

Comoros report

I. GENERAL INFORMATION

1. Country presentation

The Union of Comoros is constituted of an archipelago of four islands: Grand Comoro (Ngazidja: 1148 sq), Anjouan (Ndzuani: 374 sq), Moheli (Mwali: 290 sq) and Mayotte (Maore: 424 sq); the four islands, situated in the Mozambique Channel half way of Madagascar and the African coast, cover a surface of 2236 km². Mayotte is always under French administration in spite of the independence of Comoros in 1975. The relief is damaged and volcanic and the soil and basement are deprived of the mining and energizing resources, but have a lot of agricultural potentialities

The tropical climate but moderate at a time by the altitude and by the oceanic influence is characterized by two seasons: hot and humid season marked by strong rains and violent winds (kashikasi) and a dry and cool season characterized by winds (kussi) with temperatures oscillating between 24 and 30° CS, from where the utility and the consumption of the cold air-conditioning, refrigeration, congelment, cold house etc...)

This document is only about the three independent islands which form the Union of the Comoros

The general census on the population and housing (RGPH) conducted in 2003 indicated 576 000 inhabitants with a growth rate of 2,1% and an average density of 309 inhabitants per sq, which varies significantly depending on the island ; 72,0% of the population lives in rural areas while 28,0% lives in urban areas. The population is mainly concentrated on the coastal zone (65%). So the environment undergoes a set of aggressions because of the ignorance of the population or simply for the despair of survival.

The Growth and Poverty Reduction Strategy Paper (GPRSP) adopted in 2005 constitutes the global framework for the economic development of the country. This document gives a core priority to the promotion of agricultural development, which is identified as an engine for economic growth

The government has already produced a report on the Millennium Development Goals which reinforces the actions of the GPRSP in the agricultural sector through the reduction by half, between 1990 and 2015, of those in the population suffering from hunger and the reversal of the current trend of loss of environmental resources.

2. Institutional and legal setting

a) Institutional

The Comoros ozone office (BOC), create within the National Direction of Environment in the Ministry of Agriculture, Fishing and Environment (MAPE), has for mission to assure the coordination and to impulse the whole national politics for the protection of the layer ozone. People resources are affected there for the daily management of the program.

A Committee Ozone implying all concerned actors should be put in place to reinforce the efficiency of the Comoros Ozone Office.

b) legal

Since 1993, Comoros are endowed with a National Politics of the environment:

- The setting law relative n° 94-018 to the environment stipulates in its article 38b: " a structural decree carrying the measures to limit and to reduce the import, the production, the consumption and the exploitation of the substances likely to destroy the ozone layer and to encourage the recourse to substances and techniques of substitution,
- The law n° 94-011 allows the President of Republic to ratify the Convention of Vienna, the Protocol of Montreal and its amendments

Comoros, like the international community anxious to preserve a healthy environment for the present and future generations, adhered to the dynamics to sit an international legal setting in ratifying:

in 1994,

- The Vienna convention,
- The Montreal Protocol,
- The London Amendment;

and in 2002,

- The Copenhagen Amendment,
- The Montreal Amendment,
- The Beijing Amendment.

3. Sector using HCFC

The refrigeration sector in the Comoros is mainly composed of home and industrial refrigeration and air-conditioning as well as commercial refrigeration.

All these sub-sectors mainly use HCFC and most of them depend on repair and servicing workshops the owners of which are privileged partners in the process of eliminating ozone depleting substances.

These actors constitute the main targets for sensitisation and training with a view to implementing the measures for the elimination of ODS

4. Targeted regulated substances

The conclusions of the national surveys on the consumption of HCFC as illustrated in the chart below in the sub-sectors relating to the use and the corresponding equipment stock shows the exclusivity of R22 in the maintenance sector

Chart 1: National refrigerating equipment stock using HCFC 22

Installation	Air-conditionners						Cool house	Water cooler	Ice making
	9000 BTU	12 000 BTU	18 000 BTU	24000 BTU	48000 BTU	Central airconditioning			
<i>Total</i>	3330	8650	8390	1480	153	4	55	110	20

5. Released project for the elimination of HCFC

In the setting of the implementation of the Montreal Protocol, Comoros benefited from a technical and financial support characterized by a set of projects for the Protection of the ozone layer. This set of projects that aim like objective, the elimination of the Substances Impoverishing the ozone layer (SAO) before 2010, present himself as follows

a) Projects objectives

- Preparation of the program country: to achieve a diagnosis of the consumption of the ODS and to project measures appropriated for a rational management of these substances,
- Institutional capacity-building program : to reinforce the national institutional capacities in order to protect the destruction of the ozone layer by through the gradual elimination of ODS and by the promotion of substitution products,
- Management Plan of refrigerants (PGFF): to plan and to manage in a digressive manner the existing harmful refrigerants into the country for their definitive elimination by 2010,
- Regional methyl bromide project: setting up of a national strategy for the prevention of the introduction and the popularisation of the uses of the methyl bromide,
- CFC Terminal Phase out Management Plan (TPMP): realization of an assessment of the actions led in the centres of the PGFF and the level of perennisation of the innovations dispensed in order to elaborate a proposition of project guaranteeing the final elimination of the refrigerants by 2010.

b) Impact of the different projects

The set of projects and programmes is the result of Comoros' membership the Montreal Protocol. The achieved activities have contributed to institutional capacity-building, to the improvement of the know-how of the concerned actors and their logistic means, an awareness of a large part of the population on the ozone issue as well as an understanding and an effective involvement of political authorities

Thus, the impact of the achieved projects can be translated today through:

- An awareness of the population and the actors (customs officers and refrigeration engineers) of the stakes related to the destruction of the ozone ;
- An awareness of the authorities and an integration of the ozone issue in the national environmental policy ;
- A control by refrigeration engineers of techniques on the manipulation of prohibited gases and the use of alternative gases;
- A control by the customs officers of the techniques for the control of ODS;
- Availability of appropriate equipment and tools to the different types of gases (old and new)
- An operationalisation of the Comoros ozone office and recognition at international level;
- The establishment of an operational consultation framework between the institutions and national partners (administrations, associations of refrigeration engineers and customs officers, technical training schools and media...);
- The establishment of an operational regulatory framework accepted by all ;
- Country's compliance with the requirements of the Montreal Protocol in 2010 (total elimination of CFC) ;
- The launch of a national system to secure future respect for the commitments related to the ongoing process of eliminating HCFC.

Chart 2 : Consumption of CFCs

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CFC-12	3.6	2.5	2.7	1.9	1.8	1.2	1.1	0.9	0.8	0.3	0.0	0.0	

Chart 3: Evolution of HCFC consumption

<i>Year</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
HCFC consumption	1,83	2,60	3,20	2,50

This period coincided with the reconversion of CFC equipment into HCFC equipment

6. Lessons learn from ODS phase-out

All the mechanisms put in place in the process for the elimination of CFC and the collaboration established between the Ozone bureau and its national and international partners have proven to be efficient, and this efficiency has enabled the actors to better understand the ozone issue, a participative adoption and an acceptance of the strategy on the elimination of ODS. This has led to the compliance of the country prior to the fixed date. This strategy which has proven to be successful deserves to be capitalised through its integration in the projects that are being prepared and particularly HMEP

II. The Hydrofluorocarbons management and elimination plan (HMEP)

The Union of the Comoros is a party to the Montreal Protocol. As such, it must, in accordance with the decision XIX/6 adopted during the 19th COP and with the article 5, put in place the appropriate regulatory framework and take the necessary measures for the rational management of the import and use of HCFC as well as the equipment containing these substances

The goal of the HCFC management and elimination plan (HMEP) is to realize HCFC reduction targets until their total elimination in accordance with the calendar set by decision XIX/6:

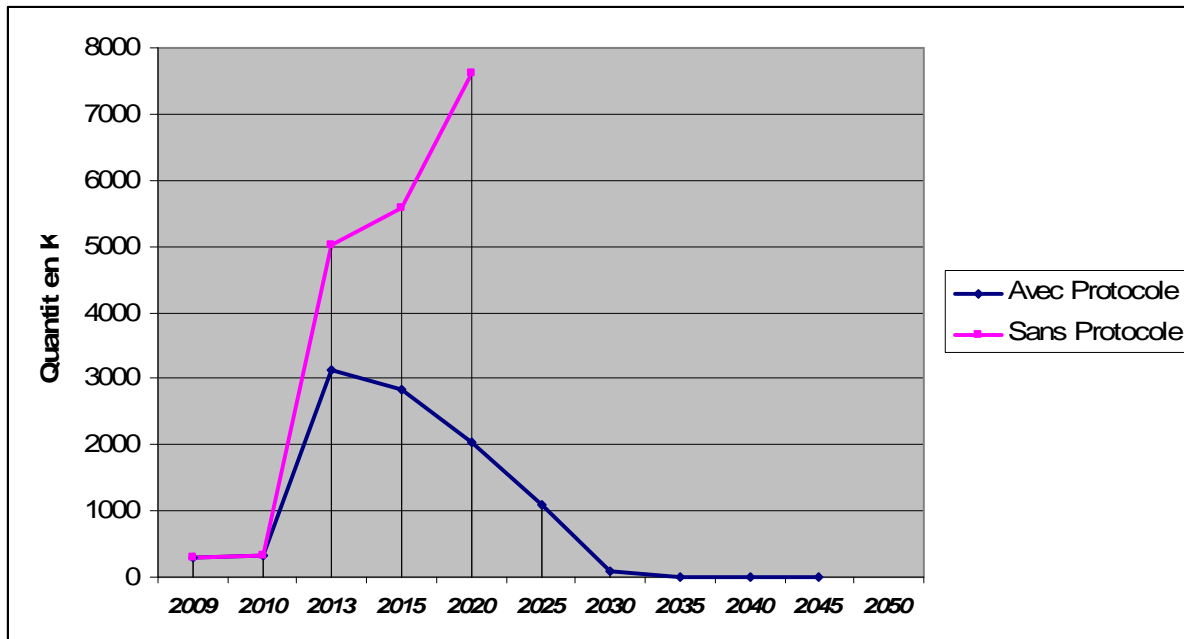
- Freezing from 2013 of the HCFC quantity followed by a 15% reduction in 2015.
- Gradual reduction of HCFC in relation to the 2013 value, then total elimination between 2016 and 2030.

The overall objective of the management plan is the gradual elimination of HCFC by 2030, in liaison with the national development strategies. The Comoros must continue to speed up the elimination of HCFC by managing the import and use of these gas and equipment containing them while respecting the conventional dates of 2015, 2020, 2025 and 2030 provided for by decision XIX/6

Chart 4: HCFC consumption predictions without and with the Montreal protocol:

PHASE	PHASE 1											
YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PREDICTIONS WITHOUT MP	2,5	2,85			5,00		5,60					7,7
PREDICTIONS WITH MP	2,5	2,85			3,15		2,98					2,04
PHASE	PHASE 2											
YEAR	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
PREDICTIONS WITHOUT MP												
PREDICTIONS WITH MP					1,09					0,078		

Graph 1: Estimated evolution of HCFC consumption from 2009 to 2040, With protocol and without protocol



HCFC consumption prediction keeps on increasing if the protocol on the gradual elimination of HCFC is not applied as indicated in graph 8. Very high levels of consumption would be reached by 2050 unlike the recommendations from the HCFC elimination protocol

III. ACTIVITES ON THE OBSERVATION AND RESEARCH IN OZONE

In spite of the weakness of the industry of cold in Comoros, research constitutes an essential link for the accompaniment of the program Ozone in Comoros. Important efforts were expanded for the reduction of the consumption of the SAO and the meaningful results have been gotten. These efforts deserve to be sustained by the setting up of an Unit of observation and research on the ozone, having to act as basis of orientation in the setting in implementation of the program ozone in Comoros.

In the worry of making operational the unit of observation and Research in ozone, there is place therefore to associate the local appraisal in the activities of research at the international level and to sustain our country for:

- identification or the implantation of a station of control of the air pollution in order to determine the main pollutants,
- the equipment of the aforesaid station in instruments for the measures (UV-B),
- the backing of the capacities of the settings implied in the activities of observation and research,
- the storage of the data coming from various sources of observation.

CONCLUSION

Our country participates in best of its means to the world effort of setting in implementation of the global arrangements on the protection of the ozone layer on the political, and legal plan. The technical and material plan merit being reinforced and sustained financially.