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Implementation of the Montreal Protocol

Seventeenth Meeting
Montreal, 26-28 July 1995

COUNTRY PROGRAMME: DOMINICAN REPUBLIC

This document consists of:

- Transmittal Letter From the Government of The Dominican Republic
- Country Programme Cover Sheet
- Country Programme Executive Summary



REPÚBLICA DOMINICANA

SECRETARIA DE ESTADO DE AGRICULTURA

Santo Domingo D.N.
8 de Junio 1995

Sr. Rajendra Shende
Programa de Industria y Ambiente
Programa de las Naciones Unidas para
el Medio Ambiente.
Paris, Francia.

UNEP	
Rec'd	14 JUN 1995
Registry N°	1119
To	AMS

Estimado Señor Shende:

Muy cortesmente me dirijo a usted para enviarle la copia oficial del Programa de País sobre la Reducción de Sustancias que Agotan la Capa de ozono de la República Dominicana. Este documento debe ser remitido al Secretariado Ejecutivo del Fondo Multilateral del Protocolo de Montreal antes del 13 de Junio del corriente, a fin de que sea conocido y aprobado para financiamiento en la próxima reunión del Comité a mediado de Julio/95.

Queremos adelantar la solicitud de financiamiento de los proyectos institucionales, muy especialmente el de Fortalecimiento Institucional ya que esta medida nos permitiría adelantar el desarrollo de los proyectos del sector industrial. Es bueno informarle que ya nos encontramos trabajando en la elaboración de tres proyectos industriales; uno en aire acondicionado para vehículos y otro en refrigeración comercial, con la ayuda de US/EPA. Los perfiles de ambos proyectos serán enviados a su oficina en los próximos días.

Muy atentamente


Luis Toral Cordova
Secretario de Estado de Agricultura

2/2

COUNTRY PROGRAMME COVER SHEET

Country: Dominican Republic

Lead National Agency: Subsecretaria de Estado de Recursos Naturales

Lead Implementing Agency: UNEP IE

Period covered by Country Programme: 1995-1997

1. Phase Out Schedule

Substance	Current Consumption (Tonnes x ODP) in 1993	Planned total consumption till phase-out (Tonnes x ODP)*	Planned year of Phase out
CFC-11	69.26	1500	2010
CFC-12	204.95	4500	2010
CFC-113	-	-	-
CFC-114	-	-	-
CFC-115	-	-	-
Halon 1211	2.79	40	2010
MC	1.35	50	2015
Total	278.35	6090	

* Figures have been rounded

2. Government Action Plan

Year	Description	Specific Sector	Objectives	COST US\$
1995 1996 1997	Ozone Friend seal of approval programme	Aerosols Refrigeration Air conditioning	Development of standard certification levels for products that do not use ODS.	38,000
1995 1996	Programme for standards and legislation	All industrial process	To achieve a consistent body of standards and legislation to regulate the use of ODS.	12,000
1995 1996 1997	Government Commission for the Ozone (COGO)	All	To coordinate the implementation and control of the various programmes. To encourage the consumption of products made without the use of ODS and to make aware of the dangers of the ODS.	143,000

3. INDUSTRIAL AREA PROJECTS. (only indicative)

SHORT TERM CATEGORY (1995- 1997)	ACTIVITY DESCRIPTION	ODS PHASEOUT IN METRIC TONS AND %	TOTAL US\$ PROJECT VALUE	YEAR
Flexible Foams	CFC Phaseout and substitution	9 MT(15.6%)	22,000	1995 1996
Rigid Foams	Technical assistance Seminar	15 T.M (26%)	14,000	1995 1996 1997
Aerosols	Reinforce substitution	1 T.M(1.7%)	16,000	1995 1996
Extinguishers	Training for recharging and overhauling	1 MT(1.7%)	5,000	1995
Refrigeration maintenance	Training for recharging and overhauling	15 MT(26%)	76,000	1995 1996 1997
Industrial and commercial refrigeration Industrial y Commercial	Training Alternative techniques	10 MT(17%)	22,000	1995 1996
Air conditioning and Refrigerant	Pre-investment Study		9,000	1995 1996
Solvents	Training		22,000	1995 1996
Estimated Totals		57.7 MT(20%)	186,000	

4. Potential phase-out investment projects

COMPANY	Activity	Consumption (metric tonnes)	Estimated incremental cost based on cost-effectiveness thresholds adopted at 16th ExCom (US\$)
Neveras Dominicanas	Equipment manufacturing in refrigeration (chillers, fridge, water fountains) and in air conditioning (window type and industrial/commercial air conditioning).	30.34	461,470
Fabrica de Refrigeradores Comerciales	Production of large refrigerators and bottle coolers.	6.05	92,020
Central de Refrigeracion	Manufacturing of air conditioners, and servicing	87.00	1,197,120
Carrier/Climatec	Producer of industrial air conditioners, window units and air conditioners for cold storage transport (trucks).	0.038	550
Consertec	Manufacturing of window air conditioners	0.68	9,360
Dimesa	Manufacturing of window air conditioners	2.19	30,130
Metal/Gas	Producer of window and industrial air conditioners	1.14	17,340
Prodesa	Manufacturing of window air conditioners	1.8	24,770
Espuma del Caribe	Production of foams for mattresses and furniture.	10.00	95,300
Gomas Y Plasticos	Large variety of foam production.	4.7	44,790

Note: Prioritization of projects will be carried out once the Institutional Strengthening Project is operational

DOMINICAN REPUBLIC

IMPLEMENTATION OF THE MONTREAL PROTOCOL

**NATIONAL PROGRAMME FOR THE PHASE-OUT OF THE
OZONE DEPLETING SUBSTANCES**

DEPARTMENT OF THE UNDERSECRETARY OF STATE FOR NATURAL RESOURCES

DEPARTMENT OF THE SECRETARY OF STATE FOR AGRICULTURE

**Santo Domingo D.N.
26 June, 1995**

EXECUTIVE SUMMARY

The **Dominican Republic** is a Party to the Montreal Protocol and as such it is a State member eligible to the support of the Multilateral Fund for the Application of the Montreal Protocol, operating under paragraph 1 of its Article 5.

This document substantiates the request of US \$ 193,000 to finance the startup period of the Programme (1995 - 1997). A separate request is being submitted for a mobile air conditioning project, as well as an application for the financing of the preparation of a refrigeration project (only indicative). It is expected that a 20% reduction of the ozone depleting substances (ODS) will be achieved as a result of the implementation of this part of the Programme. The reduction is equivalent to approximately to 57.7 MT.

The Government of the Dominican Republic holds its economic development policies with the participation of the private enterprise and the public institutions.

In keeping with the guidelines from the Executive Committee for the preparation of the Country Programme, the consumption of controlled substances in the Dominican Republic is described, as well as the best estimates on their use and the programme proposed to phase out the consumption, in line with the undertaken Protocol commitments.

The year 1992 has been established as the baseline year, at which time the Dominican Republic consumed **288.56 MT** of controlled substances, equivalent to **278.35 MT** of ODP.

Without the Montreal Protocol and considering a growth rate of 4% p.a., a projection of 567 MT of consumption to the year 2010 has been determined.

Upon the overall 1992 consumption a **24.88 %** is CFC-11, **73.64 %** CFC-12, Halons **1.00 %**, and **0.48 %** for the Annex B controlled substances of the Protocol. The Dominican Republic does not produce any of the substances listed in Annex A of the Montreal Protocol, so that its consumption requirements correspond to its import amounts.

The Dominican Republic has opted for a Programme whereby Government actions can influence the market supply and demand for goods and it looks forward to implement a system based on import quotas, as well as the development of activities for the recovery and recycling of the controlled substances.

There are actions aimed at influencing the consumer behavior (Public awareness, Ozone Seal, etc.) on the one hand and to stimulate, on the other hand, a phaseout of the use of ozone depleting substances, through their supply (technical and financial assistance).

That is to say, that the Nation and the Government will encourage the initiatives from the private sector to implement the Montreal Protocol, instead of leaving the management, organization and control in the hands of a substantive state agency for ozone. The nature of the role for the Government Commission for the Ozone (COGO) is designed in this context.

Consistent with its economic policies, the present Government has considered:

- Establishing import quotas for the ozone depleting substances (ODS), as a manner of discouraging their use, in keeping with a schedule consistent with the reductions in the industrial sector and the country's commitments.
- Developing public awareness programmes relating to the depletion of the ozone layer and the actions of the Dominican Republic Government.
- Training for and transferring new technologies for the achievement of reduced consumption and/or emissions of ODS in the Dominican Republic industrial sector.

It is within this framework that an action plan is proposed consistent with the objectives of the above economic policies. The Government activities which are essential for the action plan are as follows:

- (1) Creation of the Government Commission for the Ozone (COGO);
- (2) Organizing technical programmes for reconversion which are sector specific. Training programmes, recycling;
- (3) Creation of an Ozone Friend seal of approval;
- (4) Implementation of a public awareness programme;
- (5) Implementation of an import quotas and tax system for CFCs;
- (6) Implementation of a set of government regulations on the use and handling of CFCs, at the government level and for the general public;
- (7) Surveys of the existing infrastructure by sector, with the economic values of the incremental costs for the reconversion technologies.

There is a lack of government provisions regarding the importation and consumption of ODS; therefore, it is required that operating rules be developed for the establishment and operation of a system for the anticipated import quotas, controls and statistical reports.

The implementation of an Ozone Certification Seal consists of making available to the consumers the adequate information regarding the final products which are not harmful to the ozone layer, and thereby influencing the demand.

The creation of the Government Commission for the Ozone (COGO) will make possible the coordinating and controlling the arrangements and the proposed action plan. This will promote a wide programme of public awareness with the objective of promoting the consumption of products which are less harmful to the ozone layer or, simply, ozone friendly, letting be known, through the media and other mechanisms, the consequences of the danger for the ozone layer.

The sector specific training programme provides workshops, seminars and information meetings by specific industrial sector, as well as equipment for recovery and recycling.

We thus consider that by influencing the **supply and demand** it will be possible to achieve a reduction of the controlled substances that deplete the ozone layer.

At the request of the Dominican Republic Government, assistance has been received for the preparation of the Country Programme, from the United Nations Environment Programme (UNEP), through Mr. Sergio Oxman and Ms Elena Ferreti, from the Office of the Resident Representative of the United Nations Programme for Development (UNDP) in the Dominican Republic.

The table below presents a summary of the different government actions by sector, as well as the requirements for each of them.

Governmental Actions

Year	Description	Specific Sector	Objectives	COST US\$
1995 1996 1997	Ozone Friend seal of approval programme	Aerosols Refrigeration Air conditioning	Development of standard certification levels for products that do not use ODS.	38,000
1995 1996	Programme for standards and legislation	All industrial process	To achieve a consistent body of standards and legislation to regulate the use of ODS.	12,000
1995 1996 1997	Government Commission for the Ozone (COGO)	All	To coordinate the implementation and control of the various programmes. To encourage the consumption of products made without the use of ODS and to make aware of the dangers of the ODS.	143,000

The success of these programmes entails achieving the objective of a 20% reduction established for the first stage. In addition, the following reductions with respect to the base year consumptions will be pursued: for CFC-11, a 40% reduction by the year 2000 and complete phase-out for year 2005; for CFC-12, a 25% reduction by year 2000, 50% by 2005, 80% by 2007 and complete phase-out by 2010; and for 1,1,1 trichloroethane, 70% reduction by year 2000, and complete phase-out by year 2010. Graphs for this phase-out schedule are included in annex 2. The Government of the Dominican Republic bases its economic development policies on the principles of free market economy and a strong participation of the public institutions.

The main utilization of ODS in the Dominican Republic for the period 1986 to 1992 has been in refrigeration and foams. However, there is no detailed information on the consumption and its applications. The Government has estimated the total consumption and its breakdown on the basis of the collected data.

The Dominican Republic does not manufacture any ODS controlled by the Montreal Protocol.

The usage distribution in 1992 was as follows:

Foams	109 Tons
Refrigeration	146 Tons
Solvents	1 Ton
Air conditioning	29 Tons
Extinguisher	3 Tons

Methylchloroform MCF. Its main use is as a solvent. Imports for those years have followed an irregular pattern: 1986 9.7 Tons; 1987 10.8 Tons; 1988 15.1 Tons; 1989 27.6 Tons; 1990 3.2 Tons y 1991 10.8 Tons.

The collection of data on importation and consumption was carried out by members of the Government Commission for the Ozone (COGO) by means of surveys with users as well as of data provided by the Coordination Committee of the Corporate Sector. The branches of Secretary of State and Under Secretary of State departments do not have available data in this field.

Import figures are reliable to 60 - 70 %, but there have been inherent limitations due the lack or incompleteness of background information to control accuracy regarding the number of automotive vehicles, refrigerators, air conditioning units, etc.

From an institutional point of view, the Dominican Republic has various agencies devoted to environmental matters. The official governing branch on environment and natural resources is the Department of the Secretary of State for Natural Resources, through the Branch of the Under Secretary of State for Natural Resources, created by Act Number 8 of 20 September 1965 (Decree No. 1142 of 28 April 1966). The governing role of the State in connection with the Montreal Protocol falls under the purview of the Department of the Under Secretary of State for Natural Resources, with ample participation of the National Commission for the follow up of the Rio Summit.

Six government actions are the essence of the action plan:

- (1) Establishment of import quotas and taxes, quarterly reviewed by COGO;
- (2) The organization of technical programmes for sector specific reconversion. Training, recycling;
- (3) Implementation of an ozone certification seal;
- (4) Creation of the Government Commission for the Ozone (COGO) and a Consultative Committee with participation from the private sector;

- (5) Implementation of a programme for standards and legislation in the various economic sectors;
- (6) Surveys of the existing infrastructure by sector, with the economic values of the incremental costs for reconversion technologies.

In order to ensure the achievement of this first stage of the Country Programme, as well as to leave open the possibility (according to the research that can be conducted) of requesting the support of the Programme for financing the technological reconversion, it has been considered the need to create a technical institutional structure in order to expedite and de-bureaucratize, as best as possible, the implementation of the projects.

Membership of the Government Commission for the Ozone (COGO) will consist of a team of 3 technical officers with an adequate infrastructure, to be provided by the Multilateral Fund, for carrying out their operations.

A consultative group will be created with the membership of representatives from the private sector, NGOs, Universities and representatives from the Departments of the Secretaries of State for Agriculture and Trade and Industry, as a mechanism of consultation with the various groups involved.

CONTENTS

EXECUTIVE SUMMARY

1. INTRODUCTION

- 1.0 General
- 1.1 Objective
- 1.2 Nature of the Programme
- 1.3 Assistance received

2. CURRENT STATUS

- 2.1 Current and anticipated levels of consumption
 - 2.1.1 Current consumption level
 - 2.1.2 Anticipated consumption level
- 2.2 Industrial structure
 - 2.2.1 Import Companies
 - 2.2.2 Equipment manufacturers
 - 2.2.3 Servicing Companies
 - Distributors
 - Workshops
 - 2.2.4 Utilization
- 2.3 Institutional framework
- 2.4 Policy framework
- 2.5 Response from the Government and industries to the Protocol

3. PHASEOUT IMPLEMENTATION

- 3.1 Statement on Government strategy
- 3.2 Action plan and projects involved
 - 3.2.1 Government action
 - 3.2.2 Institutional projects
 - 3.2.3 Specific projects in the industrial sector
- 3.3 Bodies that will have a role in the implementation of the strategy
- 3.4 Consumption schedules and consequences
- 3.5 Priorities in project financing
- 3.6 Agreement monitoring

ANNEXES

1. Institutional Strengthening project.
2. Graphs of estimated reduction of consumption of CFC-11, CFC-12 and 1,1,1 trichloroethane, from 1995 until 2010.
3. Contact information for each company contacted, available on request from the Ozone Unit or UNEP IE.

1. INTRODUCTION.

1.0 General

The Government of the Dominican Republic has structured a development strategy for the country which embraces, in its essential features, the following aspects:

- (a) Development of the agricultural production
- (b) Industrial development
- (c) Tourism
- (d) Mining operations

The GDP for 1992 represents US \$8,000 million. In real terms, the GDP has had a growth of 7.8% in respect of 1991, whereas in that year the GDP had a -0.5% growth in respect of 1990.

The population of the Dominican Republic, according to figures from the National Planning Office, is 7.3 million, of which 48% are male and 52%, female. Twenty nine per cent (29%) of the population is settled in Santo Domingo, Santiago, La Vega, Barahona, San Francisco de Macorís, San Pedro de Macorís and San Juan de la Maguana.

Urban population is 52% and rural population, 48%. Economically active urban population accounts for 32.2%. Unemployment has been 15% of the EAP in 1991.

According to the last census of population of 1981, 33% of the population above the age of 10 are illiterate.

1.1 Objective

1. The Government of the Dominican Republic has been greatly concerned with the environment problems, not only through the implementation of the internal policies orientated to preserve the environment and the natural resources, but also by adhering to and endorsing the United Nations treaties, conventions and protocols that deal with this issue.
2. The depletion of the ozone layer through the continuous emissions of chlorofluorocarbonated substances does not escape to the above concerns. The signature and ratification of the Vienna Convention and the Montreal Protocol are the actual proof of the Dominican pro-environment stand. **The President of the Republic, Dr. Joaquín Balaguer**, has signed the subscribing to the Vienna Convention and the Montreal Protocol on December 8, 1992 and the Dominican Republic has become a Member State on September 1993.
3. One of the objectives of the Country Programme that is being presented below is to indicate the intent of the Dominican Republic to fulfill the commitments of the Montreal Protocol, the Vienna Convention and the London Amendment on the use of the substances that deplete the ozone layer (ODS).

4. Furthermore, an Action Plan is presented for both the industrial and the trade sectors related with the import, distribution and usage of ODS; the strengthening of the government institutions connected with implementation of the Protocol, as well as the educational and/or scientific organizations related to the transfer of knowledge on a topic which is relatively new within the Dominican environment.
5. The set of projects that are herein described were developed on the basis of a consensus with all sector involved in this issue and in keeping with the guidelines from the Secretariat of the Multilateral Fund for the implementation of the Montreal Protocol. The projects that are identified have been structured so that the requirements of the Fund are met and the follow up by the Dominican Government be readily applicable.
6. The schedule for the activities that the Country will undertake covers the 1995-1997 period, the first stage for the phase out of the consumption of the ODS controlled by the Montreal Protocol. It is anticipated that with the implementation of this Programme an effective reduction of the current consumption of ODS be achieved by the end of this decade.
7. In keeping with the procedures established by the Executive Committee of the Multilateral Fund, the Programme records and presents both the information and the analysis on which the Action Plan developed by the Dominican Republic Country Programme is based.
8. **The annual per capita consumption of the Dominican Republic is 0.038 kg.** As a State member of the Protocol, it meets the requirements for the presentation of the Programme to the Multilateral Fund and for the request for funding, as a developing country that operates under paragraph 1 of Article 5 of the Protocol. The amount of funding required for this Programme has been estimated at US 193,000.00.

1.2 NATURE OF THE PROGRAMME

9. This programme has been prepared under the responsibility of the Department of the Under Secretary of State for Natural Resources, in conjunction with a consultant from UNEP. It has been endorsed by other government units that have some level of involvement in the responsibility for its implementation. The Office of the Permanent Representative of the United Nations Development Programme and the trade and industry sector associated with the import and use of the ODS also participated in the preparation of this Programme.
10. The approximate cost for the development of the Programme amounted to US \$ 8,000, exclusive of the incremental costs of the salaries for the support personnel and the co-ordinator from the Government Commission for the Ozone (COGO).

The fact that there was no previous study on the ozone issue contributed mostly to the above expense.

11. The collection of the data on consumption and usage was handled by the Agronomer **Cecilio Valdez**, Under Secretary for Natural Resources and Engineer **Rafael Veloz**, co-ordinator from COGO, jointly with the UNEP technical advisory incumbents.

1.3 ASSISTANCE RECEIVED.

12. In the preparation of the programme, technical assistance has been received, at the request of the Government of the Dominican Republic, from UNEP as an implementing organization for the Fund, through **Mr. Sergio Oxman, from KIEN Consultores, Chile.**
13. The most substantial economical assistance was received through the financing from UNEP IE, the Government of the Dominican Republic through its Department of the Under Secretary of State for Natural Resources and the support of UNDP Office in the Dominican Republic.

Other type of assistance was provided by the Office of the Permanent Representative of the United Nations Development Programme and by industries associated with the distribution and use of ODS.

2. CURRENT STATUS.

2.1 Current and anticipated levels of consumption.

14. The Dominican Republic does not produce any kind of controlled substances and does not export any such substance, and therefore, in keeping with the existing provisions of the Protocol, **consumption in the Dominican Republic equals to its imports.**
15. There are some limitations in the available data for past imports but the best estimates establish a total consumption of **288.56 MT** for 1992, or **278.35 MT** of ODP. Thus the per capita consumption figure is **0.038 kg p.a.**
16. Basic areas of utilization are in refrigeration, foams, solvents, air conditioning and fire extinguishers. Research was done on some of the uses for these substances, on the basis of interviews with major industrialists in specific sector of utilization.
17. In the last months of 1992 an inventory was taken in capital city of Santo Domingo with companies which were liable of using, in some way, ozone depleting substances, according to the requirements established by the Montreal Protocol.

The industrial and service sector were classified originally according to the following groups:

Aerosols:	Cosmetics
Refrigerants:	Air conditioning, refrigeration, freezer and heat converters
Foams:	Flexible, rigid and isolating, rigid for package manufacturing
Solvents:	Electronics, metal cleaning, dry cleaning
Halons:	Fire extinguishers
Other:	Pesticides, synthetic rubber, pharmaceutical, lubricants.

18. The refrigeration and foams sectors are the two most relevant areas in this context and they account for the major part of chlorofluorcarbon imports coming to the Dominican Republic.
19. The CFC consumption figures that can be seen in Table 1 indicate the data provided by the companies; however, the actual figures are at least 15% higher according to the research conducted by the COGO team among distributing companies and the industries themselves, a fact that was taken into account at the time of establishing the figures for national consumption.
21. The refrigeration and air conditioning sector represents 51.92% of the CFCs used with an overall figure of 144.5 MT (Table 2), followed by foam manufacturing, with 46.6%, equivalent to 129.71 MT. The other sectors of ODS applications are not relevant, even though they belong to the industrial sector.

Table 1: CONSUMPTION OF SUBSTANCES LISTED IN ANNEXES A, B, C OF THE MONTREAL PROTOCOL

Listing by substance (Import=Consumption) 1993

SUBSTANCE	Consumption Metric Ton.	ODP	Consumption ODP Ton.
ANNEX A GROUP I			
CFC 11	69.26	1.0	69.26
CFC 12	204.95	1.0	204.95
CFC 113	.....	0.8	.....
CFC 114	.....	1.0	.....
CFC 115	.....	0.6	.....
SUBTOTAL	274.21		274.21
ANNEX A GROUP II			
HALON 1211	0.93	3.0	2.79
HALON 1301	....	10.0	....
HALON 2402	....	6.0	....
SUB-TOTAL	0.93		2.79
ANNEX B GROUP II			
CARBON TETRACHLORIDE	....	1.1	....
ANNEX B GROUP III			
1,1,1 TRICHLOROETHANE (METHYLCHLOROFORM)	13.42	0.1	1.35
TOTAL CONSUMPTION TONS	288.56		278.35

Source: Government Commission for Ozone (COGO) Dominican Republic 1993

METHYL BROMIDE

YEAR	1990	1991	1992
Metric Tons	40.0	56.5	70.5

Source: Government Commission for Ozone (COGO) Dominican Republic 1993

DOMINICAN REPUBLIC

Table 2: CONSUMPTION OF SUBSTANCES LISTED IN ANNEXES A, B, C OF THE MONTREAL PROTOCOL

Listing by substance utilization (Import=Consumption) 1993

SUBSTANCE (domestic use)	USE	TONS ODP	%
CFC 11 (69.26 MT)	Rigid Foam	32.72	11.75 %
	- Refrigeration		
	Flexible Foam	36.54	13.13 %
	-Mattresses and Other -Insulation, Aerosols -Medical Circuit Cleaning		
CFC 12 (204.95 MT)	Foam	60.45	21.72 %
	Refrigeration	43.35	15.58 %
	-Domestic	...	
	-Commercial	...	
	-Industrial	...	
	Air Conditioning	28.90	10.38 %
	Maintenance	72.25	25.96 %
	-Refrigeration	...	
	-Air Conditioning	...	
CFC 113	Solvents	...	...
Halon 1211	Extinguishers	2.79	1.00 %
Halon 1301	Extinguishers	...	...
CCl ₄ Carb.Tetrachlor.	Solvents	...	...
MCF Methylchloroform	Solvents	1.35	0.48 %
TOTAL		278.35	100.00 %

Source: Government Commission for Ozone (COGO) Dominican Republic 1993

22. Importation into the Dominican Republic is recorded by the Customs Directorate General under Tariff 29.03.40.10. This is why data included items 29.02.01.13, for chlorofluoromethanes. Also included are HCFC 22 and R- 502.
23. For the Dominican Republic, centralized import data were available through the Department of the Secretary of State for Commerce and Industry. The reliability factor for these data is low and, therefore, major importers and users were interviewed. As regards the utilization, estimates have been made on the basis of such interviews.
24. Utilization has been estimated on the basis of maintenance requirements for the existing stock of refrigeration and air conditioning equipment. The overall number of domestic and commercial refrigerators is estimated to be 2,500,00 units, with annual production rate of 2,200 units. The estimate for air conditioning units is 800,000, window and large type units combined. Mobile air conditioning sector is estimated to comprise 200,000 units.

2.1.2 Anticipated consumption level

25. These circumstances should dictate, additionally, an effective, fiscal policy and the creation of functional, follow-up structures that make possible not only to ensure the observance of the law but, also, both a sustained development of current industries and the creation of those industries that are necessary for the full development of the country.
26. Annual average demand for CFCs between 1986 and 1992 was about 280 MT. For future demand, a 4.0% growth (GDP growth) can be anticipated as compared with 1991. This is to say that, for 1998, a figure of 395 MT of consumption for CFCs and Halons can be estimated through surveys of the sector. This assumes that in future unlimited quantities of controlled substances might be available. In this forecast carbon tetrachloride and methylchloroform consumption is comprised.

Through the interviews undertaken with industrialists, it is their view that the ODS consumption trend will remain consistent with the product trend in the forthcoming years.

27. As for the assumptions that there is no intent of meeting the Montreal Protocol requirements and that unlimited quantities of ODS might be available at current prices: The GDP for 1992, as compared with 1991, is 7.8%. It is assumed that, in the Dominican economy, behavior of the demand follows the trend of economic growth. For major activities, the GDP is made up of agricultural and fishing, 16%, industry and construction, 30% and services, 54%.

The sector which is more directly associated to the ODS users is Refrigeration and Air Conditioning. Therefore, it is possible to assume that the future tendency for consumption would be about 4.0% of growth as compared to the current one.

28. Thus, for the year 2010, it is anticipated a consumption of 567 MT.
29. The Dominican Republic is a participant in the Initiative for the Caribbean Basin, in which other Central American countries also participate. However, this fact does not affect the demand for ozone depleting substances (ODS).

30. The Dominican Republic population is 7.3 million, with an average annual growth of 2.4% for the 1980-1991 decade.
31. Over the period 1991-1992, the GDP and the per capita GDP behaved as follows:

GDP		GDP per capita	
Growth rate			
1991	- 0,5 %	1991	- 2.6 %
1992	7.8 %	1992	5.7 %

32. Inflation rate is 4% for 1991, 6.6 % for 1992. Life expectancy at birth is 62 years.
33. In the table below are listed possible projections of the country's consumption to the year 2010. It might be assumed, because of the trend, that the incidence of air conditioning and refrigeration on the consumer market and imports, might lead to a 4% growth as compared to the current situation.

YEAR	MT	YEAR	MT
1995	315	2004	448
1996	327	2005	466
1997	340	2006	484
1998	354	2007	504
1999	368	2008	524
2000	383	2009	545
2001	398	2010	567

ASSUMPTIONS: 4% annual growth for CFC.

2.2 Industrial structure:

34. In the Dominican Republic, industries associated with the ODS import most of the substances from the United States of America and, in a lesser degree, from Europe. In other words, the country does not produce any type of ODS. In this context, two types of groups are described below: importers and consumer industries.

35. **Major Import companies are:**

ANGLO-AMERICANA. It represents ICI of England. Its import volume is 103 tons of CFC distributed as follows: 22.57 tons of CFC-12, 18.88 tons of CFC-11, 55.58 tons of HCFC-22, and 5.8 tons of R-502. Presently, the company supplies all distributors and associated industries.

SADOCA, SA. Represents DUPONT of USA. Currently, it does not play a major role on the market, as a result of which industries which were supplied by this company now do their importing directly from the USA or Mexico.

BASF DOMINICANA. This is a subsidiary of BASF, Germany. Its import volume is 150 tons of CFC, distributed as follows: 75 tons of CFC-11 and 75 tons of CFC-12. It supplies the refrigeration industry.

HOESCHT DOMINICANA. Among others, it represents IGLO PRODUCT of USA. Its import volume is not known exactly but it supplies a small sector in the area of refrigeration.

MULTIQUIMICA. It buys its products from Venezuela and U.S.A. but the source has not been identified. Its import volume is 120 tons of a polyurethane compound identified as methyl chloride. The company is a major supplier of the rigid and flexible rubber industry.

INTERQUIMICA. Active in the solvent and rubbers area. Its import volume is not known. The company buys its products from the USA. It uses mostly CFC-11.

There are other importing companies of lesser incidence that will not be described in this chapter but whose import volume has been accounted for in the evaluation of the total consumption.

36. **Major equipment manufacturers are:**

NEVERAS DOMINICANA (NEDOCA). Uses a total of 30.56 tons of CFC which includes 9.55 of CFC-12, 20.79 of CFC-11 and 0.227 of HCFC-22. All of it is used in refrigeration (chillers, fridge, water fountains) and in air conditioning (window type and industrial/commercial air conditioning). It is a private company. It supplies most of the local refrigerator market. It has great large infrastructure capable of handling a potential increase in demand.

FABRICA DE REFRIGERADORES COMERCIALES (FARCO). Its consumption of CFC is 6.1 tons of CFC, of which 6.0 is CFC-12 and 0.1, R-502. Its production is only for large refrigerators and bottle coolers. It is a private company and its market is focused on major companies such as Coca Cola Dominicana. It is a company with great potential, although it does not expect major growth in the coming years.

CENTRAL DE REFRIGERACION. This is a dual purpose undertaking that in addition to the manufacturing of air conditioners, offers services destined to the general public. Its consumption is estimated to be 113.6 tons, of which 22.7 is HCFC-22; 79.54 tons, CFC-12; 3.41, CFC-11; and 7.95 tons, R-502. Its market is general, a privately owned company and it expects to maintain its current level of consumption based on the demand, although like most of the people interviewed, its principals indicate to be prepared to adhere to the reductions consequential to the implementation of the Protocol.

CARRIER/CLIMATEC. Utilizes 0.36 tons of CFC; 0.32 of HCFC-22 and 0.036 of CFC-11. Producer of industrial air conditioners, window units and air conditioners for cold storage transport (trucks). It has a very diversified market and its ownership is from both local and international origin.

METALGAS. Consumption estimated at 3.41 tons of CFC, 2.27 of which is HCFC-22 and remainder, CFC-12. Producer of window and industrial air conditioners. It is a company in expansion but very prepared to accept the consequential effect of the Protocol. Privately owned equity.

CONSERTEC, DIMESA and PRODESA. These three industrial companies manufacture window air conditioners for the general public. They all are privately owned and their CFC consumption is as follows: COSERTEC, 0.68 tons of CFC-12; DIMESA, 2.19 of CFC-11 and 0.03 of HCFC-22; PRODESA, 3.6 tons of HCFC-22 and 1.8 of CFC-11.

ESPUMAS DEL CARIBE. Consumption is 5 tons of CFC-11 and the same amount of CFC-12 in the production of foams for mattresses and furniture. It has a wide business network in Santo Domingo. Privately owned equity.

GOMAS and PLASTICOS. Large variety of foam production. It uses 4.7 tons of CFC-11 and 1.4 tons of CFC-12. National level market. Privately owned equity.

PARAISO INDUSTRIAL. Consumes 7 tons of CFC-12 for the production of flexible rubber. It is privately owned and it has a national level market.

POLIURETANO QUIMICO INDUSTRIAL, PLASTICOS FLEXIBLES, ESPUMAS DEL CIBAO and ACOLCHADO JR are other manufacturers that produce foams with an overall consumption of approximately 11 tons of CFC-12. They are all privately owned.

37. The service sector can be divided in two: distributing companies and repair and maintenance workshops.

REFRIPARTE. Distributes 91 tons of CFC, of which 18.80 are CFC-12, 63.56 are HCFC-22, 6 are R-502 and 3.09 are CFC-11. It has a large demand from the repair workshops, at a national level. Privately owned equity.

REFRIGERACION SAN BERNARDO. Distributes 11.36 tons of CFC-11, 40.9 of CFC-12, 18.18 of HCFC-22 and 9.09 of R-502. It supplies workshops in Santo Domingo and is privately owned.

DISTRIBUIDORA EMBRACO. Distributor of compressors for fridge and air conditioners with a total of 40.9 tons of CFC-11, HCFC-22, CFC-12 and R-502. Privately owned equity and national level coverage.

Other distributors of lesser coverage but with a large CFC market operate mainly in Santo Domingo and they are listed in the attached table.

38. There are some 250 service workshops and businesses associated to the sale and repair of equipment that contain some type of CFC. Individual consumption is not provided because all of these enterprises are connected with the distributing companies that have been referred to, or they are mentioned in the annex.

Some distributing companies also do some direct importing. The value of this importing activity will be estimated as a percentage of the total of reported imports shown elsewhere in this report.

39. In connection with HALON consumption, only the 1211 type is used and main suppliers are AGETECO, COCCO BATLLE, AMERICAN INTERNATIONAL. It is estimated that the overall total is 2 tons. The Fire Fighting Service and other major importers in the fire extinguishers sector use water and CO₂.
40. The attached table shows a listing of importers, distributors and industries with a major influence on the local market and whose stock has been accounted for. We hope to include in a follow up the remaining companies, so that a better view can be achieved of the overall level of usage in the country.

TABLE: IMPORTATION AND USAGE OF CFCs IN THE DOMINICAN REPUBLIC

COMPANIES	SUBSTANCE	QUANTITY (METRIC TONS)	ANNUAL AVERAGE
NEVERAS DOMINICANAS	CFC-12 HCFC-22 CFC-11	9.55 0.227 20.79	30.56
FABRICA DE REFRIGERADORES COMERCIALES	R-502 CFC- 12	0.1 6.0	6.1
ANGLOAMERICANA	CFC-12 HCFC-22 R-502 CFC-11	22.57 55.68 5.60 18.88	103.0
CENTRAL DE REFRIGERACION	CFC-12 HCFC-22 R-502 CFC-11	79.54 22.7 7.95 3.41	113.6
SAN BERNARDO	CFC-11 CFC-12 HCFC-22 R-502	11.36 40.9 18.18 9.09	79.53
REFRIPARTES	CFC-12 HCFC-22 R-502 CFC-11	18.80 63.56 6.00 3.09	91.0
DISTRIBUIDORA EMBRACO	CFC-12 HCFC-22 R-502 CFC-11	18.35 14.31 4.09 2.04	38.8
CARRIER/CLIMATEC	CFC-12 HCFC-22	0.036 0.32	0.36
CONSERTEC	CFC-12	0.68	0.68

DIMESA	CFC-11 HCFC-22	2.19 0.03	2.22
METAL/GAS	HCFC-22 CFC-12	2.27 1.14	3.41
PRODESA	HCFC-22 CFC-11	3.6 1.8	5.4
PRODUCTOS QUIMICOS INDUSTRIALES	METHYL CHLOROFORM PERCHLORO- ETHYLENE	2.52 2.52	5.23
ESPUMA DEL CARIBE	CFC-11 CFC-12	5.0 5.0	10.0
GOMAS Y PLASTICOS	CFC-11	4.7	6.1
BASF DOMINICANA	CFC-11 CFC-12	100 50	150
AGETECO	HALON 1211 1301	0.11	0.11
MULTIQUIMICA	CFC-11	50.0	50.0
COCCO BATLLE	HALON 1211	0.045	0.045
AMERICAN INTERNACIONAL	HALON 1211	0.68	0.68
WACKENHUT DOMINICANA	HALON 1211	0.10	0.10

USAGE OF METHYLENE CHLORIDE IN THE DOMINICAN REPUBLIC

COMPANIES	SUBSTANCE	QUANTITY (METRIC TONS)
PRODUCTOS QUIMICOS INDUSTRIALES	METHYLENE CHLORIDE	0.185
GOMAS Y PLASTICOS	METHYLENE CHLORIDE	1.4
POLIURETANO QUIMICO INDUSTRIAL	METHYLENE CHLORIDE	0.28
PLASTICOS FLEXIBLES	METHYLENE CHLORIDE	4.9
PARAISO INDUSTRIAL	METHYLENE CHLORIDE	7.0
MULTIQUIMICA	METHYLENE CHLORIDE	437.5
ESPUMAS DEL CIBAO	METHYLENE CHLORIDE	0.32
ACOLCHADO J.R.	METHYLENE CHLORIDE	5.5

42. The Dominican Republic's industrial sector is relatively small. The industrial structure is based essentially on the refrigeration area, foam manufacturing following as the second most important activity.
43. With regard to the Country Programme and the commitment to the phase-out of controlled ODS, major suppliers with such a commitment are:

ICI; DUPONT (MEXICO); DUPONT (EE. UU.); PRODUVEN (VENEZUELA); H. G. (Miami, EE. UU.); GALCO; IGLO PRODUCTS; VOGEL; CRONA-CHEMICAL; SADOCA; BASF (ALEMANIA); UNITED CARIBE; HOLANDA DOMINICANA; CASA ALFA; INTERQUIMICA; HOECHST.
44. Generally, industry involved in the ODS area is clearly attentive to the country's existing environmental commitments. At the time of the census undertaken in connection with companies involved with the ODS, it was found that most of them had been notified by their suppliers about the international bans and restrictions about the marketing and industrial utilization of CFCs and associated substances in member countries of the Protocol. In the same context, it was remarkable the favorable attitude shown by many of the surveyed companies towards an adaptation to the technological changes involved in the phasing out of the ODS within the different industrial and service areas.
45. Two companies from the **air conditioning** sector provided evidence that they were using modern equipment for the recycling of CFCs. Other companies indicated that they operate without any special equipment for the reutilization of the CFCs and that it is released in the environment.
46. The evaluation of the Halon sector established that other materials, such as powder ABC and CO₂, are used mostly. Apparently, the demand for Halon extinguishers is related to fire prevention in companies with computers and computing equipment and, in a lesser degree, there is also a demand of a legal nature for those enterprises **legally liable** to have extinguishers to prevent damages which are consequential to a fire incident.
47. Agents in these markets concur in expressing a true and feasible possibility of decreasing usage strongly, and they also indicate they are prepared to be involved in **recovery, recycling and technicians training projects**. They request more technical information on advancements in the field of refrigerant substitutes, and recovery and recycling units.

2.2.1 Utilization:

48. Main utilization of CFC is in the manufacturing of refrigerators, air conditioning equipment and an element of high incidence on consumption is also in the area of workshops for servicing and repair of refrigeration and air conditioning equipment, both domestic and industrial.

49. Refrigeration Sector

The Dominican Republic has produced some 540,000 units in the domestic and commercial refrigeration area over a 26 year period of time and it is estimated that the existing stock is 200,000 units. There also have been import activities since the 1950s in the domestic and commercial refrigerator area.

Annual consumption in the refrigeration sector in the Dominican Republic is 15.58% of the national consumption volume and 25.96% of this volume is taken by maintenance in the commercial, domestic, industrial, cold storage and refrigerated transportation areas.

Substantially, consumption covers replacement for losses in the operating systems and for recharging equipment at maintenance.

It is suggested in the Programme to obtain technology transfer through the assistance of international consultants and missions abroad by local experts, as well as basic equipment to initiate the recovery and recycling processes.

50. Air conditioning

Because of its climate, the Dominican Republic is a country where air conditioning equipment is being imported and manufactured regularly. There is a group of local advisors on this topic, who are proposed for the technical seminars. There are also large size air conditioning units in the industrial, services (tourism and hospitals) and commercial sectors. Figures in the transportation sector are not significant.

It is estimated that consumption for the year 1992, in the air conditioning sector is 10.38 % of the national consumption (equipment installation and equipment maintenance).

51. Foams

Basically, flexible and rigid polyurethane is used, in the manufacturing of mattresses and as an isolating material, both for thermal isolation and construction. It represents 46.6% of the national consumption. It is also used in rigid foams for domestic and commercial refrigerators (11.75 %).

The Programme contemplates a workshop with technical assistance for this sector.

52. Solvents.

Collected data for 1992 indicate that 13.42 MT of MCF were imported, to be used mainly as solvents.

53. Halons

Preliminary data for 1992 show a consumption of 0.93 tons of **Halon 1211** (with no consumption of **Halon 1301**), equivalent to 1.0 % of the national consumption.

This level of consumption in the Dominican Republic covers its essential usage.

54. Aerosols.

There is no application in 1992 in this sector, where the consumption of CFC 12 has been substantially reduced. According to our survey the change has been absolute, although there still are some applications in medical products and perfumes.

2.3 Institutional Framework:

The set of public and private organizations that would participate in implementing the commitment to phase out the ozone depleting substances include:

55. At Government and National Congress levels:

- Secretaría de Estado de Agricultura (agriculture)
- Subsecretaría de Estado de Recursos Naturales (natural resources)
- Secretaría de Estado de Finanzas (finance)
- Secretaría de Estado de Industria y Comercio (industry and commerce)
- Secretaría de Estado Salud Pública y Asistencia Social (public health and social assistance)
- Secretaría de Estado de Relaciones Exteriores (foreign affairs)
- Comisión Nacional para el Medio Ambiente (environment)
- Comisión Nacional de Seguimiento a la Cumbre de Río (Rio Summit)
- Instituto Dominicano de Tecnología Industrial (industrial technology)
- Cámara de Senadores (Senate)
- Cámara de Diputados (House of Representatives)

In the private sector, all companies associated to the handling of ODS listed in the above tables, would participate through the Dominican Republic Industries Association. Other sector involved would be the Association of Refrigeration Technicians and the Refrigeration Workshops.

56. In this phase of development of the Country Programme some decisions have been made on institutional arrangements in order to undertake the commitments deriving from the implementation of the Montreal Protocol; additionally, the appropriate framework is known from other United Nations conventions that are currently implemented. The National Commission for the Follow Up of the Rio Summit is undertaking the coordination and the strengthening of the activities for the protection of the environment.

57. In the specific case of the ozone depleting substances (ODS) the institutional arrangements as follows:

The institution responsible for the implementation of the commitments established by the Montreal Protocol will be the Department of the Secretary of State for Agriculture, through the Department of the Under Secretary of State for Natural Resources. The latter will undertake its mandate through a Government Committee for the Ozone (COGO), whose membership will include six technicians from the Dominican Government as follows: two from SURENA and one each from the following institutions: Industry and Commerce, National Meteorological Institute, National Commission for the Environment and Customs Directorate General.

58. In addition to COGO, a Consultative Committee for the Ozone (CCO) will be created, whose membership would include representatives from all sectors connected with the importation, distribution and consumption of ODSs, members from COGO, the Universidad Autónoma de Santo Domingo, the Honorable Brotherhood of Fire Fighters, and a representative from UNEP/UNDP and any other institution or individual invited to participate in the workings of the Committee. In any case, official membership of the CCO will not exceed 15, in order to ensure its functionality. The Committee will have proportional participation from the private sector (7 members), the public sector (7 members) and one member from the United Nations Development Programme (UNDP).

59. **Institutional Role.**

The Government Committee for the Ozone (COGO) will have the responsibility of developing, submitting and monitoring the policies concerning the import, distribution and consumption of ODS in the territory of the Dominican Republic. COGO's decisions will adhere to the current Dominican legislation and they will have as an objective the economic development and welfare of the Dominican people.

The Consultative Committee for the Ozone (CCO) will have an advisory function for the benefit of COGO and it will have the responsibility of studying and proposing solutions on all matters relating to COGO. It will be a key agency in the definition of the industrial aspects, the implementation, the transfer of technology and public awareness.

60. **Framework for enforcement policies.**

The enforcement of the government policies on any aspect of public life in the Dominican Republic is the responsibility of the Central Government and it is channeled through regulations by law or decree.

In the particular case of the ODSs no legal document could be identified, with the exception of the mandatory use of extinguishers in all vehicles having four or more wheels (Law 241) and in public service or community buildings (Law 2517). However, the requirement of this law does not specify the use of CFCs.

The package of regulations for the enforcement of the commitments relating to the ratification of the Montreal Protocol by the country will be contributed by the CCO. That is, the regulations will be the result of a consensus by the industrialists, distributors and importers, as well as the representatives from the Government in the Committee.

61. It is important to underline that the Committee will produce proposals for further approval by the Executive Power for further enforcement. The experience from other similar conventions has been positive and it is anticipated that the same results can be achieved at this time. The presence in the Committee of the sectors involved will ensure this.

62. **Industrial Associations**

A major association for private industry in the country is the Asociación de Industrias de la República Dominicana. This association was created on April 7, 1962.

63. Other organizations that can contribute to this effort are the Secretary of State for Education, Fine Arts and Religion, the Municipalities and the Not for Profit, Non Governmental Organizations. The National Commission for the Environment, currently presided by Don Antonio Thomen, indicates to be fully prepared to participate and to coordinate with the Government the different initiatives aimed at the implementation of the Country Programme.

2.4 **Policy Framework:**

64. The government policy for the phase out of ODS in the Dominican Republic will be based essentially in promoting through Government action **voluntary agreements by the private sector** aimed at expediting the necessary technological changes, as well as actions that influence consumer behavior.

Another high priority mechanism is the enforcement of import quotas that ensure the Government commitments for reduction over the first three years.

65. Within the State apparatus, coordination and information mechanisms will be created to carry out the control for import data, technical transfer and implementation through COGO.
66. The main thrust of the implementation commission (COGO) will be the handling, data collecting, technical information dissemination and public awareness.

It will carry out the coordination for the private sector training workshops and seminars, which will be implemented in maintenance companies and servicing outfits, coordinating the technical reports on education and training aimed at the phase out of the consumption and/or emissions of controlled substances.

67. A fundamental task for COGO will be to control that import quota enforcement is complied with by importers, manufacturers and servicing companies.

2.5 **Response from the Government and industries to the Protocol**

68. The Government of the Dominican Republic subscribed the documents adhering to the Vienna Convention and to the Montreal Protocol on December 8, 1992 and became a Party on November 1993.
69. Minor promotional actions, consulting and data inventory have required incurring in personnel and human resources costs over 80,000 Dominican Pesos, part of which has been defrayed by the Government and the rest, by UNEP/IE.
70. During the inventory period and in the proceedings of the Consultative Committee for the Ozone, the industrial sector industrial has indicated its intention of using substitute substances and alternative technology, provided that the required support is provided for the incremental costs involved.

3. PHASEOUT IMPLEMENTATION:

3.1 Statement on Government strategy

71. Strategic objectives taken into account in the action for the phaseout of ODS are consistent with the current economic policy that encourages a change in the industrial structure, so that the intent be shown for the observance of the limits established by the Protocol with regard to ODS consumption in countries operating under paragraph 1 of Article 5 for substances listed in Annexes A and B of the Protocol.

During the first stage of the programme (1995-1997), a reduction of 57.7 MT, or 20% of current consumption can be achieved. In addition, the following reductions with respect to the base year consumptions will be pursued: for CFC-11, a 40% reduction by the year 2000 and complete phase-out for year 2005; for CFC-12, a 25% reduction by year 2000, 50% by 2005, 80% by 2007 and complete phase-out by 2010; and for 1,1,1 trichloroethane 70% reduction by year 2000, and complete phase-out by year 2010. Graphs for this phase-out schedule are included in annex 2.

72. The Government of the Dominican Republic has been greatly concerned with the environment problems, not only through the implementation of the internal policies orientated to preserve the environment and the natural resources, but also by adhering to and endorsing the United Nations treaties, conventions and protocols that deal with this issue. The depletion of the ozone layer through the continuous emissions of chlorofluorocarbonated substances does not escape to the above concerns.
73. The Dominican Republic's contribution to the global consumption of ODS is rather small. A total figure of 280 tons of CFC for a population of 7.3 million is quantitatively insignificant. However, this fact does not preclude the need to phase out the consumption of the ODS and reach a zero level, bearing in mind that the presence of these substances in the environment is a threat not only for the welfare of mankind but also to the stability of all living forms and the Earth itself.
74. An immediate aim for the country is to implement the requirements of the Protocol for the phasing out of the ODS consumption in the developing countries, which also have the task of promoting and maintaining an accelerated pace of industrial transformation and creating appropriate conditions for the improvement of life quality.
75. The Country Programme contemplates running publicity and information campaigns through national media and for the industry to take steps for the introduction of the substitute materials and alternative technologies which are required in for this purpose.

3.2 Action plan and projects involved.

3.2.1 Government action:

76. Measures that the Government intends to initiate for the implementation of the ODS phaseout. Six actions from the Government are at the core of the Action Plan:

- (1) Creation of the Government Committee for the Ozone (COGO) and National Consultative Committee for the Ozone (CCO);
- (2) Establishment of the regulations for the import, consumption and distribution of ODS through legislative action, decrees and resolutions establishing import quotas.

A license or permit system will be established for the trade connected with these substances.

- (3) The creation of taxes on the import and consumption of ODS, whereby enterprises not using such substances are favored and preferential treatment is given for the use of alternative gases as raw material.
- (4) The organization of technical programmes for sector specific reconversion, training, recycling. It has a bearing on the supply.
- (5) Survey of the existing infrastructure by sector with economic values of the incremental costs for reconversion technologies. For the supply.
- (6) Creation of a Friend of the Ozone seal to influence demand.

Projects.

77. Projects identified are: industrial transformation, training, promotion, and institutional strengthening.

78. Project for industrial transformation.

The purpose of this Project is to create the appropriate conditions for industries associated with the consumption of CFC so that they can adapt to the phaseout requirements in the least possible time. The refrigeration and foam manufacturing sectors, whose consumption involves 95.5% of the country's total, would be those with the highest degree of participation.

Industrial strengthening consists in favoring the retrofit of CFC user industries with equipment that have proved to be efficient substitutes to the current ones. The achievement of this objective would lead to a zero consumption within the industries, especially if a high level of recycling is a component at all levels of utilization.

In a time-frame of 3 years all industries could be converted if the appropriate resources are made available in quantity and time.

79. Institutional arrangements.

For the implementation of the Project, the financing source will be the request concerning this Programme presented to the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol and to UNEP as the implementing agency. In any event, the Government, as a guarantor, would have the responsibility of ensuring the implementation through an ongoing monitoring of the activities. This would be achieved through COGO and any other governmental structure created with that purpose.

80. Training and promotion project.

The aim of this project is to implement an extensive awareness programme for the Dominican population on the significance of the ozone layer, the substances that cause its depletion, the impact of its destruction on living beings and the manner in which the average citizen can contribute to its protection.

Another objective will be the creation of a **Technical training center for the recovery and recycling of CFCs**. This center will be used, at the same time, as storage center for the gases from old equipment as well as for replacement or recharging in that equipment that, for one reason or another, needs it.

81. In the specific case of foams, the center would be used as a testing local for alternative techniques in the use of blowing agents. In conclusion, it would serve as a multipurpose structure. Its management and administration would be under the responsibility of an inter-institutional Board with membership from the Government and the private sector.
82. The participation of international experts on the long and medium term is a key element for the success of the Center's management. These high level technicians would carry the dual responsibility of advising the industries in their restructuring process and of training the instructors that will provide continuity to the work initiated by the technicians.
83. Because of its nature and of the positive impact on the medium and long term phaseout of the ODSs, project carries a high priority. The implementation time frame would be 3 years and it is anticipated that after its completion there will be a good basis for a change in citizenry behavior and, as a result, from industry, with regard to the necessary protection of the ozone layer.

84. SCHEDULE OF COUNTRY PROGRAMME PROJECTS UNDER THE MONTREAL PROTOCOL

INSTITUTIONAL PROJECTS

SHORT TERM CATEGORY (1995- 1997)	ACTIVITY DESCRIPTION	ODS PHASEOUT IN METRIC TONS AND %	TOTAL US\$ PROJECT VALUE	YEAR
Government Commission for the Ozone (COGO)	Management Co-ordination Control Action Plan	57.7	143,000	1995 1996 1997
Amendment of Legislation	Drafting of legislation consistent with Plan		12,000	1995 1996
Ozone Seal	Creation of a standard seal Standard		38,000	1995 1996 1997
Estimated Totals			193,000	

85. INDUSTRIAL AREA PROJECTS. (only indicative)

SHORT TERM CATEGORY (1995- 1997)	ACTIVITY DESCRIPTION	ODS PHASEOUT IN METRIC TONS AND %	TOTAL US\$ PROJECT VALUE	YEAR
Flexible Foams	CFC Phaseout and substitution	9 MT(15.6%)	22,000	1995 1996
Rigid Foams	Technical assistance Seminar	15 T.M (26%)	14,000	1995 1996 1997
Aerosols	Reinforce substitution	1 T.M(1.7%)	16,000	1995 1996
Extinguishers	Training for recharging and overhauling	1 MT(1.7%)	5,000	1995
Refrigeration maintenance	Training for recharging and overhauling	15 MT(26%)	76,000	1995 1996 1997
Industrial and commercial refrigeration Industrial y Commercial	Training Alternative techniques	10 MT(17%)	22,000	1995 1996
Air conditioning and Refrigerant	Pre-investment Study		9,000	1995 1996
Solvents	Training		22,000	1995 1996
Estimated Totals		57.7 MT(20%)	186,000	

COUNTRY PROGRAMME PROJECTS

3.2.2 Institutional projects

86. **Project name:** Government Commission for the Ozone.COGO. (see Annex 1.)

87. **Activity name:** Amendments to regulations and legislation
(this activity is included in the Institutional Strengthening Project and is being presented here only for further details)

Title of project: Amendments to regulations and legislation

Sector: All

ODS consumption: 278.35 ODP T.

Project impact: N/A

Project cost: US\$ 12,000

Project duration: 1995-1996

Implementing agency: UNEP

National leading agency: Undersecretariat of State for Natural Resources

Purpose: To introduce amendments to the regulations and legislation consistent with the Country Programme

Year: 1995 - 1996

Description:

To introduce the necessary changes to current legislation so that it be consistent with the intent to end the consumption of controlled substances.

1. Systematizing of the current legislation.
2. Analizing and debating the amendment proposals.
3. Development of import licenses and quotas.

It will be carried out through calls for tenders.

Cost estimate for the activity *

ITEM	Year 1995-1996	TOTAL US\$
Human resources	9,000	9,000
Attorney 1 Attorney 2	6,000 3,000	
Material resources	3,000	3,000
Project total	12,000	12,000

The Government's contribution to this project will be in the form of Office space, administrative costs and support to operational costs.

* This budget is included within the Institutional Strengthening Project and is being presented here only for further details.

88. **Project name:** Public awareness Programme (See Institutional Strengthening Project, annex 1)

89. Project name: Creation of an Ozone Seal.

Title of project: Creation of an Ozone Seal.

Sector: All

ODS consumption: 278.35 ODP T.

Project impact: N/A

Project cost: US\$ 38,000

Project duration: 1995-1997

Implementing agency: UNEP

National leading agency: Undersecretariat of State for Natural Resources

Objective: To create a national seal that identifies ozone friendly products.

Years: 1995 - 1997

Description:

1. To develop the design for an appealing, ecology oriented, Friend of the Ozone seal.
2. Adequate media coverage to encourage a preference for goods which are free of ozone depleting substances.
3. Development of a procedure for its distribution and the encouragement of public preference.
4. To integrate, through this initiative, the private sector and proper certifying organizations.

Cost estimate for the Ozone Seal project.

ITEM	Year 1995	Year 1996	Year 1997	TOTAL US\$
Development of the seal	4,000			4,000
Review of the design Regulation	3,000 1,000			
Printing	6,000			6,000
Dissemination	6,000	6,000	6,000	18,000
Follow up	4,000	4,000	2,000	10,000
Total	20,000	10,000	8,000	38,000

The Government's contribution to this project will be in the form of Office space, administrative costs and support to operational costs.

3.2.3 SPECIFIC PROJECTS IN THE INDUSTRIAL SECTOR (only indicative)

These projects are being presented under the Country Programme only for information. A demonstration project for the reduction of CFC-12 in mobile air conditioning that is being presented jointly with the US/EPA is not included in the present Country Programme. In the course of 1995 other projects will be submitted.

91. FLEXIBLE AND RIGID FOAMS SECTOR.

Project name: Training in the handling of technology and/or the substitution of manufacturing processes for flexible foams.

Year : 1995 - 1996

Expected outcome: Phaseout of 9 MT of CFC

Project Description:

Practical training on methods for the reduction on the use of CFC in the production of foams, through a change of substance percentages and/or substitution.

Relevant Government action: Training, equipment, public information.

Cost estimate for project:

ITEM	Years 1995-1996	TOTAL US\$
Panel members	10,000	10,000
External expert	10,000	
Material resources	3,500	3,500
Equipment	6,000	6,000
Infrastructure	2,500	2,500
Total	22,000	22,000

92. **AEROSOL SECTOR.** Category I.

Project name: Conversion to hydrocarbon propellants and industrial safety.

Year : 1995 - 1996

Expected outcome: Reduction of 1 MT of CFC

Project Description:

Substitution of CFC as a propellant by means of substitution to different, existing products. Hydrocarbons, mechanical devices, etc.

Project contemplates training in this field and an incentives mechanism, as well as local training on industrial safety. Basically, it is a matter of reinforcing the substitution undertaken voluntarily by the private sector.

Relevant Government action: Ozone seal, training and public information.

Cost estimate for the training:

ITEM	Years 1995-1996	TOTAL US\$
Panel members	11,000	11,000
External expert Local expert	8,000 3,000	
Material resources	1,500	1,500
Equipment	2,500	2,500
Infrastructure	1,000	1,000
Total	16,000	16,000

93. **REFRIGERATION SERVICING.****MAINTENANCE OF COMMERCIAL AND DOMESTIC REFRIGERATION. Category I****Project name:** Recovery during the recharging operation.**Year :** 1995 - 1996**Expected outcome:** Reduction of 15 MT of CFC**Project Description:**

Training in conservation practices during the overhaul and recharging of existing systems.
CFC recycling centers and equipment for recovery during refrigeration maintenance operations.

Relevant Government action:

Ozone seal, training, equipment and public information.

Cost estimate for training project:

ITEM	1995 - 1996	TOTAL US\$
Panel members	10,000	10,000
External expert	10,000	10,000
Material resources	2,000	2,000
Equipment	52,000	52,000
Infrastructure	2,000	2,000
Total	76,000	76,000

DETAILS CONCERNING THE EQUIPMENT

Recovery equipment: 25 units at US \$1,000 each	US\$ 25,000
Recycling equipment: 6 units at US\$ 4,500 each	US\$ 27,000
Recycled refrigerant gas receiving and sale centers at distributors/importers	

93. REFRIGERATION SERVICING (MAINTENANCE)

INDUSTRIAL REFRIGERATION

Project name: Reconversion of refrigeration processes

Year : 1995 - 1996

Expected outcome: Reduction of 15 MT of CFC

Project Description:

Training in practices for industrial refrigeration with the use of alternative techniques for ODS in large facilities.

Relevant Government action:

Training and public information.

Cost estimate for training:

ITEM	1995 - 1996	TOTAL US\$
Human resources	8,000	8,000
External expert	8,000	8,000
Material resources	1,000	1,000
Equipment	4,000	4,000
Infrastructure	1,000	1,000
Total	22,000	22,000

94. REFRIGERATION SERVICING

Project name: Demonstration project on MAC. (Being submitted by USEPA in a bilateral project).

95. SOLVENTS

Project name: Technical reconversion of C CL4 , MCF y CFC 114.

Year: 1995-1996

Expected outcome: Reduction of 1 MT of CFC
Training in the substitution of solvents.

Project Description:

Training workshop on potential substitutes for solvents.

Relevant Government action:

Training and technical assistance.

Cost Estimate:

ITEM	Years 1995/96	TOTAL US\$
Human resources	10,000	10,000
External expert	10,000	10,000
Material resources	1,000	1,000
Infrastructure	1,000	1,000
Total	22,000	22,000

96. It is expected that these projects will have a three year duration, implementation starting by mid-1995, with a national coverage and the participation of all concerned agencies. Technical assistance required will be requested from the implementing agencies for the Multilateral Fund.
97. With a view to absorb the new technology on refrigeration and air conditioning required by the Montreal Protocol, a national training project is contemplated for the benefit of technical staff and officials who, in one way or another, are involved with this activity.

3.3 Bodies that will have a role in the implementation of the strategy

98. The Department of the Under Secretary for natural resources of the Dominican Republic, through COGO, will convene the organizations that will participate in the application of this strategy.

3.4 Consumption schedules and consequences.

99. The phaseout profile will be stricter than that of the Montreal Protocol if possible.

The attached graphs in annex 2 show the possible projections for consumption reduction (phaseout) up to the year 2010 for the country.

3.5 Priorities in project financing:

100. It is estimated that the Country Programme is committed to achieve the 20% reduction on the current consumption level in three years and its aim is to finance projects of category I, that is, short-term projects. Therefore, its priority is for implementation in the industrial sector with a strengthening of the institutional sector to ensure the implementation.

3.6 Agreement monitoring:

101. The Government of the Dominican Republic, through COGO, will establish a quarterly control of the implementation of this programme and will rely on the existing monitoring and control mechanisms of the agencies involved for the monitoring of the annual ODS consumption in the country, the degree by which it is lower than the limits established by the Protocol, the monitoring of the effectiveness of the Government's actions for the achievement of the expected outcome, and the monitoring of the implementation of the projects in the Action Plan. All of which will be notified to the Fund periodically.

Annex 1. Institutional Strengthening

Title of project:	Creation of Government Commission for the Ozone.COGO.
Sector:	All
ODS consumption:	278.35 ODP T.
Project impact:	N/A
Project cost:	US\$ 143,000
Project duration:	1995-1997
Implementing agency:	UNEP
National leading agency:	Undersecretariat of State for Natural Resources
Purpose:	Creation and operation of a government commission for the ozone. A technical office for the ozone. Institutional action.

Justification

In order to ensure the achievement of this first stage of the Country Programme, as well as to leave open the possibility (according to the research that can be conducted) of requesting the support for financing the technological reconversion, it has been considered the need to create a technical institutional structure in order to expedite and de-bureaucratize, as best as possible, the implementation of the projects. The creation of the Government Commission for the Ozone (COGO) will make possible the coordinating and controlling the arrangements and the proposed action plan.

Membership of the Government Commission for the Ozone (COGO) will consist of a team of 3 technical officers with an adequate infrastructure, to be provided by the Multilateral Fund, for carrying out their operations.

A consultative group will be created with the membership of representatives from the private sector, NGOs, Universities and representatives from the Departments of the Secretaries of State for Agriculture and Trade and Industry, as a mechanism of consultation with the various groups involved.

Structure and Management

The institution responsible for the implementation of the commitments established by the Montreal Protocol will be the Department of the Secretary of State for Agriculture, through the Department of the Under Secretary of State for Natural Resources. The latter will undertake its mandate through a Government Committee for the Ozone (COGO), whose membership will include six technicians from the Dominican Government as follows: two from SURENA and one each from the following institutions: Industry and Commerce, National Meteorological Institute, National Commission for the Environment and Customs Directorate General.

In addition to COGO, a Consultative Committee for the Ozone (CCO) will be created, whose membership would include representatives from all sectors connected with the importation, distribution and consumption of ODSs, members from COGO, the Universidad Autónoma de Santo Domingo, the Honorable Brotherhood of Fire Fighters, and a representative from UNEP/UNDP and any other institution or individual invited to participate in the workings of the Committee. In any case, official membership of the CCO will not exceed 15, in order to ensure its functionality. The Committee will have proportional participation from the private sector (7 members), the public sector (7 members) and one member from the United Nations Development Programme (UNDP).

The Government Committee for the Ozone (COGO) will have the responsibility of developing, submitting and monitoring the policies concerning the import, distribution and consumption of ODS in the territory of the Dominican Republic. COGO's decisions will adhere to the current Dominican legislation and they will have as an objective the economic development and welfare of the Dominican people.

The Consultative Committee for the Ozone (CCO) will have an advisory function for the benefit of COGO and it will have the responsibility of studying and proposing solutions on all matters relating to COGO. It will be a key agency in the definition of the industrial aspects, the implementation, the transfer of technology and public awareness.

Within the State apparatus, coordination and information mechanisms will be created to carry out the control for import data, technical transfer and implementation through COGO.

The main thrust of the implementation commission (COGO) will be the handling, data collecting, technical information dissemination and public awareness.

It will carry out the coordination for the private sector training workshops and seminars, which will be implemented in maintenance companies and servicing outfits, coordinating the technical reports on education and training aimed at the phase out of the consumption and/or emissions of controlled substances.

Years: 1995-1997

Description:

The objectives of this office will be:

1. To coordinate and control the agreements and the proposed action plan.
2. To propose changes to the relevant legislative bodies.
3. To provide technical support to the relevant ministerial departments of the public sector.
4. To call for tenders from implementing agencies.
5. To encourage voluntary agreements by companies.
6. To provide quarterly reports to the Protocol organizations/bodies.
7. To develop public awareness programmes.
8. To provide reports on annual consumption to the Ozone Secretariat, UNEP.
9. To provide progress reports to the Multilateral Fund Secretariat on the implementation of the Country Programme.
10. To amend existing related regulations and legislation.

Anticipated output: Reduction of 57.7 MT of ODS consumption

Cost estimates for the COGO project

ITEM	1995	1996	1997	TOTAL US\$
Human resources	19,333	19,333	19,333	58,000
Engineer/Coord. 1	12,000	12,000	12,000	
Engineer 2	7,333	7,333	7,333	
Infrastructure	10,000			10,000
Ammendments to regulations and legislation *.	6,000	6,000		12,000
Public information	31,000	13,000	13,000	57,000
Operations	6,000	6,000	6,000	18,000
TOTAL	58,000	48,000	42,000	155,000

The Government's contribution to this project will be in the form of Office space, administrative costs and support to operational costs.

* A more detailed description of this activity is included in point 87 of the report