

# PATTERNS OF ACHIEVEMENT



AFRICA AND THE  
MONTREAL PROTOCOL

# Patterns of achievement Africa and the Montreal Protocol



After two decades of the implementation of the Montreal Protocol, the national and global level successes of this very important Multilateral Environmental Agreement of our times have been recognised all over the world. The success would not have been possible without the contribution of all the international community. It is in that context that I would like to pay tribute the African continent for its significant contribution to the Montreal Protocol despite having to face numerous other urgent

challenges. The ozone layer protection activities of 53 African countries – all of which are Parties to the Montreal Protocol are therefore a testimony to their willingness to promote responsible environmental management and their desire to play a full part in global environmental protection.

Africa's ozone story is special because the 52 nations out of 53 that form the African continent have never produced any ozone-depleting substances (ODS) or much ODS-using equipment. Further, African consumption of these substances has been very low compare to other regions of the world. Yet the use of ODS was critical in several developmental sectors (domestic, commercial and industrial refrigeration and air conditioning, agriculture and health). The livelihoods of most people on this continent depended on those sector.

The challenge African countries were facing was to reduce reliance on ODS without damaging their economies, health or security. Towards the end of a very important phase of the Montreal Protocol that is to completely phase out the most consumed ODS by the 1st January 2010, we are already assured that the African continent have successfully played its part of the game.


The African Montreal Protocol experience is not just One Success Story but several successful cases being highlighted in this publication, each with its specific theme contributing to the wider picture of the success of the Montreal Protocol. We present these achievements here in recognition of Africa's valuable contribution to the Montreal Protocol and in the hope that they will provide inspiration for other regions in their efforts to protect the ozone layer. We also hope that these experiences can be replicated by African Country in the implementation of other International Environmental Agreements.

This brochure also recognizes those international organizations and other nations that have assisted Africa in achieving its success through fruitful international environmental and technological co-operation. The world should acknowledge that in spite of other pressing issues, Africa has joined the global movement to protect the ozone layer and should continue to work closely with African countries until ozone recovery is finally achieved.

Achim Steiner, Executive Director,  
United Nations Environment Programme







The story line of the African countries, of their efforts to protect the ozone layer, is as unique as its diversity and as inspiring as its people. This story line has no end and it keeps on building from one event to another.

Like the origin of humanity, Africa was at the origin of the Montreal Protocol- in Nairobi, Kenya. There, UNEP gave the science of ozone depletion the certainty needed to inspire global action. Of the eight original developing country signatories of the Montreal Protocol five were from the African continent.

Today all the 53 countries in Africa are partners to the Montreal Protocol. The entire African continent contributed only very small percent of the global consumption of CFCs and zero percent of production of CFCs. Nevertheless, Africa which harbors one of the poor countries of the world recognized the need for the global cooperation and took the torch in their hand to run the environmental marathon. Clearly, poor economic conditions do not shadow the rich vision.

By phasing down the consumption of ODS as per the Montreal Protocol's time table, these countries have significantly contributed to reducing Climate Change. What's more, Africa now stands to green its economy by future implementation of the Montreal Protocol by:

- Enhancing their energy Security as well as energy independence by improving the energy efficiency of refrigeration and air-conditioning used in buildings and food preservation;
- Generating employment through now green business of recovery and recycling, destruction of unwanted ODS
- Pursuing the green business of energy efficient appliances

The story line of the Montreal Protocol in Africa gets more inspiring if it is read in between the lines.

*Rajendra Shende, Head OzonAction.*

## The Montreal Protocol in a Nutshell

The Montreal Protocol on Substances that Deplete the Ozone Layer was adopted in September 1987. Following the discovery of the Antarctic ozone hole in late 1985, governments recognized the need for firm measures to reduce the production and consumption of a number of CFC and several Halons. The Protocol was designed so that the phase-out schedules could be revised on the basis of periodic scientific and technological assessments.

Since the Montreal Protocol came into effect, the atmospheric concentrations of the most important chlorofluorocarbons and related chlorinated hydrocarbons have either leveled off or decreased. Halon concentrations have continued to increase, as the halons presently stored in fire extinguishers are released, but their rate of increase has slowed and their abundances are expected to begin to decline by about 2020. Also, the concentration of the HCFCs increased drastically at least partly because for many uses CFCs (e.g. used as solvents or refrigerating agents) were substituted with HCFCs. As a result, the Montreal Protocol has often been called the most successful international environmental agreement to date.

The Multilateral Fund was the first financial mechanism to be created under an international treaty. It embodies the principle agreed at the United Nations Conference on Environment and Development in 1992 that countries have a common but differentiated responsibility to protect and manage the global commons. The Fund has demonstrated how resolute leadership, clarity of vision and lucidity of purpose can make radical changes to international environmental action. It is dedicated to reversing the course of the deterioration of the Earth's ozone layer.

Decisive multilateral action on environmental threats and challenges can bring wide-ranging health, social and economic benefits. The Montreal Protocol, which underpins our efforts to combat depletion of the earth's fragile protective shield, also contributes to climate change, since many of the chemicals controlled under the treaty have also emerged as ones that contribute to global warming. By phasing out CFCs and now deciding to accelerate a freeze and phase-out of HCFCs, the treaty has provided two benefits at once. I hope Governments will look at such results and feel empowered to act across a wide range of environmental challenges, and not only in prosperous times.

*Ban Ki-moon, Secretary-General of the United Nations.*

# Contents

## A Committed Continent

African nations have proven themselves to be world leaders in the fight to preserve the ozone layer-in signing and ratifying the Montreal Protocol and its Amendments and in their commitment to comply with its obligations. With over 80 percent of its countries having signed the Protocol, the continent is also home to nearly half of the world's nations that have signed the London and Copenhagen Amendments.

## Hitting the Targets-Compliance

The first of many critical phase out targets for Africa-freezing the national consumption of CFCs-started 8 years ago. As of today, almost all African countries have met this first crucial target and two-thirds are well beyond compliance-a light at the end of the tunnel. Most countries are focused towards meeting 2010 deadlines and 2015 phase-outs for CFCs and HCFCs. This is tremendous achievement....

## Key Partners for Africa

International organizations, designated to implement the Montreal Protocol through the Multilateral Fund have been key partners in providing capacity-building activities in Africa. They include the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO) and the World Bank....

## Technologies Transferred

Thanks to effective and well planned transfers of technologies and international assistance, facilitated by the Multilateral Fund, efficient replacements and alternatives have been found for ozone-depleting substances and ODS-using equipment used in Africa. From foams to fumigants, the new technologies are quickly becoming the products of choice for African industries looking to the future....

## Empowering and Enabling

Africa's story is helping to protect the ozone layer could never have been such a success if all countries involved had acted alone. Co-operation and dialogue, both locally and over extensive geographical areas, is essential to ensure that partners, suppliers and recipients all share the common goal of complying with the Montreal Protocol....

## National Actions

Complying with the Protocol's targets required the creation of an almost completely new set of national laws, policies and plans, as well as new institutions to create and guide their implementation. Firm foundations, based on new Country Programmes, Refrigerant Management Plans and functioning National Ozone Units, are now fully established and active at the national level....

## Awareness Raising

African countries and citizens, from elementary schools to technicians in the field, have become more confident that their actions, even at the individual level, can do much to help protect the earth's precious ozone layer. This is because of the non-stop local and national awareness raising efforts-including mass-media campaigns, attractive and informative publications and poster competitions for children....





The Montreal Protocol on substances that deplete the Ozone Layer was the first international treaty geared towards protecting global atmosphere and was implemented just over 20 years ago.

## A first of many firsts...

- First ever agreement which all 53 countries have ratified and become Parties to pledge that commitment
- First international environmental agreement that unifies all 53 African countries in taking concerted and coherent action to protect the ozone layer
- First agreement that builds on the difference between developed and developing nations through consolidating forces at the same time, recognizing the origins and gravity of the problem and thereafter, distributing responsibility for solutions.

The Montreal Protocol is now considered the most successful international environmental agreement ever largely the result of a commitment of countries and regions throughout the world, including the continent of Africa. This publication recognizes substantial achievements of the people, programmes and organizations that have succeeded in creating an impact with effective follow up measures, in advocating for the protection of the ozone layer.



# A Committed Continent

Africa's success story begins with the rapid commitment by its countries in officially joining the global campaign to preserve the ozone layer—namely, signing up to and ratifying the Montreal Protocol and its amendments. The continent's commitment to support began on September 16, 1987—the date when the Montreal Protocol itself was founded. On that date, Africa's first signatory countries included Egypt, Ghana, Kenya, Senegal and Togo.

Since then, African nations have continued to be world leaders in the fight to preserve the ozone layer, in ratifying the Protocol and taking seriously their commitment to comply with its obligations. Beginning in 1988 with Africa's first ratification by Egypt, all African countries have ratified the Protocol as of April 2007.

Africa's world leadership in ratifying the various amendments to the Protocol has been exemplary. By April 2007, African countries represented 54 of the world's 185 countries that had ratified the 1990 London Amendment. With respect to 1992's Copenhagen Amendment, African countries represented 31 percent of the global share. Non-party countries are already on board, through the assistance of UNEP (United Nations Environment Programme).

## UNEP has seen to it that all African countries become Parties to the Protocol

**The Montreal Protocol** on Substances that Deplete the Ozone layer was adopted on 16th September 1987 in Montreal. It came into force on 1st January 1989. The protocol was designed so that the phase out schedules could be revised on the basis of periodic scientific and technological assessments. Following such assessments, the Protocol was adjusted to accelerate the phase out schedules.

**The London Amendment** was adopted in 1990 in London. The amendment introduced control measures for

both production and consumption of CFCs, Carbon Tetrachloride and Methyl Chloroform. Control measures also included restrictions on trade with non-Parties. The financial mechanism was established for providing financial and technical assistance to developing countries to enable their compliance. The London Amendment entered into force on 10th August 1992.

**1985 Vienna Convention** encourages intergovernmental cooperation on research, systematic observation of the ozone layer, monitoring of CFC production and the exchange of information. The Convention commits its Parties to take general measures to protect human health and the environment against human activities that modify the ozone layer. The Vienna Convention is a framework agreement and does not contain legally binding controls or targets.

**The Copenhagen Amendment** was adopted in 1992 at the Fourth Meeting of the Parties to the Montreal Protocol held in Copenhagen. The Amendment introduced control measures for consumption for HCFCs. It further introduced measures for both production and consumption of HBFCs and Methyl Bromide. The Copenhagen Amendment entered into force on 14th June 1994.

**The Montreal Amendment** was adopted in 1997 at the Ninth Meeting of the Parties to the Montreal Protocol held in Montreal. This is the only amendment that did not introduce new substances to the Protocol. Instead, the amendment introduced the requirement for licensing systems to allow control and monitoring of trade in substances controlled under the Protocol. The Montreal Amendment entered into force on 10th November 1999.

**The Beijing Amendment** was adopted in 1999 at the eleventh Meeting of the Parties to the Montreal Protocol held in Beijing. The amendment introduced control measures for production of HCFCs and imposed restric-





# Hitting the Targets: Compliance



8

While we are busy in phasing out ODS, the world has moved further. There has been Millennium Summit and MDGs that target reduction of Poverty. The ozone layer prevents skin cancer, and cataracts, yes, but it also contributes to poverty alleviation by protecting the marine food chain and improving plant growth and harvest. Mainstreaming ozone layer protection activities in your national development plans that target the MDGs will be an important step in sustaining the phase out.

*Rajendra Shende, Head, UNEP DTIE OzonAction Branch*

# Compliance Timeline

July 1, 1999	Freeze of CFCs
↓	
2002	Freeze of halons Freeze of MBR
↓	
2003	Freeze in MCF
↓	
2005	CFCs reduced by 50% Halons reduced by 50% MCF reduced by 30% CTC reduced by 85%
↓	
2007	CFCs reduced by 85%
↓	
2010	100% phase out of CFCs, halons and CTC MCF reduced by 70%
↓	
2015	100% phase out of MCF
↓	
2016	Freeze of HCFCs at baseline figure of year 2015
↓	
2040	HCFCs phased out

The Montreal Protocol obliges signatory Parties to meet specific reduction targets. The most critical reduction targets for African countries under the Montreal Protocol, during the next few years, are chlorofluorocarbons (CFCs), halons, methyl bromide (MBR) and hydrochlorofluorocarbons (HCFC).

In order for African countries to maintain the positive momentum focus should now be geared towards on the phase out of CFCs, halons and Carbon Tetrachloride as well as the reduction of the consumption of methyl chloroform by 70 percent in the target year of 2010.

Based on 2007 data submitted according to Article 7 of the Protocol, analysis shows that nearly all African countries have successfully met the fifth target under the Protocol in reducing CFCs by 85 percent. Few countries should meet the target with continued monitoring and assistance.

CFC - Chlorofluorocarbons  
MCF - Methyl Chloroform  
CTC - Carbon Tetrachloride



# Key Partners

## Holding hands:



10

**UNEP's** OzonAction programme provides capacity building and technology support to the developing countries to enable them to comply with the Montreal Protocol. South-South cooperation, networking with the government officers in charge of the implementation of the Montreal Protocol, strengthening the existing national and regional institutions are the key mechanisms utilised by UNEP to deliver its assistance. UNEP has projects in all the 53 African countries. UNEP OzonAction has Compliance Assistance Programme (CAP) team in UNEP's regional office in Nairobi who keeps direct interaction with the countries. In 2005, UNEP was awarded a Certificate of Appreciation by His Excellency Abdoulaye Wade of Senegal for its support to African countries in implementing the Montreal Protocol.

**UNIDO** has focused its work on six areas of expertise: refrigeration, foams, halons, solvents, fumigants and

The commitment to achieve environmental goals must be translated into action and that can only be accomplished through effective partnerships. In this area, there has been much good work done by the Montreal Protocol's Multilateral Fund as well as through partnerships.

*Achim Steiner,  
Executive Director, UNEP.*

aerosols. Its projects provide African countries access to cost-effective state-of-the-art non-ODS technologies. The agency is supporting investment projects worth over US\$ 44million and assisting in the phase out of some 5,500 ODP tonnes. It also ensures modern safety controls and eco-labeling of products. UNIDO has been an implementing agency of the Montreal Protocol since 1993

**UNDP** is continuing to implement more than 163 projects worth over US\$ 28 million in more than 22 countries. The agency is involved in implementing 125 investment projects and offers training and provision of technical assistance. In Africa, this has led to phasing out of some 7,000 ODP tonnes in the aerosol, foam, fumigant and refrigeration sectors and in the replacement of methyl bromide as a fumigant in the agricultural sector.

The **World Bank's** Montreal Protocol Programme has been active for 11 years. The bank is actively participating in phase-out and technology transfer in African countries. From its own funds, the bank has contributed more than US\$ 7million in investment projects across the



continent. It is also taking a key role in the development of long term strategic plans for ODS phase-out and the facilitating of regional co-operation and coordination.

**Bilateral Partners:** Technology transfer in Africa and ODS phase out activities are made possible by the following countries that offer their bilateral assistance to Africa: Germany, Canada, Netherlands, France, Switzerland, Denmark, Finland, Australia, Japan and South Africa. A helping hand from these countries supplements activities by UNEP's Regional Office for Africa (ROA) in supporting National Ozone Units (NOUs), operationalizing Refrigerant Management Plans, Recovery and Recycling Projects, Data and Reporting and Compliance with the Montreal Protocol.

Africa's achievements could not have been possible without the valuable resources and assistance of a number of international partners. The financial capacity of many African nations to meet these obligations



has been especially limited. In response, the Multilateral Fund under the Protocol has been highly effective in providing much needed resources. Since the Fund was established, Africa has received more than 171 million US dollars. In terms of financing for enabling activities such as institutional strengthening projects and training, Africa received 32% of the global financing from the Fund. The following three tables depict the projects funded by the Fund:

Investment Projects:

Sector/Activity	Total Funds (US\$)	Number
Refrigeration	49,389,916	100
Foam	34,958,853	145
Aerosol	10,072,786	29
Fumigant	19,310,949	24
Solvent	3,457,869	15
<b>Total</b>	<b>117,190,373</b>	<b>313</b>

Non-Investment Projects

Sector/Activity	Total Funds (US\$)	Number
Institutional		
Strengthening	16,782,025	194
Country		
Programmes	2,957,332	50
Demonstration	3,575,799	13
Project		
Preparation	8,545,481	313
Technical		
Assistance	17,843,577	174
Training	4,466,434	82
<b>Total</b>	<b>54,170,648</b>	<b>826</b>

53 African Countries have received support from the Multilateral Fund since 1991, which has enabled their governments to establish their National Ozone Units enact and enforce the necessary laws and policies, sensitize and train stakeholders in ODS consuming sectors and the general public, and eliminate ODS uses in industry, agriculture and the servicing sector. In total, through the Fund, Africa has implemented 1139 projects valued at US\$ 171,361,021

# Ozone-Friendly Products and Processes

Item	Then	Now
Computers	Solvents containing CFCs and methyl chloroform were used to clean circuit boards during their production	Some companies have eliminated the need to clean circuit boards during their production. Others use water or have temporarily switched to HCFC's
Air Conditioners	CFCs were used as the coolant in household air conditioners	HCFCs and HFCs are among the alternatives replacing CFCs
Polystyrene Cups	Some polystyrene cups and foam packing materials were made using CFCs	These products are made with materials that do not deplete the ozone layer
Furniture	Foam-blowing agents containing CFCs were used in furniture making	Water-blown foam is now often used
Aerosol Cans	CFCs were the propellant used in various spray cans	Pumps and alternative propellant using hydrocarbons are being used
Refrigerators	CFCs were used in refrigerator coolants and foam insulation	HCFCs and HCs have replaced CFCs and still other substitutes are on the horizon that will not deplete the ozone layer
Fire Extinguishers	Halons were commonly used in fire extinguishers	Conventional dry chemicals, which don't deplete the ozone layer, and water have largely replaced halons
Car Air Conditioners	CFCs were used as the coolant in automobile air conditioners	HFC have replaced CFCs and new, more climate riendly alternatives are on the horizon
Degreaser	CFCs or methyl chloroform were used in many solvents for degreasing	Water-soluble compounds and hydrocarbon degreasers hat do not deplete the ozone layer are available for many applications <sup>1</sup>

## Key:

HC - Hydrocarbons

CFC - Chlorofluorocarbons

HFC - Hydrofluorocarbons

HCFC – Hydrochlorofluorocarbons

<sup>1</sup> The Montreal Protocol on Substances that Deplete the Ozone Layer, Progress Report 2007, Pg 8

# Technologies Transferred: Good practices replayed



Industries in African countries have been very successful in reducing ODS through the transfer of technologies, particularly in the aerosol, foam, fire extinguishing, refrigeration and metal cleansing sectors.

Numerous technology transfers have been facilitated through investment projects that have been approved by the Multilateral Fund. For example, projects that assisted in eliminating CFCs in refrigeration and air-conditioning applications include the manufacture of commercial refrigeration equipment in engineering and metal work companies in Egypt and the phasing out of CFCs in domestic refrigeration systems in Algeria, Cameroon, Mozambique, Nigeria and Zimbabwe. Other examples include:

**Being ozone friendly means taking individual actions to reduce and eliminate impacts on the stratosphere ozone layer caused by the products that we buy and the appliances and equipments used in the household, among others.**

*Momodou B. Sarr, Executive Director, National Environment Agency, Gambia. November 2005*

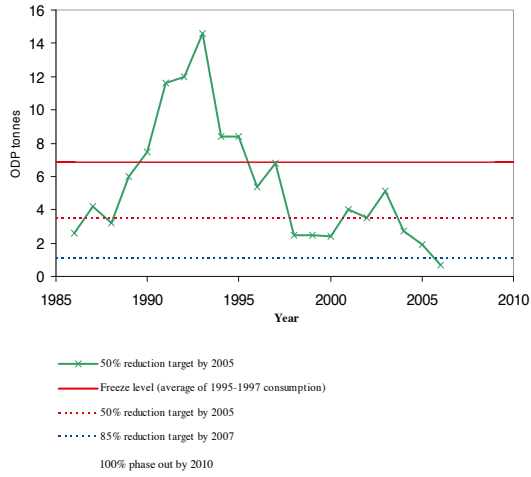
- Gambia: Conversion of a block foaming machine to eliminate consumption of CFCs at the Karan Foam Manufacturing Limited plant outside Banjul in 1998-phasing out the entire foam sector consumption of CFCs in the country (11 tonnes of CFC-11).
- Cote D'Ivoire: Projects geared to phasing out of ODS at a foam producing plant and at two aerosol filling plants, completed in 1996, resulted in the phase out of 139 ODP tonnes.
- Morocco: Phase out of 13 ODP tonnes of CFCs in the manufacture of integral skin foam and moulded PUF at Maghreb Elastoplast. The project was completed in September 1998.
- Senegal: Establishment of a nationwide network for the recovery and recycling of refrigerants has phased out 36 tonnes of CFC-12.
- Sudan: Project to phase out CFCs at Sudanese Cosmetics and Household Products Limited, begun in November 1995, resulted in the phase out of 281 ODP tonnes.

The following graphs show the country trend analysis in production and consumption of CFCs



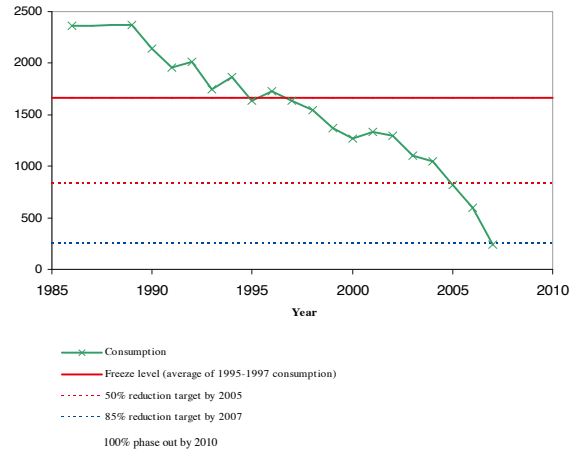
## Botswana

**Trends Analysis in Production and Consumption of CFCs - Annex A Group I**



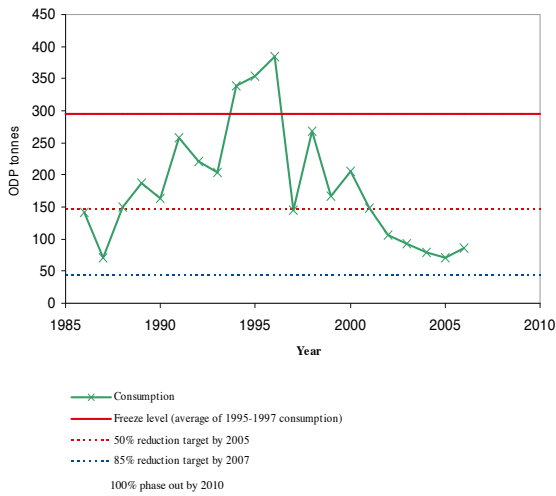
## Egypt

**Trends Analysis in Production and Consumption of CFCs - Annex A Group I**



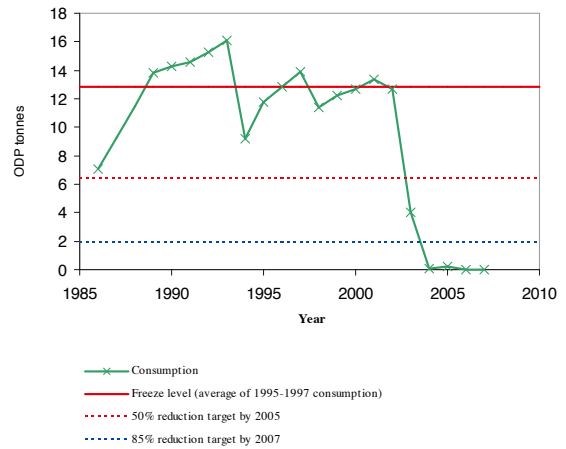
## Cote d'Ivoire

**Trends Analysis in Production and Consumption of CFCs - Annex A Group I**



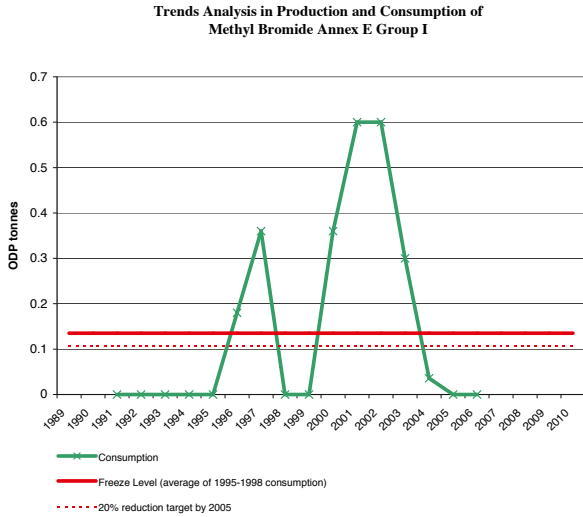
## Uganda

**Trends Analysis in Production and Consumption of CFCs - Annex A Group I**

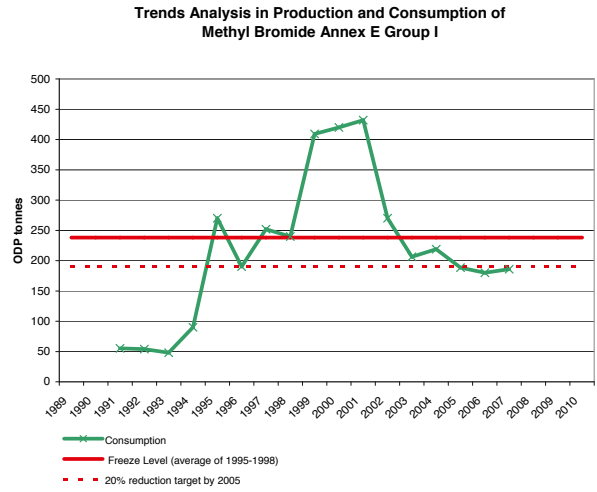


The following graphs show the country trend analysis in production and consumption of Methyl Bromide

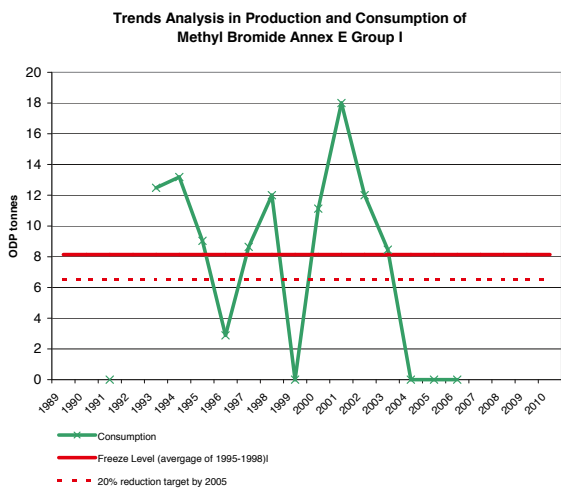
### Botswana



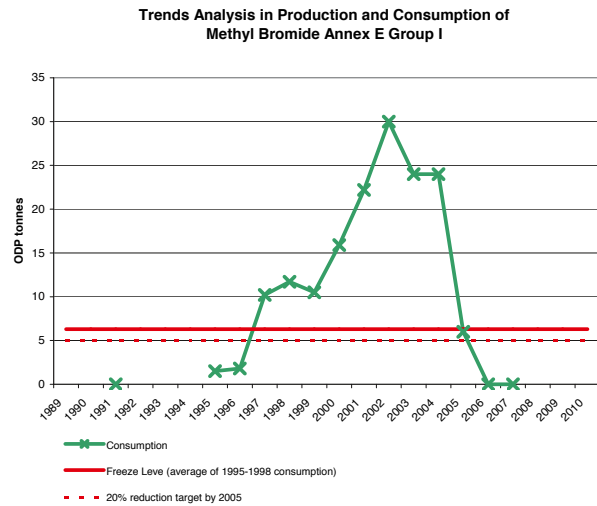
### Egypt



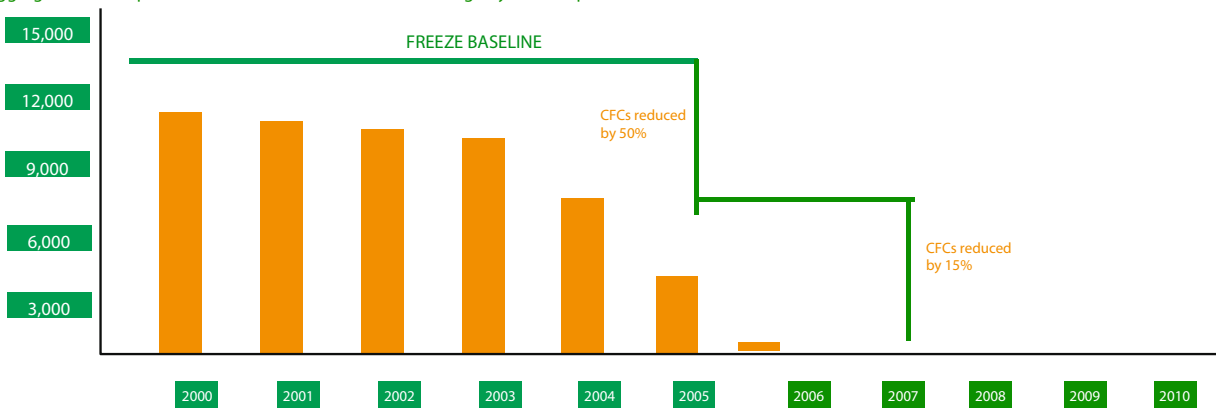
### Cote d'Ivoire



### Uganda



### Aggregate Consumption of CFCs in ODP Tonnes-Africa moving beyond compliance



# Empowering and Enabling: Regional Co-operation



16

Cooperation and the sharing of experiences through regional networks, training and partnerships-within Africa and between the continent and abroad-is invaluable in improving and facilitating Africa's achievements with the Protocol.

UNEP's OzonAction Programme created a main networking forum of national ODS offices (ODSONET). Conducted at the regional level and supported by UNEP's Regional Office for Africa (ROA), Africa's two sub-networks, for French-speaking and English-speaking Africa-each have 26 member countries. With regular meetings, each conducted in different countries throughout

The African countries have, proportionally, one of the best records in ratifying the Protocol and its amendments, and have shown strong commitment to its implementation.

*Hon Fidele Hein, Minister of Environment, Burkina Faso., January 2001*

the region since 1995, ODSONETs have been key tools for reviewing the status of the implementation of the Protocol in each country, sub-region and region. They have also facilitated the development of NOU skills and technology transfer.

Cooperation has also been highly visible through training and workshops. Therefore, most international assistance to African countries has been for non-investment institutional strengthening and capacity building. (Picture Gallery of UNEP's Ozone CAP team working with National Ozone Units)



# African Network for Environmental Journalists (ANEJ)



*Certified technicians after four days of refrigeration training in Madagascar*



*Demonstration on refrigerant recovery in Cape Verde*



*Final step of hydrocarbon retrofitting*



*Final step of hydrocarbon retrofitting*

In the context of UNEP's mission to provide and encourage access to environmental information and to consolidate the experience of journalists in Africa, UNEP's Regional Office for Africa and the OzoneAction team facilitated the establishment of the African Network of Environmental Journalists (ANEJ) with the view to build partnership and a strategic alliance with the media, through good reporting on critical and emerging environmental issues in Africa including the Ozone Layer Protection. The African Network for Environmental Journalists is a professional body for journalists and communication practitioners who share the vision of an informed African society through excellence in environmental journalism. The adoption of the Cotonou Declaration, on 11 September 2008, marks a renewed and strengthened alliance and partnership between the media and stakeholders in the implementation of the Montreal Protocol in Africa.

Website: [www.anej-media.org](http://www.anej-media.org)



*Journalists from the West and Central African Region attending the Ozone workshop in Cotonou, Benin, 2008.*



*Journalists in keen discussions with National Ozone Officer during the workshop.*

# National Actions: Think Global, Act Local



Over the past decade, developed countries have made substantial and impressive financial contributions to support ODS phase out in developing countries, which has undoubtedly contributed to the success of the Montreal Protocol. However, like good runners, we cannot afford to slow down and admire our achievements until we get to the finish line.

*Eng. D.B. Usman, Permanent Secretary, Federal Ministry of the Environment, Nigeria. April 2002*

## Country Programmes

The Country Programme is the blueprint for Article 5 countries. It contains the national strategy for the phase out of ODS and is the mechanism for obtaining further Multilateral Fund support. Usually prepared with the assistance of one of the implementing agencies, it provides details on the use of controlled substances, the institutional framework for controlling them, relevant industry and government involvement, an action plan with time frames and budgets and a listing of specific projects requiring funding.

The first Country Programmes in Africa were completed and approved by Zambia and Ghana in 1992. Country Programmes and refrigerant management plans for recently joined parties such as Liberia are being prepared.

## National Ozone Units (NOUs)

The NOU is the government unit responsible for managing the national ODS strategy as defined in the Country Programme. Implementing the plan by which a nation's ODS commitments are met, the NOU is responsible for fulfilling a country's data reporting obligations under the Montreal Protocol and monitoring progress.

An NOU officer's activities include:

- The daily administration of the national effort to phase out ODS;
- Coordination of overall implementation of the institutional strengthening (IS) project;

- Preparation of policies and legislation for implementation of the Protocol;
- Promotion of cooperation between industry and government;
- Monitoring the consumption of ODS; and
- Conducting public awareness campaigns on ODS.

For example, the Egyptian NOU, founded in 1993, led to the establishment of import/export monitoring system in collaboration with Customs and Excise Department and the enforcement of legislative measures to control all ODS.

The National Ozone Units have been the backbone with regards to the success of the Montreal Protocol in Africa. Their technical personnel and coordinated activities in each country have raised the awareness of ozone depleting substances thus underscoring the much needed impact and necessary and immediate legislative actions by governments.



# Every Action Counts

20



**'Why, why my friends should we use machines that emit ozone depleting substances and contribute to global warming? Tell me, tell me my friends. Let us move away from ozone depleting substances. Let us join hands to solve the problem. To solve the problem once and for all.'**

*Extract of poem by Charles M. Magoma. Recited by children from the Thika Road Academy Primary School, Kenya*



Many citizens throughout the African continent were aware that there was a serious problem in the sky—that there were increasing dangers of too much exposure to the sun’s radiation. Many even knew that one protective layer of the sky, our precious ozone layer, now had a “hole” in it. But many did not know why, or what they as individuals could do about it.

*In Ethiopia, a refrigeration technician received a 1999 calendar about the ozone layer in his local language, published by the Ethiopian NOU, while in the Central African country of Burkina Faso, a video about the problems with the ozone layer and the Montreal Protocol entitled Every Action Counts was shown to students and teachers at the national university and centre of Primary Teacher Training. Local industrialists in Burundi learnt more about their government’s efforts to cut CFCs through a local news bulletin.*

These activities were only three of the many carried out throughout the African continent. Each one successfully



*Certified technicians in refrigeration after training on recovery and recycling in Cape Verde*

increased awareness about issues and projects related to the ozone layer among local citizens and stakeholders. Perhaps even more than that, they helped people to become more motivated and confident that individual and local actions, no matter how small, did count.

From publications and newsletters, to directories and promotional T-shirts, all helped to increase awareness among populations, often in a creative way tailored to the specific needs of individuals and cultures. Celebrations and events also served as ideal opportunities to spread the message to citizens and stakeholders.

Knowing that the next generation will lead the struggle to save the precious ozone layer, numerous African countries also began educating their children through enjoyable and creative approaches. From Algeria to Zimbabwe, awareness raising activities have helped each person believe that they can help save the sky, no matter who and where they may be, for the sake of everyone and the planet.



*Retrofitting of a R-12 refrigerator to hydrocarbon in Burkina Faso*

# Maintain Momentum



22

By phasing out CFCs -- once common in products such as refrigerators -- and now deciding to accelerate a freeze and phase-out of HCFCs, the treaty has provided two benefits at once. I hope Governments will look at such results and feel empowered to act across a wide range of environmental challenges, and not only in prosperous times. Such action should include exploring more fully the natural synergies that can occur among our various multilateral environmental agreements.

*Ban Ki-moon, Secretary-General of the United Nations.*

The countries of Africa have together exceeded all expectations in their commitment to help preserve and protect the ozone layer. They have ratified the Montreal Protocol and its amendments and are complying with the Protocol's targets. They have also created new laws, policies, plans and institutions to guide implementation, and they have brought together groups to exchange and use new ideas and to cooperate in their joint actions.

They have efficiently used internationally available resources to transfer non-ODS technologies to their industrial practices. And they have made their populations more aware of the issues, and more confident to support change. Along with these Patterns of Achievement, however, are the stepping stones towards more achievements for the countries in Africa. They include:

- Dealing with illegal trade of ODS-As the continuing phase-out of ODS further constrains their supply, the temptation to make money through illegal trade in such substances increases; thanks to the Green Customs Initiative;
- Ensuring control of new chemicals-The same worthy cause of African countries that inspired the development of alternatives to ODS may spark the invention of new substances with ozone depleting properties. African countries must be vigilante in the testing of new chemicals, lest new ozone depleters gain a foothold in the marketplace;
- Funding-To date, most African countries have relied upon funding from the Protocol's Multilateral Fund to support their phase-out efforts and continued assistance from the fund in the years up to and after 2010 will be important to ensure compliance;
- Awareness Campaigns; Information outreach is fundamental in ensuring the remaining phase out plans for the ODS, are able to reach all corners of the continent;
- Finding alternatives for remaining halon uses-While halons have been virtually phased out in Africa, some key uses (such as in airplanes and certain military applications) continue to rely on stockpiles of halons to meet continuing needs. Countries in Africa have to find alternatives;
- CFC disposal-the safe disposal of surplus and contaminated CFCs needs urgent attention with the success of recovery and recycling schemes. African countries need an environmentally safe and affordable means to deal with surplus ODS recovered from equipment
- Phase out in the informal sector-Enterprises in Africa's large informal sector are significant consumers of ODS but are often unaware of the ozone

problem-getting the message to them and getting them to phase out are the stepping stones towards more achievements;

- Phasing out methyl bromide-Methyl bromide use in the agricultural sector is increasing in some African countries. Further assistance should be provided for awareness raising and promoting effective alternatives.

Nonetheless, by continuing to strengthen and improve internal networks and cooperation within the region, the achievements of the more progressive African countries can be used to leverage more achievements among the weaker. Given the commitment made by Africa to date, we can be confident that, with continued assistance and understanding, these stepping stones today will become more Patterns of Achievement tomorrow.

## Climate Change and the Montreal Protocol

The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer formally recognised the significant threat of ozone-depleting substances to the ozone layer and provided a mechanism to reduce and phase out the global production and use of these compounds. This ozone protocol represents a landmark in the successful reduction of global production, use and emissions of ozone-depleting substances. According to research the ozone layer is now starting to recover.

The Montreal Protocol has helped both to reduce global warming, and to protect the ozone layer Ozone depleting substances are also Greenhouse Gases (GHG) with their ODP of 3000 to 7000 time more than CO<sub>2</sub>. Research also reveals that the contribution of the ozone-depleting substances to radioactive forcing would most likely have been much larger if the link of these substances to stratospheric ozone depletion had not been recognised in 1974 and followed by a series of regulations. Without the reductions achieved under the multilateral environmental agreement, the amount of heat trapped due to ozone-depleting substances would be about twice as high as present levels. The savings in trapped heat are equivalent to the current increase, built up during about 10 years of growth in carbon dioxide concentrations. The climate protection already achieved by the Montreal Protocol alone is far larger than the reduction target set for the first commitment period of the Kyoto Protocol. On the other hand, the effects of the Montreal



Protocol on climate will become smaller in the future since the ozone-depleting gases are being phased out.

Additional climate benefits of significance could be achieved by new actions under the Montreal Protocol. These actions include destroying unwanted CFCs

present in existing applications (refrigerators, foams), limiting the production of not fully halogenated fluorocarbons (HCFCs), and/or implementing alternative gases with lower global warming potentials as well as improving energy efficiency of compliance that will use HCFC alternatives..



**Save Our Sky: There is a Hole Lot More to Do for Our Children. Salvemos nuestro cielo: hagámoslo por los niños. Sauvons notre ciel pour nos enfants : il faut faire beaucoup plus pour combler le trou de la couche d'ozone.**

*Theme for International Ozone Day 2003, UNEP*





**For more information on the OzonAction  
Programme in Africa, please contact;**

Jeremy Bazye  
Regional Network Coordinator  
ODSONET/AF  
UNEP Regional Office for Africa  
P.O Box 30552, Nairobi 00100, Kenya  
Tel: (+254 20) 7624281  
Fax: (+254 20) 7623165  
Email: [Jeremy.Bazye@unep.org](mailto:Jeremy.Bazye@unep.org)  
Website: [www.unep.org/roa](http://www.unep.org/roa)

**[www.unep.org](http://www.unep.org)**

United Nations Environment Programme  
P.O. Box 30552, Nairobi 00100, Kenya  
Tel: +254-(0)20-762 1234  
Fax: +254-(0)20-762 3927  
Email: [unep@unep.org](mailto:unep@unep.org)  
web: [www.unep.org](http://www.unep.org)

