and total phase-out achieved, apart from many other technical and financial aspects.

This document highlights some of UNIDO's contributions to developing countries so far, and shows how its projects are being implemented as part of a unique successful environmental treaty recognized worldwide.

montreal protocol

UNIDO'S METHYL BROMIDE PROGRAMME

UNIDO became the driving force in designing procedures for introducing alternatives to methyl bromide. UNIDO is responsible for two thirds of the ODP tonnes of methyl bromide ever phased out under the Montreal Protocol, assisting nearly 60 countries with the phase-out of the pesticide. The phase-out of methyl bromide in horticultural and cut flower production in Turkey is a prime example of how UNIDO operates. In this project, the use of methyl bromide was replaced by non-chemical technologies such as solarization, grafting, soilless culture, as well as alternative fumigants and an integrated pest management system. UNIDO's project brought new equipment, new technologies, training, and model farms to Turkey, which enabled Turkish producers to become more competitive in the Mediterranean market.

UNIDO'S PHASE-OUT PROGRAMMES IN LATIN AMERICA AND THE CARIBBEAN

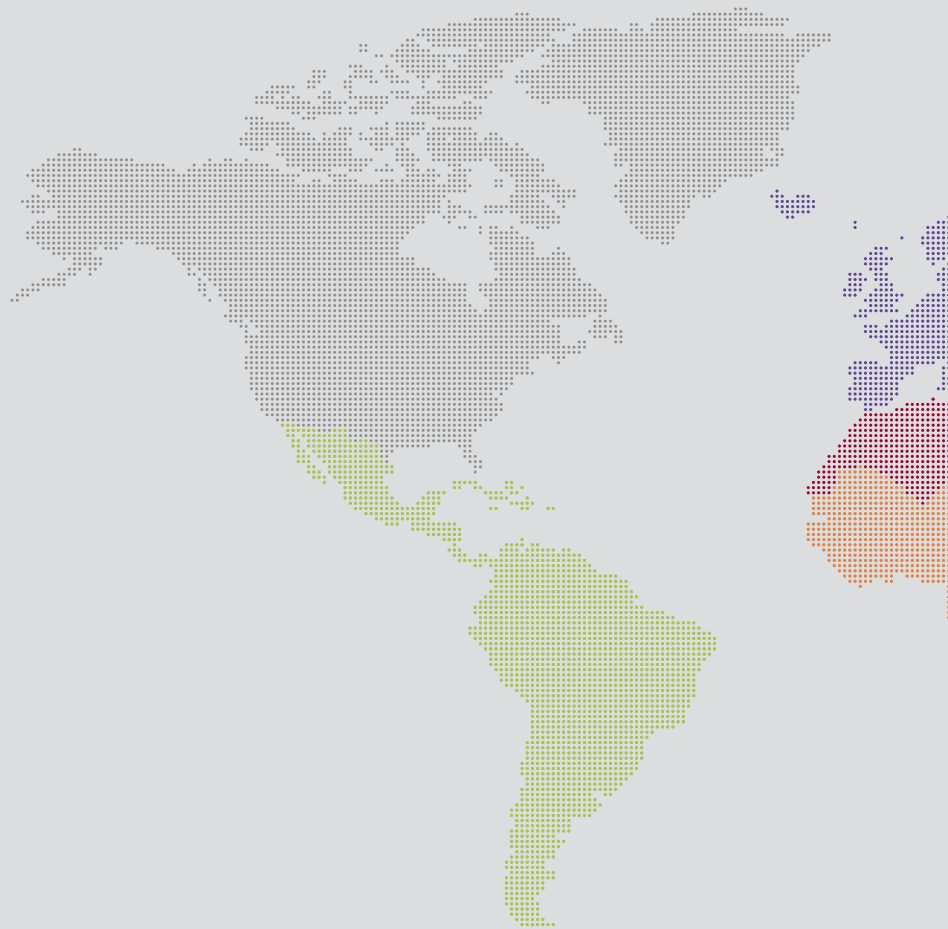
UNIDO has completed nearly 70 projects in eight different Central and South American countries to eliminate the use of CFCs in domestic and commercial refrigerators. Currently, UNIDO is engaged in the implementation of HCFC phase-out plans in eight countries in the region, namely Argentina, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Suriname and Venezuela. UNIDO has also always cultivated a strong relationship with Caribbean countries as well and completed over 15 Montreal Protocol projects in Barbados, Cuba, Dominican Republic and Jamaica for the phase out of the consumption of CFCs in the refrigeration sector and the use of methyl bromide as a fumigant in agriculture. UNIDO is currently responsible for the implementation of the HCFC Phase-out Management Plan of Bahamas, Saint Lucia and Saint Vincent and the Grenadines.

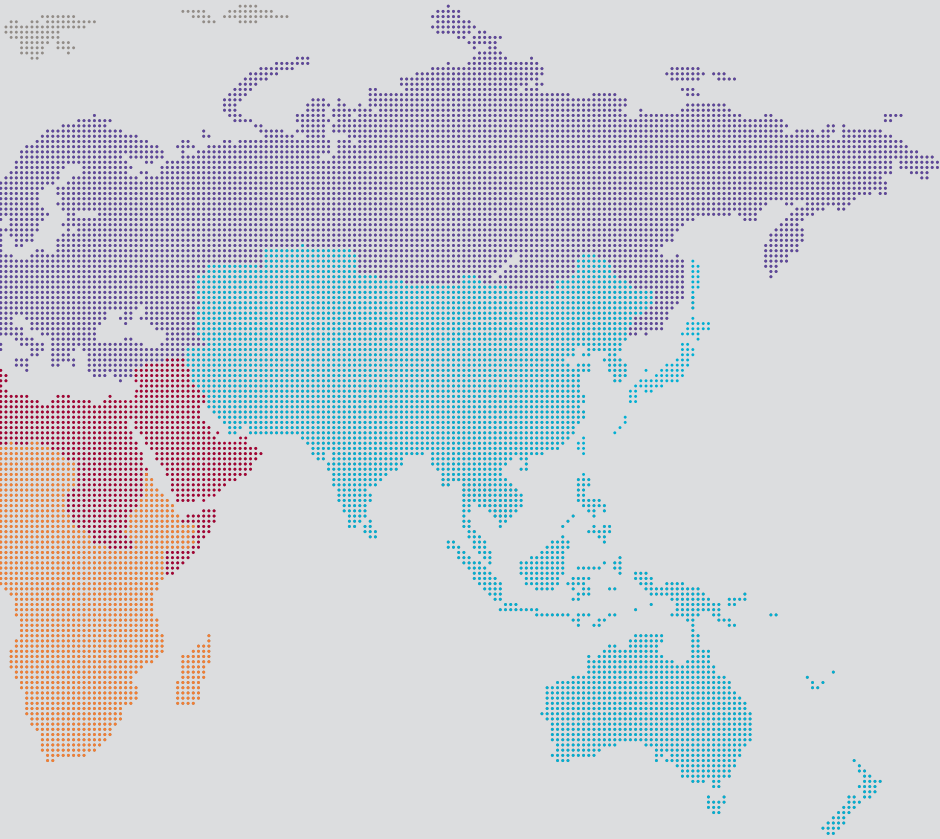
UNIDO'S PHASE-OUT PLANS FOR AFRICA

UNIDO has implemented over 30 projects in Africa, eliminating the production and consumption of CFCs from all industrial sectors. Countries such as Burundi, Benin, Cameroon, Cote d'Ivoire, Guinea, Niger, Nigeria, Republic of Congo, São Tomé and Príncipe and Sudan are only a few of the many African countries who have benefited from UNIDO's national CFC phase-out plans. Moreover, UNIDO is now implementing HCFC phase-out plans in 26 countries in the region, such as Burkina Faso, Central African Republic, Chad, Equatorial Guinea, Gabon, Guinea Bissau, Madagascar, Malawi, Senegal, Sierra Leone, Somalia, South Africa, Togo and Zambia.

HCFC PHASE-OUT IN THE ARAB REGION

UNIDO is assisting several countries in the region since 2008 to develop strategies for the first stage of the HCFC phase-out schedule: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia and Yemen. In cooperation with the respective National Ozone Units and the United Nations Environment Programme, UNIDO has been mapping out and implementing activities on how the consumption freeze and 10% reduction of HCFCs are to be achieved by 2013 and 2015. Most countries have targeted their foam manufacturing sector or individual





UNIDO IN THE ASIA AND PACIFIC REGION: AN EVER-EVOLVING RELATIONSHIP

UNIDO and China have always cherished a strong relationship. UNIDO has completed more than 90 Montreal Protocol projects in China for the value of over US\$193 million. China has been supported with institutional strengthening, capacity building, awareness raising, policy and legislation, as well as investment activities at enterprise and sectoral levels. China's HCFC Phase-out Management Plan is being carried out by UNIDO in the XPS foam and in the refrigeration and air conditioning sectors, which amounts to a cost of US\$62 million. At the same time, two demonstration projects are underway displaying a new technology in the refrigeration and air-conditioning sector. The latest chapter of the China-UNIDO cooperation is an ODS waste management and disposal project, which is currently being developed. Besides China, other countries in the Asia-Pacific region benefit from ongoing Montreal Protocol Projects in various sectors, such as the Democratic Republic of Korea, India, Indonesia, Myanmar and the Philippines.

foam production lines in the refrigeration manufacturing sector. Furthermore to complement these plans, individual investment projects for the conversion of production lines have also been developed in the manufacturing sectors. Regarding the selection of alternatives to HCFCs, there is a heightened focus on introducing and adopting technologies with low global warming potential. However, specifically in Gulf Countries where the ambient temperatures are very high, there are no such immediate alternatives available. New gases are being tested and can promise a solution for the future.

EUROPE AND THE NEWLY INDEPENDENT STATES

UNIDO's work in fifteen countries of the region covers the whole palette of activities to phase out ozone-depleting substances according to the schedule of the Montreal Protocol. Over the last decades, several projects have been implemented to eliminate CFCs and halons and to phase-out methyl-bromide, methyl-chloroform and HCFCs. These efforts have always been completed with institutional strengthening, trainings and awareness raising activities. Besides the country specific programmes, UNIDO currently has two ongoing regional projects. One is targeting the replacement of CFC centrifugal chillers in Croatia, Macedonia, Montenegro, Romania and Serbia and the other one formulating a strategy for the disposal and destruction of ozone-depleting substances, with the bilateral component of the Czech Republic, in Bosnia and Herzegovina, Croatia, Montenegro and Turkmenistan. The region is good example of the cooperation between UNIDO and the Global Environment Facility (GEF), an independently operating financial organization and the largest public funder of projects to improve the global environment. With the financial support of GEF two projects are being implemented in Russia aiming at the phase-out of CFC consumption in the manufacture of aerosol metered dose inhalers and the phase-out of HCFCs and the promotion of HFC-free energy efficient refrigeration and air-conditioning systems.

Montreal Protocol Projects at UNIDO

Since 1992, UNIDO has implemented over 1,200 Montreal Protocol projects in its client countries, which contributed to the phase-out of 70,287 ODP tonnes (ozone-depleting potential) of the world's total consumption of ozone-depleting substances, or 36 per cent of 1992 levels. These projects are funded by the contributions of the Multilateral Fund for the Implementation of the Montreal Protocol, as well as by bilateral contributions from countries with which UNIDO maintains close relationships such as Canada, Czech Republic, France, Germany, Italy, Japan, and Spain.

Montreal Protocol projects, however, go beyond the elimination of ozone-depleting substances. UNIDO's projects also contribute to the introduction of new, clean and up-to-date technologies; the upgrade of production lines with brand new equipment; and, the dissemination of adequate training on technology and industrial safety, including human health aspects.

Not only does this allow for better access to new markets, it also keeps businesses alive. Montreal Protocol projects also focus on the refrigeration servicing sector of beneficiary countries. These projects include introduction to and training in good service practices, as well as the provision of necessary equipment to reduce refrigerant leakages. These activities directly reduce emissions of gases that both deplete the ozone layer and contribute to climate change. Additionally, improved service methods have a positive impact on energy consumption in sectors that usually account for substantial energy consumption.

Over 90 developing countries throughout the world benefit from UNIDO's projects by complying with the phase-out deadlines laid out in the Montreal Protocol, all of which have officially halted the consumption of CFCs as of January, 2010.

Since production and consumption of CFCs have been successfully addressed, the ultimate elimination of HCFCs, an ODS with high global warming potential, is the final major challenge under the Montreal Protocol. In 2013, a capping of consumption at 2009-10 levels is to come into effect and all countries will need to develop plans to phase out HCFCs. So far, UNIDO has developed HCFC Phase-out Management Plans (HPMPs) for over 40 countries.

Many of these phase-out plans have already been approved by the Executive Committee of the Multilateral Fund, while others are being finalized and will be submitted for approval in 2012. In anticipation of the HCFC consumption freeze in 2013, individual HCFC phase-out projects have already started being implemented since 2010, in order to mitigate the projected rise in consumption after 2013, and are being executed in parallel to HPMPs. These stand-alone projects include, for instance, investment projects for the conversion of an air-conditioning manufacturing company in Jordan,

six insulation foam manufacturing companies in Pakistan, several phase-out activities for the air-conditioning manufacturing sector in Argentina and a demonstration project to convert compressors in China.

Assistance to developing countries is provided by UNIDO to achieve the 2015 target to phase out methyl bromide, a fumigant and ozone-depleting substance, which was broadly used by farmers prior to the Montreal Protocol. The conversion of methyl bromide to non-chemical alternatives has helped several countries increase their exports to developed countries.

UNIDO also focuses on environmentally responsible disposal of stockpiles of ozone-depleting substances and ODS-containing equipment. Work is currently ongoing for the design of ODS-disposal demonstration projects in Algeria, China and Turkey. Recently, UNIDO also began developing demonstration projects in Lebanon and Nigeria. One highly innovative demonstration project in Mexico, for example, was approved by the Executive Committee of the Multilateral Fund in April 2011.

Future plans entail a more holistic approach in order to provide countries with green solutions catered both to mitigating climate change and to protecting the ozone layer. Previous UNIDO Montreal Protocol projects included these aspects, but the emphasis on integrated solutions is now stronger than ever before. When replacing chillers, for instance, Montreal Protocol projects employ new equipments that are more energy efficient; less energy is consumed and therefore less CO₂ is emitted from the burning of fossil fuels. Moreover, many of the ODS controlled by the Montreal Protocol have a high global warming potential (GWP). Replacing high-GWP refrigerants with low-GWP alternatives helped reduce greenhouse gas emissions by approximately 12.04 MMtonnes of carbon dioxide equivalent (tCO₂E) in 2010.

UNIDO staff is analyzing new trends and developments in carbon markets, as well as emissions trading, barriers to carbon mitigation and new ways of financing Montreal Protocol projects. This is how will we be able to tackle new and ever-changing environmental challenges and live in harmony with our environment while enjoying the fruits of sustainable industrialization.

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For more information, contact:

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