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Executive Committee of the
Interim Multilateral Fund for the
Implementation of the Montreal Protocol

Seventh Meeting
Montreal, 23-26 June 1992

Addendum

COUNTRY PROGRAMME: CHILE

CHILE'S COUNTRY PROGRAMME EVALUATION SHEET

Chile's country programme is submitted to the Seventh Meeting of the Executive Committee as document UNEP/OzL.Pro/ExCom/7/8. It consists of:

- Letter of Transmittal from the Ministry of External Relations
- Country Programme Cover Sheet
- Executive Summary
- Introduction
- Current and Forecast Consumption of Controlled Substances
- Industry Structure
- Institutional Framework
- Policy Framework
- Government and Industry Responses to the Protocol
- Action Plan
- Budget
- Monitoring Arrangements

This country programme covers almost all the necessary elements adequately presenting the required information. However, it does not designate any of the Fund's implementing agencies as leading agency for its implementation.

Actual annual consumption as of 1989 was 1,120 ODP metric tons of controlled substances. Chile has pledged to eliminate its ODS consumption by the year 2006, thus reducing the 10 year grace period by four years.

To achieve this goal Chile developed an innovative action plan for an initial four years (1993 - 96). The budget requirements for implementation of this Action Plan is estimated at US \$1.2 million. It is expected to reduce the consumption by 63 per cent as a result of the implementation of this first stage of the programme and to phase-out the remaining consumption during the 1997 - 2006 period. The phase-out programme for the initial period of four years will cover sectors where technology is proven and cost-effective.

The major components of Chile's action plan are: the Technological Conversion Financing Programme (TECFIN), the Ozone Seal Programme, the Public Awareness Programme, the Sector Specific Training Programme and the creation of the Ozone Team.

TECFIN will provide the framework for subsidizing the purchase and introduction of new alternative technology. The subsidy granted to private companies will depend on and be expressed in US \$ per ODP kg. saved over a "reduction period". The programme will provide incentives to the private sector to apply the most cost-effective technology minimizing conversion costs.

The Ozone Seal Programme is designed for labelling ozone friendly products and for providing the seal to the enterprises and other consumers which switched over to ODS alternatives.

The Ozone Seal Programme is interrelated with, and reinforced by, the Public Awareness Programme which will instruct the general public on the threats to human health and the environment posed by ozone depletion.

The Sector Specific Training Programme will provide technical guidance and training on new alternative substances and technologies in the private sector.

The Ozone Team will be responsible for evaluation, co-ordination and supervision of implementation of the above-mentioned programmes and associated projects.

The budget requirements broken down by action plan components are as follows:

<u>Government Action</u>	<u>Programme Cost in US \$</u>
I. TECFIN	533,325
II. Public Awareness	359,600
III. Specific Training	115,200
IV. Ozone Team	191,200
V. Ozone Seal	7,000
Total	1,206,325

The following reduction in ODP consumption is expected in implementing the proposed projects related to affected sector and to relevant Government actions:

<u>Project/Sector Affected</u>	<u>Relevant Government Action</u>	<u>Reduction in ODP Tonnes</u>	<u>Reduction as Percentage of 1989 Consumption</u>
Conversion to hydrocarbon propellant/AEROSOLS	II, V	219	19.2
Non-essential fire extinguishing applications/HALONS	II, V	97	8.5
Conversion to CO ₂ /ethylene oxide mixture/STERILANTS	III	22	1.9
Adoption of alternative cleaning technology (new equipment) SOLVENTS	I	3	0.3

Project/Sector Affected	Relevant Government Action	Reduction in ODP Tonnes	Reduction as Percentage of 1989 Consumption
Training for conservation practices (existing equipment)/SOLVENTS	III	16	1.4
Conversion to methylene-chloride/FLEXIBLE FOAMS	I, II III, IV	183	16
CFC-11 Reduction in rigid foams - RIGID FOAMS	I	66	5.8
Refrigerant Conservation and Recycling/DOMESTIC & COMMERCIAL REFRIGERATION	I, IV	105.4	9.4
New HCFC and ammonia refrigeration equipment/COMMERCIAL REFRIGERATION	I, II, V	2.5	0.22
TOTAL		714	62.6

Cumulative ODS reduction for the period 1993-1996 is 2,112 tonnes ODP. Costs per one tonne ODP saved is estimated at US \$ 571.

The imaginative choice of projects and priorities outlined in the country programme could be very effective in meeting Chile's target of ODS phase-out. All of them are based on proven and cost-effective technologies.

The intention of the Government of Chile to provide subsidies on the basis of ODS to be saved represents a new approach for implementation of the Protocol. This approach may be recommended as a model to be followed.

Recommendation

The Fund Secretariat is satisfied with the content and format of this document, and recommends it for approval by the Executive Committee at this meeting.

The funding level of US \$1.206 million requested to implement the first phase of the country programme is reasonable. However, issues like support for institutional strengthening should be considered in light of the Executive Committee decision regarding this matter.

**MINISTRY OF FOREIGN AFFAIRS
GENERAL DIRECTORATE OF ECONOMIC
INTERNATIONAL RELATIONS**

Santiago, 25 May 1992

Dear Mr. El-Arini:

The Ministry of Foreign Affairs, on behalf of the Government of Chile, is pleased to present the Country Programme of Chile for the implementation of the Montreal Protocol, for consideration at the next meeting of the Executive Committee, to be held on 25 June.

Chile, as a country operating under paragraph 1 of Article 5 of the Montreal Protocol, is committed to protect the ozone layer. On 8 March 1990, Chile ratified the Montreal Protocol and on 12 March 1992 agreed to the London amendments to the Protocol. As testimony to this commitment, our Government has prepared a Country Programme in which destruction of the controlled substances, following an accelerated programme, will be undertaken by the year 2006, at the latest. The proposed programmes cover a period of four years, and it is estimated that 63 per cent of the heavy consumption of ODSs would be reduced in this first phase. The estimated budget for this Programme is US \$1.206 million. We are requesting this amount from the Multilateral Fund.

An Officer of the Technical-Administrative Committee of the National Commission of the Environment (CONAMA), the inter-ministerial agency designated by the Government to co-ordinate the implementation of the Programme and to comply with the objectives of the Protocol, will make a formal presentation of this Programme to the members of the Executive Committee.

The second phase of the Programme would be focused on two main goals, and not included in the 1993-1996 phase: domestic refrigeration and essential uses of halons. Technological uncertainties hinder advancement of this project.

Hoping that this Programme be accepted by the Executive Committee, I remain, truly yours

Signed by

JOSE MIGUEL INSULZA
Ambassador
Co-ordinator, International Co-operation
Ministry of Foreign Affairs

COUNTRY PROGRAM COVER SHEET

Country: Chile

Lead National Agency: CONAMA (Comision Nacional para el Medio Ambiente)

Period Covered by Country Program: 1993-96

Participating Implementing Agencies: World Bank, UNDP, UNEP

1. Phaseout Schedule

Substances	Current Consumption (tons x ODP) in 1989 (year)	Planned Cumulative Consumption till phaseout (tons x ODP)		Planned Year of Phaseout	
		Article 5 Schedule ^a	Accelerated Schedule ^b	Article 5 Schedule	Accelerated Schedule
CFC-11	$328.4 \times 1.00 = 328.4$	12,949	2,549	2010	2006
CFC-12	$509.4 \times 1.00 = 509.4$	20,085	4,085	2010	2006
CFC-113	$16.1 \times 1.07 = 17.2$	678	172	2010	2006
CFC-114	$1.7 \times 0.8 = 1.4$	55	40	2010	2006
Halon 1211	$28.5 \times 4.00 = 113.8$	4,471	671	2010	2006
Halon 1301	$8.2 \times 16.00 = 130.6$	5,149	2,347	2010	2006
Carbon Tetrachloride	$12.4 \times 1.08 = 13.4$	528	384	2010	2006
Methyl Chloroform	$216.0 \times 0.12 = 25.9$	1,460	258	2015	2006
TOTAL	1,140.1	45,376	10,506		

^a Projected at an annual rate of 5.2 percent through the year 2010 (methyl chloroform is projected through 2015).

^b Projected at an annual rate of 5.2 percent between 1989 and 1992 and linear decline to meet targets of the program (1993-96). A linear decline is also assumed from 1996 through the phaseout year.

COUNTRY PROGRAM COVER SHEET (Continued)

2. Government Action Plan

Year(s)	Description	Target Sector	Intended Effect	Cost ^a (US\$)
1993-96	Technology Conversion Financing Program	Flexible and Rigid Foams, Commercial Refrigeration	Provide a direct economic incentive for each kg of controlled substances reduced.	\$533,300
1993	Ozone Seal Program	Aerosols, Refrigeration	Develop standard labels for products and services that avoid emissions of controlled substances.	\$7,000
1993-95	Public Awareness Program	Aerosols, Halons	Further stimulate consumer awareness directing demand to products and services containing the ozone seal. Inform the public about health effects and preventive measures.	\$359,600
1993	Sector-Specific Training Program	Sterilants, Refrigeration, Foams, Halons	Provide technical assistance to small firms on methods to minimize emissions and/or use of controlled substances.	\$115,200
1993-96	Ozone Team	All	Overall program coordination and monitoring.	\$191,200

^a Cost figures have been rounded to the nearest one hundred dollars.

COUNTRY PROGRAM COVER SHEET (Continued)

3. Summary of Expected Project

Start Year	Type of Project	Project Description	Relevant Government Actions	Annual Tons x ODP Phased Out
1993	1. Aerosol Conversion	Substitution of hydrocarbon propellant for CFC-12 in facilities that have not already made the conversion. This involves equipment conversion and upgrading facilities for safe handling of hydrocarbons.	Ozone Seal; Public Awareness Program	219
1993	2. Conversion to Halon Replacements in Non-essential Applications	Adoption of alternative fire extinguishing methods in new installations and conservation practices during inspection and refilling of existing systems by service firms.	Ozone Seal; Public Awareness Program	97
1993	3. 50% Reduction in CFC in Rigid Insulation Foam	Reduction of CFC-11 consumption in refrigerator foams by increasing the water content. This project involves the modification of five plants, a short production trial, process and product modifications, and quality control and verification tests. Project will also train operators on the new foam processes.	TECFIN; Ozone Seal; Public Awareness Program	66
1994	4. Sterilants	Conversion to from CFC and ethylene oxide to CO ₂ and ethylene oxide.	Sector Specific Training Program	22
1994	5. Solvents (new equipment)	Conversion from CFC-113 and MCF to aqueous cleaning.	TECFIN	3
1993	6. Solvents (existing equipment)	Operator training to minimize solvent losses during metal cleaning operations.	Sector Specific Training Program	16
1994	7. Commercial refrigeration (new equipment)	Production of new equipment with HCFCs and ammonia in order to replace old equipment or equipment needed in new facilities.	TECFIN; Ozone Seal; Public Awareness Program	2.5
1994	8. Conservation and recycling of refrigerants in commercial refrigeration	This project is expected to generate one or two private recycling centers.	TECFIN; Ozone Seal;	105.4
1994	9. Conversion of Flexible Slabstock Polyurethane Foam	Conversion of flexible slabstock polyurethane foam from CFC-11 to methylene chloride. Involves adding equipment to properly vent the workplace of methylene chloride fumes.	TECFIN; Sector Specific Training Program; Ozone Seal; Public Awareness Program	183