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

Twelfth Meeting
Montreal, 28-30 March 1994

CONSOLIDATED 1994 WORK PROGRAMME

Introduction

This Consolidated Work Programme was prepared by the Fund Secretariat from information included in the 1994 work programmes of the implementing agencies and Parties' bilateral assistance programmes.

The Report is divided in two sections:

Section I: An overview describing the projects and other activities for which funding is being requested; and

Section II: Which consists of the following two parts:

- Part I: Activities costing below US \$500,000; and
- Part II: Projects costing above US \$500,000.

The data reported in Section II is arranged by sector, country and project title. A description, amount of ODS to be phased-out, implementing agency or Party, requested cost, project time frame and project type is provided for each proposed project or activity.

Individual work programmes of each implementing agency and bilateral assistance are provided separately in documents UNEP/OzL.Pro/ExCom/12/13 (UNDP), 12/14 (UNEP), 12/15 (UNIDO), 12/16 (World Bank), 12/5 (bilateral assistance) along with comments of the Fund Secretariat where applicable.

SECTION I: OVERVIEW

1. The four implementing agencies and one Party not operating under Article 5 of the Montreal Protocol, are submitting for consideration of the Executive Committee at its twelfth meeting, their proposed activities and projects for 1994. In total, 150 activities in 40 Article 5 countries, including 53 investment projects, 31 technical assistance programmes and 3 training programmes are being presented.

2. By region, 77 activities were submitted for Article 5 countries in Asia and the Pacific, followed by Africa (25 activities), Latin America and the Caribbean (20 activities), and Europe (5 activities). Additionally, 24 global activities were submitted.

3. ODS phase-out related activities are being proposed, for the first time, in 11 Article 5 countries, e.g., Bahrain, Central African Republic, Colombia, Jamaica, Lebanon, Malta, Myanmar, Samoa, Saint Kitts and Nevis, Swaziland and Viet Nam.

Allocations of funds

4. More than US \$50.9 million is being requested by the four agencies for the implementation of these projects. Also, US \$0.73 million is being requested by the United States in bilateral assistance.

5. The largest allocation of funds corresponds to projects under the refrigeration sector inclusive of the insulation foam (US \$23.0 million) and the foam (US \$9.6 million) sector. The "several" sector category (US \$9.4 million) indicates projects which cover more than one sector, e.g., country programme preparation, project preparation, supervision of approved projects under implementation, etc. The distribution of project allocations is presented in Table 1.

Table 1
Project allocations by implementing agency, Party and sector
(in thousand US\$)

Sector	IBRD	UNDP	UNEP	UNIDO	Bilateral	Total
Aerosol	1,998	360				2,358
Foam	867	8,713				9,580
Fumigant		87		120		207
Halon	1,210	180	100		735	2,225
Refrig.	8,955	3,237		10,814		23,006
Solvent	1,684	2,162		1,020		4,866
Several	4,609	767	3,458	603		9,437
Total	19,323	15,506	3,558	12,557	735	51,679

Country programmes

6. The implementing agencies are requesting US \$0.4 million for the preparation of 9 new country programmes (under UNEP work programme), e.g., Bahrain, Central African Republic, Jamaica, Lebanon, Malta, Myanmar, Samoa, Saint Kitts and Nevis and Swaziland.

7. In addition, over US \$0.34 million are being requested for completion, follow-up and update of country programmes in 7 other Article 5 countries. This will bring to 65 the total number of Article 5 countries for which funds have been allocated for the preparation of their country programmes.

Institutional strengthening

8. Funds amounting to over US \$1.3 million are being requested for institutional strengthening in 6 Article 5 countries, e.g., Colombia, Côte D'Ivoire, Malawi, Maldives, Sri Lanka and Sudan. If the Committee approves these requests, 37 ozone units will have been supported in Article 5 countries.

Investment projects

9. The implementing agencies and one Party are submitting for consideration by the Executive Committee 53 investment projects in Brazil, China, Egypt, Ghana, India, Jordan, Malaysia, Mauritius, Philippines, Thailand and Uruguay. About 11,100 ODP tonnes will be phased-out annually once these projects become operational. The sectoral distribution of controlled substances to be phased-out is presented below.

Sector	ODP tonnes per year
Aerosol	6,615
Foam	1,529
Halon	1,535
Refrigeration	1,301
Solvent	121

10. Implementation of all proposed and approved investment projects will lead to the elimination of 41,960 ODP tonnes of controlled substances.

Training programmes and technical assistance activities

11. The implementing agencies are requesting over US \$4.15 to undertake training programmes at the national and regional level and technical assistance activities.

PART I:

ACTIVITIES BELOW US \$500,000

ORIGINAL

AEROSOL

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA						
Mauritius	Aerosol conversion at Compagnie Manufacturiere de Produits Cosmetiques <i>ltee.</i> Replacement of CO2 to hydrocarbon propellant in the manufacture of aerosol products. The switch from CFC to CO2 did not work. Explosion-proof gassin room with dual speed ventilation system, gas detectors and other safety devices, and 2 conveyor belts will be provided. NOTE: No CFC is presently consumed, however, it will be used if the conversion to hydrocarbon is not made.	25	UNDP	\$124,300	1 year (1994)	Investment
	<i>TOTAL FOR MAURITIUS</i>	ODP 25	COST	\$124,300	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR AFRICA</i>	ODP 25	COST	\$124,300	<i>NUMBER OF PROJECTS: 1</i>	
ASIA AND THE PACIFIC						
Malaysia	Safety and technical programme to aid manufacturers of aerosol products To provide safety audits to enterprises using hydrocarbons as aerosol propellant, recommendations to correct deficiencies, and enhance safety at the plant level.	-	UNDP	\$235,700	2 years (1994-1995)	Technical assistance
	<i>TOTAL FOR MALAYSIA</i>	ODP	COST	\$235,700	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	ODP	COST	\$235,700	<i>NUMBER OF PROJECTS: 1</i>	
GLOBAL						
Global	Supervision of project implementation	-	IBRD	\$349,931	1 year (1994)	Project preparation
	<i>TOTAL FOR GLOBAL</i>	ODP	COST	\$349,931	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR AEROSOL SECTOR</i>	ODP 25	COST	\$709,931	<i>NUMBER OF PROJECTS: 3</i>	

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Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA						
Ghana	<u>Umbrella project for continuation of CFC free-technology in the manufacture of flexible polyurethane foam</u> The flexible slabstock industries are concentrated in Accra (4 factories) and Kumasi (1 factory). Within the past 3 years, with Govt. encouragement, every company replaced CFC-11 with methylene chloride. The major concern is inadequate ventilation in the manufacturing and curing areas, metering system for the methylene chloride and a water supply for fire protection within the proposed hoods. A second component of this project is technical assistance in the foam manufacturing process.	24	UNDP	\$345,000	9 months (1994)	Investment project
	<i>TOTAL FOR GHANA</i>	<i>ODP 24</i>	<i>COST</i>	<i>\$345,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR AFRICA</i>	<i>ODP 24</i>	<i>COST</i>	<i>\$345,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
ASIA AND THE PACIFIC						
India	<u>Phase-out of the use of CFC in the manufacture of extruded polyethylene foam sheet at Camphor and Allied Products Ltd.</u> Replacement of a mixture of CFC-11 and CFC-12 as a blowing agent with liquified petroleum gas (LPG) and isobutane used in the production of extruded low density polyethylene foam sheet for packaging and insulation purposes. The company will work closely together with Enviro-Tek (USA), a company that is specialized in this area. It will include the installation of storage capacity for LPG and isobutane, modification of the extruder and safety related investments to cope with the use of a flammable substance.	120	UNDP	\$280,000	6 months (1994)	Investment
	<u>Phase-out of the use of CFC in the manufacture of rigid PUF panels at Sunpra Ltd.</u> Replacement of CFC-11 used in the of production of cold storage panels with reduced CFC technology followed by HCFC-22. Replacement of low-pressure foaming unit with a high-pressure unit and a PRE-blender will be provided. Trials and testing will be performed. The use of HCFC-22 will lead to higher operating costs. HCFC technology constitutes an interim technology, but the new equipment will allow implementation of emerging technologies at no additional capital investment.	20	UNDP	\$444,000	1 year (1994)	Investment
N/A	Not available	-	Not applicable			Page 2

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Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
India	Phase-out of the use of CFC in the manufacture of rigid PUF for thermoware at Eagle Flasks Industries Ltd. Replacement of CFC-11 with HCFC-22 in the manufacture of thermoware. HCFC-22 has been selected, based on economic considerations and availability from local sources. Replacement of the low-pressure foaming equipment with a high-pressure equipment will be provided. The company will induce recurrent incremental costs related to higher material prices. HCFC constitute an interim solution, but the choice of equipment will allow a subsequent move to HFC.	20	UNDP	\$365,000	1 year (1994)	Investment
	Conversion of CFC-11/polyol systems to low/non ODS formulations at UB Petroproducts Ltd. The project aims at importing new technology from its Italian Partner (Enichem) to develop formulated polyol and isocyanate foam systems that can be used with CFC alternate blowing agents; to test and characterize polyol systems to establish a facility for high pressure polyol blending and to modify the polyol plant. It will be implemented in two phases. Phase I: Transfer of technology, establish high pressure foam machinery and test facilities, evaluation of different CFC-alternatives, production of base polyols, and testing and characterization. Phase II: Commercial production of formulated polyols, trial testing at customers end, adaptation of ODS-free alternate systems, and train customers and technicians. NOTE: Technology transfer components were approved at the 11th ExCom Meeting.	N/A	IBRD	\$385,864	3 years (1994-1997)	Investment
	Conversion of CFC-11/polyol systems to low/non ODS formulations at Manali Petrochemical Ltd. Madras The project consists of two phases. Phase I: Conversion of CFC-11/polyol systems to low non-ODS formulations for flexible mould foam, including licence technology from ARCO Inc. (USA) to manufacture polyol formulations using water-blown system, training in and outside India, and field trials. And for rigid moulded foams it will include a technical consultancy agreement with Mitsui (Japan) to provide guidance in development of formulations, procurement of catalysts, chemicals and blowing agents (HCFC-22, HCFC-141b, HFC-134a and cyclopentane) for testing, procurement of additional high pressure dispensing equipment, large life size mould to simulate operating conditions of refrigerator manufacture, and additional testing equipment. Phase II: Establishment of manufacturing and supply capability for low/non-ODS systems. NOTE: Technology transfer components were approved at the 9th ExCom Meeting.	N/A	IBRD	\$481,000	3 years (1994-1997)	Investment
TOTAL FOR INDIA		ODP 160	COST	\$1,955,864	NUMBER OF PROJECTS: 5	

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Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Malaysia	Phase-out of the use of CFC in the manufacture of polyurethane insulated panel at Cycle World Sdn. Bhd. Replacement of CFC-11 by reduced CFC technology followed by HCFC-141b. Existing low pressure equipment will be replaced with high pressure and a pre-blending unit. Some costs for trials and recurrent incremental operating cost related to higher isocyanate use and the use of HCFC-141b, are expected. The equipment will be capable to employ emerging ODS free technologies (CO and HCFC) as they mature.	45	UNDP	\$353,000	1 year (1994)	Investment
	Phase-out of the use of CFC-12 in the manufacture of EPS/EPE foam sheet at Pulau Lampak Industries Sdn. Bhd. Replacement of CFC-12 used as blowing agent in the manufacturing of EPS and EPE foam sheet with LPG since butane, the usual replacement candidate, is not locally available. Existing equipment will be adapted for this purpose. Safety modifications in the production environment will be implemented to mitigate fire and exposure hazards from the use of LPG. Production and safety training will be provided.	50	UNDP	\$355,000	9 months (1994)	Investment
	Phase-out of the use of CFC-11 in the manufacture of integral skin, spoiler and moulded flexible foam at P.U. Tech Sdn. Bhd. Replacement of CFC-11 used in the production of spoiler (rigid foam), moulded flexible foam and integral skin foam (ISF), with reduced CFC technology followed by HCFC-22 replacement. The company realizes that the use of HCFC-22 constitutes an interim solution. The equipment will be capable to employ emerging ODS free technologies (CO2 or HFC) as they mature. Incremental operating costs is expected, which will be partly offset by lower losses in preparation of blends.	24	UNDP	\$198,000	1 year (1994)	Investment
	Phase-out of the use of CFC-11 in the manufacture of integral skin polyurethane foam at P.U. Mate Sdn. Bhd. Replacement of CFC-11 used in the production of polyurethane integral skin foam (ISF) for the furniture and automotive industries, with reduced CFC technology followed by HCFC-22 replacement. Pre-blending equipment will be installed. The company realizes that the use of HCFC-22 constitutes an interim solution. The equipment will be capable to employ emerging ODS free technologies (CO2 or HFC) as they mature. Incremental operating costs is expected, which will be partly offset by lower losses in preparation of blends and savings in cleaning solvents.	10	UNDP	\$113,000	1 year (1994)	Investment
	Phase-out of the use of CFC-11 in the manufacture of flexible polyurethane foam at Pexafoam Sdn. Bhd. Replacement of CFC-11 used in the production of polyurethane flexible foam and moulded polyurethane foam for the furniture, automotive and electronic industries, with methylene chloride. The modifications will include extra metering systems, encapsulation, ventilation, fall plate modification, and reformulation. Safety and process training for production staff and personnel will be provided.	120	UNDP	\$195,000	1 year (1994)	Investment

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Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Malaysia	Phase-out of the use of CFC-11 in the manufacture of flexible polyurethane foam (slabstock) at N.Y.L. Sdn. Bhd. Replacement of CFC-11 used in the production of polyurethane flexible foam for the furniture and packaging industry, with methylene chloride. The modifications will include extra metering systems, encapsulation, ventilation, fall plate modification, and reformulation. Safety and process training for production staff and personnel will be provided.	55	UNDP	\$130,000	1 year (1994)	Investment
	TOTAL FOR MALAYSIA	ODP 304	COST	\$1,344,000	NUMBER OF PROJECTS: 6	
Philippines	Phase-out of the use of CFC in the manufacture of rigid PUF for thermoware at Nikkon Industrial Corporation Replacement of CFC-11 used in the manufacture of rigid polyurethane foam for thermoware products with chemically generated CO ₂ , complemented for an interim period by HCFC-141b. Two low-pressure foam dispensing units will be replaced by 2 high-pressure units with variable gear ratio. Trials, training programme and technology transfer will be included. Incremental recurrent costs based on higher material cost, are expected.	417	UNDP	\$315,000	1 year (1994)	Investment
	TOTAL FOR PHILIPPINES	ODP 417	COST	\$315,000	NUMBER OF PROJECTS: 1	
Thailand	Phase-out of the use of CFC-11 in the manufacture of laminated rigid polyurethane foam for insulation panels at Henger Panel Replacement of CFC-11 used in the manufacture of laminated rigid PUF panels with chemically generated CO ₂ and HCFC-141b. The low-pressure foam dispensing equipment will be replaced with a high-pressure unit and a pre-blending unit will be installed. The equipment will allow the use of lower (or zero) ODP chemicals. Incremental recurrent costs are partially offset by savings from the elimination of cleaning solvents and less material losses.	15	UNDP	\$257,500	1 year (1994)	Investment
	Elimination of the use of CFC-12 and CFC-114 in the manufacture of extruded low density polyethylene foam sheet at Mic-Cell Co. Ltd. Replacement of CFC-12 and CFC-114 used in the manufacturing of extruded low density polyethylene (LDPE) foam sheet and profiles for insulation purposes with a mixture of LPG and alcohol. It includes safety features to address the hazards generated by the use of a flammable substance. No significant change in operating costs are expected. The building is suited for the use of a flammable substance provided it and the production equipment are modified for this use and safety procedures are followed.	44	UNDP	\$339,500	1 year (1994)	Investment
N/A	Not available	-	Not applicable			Page 5

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Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Thailand	Elimination of the use of CFC in the manufacture of extruded polystyrene foam sheet at 2 companies (phase I) Replacement of CFC in the manufacture of extruded polystyrene foam sheet (XPS) at Food Box Co. Ltd., and Thai Poly Seal Material Industries Co. Ltd. with butane. Equipment modifications may include, inter alia, location of the butane tank, injection systems for additives, replacement of foam metering pump and injection system, explosion proof motors and switches, ventilation system, monitoring and alarm systems and extra fire extinguishers. The project includes safety measures to address the flammable nature of butane. This is the first phase of a two phase CFC elimination program for XPS applications.	100	UNDP	\$455,000	1 year (1994)	Investment
	<i>TOTAL FOR THAILAND</i>	<i>ODP 159</i>	<i>COST</i>	<i>\$1,052,000</i>		<i>NUMBER OF PROJECTS: 3</i>
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	<i>ODP 1,040</i>	<i>COST</i>	<i>\$4,666,864</i>		<i>NUMBER OF PROJECTS: 15</i>
LATIN AMERICA AND THE CARIBBEAN						
Brazil	Conversion to CFC-free technology in the manufacture of rigid polyurethane foam (spray) The project will (i) phase-out CFC in the manufacture of R-PUF spray foams at Therm-Jet (Belo Horizonte), Zenimont and Lavale (Sao Paulo), representing 70 % of insulation contractors in Brazil, (ii) to demonstrate the technology used to other manufacturers and (iii) to aid these manufacturers to phase-out CFC. The system, developed by Poly-Urethane Industria Comercio LTDA (Poly-Urethane), utilizes a castor oil based ester resin as a co-polyol. Poly-Urethane has also developed equipment that supports the new systems.	72	UNDP	\$370,000	1 year	Investment
	<i>TOTAL FOR BRAZIL</i>	<i>ODP 72</i>	<i>COST</i>	<i>\$370,000</i>		<i>NUMBER OF PROJECTS: 1</i>
	<i>TOTAL FOR LATIN AMERICA AND THE CARIBBEAN</i>	<i>ODP 72</i>	<i>COST</i>	<i>\$370,000</i>		<i>NUMBER OF PROJECTS: 1</i>
	<i>TOTAL FOR FOAM SECTOR</i>	<i>ODP 1,136</i>	<i>COST</i>	<i>\$5,381,864</i>		<i>NUMBER OF PROJECTS: 17</i>

FUMIGANT

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
ASIA AND THE PACIFIC						
China	Survey of production and consumption of methyl bromide in China Collection and analysis of basic information on production and consumption of methyl bromide to facilitate planning of a future phase-out programme.	-	UNDP	\$87,000	1 year	Technical assistance
	TOTAL FOR CHINA	ODP	COST	\$87,000	NUMBER OF PROJECTS: 1	
Region: ASP	<u>Workshop for regional approach for time bound reduction/elimination of methyl bromide</u> To provide information on current cases of methyl bromide and associated problems. To identify methods and technologies to control the impacts from the application of methyl bromide and facilitate the phasing-out of methyl bromide. The project will undertake an assessment of methyl bromide produced and used in developing countries and substitutes.	-	UNIDO	\$120,000	1 year (1994)	Technical assistance
	TOTAL FOR REGION: ASP	ODP	COST	\$120,000	NUMBER OF PROJECTS: 1	
	TOTAL FOR ASIA AND THE PACIFIC	ODP	COST	\$207,000	NUMBER OF PROJECTS: 2	
	TOTAL FOR FUMIGANT SECTOR	ODP	COST	\$207,000	NUMBER OF PROJECTS: 2	

HALON

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA						
Egypt	Technical assistance to prepare a national halon action plan and project development Action plan to phase-out halons and identify and prepare project proposals. It will contain, inter alia, information on the halons sector, a time schedule to phase-out halons for non-essential uses, produce legislation, identify fire equipment companies using halons for production, installation and servicing and provide project preparation assistance to those companies if required.	-	UNDP	\$25,000	10 months (1994)	Technical assistance
	<i>TOTAL FOR EGYPT</i>	<i>ODP</i>	<i>COST</i>	<i>\$25,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR AFRICA</i>	<i>ODP</i>	<i>COST</i>	<i>\$25,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
ASIA AND THE PACIFIC						
China	Acquisition of local air compressors for halon recycling machines Procurement of 127 air compressors for the 127 halon-1211 recovery/recharge machines to be procured through the USEPA as part of the USA bilateral assistance. NOTE: ODS to be phased-out are considered in the recovery/recycling machines project.	-	UNDP	\$155,000	1 year	Investment
	<i>TOTAL FOR CHINA</i>	<i>ODP</i>	<i>COST</i>	<i>\$155,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	<i>ODP</i>	<i>COST</i>	<i>\$155,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
GLOBAL						
Global	Halon bank management information collection and dissemination (1994) Provide information about national halon banking, recycled halon availability, and non-halon fire protection alternatives.	-	UNEP	\$50,000	Apr 1994-Mar 1995	Technical assistance
	<u>Halon bank management case study logbook</u> Provide examples of successful replacement of halons and halon banking in developed countries, through a case study format.	-	UNEP	\$40,000	May-Oct 1994	Technical assistance

HALON

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Global	Translate the halon management banking for the future information kit Make existing information on halon bank management accessible to speakers of Arabic, Chinese, French, Russian and Spanish.	-	UNEP	\$10,000	Apr 1994-Mar 1995	Technical assistance
	<i>TOTAL FOR GLOBAL</i>	<i>ODP</i>	<i>COST</i>	<i>\$100,000</i>	<i>NUMBER OF PROJECTS: 3</i>	
	<i>TOTAL FOR HALON SECTOR</i>	<i>ODP</i>	<i>COST</i>	<i>\$280,000</i>	<i>NUMBER OF PROJECTS: 5</i>	

REFRIGERATION

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA						
Algeria	Preparation of investment projects in the manufacture of domestic refrigerators and freezers in 3 plants Preparation of investment projects in the refrigeration sector for three plants which all belong ENIEM, an important consumer of ODS. Assistance will be provided for improving existing service operations to reduce venting of CFCs and development of servicing capability for servicing refrigerators using HFC-134a.	-	UNIDO	\$25,000	6 months (1994)	Project preparation
	TOTAL FOR ALGERIA	ODP	COST	\$25,000	NUMBER OF PROJECTS: 1	
Egypt	Preparation of investment projects in the commercial and industrial refrigeration	-	IBRD	\$25,000	1 year (1994)	Project preparation
	TOTAL FOR EGYPT	ODP	COST	\$25,000	NUMBER OF PROJECTS: 1	
	TOTAL FOR AFRICA	ODP	COST	\$50,000	NUMBER OF PROJECTS: 2	
ASIA AND THE PACIFIC						
India	Modification of CFC-12 MAC manufacturing for HFC-134a at Subros Ltd. The project includes changes in production equipment and compressor design modifications for the company's export market. The conversion of the production line will benefit the second phase of the project which will concern the phase-out of all compressors for the domestic market. Local ownership of 74% was considered in the incremental cost analysis. NOTE: \$1,710,000 were approved at the 11th ExCom Meeting.		IBRD	\$315,000	2 years (1994-1995)	Investment
	TOTAL FOR INDIA	ODP	COST	\$315,000	NUMBER OF PROJECTS: 1	
Jordan	ODS phase-out at Middle East Electrical Industries Co. Ltd. Replacement of CFC in the production of domestic refrigerators at MEE located in Amman with HCFC-141b as foam blowing agent and HFC-134a as refrigerant. It will include redesigning refrigerator models (prototype, testing, trial manufacturing and adaptation, and reliability tests), and conversion of the refrigeration system, insulation foam blowing system, and the refrigeration service carried out by the company. Local ownership fraction of 75% was considered in the incremental cost analysis.	21	UNIDO	\$461,940	18 months (1994-mid 1995)	Investment
	TOTAL FOR JORDAN	ODP	COST	\$461,940	NUMBER OF PROJECTS: 1	

REFRIGERATION

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Pakistan	<u>Strategy to phase-out ODS in the refrigeration industry</u> Preparation of a sectoral strategy to monitor the implementation of the phase-out process as the basis for conversion of enterprises in the refrigeration industry to non-ODS technologies. It will include: production and servicing of industrial, commercial and domestic refrigeration, air conditioning and MAC equipment.	-	UNIDO	\$50,000	3 months (mid-1994)	Technical assistance
	<i>TOTAL FOR PAKISTAN</i>	ODP	COST	\$50,000	NUMBER OF PROJECTS: 1	
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	ODP	COST	\$826,940	NUMBER OF PROJECTS: 3	
LATIN AMERICA AND THE CARIBBEAN						
Brazil	<u>Preparation of investment projects in the refrigeration sector</u>	-	IBRD	\$164,380	1 year (1994)	Project preparation
	<i>TOTAL FOR BRAZIL</i>	ODP	COST	\$164,380	NUMBER OF PROJECTS: 1	
Uruguay	<u>Conservation and demonstration programme for domestic and commercial refrigeration and installation of recovery/recycling equipment</u> To conduct 4 national training workshops for technicians and distributors of CFC in the domestic and commercial refrigeration sector, with practical demonstrations on recycling and recovery equipment. 100 units of recovery equipment and 10 units of recycling equipment would be provided to technicians and distributors, according to a plan designed and carried out by the Govt.	22	UNDP	\$175,000	2 years (1994-1995)	Investment
	<i>TOTAL FOR URUGUAY</i>	ODP	COST	\$175,000	NUMBER OF PROJECTS: 1	
	<i>TOTAL FOR LATIN AMERICA AND THE CARIBBEAN</i>	ODP	COST	\$339,380	NUMBER OF PROJECTS: 2	
GLOBAL						
Global	<u>Supervision of project implementation</u>	-	IBRD	\$156,750	1 year (1994)	Project preparation
	<i>TOTAL FOR GLOBAL</i>	ODP	COST	\$156,750	NUMBER OF PROJECTS: 1	
	<i>TOTAL FOR REFRIGERATION SECTOR</i>	ODP	COST	\$1,373,070	NUMBER OF PROJECTS: 8	

SOLVENT

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
ASIA AND THE PACIFIC						
China	<u>Cleaning applications deployment center for replication of ODS-free process across China</u> The project will facilitate the conversions of enterprises (about 3,000 lines in cleaning processes) through No. 46 Institute (Tienjin City). Small scale cleaning process systems will be installed at the Institute so that enterprises can evaluate the cleaning effectiveness of proposed technologies applied to their specific needs. ODS phase-out monitoring and training in the solvent sector for the enterprises involved in the process will be co-ordinated by the Institute.	-	UNDP	\$489,400	1 year	Technical assistance
	TOTAL FOR CHINA		<i>COST</i>	<i>\$489,400</i>	<i>NUMBER OF PROJECTS: 1</i>	
Malaysia	<u>Elimination of the use of 111 TCA in the metal cleaning process at Keing Hing Sdn. Bhd.</u> Phase-out of 1,1,1-trichloroethane (111 TCA) used to remove metal stamping oils during production of ferrous and non-ferrous materials (mild steel, cold and hot rolled steel, dip galvanized and electro-galvanized steels, tin plate, and aluminum) by converting to an aqueous degreasing process. The waste water from this process will have to be treated prior to discharge to drain to remove both heavy metals and stamping oil residues.	1	UNDP	\$306,000	9 months (1994)	Investment
	TOTAL FOR MALAYSIA		<i>COST</i>	<i>\$141,100</i>	<i>18 months (1994-mid 1995)</i>	<i>Investment</i>
	<u>Elimination of the use of 111 TCA in the integral circuit lead frame cleaning processes at San Matech Sdn. Bhd.</u> Replacement of CFC-113 used to clean lead frames with a hydrocarbon cleaning agent. The existing cleaning agent/open top vapour degreaser equipment will be replaced with a hydrocarbon cleaning agent/ultrasonic cleaning equipment. The 2 process lines will be re-routed to converge into 1 line, with appropriate electrical and mill right activities. Fire extinguishers will be installed where needed and training programme will be provided.	1	UNDP	\$141,100	18 months (1994-mid 1995)	Investment
	TOTAL FOR ASIA AND THE PACIFIC		<i>COST</i>	<i>\$447,100</i>	<i>NUMBER OF PROJECTS: 2</i>	
		2	<i>COST</i>	<i>\$936,500</i>	<i>NUMBER OF PROJECTS: 3</i>	
GLOBAL						
Global	<u>Supervision of project implementation</u>	-	IBRD	\$156,749	1 year (1994)	Project preparation
	TOTAL FOR GLOBAL		<i>COST</i>	<i>\$156,749</i>	<i>NUMBER OF PROJECTS: 1</i>	
	TOTAL FOR SOLVENT SECTOR		<i>COST</i>	<i>\$1,093,249</i>	<i>NUMBER OF PROJECTS: 4</i>	

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA						
Algeria	Preparation of investment projects to phase-out CFC-11 and 14 in the manufacture of aerosols and CFC-113 in the manufacture of razor blades Preparation of investment projects in the manufacture of aerosols and razor blades at ENAD plants located in Wilaya de Bowmeherebs.	-	UNIDO	\$25,000	6 months (1994)	Project preparation
	Preparation of investment projects	-	IBRD	\$100,676	1 year (1994)	Project preparation
	TOTAL FOR ALGERIA					
	<u>Country programme preparation</u>	ODP	COST	\$125,676	NUMBER OF PROJECTS: 2	
Central African Republic		-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	TOTAL FOR CENTRAL AFRICAN REPUBLIC					
	<u>Institutional strengthening</u>	ODP	COST	\$44,500	NUMBER OF PROJECTS: 1	
Cote D'Ivoire	To establish and operate an Ozone Secretariat under the Ministry of Environment, Construction and Urban Development, responsible for the co-ordination, monitoring, and follow-up for the implementation of the CPG. It will supervise the public awareness programme, supply industry with information on ODS substitutes and technologies available, assess candidates for training programmes, and organize and manage seminars.	-	UNEP	\$160,854	3 years (1994-1996)	Institutional strengthening
	TOTAL FOR COTE D'IVOIRE					
	<u>Supervision of project implementation</u>	ODP	COST	\$160,854	NUMBER OF PROJECTS: 1	
Egypt		-	IBRD	\$50,000	1 year (1994)	Project preparation
	TOTAL FOR EGYPT					
	<u>Institutional strengthening, creation of an Ozone Unit</u>	ODP	COST	\$50,000	NUMBER OF PROJECTS: 1	
Malawi	To establish and operate an Ozone Unit under the Department of Research and Environment in the Office of the President and Cabinet, responsible for the co-ordination, monitoring, and follow-up for the implementation of the CPG. Defining criteria for import bans, taxes and duties on ODS, co-operation with customs, monitoring, information exchange, development of industrial projects and training activities will be co-ordinated by the Ozone Unit.	-	UNEP	\$100,000	3 years (1994-1996)	Institutional strengthening
	TOTAL FOR MALAWI					
	<u>Preparation of projects in the refrigeration and foam sectors</u>	ODP	COST	\$100,000	NUMBER OF PROJECTS: 1	
Mauritius		-	UNDP	\$25,000	6 months (1994)	Project preparation

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Nigeria	TOTAL FOR MAURITIUS	ODP	COST	\$25,000	NUMBER OF PROJECTS: 1	
	<u>Preparation of investment projects</u>	-	IBRD	\$100,000	1 year (1994)	Project preparation
	<u>Completion of country programme</u>	-	IBRD	\$150,000	1 year (1994)	Country programme
Sudan	TOTAL FOR NIGERIA	ODP	COST	\$250,000	NUMBER OF PROJECTS: 2	
	<u>Institutional strengthening, creation of an Ozone Unit</u>	-	UNEP	\$168,300	3 years (1994-1996)	Institutional strengthening
	To establish and operate an Ozone Unit under the Higher Council for Environment and Natural Resources, responsible for the co-ordination, monitoring, and follow-up for the implementation of the CPG. Defining criteria for import bans, taxes and duties on ODS, co-operation with customs, monitoring, information exchange, development of industrial projects and training activities will be co-ordinated by the Ozone Unit.					
Swaziland	TOTAL FOR SUDAN	ODP	COST	\$168,300	NUMBER OF PROJECTS: 1	
	<u>Country programme preparation</u>	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
Tunisia	TOTAL FOR SWAZILAND	ODP	COST	\$44,500	NUMBER OF PROJECTS: 1	
	<u>Supervision of project implementation</u>	-	IBRD	\$76,296	1 year (1994)	Project preparation
Region: AFR	TOTAL FOR TUNISIA	ODP	COST	\$76,296	NUMBER OF PROJECTS: 1	
	<u>Follow-up on prior regional workshop and training activities</u>	-	UNEP	\$50,000	Apr 1994-Mar 1995	Training
	Ensure that the Regional Workshop for Africa on the Implementation of the Montreal Protocol (Nairobi, Dec 1992), and the Training Courses on Good Practices in Refrigeration (Ghana, Oct 1993 and Kenya, Dec 1993), have led to concrete ODS-phase-out actions.					
	<u>Regional data collection systems workshops for Africa (English-speaking countries)</u>	-	UNEP	\$150,000	Mid-1994 Mid-1995	Technical assistance
	Assist countries in designing and establishing a data collection, data reporting, and monitoring system to measure ODS consumption. One workshop for English-speaking countries in Africa is envisaged.					

SEVERAL

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Region: AFR	ODS officers network for Africa To establish co-operation among ODS officers in a sub-region with developed countries, and to strengthen the capacity of the ozone units to design and implement effective strategies, well-adapted to local conditions, leading to ODS phase-out at the earliest possible date. An ODSNET in Africa will be divided into one network for English-speaking countries (ODSONET/AF-E) and one for French-speaking countries (ODSONET/AF-Fr).	-	UNEP	\$180,000	Oct 1994-Mar 1995	Technical assistance
	TOTAL FOR REGION: AFR	ODP	COST	\$380,000	NUMBER OF PROJECTS: 3	
	TOTAL FOR AFRICA	ODP	COST	\$1,425,126	NUMBER OF PROJECTS: 15	
ASIA AND THE PACIFIC						
Bahrain	Country programme preparation	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	TOTAL FOR BAHRAIN	ODP	COST	\$44,500	NUMBER OF PROJECTS: 1	
China	Supervision of project implementation of China ODS I	-	IBRD	\$79,000	1 year (1994)	Project preparation
	Supervision of project implementation of China ODS II	-	IBRD	\$110,000	1 year (1994)	Project preparation
	TOTAL FOR CHINA	ODP	COST	\$189,000	NUMBER OF PROJECTS: 2	
Fiji	Institutional strengthening for the phase-out of ODS controlled under the Montreal Protocol To establish and operate an ODS Sub-Unit within the Department of Environment, Ministry of Housing, Urban Development and Environment, responsible for the co-ordination, monitoring, and follow-up for the implementation of the CPG. Awareness campaigns, information exchange and some training activities will be co-ordinated by the Sub-Unit.	-	UNEP	\$113,080	3 years (1994-1996)	Institutional strengthening
	TOTAL FOR FIJI	ODP	COST	\$113,080	NUMBER OF PROJECTS: 1	
India	Project preparation assistance	-	UNDP	\$100,000	1 year (1994)	Project preparation
	Preparation of investment projects	-	IBRD	\$175,000	1 year (1994)	Project preparation
	Preparation of investment projects for India ODS I	-	IBRD	\$70,837	1 year (1994)	Project preparation

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Indonesia	TOTAL FOR INDIA	ODP	COST	\$345,837	NUMBER OF PROJECTS: 3	
	Preparation of investment projects	-	IBRD	\$117,312	1 year (1994)	Project preparation
	Training of the Financial Intermediary on Multilateral Fund and World Bank project processing procedures	-	IBRD	\$50,000	1 year (1994)	Training
	Completion of processing of investment projects approved at the 11th ExCom Meeting	-	IBRD	\$128,899	1 year (1994)	Project preparation
Jordan	TOTAL FOR INDONESIA	ODP	COST	\$296,211	NUMBER OF PROJECTS: 3	
	Supervision of project implementation	-	IBRD	\$72,900	1 year (1994)	Project preparation
Lebanon	TOTAL FOR JORDAN	ODP	COST	\$72,900	NUMBER OF PROJECTS: 1	
	Country programme preparation	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
Malaysia	TOTAL FOR LEBANON	ODP	COST	\$44,500	NUMBER OF PROJECTS: 1	
	Project preparation assistance	-	UNDP	\$100,000	1 year (1994)	Project preparation
	Preparation of projects in the foams, solvents, aerosols, halons and refrigeration and air conditioning sectors.	-	IBRD	\$25,000	1 year (1994)	Country programme
	Country programme update	-	IBRD	\$35,815	1 year (1994)	Project preparation
Maldives	TOTAL FOR MALAYSIA	ODP	COST	\$227,425	NUMBER OF PROJECTS: 4	
	Supervision of project implementation	-	IBRD	\$66,610	1 year (1994)	Project preparation
	Preparation of investment projects	-	IBRD	\$56,100	3 years (1994-1996)	Institutional strengthening
	Institutional strengthening for the phase-out of ODS controlled under the Montreal Protocol	-	UNEP			
Maldives	TOTAL FOR MALDIVES	ODP	COST	\$56,100	NUMBER OF PROJECTS: 1	
	To establish and operate an ODS Desk under the Environment Section of the Ministry of Planning, Environment and Human Resources, responsible for the co-ordination, monitoring, and follow-up for the implementation of the CPG. Awareness campaigns, information exchange, development of industrial projects and monitoring activities will be co-ordinated by the ODS Desk.	-	UNEP			

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Myanmar	<u>Country programme preparation</u>	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	<i>TOTAL FOR MYANMAR</i>			<i>\$44,500</i>	<i>NUMBER OF PROJECTS: 1</i>	
Pakistan	<u>Preparation of investment projects</u>	ODP	COST	\$133,191	1 year (1994)	Project preparation
	<i>TOTAL FOR PAKISTAN</i>			<i>\$133,191</i>	<i>NUMBER OF PROJECTS: 1</i>	
Philippines	<u>Preparation of investment projects</u>	ODP	COST	\$94,900	1 year (1994)	Project preparation
	<u>Supervision of project implementation</u>	-	IBRD	\$136,027	1 year (1994)	Project preparation
	<i>TOTAL FOR PHILIPPINES</i>			<i>\$230,927</i>	<i>NUMBER OF PROJECTS: 2</i>	
Samoa	<u>Country programme preparation</u>	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	<i>TOTAL FOR SAMOA</i>			<i>\$44,500</i>	<i>NUMBER OF PROJECTS: 1</i>	
Sri Lanka	<u>Institutional strengthening</u> To establish and operate an Montreal Protocol Co-ordinating Committee under the Ministry of Environment and Parliamentary Affairs responsible for the co-ordination, monitoring, and follow-up for the implementation of the CPG. Data collection, defining control measures for ODS import, co-operation with customs, information exchange, development of industrial projects and training activities, launchin public awareness programmes will be co-ordinated by the Committee.	ODP	COST	\$154,690	3 years (1994-1996)	Institutional strengthening
	<i>TOTAL FOR SRI LANKA</i>			<i>\$154,690</i>	<i>NUMBER OF PROJECTS: 1</i>	
Thailand	<u>Preparation of investment projects</u>	ODP	COST	\$81,302	1 year (1994)	Project preparation
	<u>Supervision of project implementation</u>	-	IBRD	\$129,433	1 year (1994)	Project preparation
	<i>TOTAL FOR THAILAND</i>			<i>\$210,735</i>	<i>NUMBER OF PROJECTS: 2</i>	
Viet Nam	<u>Project preparation assistance</u> Project identification and preparation in all sectors, particularly in foams, refrigeration and solvents.	ODP	COST	\$100,000	1 year (1994)	Project preparation
	<i>TOTAL FOR VIET NAM</i>			<i>\$100,000</i>	<i>NUMBER OF PROJECTS: 1</i>	

N/A Not available

- Not applicable

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Region: ASP	<u>Workshop for small and medium size enterprises on management of ODS phase-out</u> To create awareness, assist in developing a strategy to reach small and medium size enterprises and promote the formulation of investment projects for such enterprises.	-	UNEP	\$80,000	1s quarter 1995	Technical assistance
	<u>Workshop on management of a national ODS phase-out information clearing-house</u> Provide large Article 5 countries with guidance on how to design and implement national ODS phase-out information clearinghouses.	-	UNEP	\$50,000	1s quarter 1995	Technical assistance
	<i>TOTAL FOR REGION: ASP</i>	ODP	COST	\$130,000	NUMBER OF PROJECTS: 2	
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	ODP	COST	\$2,438,096	NUMBER OF PROJECTS: 28	
EUROPE						
Malta	<u>Country programme preparation</u>	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	<i>TOTAL FOR MALTA</i>	ODP	COST	\$44,500	NUMBER OF PROJECTS: 1	
Romania	<u>Strengthening the Co-ordination Unit in the Ministry of Water, Forests and Environment Protection</u> The ozone unit will facilitate an expeditious ODS phase-out process; coordinate ODS phase-out activities; collect, disseminate and exchange information; facilitate actions by policy-makers to promote activities for ODS phase-out; provide liaison between the country and the organs under the Protocol; promote and monitor ODS phase-out projects; and report to ExCom on progress achieved.	-	UNIDO	\$272,000	3 years (1994-1996)	Institutional strengthening
	<i>TOTAL FOR ROMANIA</i>	ODP	COST	\$272,000	NUMBER OF PROJECTS: 1	
Slovenia	<u>Preparation of investment projects</u>	-	IBRD	\$100,000	1 year (1994)	Project preparation
	<u>Completion of country programme</u>	-	IBRD	\$50,000	1 year (1994)	Country programme
	<i>TOTAL FOR SLOVENIA</i>	ODP	COST	\$150,000	NUMBER OF PROJECTS: 2	
Turkey	<u>Supervision of project implementation</u>	-	IBRD	\$30,000	1 year (1994)	Project preparation
	<i>TOTAL FOR TURKEY</i>	ODP	COST	\$30,000	NUMBER OF PROJECTS: 1	
N/A	Not available	-	Not applicable			Page 18

SEVERAL

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
TOTAL FOR EUROPE						
LATIN AMERICA AND THE CARIBBEAN						
Argentina	Preparation of investment projects in the refrigeration and foam sectors Preparation of investment projects for CFC phase-out in six refrigeration and freezers companies (New Market, Hela Metal, Bacsá, Zensa, Autosol, Aemar) and one company in the foam sector (Indufom, packing material for foods and as panels for thermal insulation).	-	UNIDO	\$150,000	6 months (1994)	Project preparation
	Preparation of investment projects in the refrigeration and foam sectors	-	IBRD	\$192,929	1 year (1994)	Project preparation
	Completion of country programme	-	IBRD	\$30,000	1 year (1994)	Country programme
TOTAL FOR ARGENTINA						
Brazil	Completion of country programme	-	IBRD	\$372,929	NUMBER OF PROJECTS: 3	Country programme
		-	IBRD	\$49,400	1 year (1994)	Country programme
TOTAL FOR BRAZIL						
Chile	Supervision of project implementation (approved at the 7th ExCom meeting)	-	IBRD	\$30,208	NUMBER OF PROJECTS: 1	Project preparation
		-	IBRD	\$30,208	1 year (1994)	Project preparation
TOTAL FOR CHILE						
Colombia	Institutional strengthening for implementation of the Montreal Protocol in Colombia To establish the National Council for the Preservation of the Ozone Layer to support the process of capacity building and technical assistance to public and private entities involved in the implementation of the Montreal protocol, to assist in the formulation of industrial conversion projects, to disseminate information on ozone related issues. NOTE: Approved as included in the CPG.	-	UNDP	\$317,790	NUMBER OF PROJECTS: 1	Institutional strengthening
	Project preparation assistance Preparation of investment projects in the foam and refrigeration (industrial, commercial) sectors.	-	UNDP	\$100,000	1 year (1994)	Project preparation
TOTAL FOR COLOMBIA						
Ecuador	Supervision of project implementation (approved at the 9th ExCom Meeting)	-	IBRD	\$30,000	NUMBER OF PROJECTS: 2	Project preparation
		-	IBRD	\$30,000	1 year (1994)	Project preparation

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
	<i>TOTAL FOR ECUADOR</i>	<i>ODP</i>	<i>COST</i>	<i>\$30,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
Guatemala	<u>Preparation of investment projects</u>	-	IBRD	\$55,000	1 year (1994)	Project preparation
	<i>TOTAL FOR GUATEMALA</i>	<i>ODP</i>	<i>COST</i>	<i>\$55,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
Jamaica	<u>Country programme preparation</u>	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	<i>TOTAL FOR JAMAICA</i>	<i>ODP</i>	<i>COST</i>	<i>\$44,500</i>	<i>NUMBER OF PROJECTS: 1</i>	
Mexico	<u>Preparation of investment projects</u>	-	IBRD	\$100,000	1 year (1994)	Project preparation
	<u>Supervision of project implementation</u>	-	IBRD	\$52,286	1 year (1994)	Project preparation
	<i>TOTAL FOR MEXICO</i>	<i>ODP</i>	<i>COST</i>	<i>\$152,286</i>	<i>NUMBER OF PROJECTS: 2</i>	
Saint Kitts and Nevis	<u>Country programme preparation</u>	-	UNEP	\$44,500	Apr 94-Mar 95	Country programme
	<i>TOTAL FOR SAINT KITTS AND NEVIS</i>	<i>ODP</i>	<i>COST</i>	<i>\$44,500</i>	<i>NUMBER OF PROJECTS: 1</i>	
Uruguay	<u>Preparation of investment projects</u>	-	IBRD	\$100,000	1 year (1994)	Project preparation
	<i>TOTAL FOR URUGUAY</i>	<i>ODP</i>	<i>COST</i>	<i>\$100,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
Venezuela	<u>Completion of country programme</u>	-	IBRD	\$40,040	1 year (1994)	Country programme
	<u>Supervision of project implementation</u>	-	IBRD	\$206,281	1 year (1994)	Project preparation
	<i>TOTAL FOR VENEZUELA</i>	<i>ODP</i>	<i>COST</i>	<i>\$246,321</i>	<i>NUMBER OF PROJECTS: 2</i>	

SEVERAL

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Region: LAC	ODS officers network for Latin America and the Caribbean To establish co-operation among ODS officers in a sub-region with developed countries, and to strengthen the capacity of the ozone units to design and implement effective strategies, well-adapted to local conditions, leading to ODS phase-out at the earliest possible date. Two networks in the region are proposed: ODSNET/LA-S (participating countries at present Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Uruguay and Venezuela. US, Switzerland and Canada are being invited to become members); ODSNET/LA-C (Spanish-speaking countries in Central America and the Caribbean, and Mexico. Developed country participants are being identified.	-	UNEP	\$264,000	Apr 1994-Mar 1995	Technical assistance
	<i>TOTAL FOR REGION: LAC</i>	ODP	COST	\$264,000		NUMBER OF PROJECTS: 1
	<i>TOTAL FOR LATIN AMERICA AND THE CARIBBEAN</i>	ODP	COST	\$1,806,934		NUMBER OF PROJECTS: 17
GLOBAL						
Global	Sectoral data collection (1994) Collect up-to-date, quality-reviewed information on alternative technologies, products, services, regulatory policies, legislation, national, corporate, and NGO phase-out activities, experts and events, for dissemination to Article 5 countries.	-	UNEP	\$215,000	Apr 1994-Mar 1995	Technical assistance
	Query-response service (1994) Research and respond to technical and policy questions concerning ODS phase-out issues received from Govt., industry, other groups implementing agencies, and consultants.	-	UNEP	\$60,000	Apr 1994-Mar 1995	Technical assistance
	OzonAction newsletter and special supplements (1994) Provide information on the latest news on ODS phase-out activities of the Executive Committee, the Ozone Secretariat, the Multilateral Fund Secretariat, the implementing agencies, Govts., industry and NGOs.	-	UNEP	\$150,000	Apr 1994-Mar 1995	Technical assistance
	Updating OAIC diskette and on-line system (1994) Provide national ozone units and others with up-to-date technical and policy information via diskette and on-line data bases.	-	UNEP	\$100,000	Apr 1994-Mar 1995	Technical assistance
	Outreach at conferences and workshops (1994) Ensure that the clearinghouse is up-to-date on the latest technical developments, disseminate information to conference participants, and obtain feedback on the needs of developing countries on technical and policy issues.	-	UNEP	\$75,000	Apr 1994-Mar 1995	Technical assistance
	Information dissemination (1994) Disseminate the sector-specific information collected by the clearinghouse to developing countries, especially to ozone units, through hard copy, telephone, fax, on-line system and diskette.	-	UNEP	\$380,000	Apr 1994-Mar 1995	Technical assistance

SEVERAL

Consolidated 1994 Work Programme Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Global	<u>Quality review technology catalogs</u> Conduct quality review of the Catalogues of ODS-Free Technologies, which will provide information on suppliers of alternative technologies and products. <u>Case-studies from developed and developing countries</u> Provide specific examples of successful ODS phase-out in developed and developing countries through a case study format. <u>Information papers and fact sheets for evaluation of technical options to replace ODS</u> Provide brief information on technical subjects in order to assist in the evaluation of alternative technologies. Subjects include: recovery, recycling and reclamation; retrofitting; environmental, safety and health information on ODS alternatives; technology summaries of approved projects. <u>Translation of the "Protecting the Ozone Layer" sectoral technical brochures</u> <u>Informal Advisory Group meeting (1994)</u> <u>Ad hoc Group meetings (1994)</u> <u>Meetings of the consultants (1994)</u> <u>Travel (1994)</u> <u>Joint action with UNEP in CPG exercises with emphasis on industrial actions to be taken</u> Joint missions to the following countries: Antigua and Barbuda, Bahamas, Barbados, Botswana, Guinea, Niger, Pakistan, Peru, Seychelles, Tanzania, Togo, Uganda, Zimbabwe. <u>Safety pre-assessment and post-assessment of foam and solvent projects implemented by UNDP</u> To determine the project pre-assessment and post-assessment of safety issues of converted foam plants through industrial hygienic survey using one of each isocyanate monitor, multi-purpose gas, air velocity meter, digital camera, and 10 disposable organic vapour respirators. It is proposed to purchase 1 kit to gain experience and evaluate its usefulness. If proved useful, 2 additional kits would be needed.	- - - - - - - - - - - -	UNEP UNEP UNEP UNEP UNEP UNEP UNEP UNEP UNEP UNEP UNIDO UNDP	\$50,000 \$100,000 \$60,000 \$40,000 \$50,000 \$80,000 \$70,000 \$100,000 \$156,000 \$25,000	Apr-Sep 1994 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 Apr 1994-Mar 1995 1 year	Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance Technical assistance

SEVERAL

Consolidated 1994 Work Programme
Part I: Activities below \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Global	OOARG meetings (1994)	-	IBRD	\$300,000	1 year (1994)	Technical assistance
	TOTAL FOR GLOBAL	ODP	COST	\$2,011,000	NUMBER OF PROJECTS: 17	
	TOTAL FOR SEVERAL SECTOR	ODP	COST	\$8,177,656	NUMBER OF PROJECTS: 82	

PART II:

PROJECTS ABOVE US \$500,000.

AEROSOL

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
China	Zhongshan Fine Chemical Aerosol Filling Center CFC-12 substitution project Replacement of CFC-12 with dimethyl ether (DME) in the Zhongshan Fine Chemical Aerosol Filling Center. DME was selected as propellant due to non availability of clean LPG in Guangdong Province. The enterprise plans to take available technology of making DME by methanol from South-West Research Institute.	6590	IBRD	\$1,648,000	2 years (1994-1995)	Investment
	TOTAL FOR CHINA	ODP 6,590	COST	\$1,648,000		NUMBER OF PROJECTS: 1
	TOTAL FOR ASIA AND THE PACIFIC	ODP 6,590	COST	\$1,648,000		NUMBER OF PROJECTS: 1
	TOTAL FOR AEROSOL SECTOR	ODP 6,590	COST	\$1,648,000		NUMBER OF PROJECTS: 1

ASIA AND THE PACIFIC

FOAM

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA	Egypt					
	Conversion to CFC free-technology in the manufacture of rigid molded and miscellaneous PUF (5 enterprises)	44	UNDP	\$870,000	1 year (1994)	Investment
	This project will essentially complete CFC phase-out in the manufacture of molded and miscellaneous applications of rigid polyurethane foam at Tiba Air, Egat Company, Solar Energy Company, Ismailia Aluminium Company, and Fu Tech Company. The 5 companies will install high-pressure foaming units and will be based on maximum use of water based systems and HCFC-141b where needed.					
ASIA AND THE PACIFIC	Conversion to CFC free-technology in the manufacture of flexible polyurethane foam	170	UNDP	\$525,000	9 months (1994)	Investment
	This project will essentially complete CFC phase-out in the manufacture of flexible polyurethane (slabstock) at Foam Industrial Co. and Hyma Foam Co. Both companies tried to replace CFC-11 with methylene chloride, but did not succeed due to problems in product quality and workplace safety. The project includes: assistance of an international expert, improvement of ventilation systems, methylene chloride metering systems, installation of water lances and a quick cooling system for fire safety.					
	TOTAL FOR EGYPT	ODP 214	COST	\$1,395,000		NUMBER OF PROJECTS: 2
ASIA AND THE PACIFIC	TOTAL FOR AFRICA	ODP 214	COST	\$1,395,000		NUMBER OF PROJECTS: 2
	Malaysia					
	Phase-out of the use of CFC in the manufacture of flexible polyurethane foam (slabstock) at small scale producers	80	UNDP	\$1,045,000	1 year (1994)	Investment
	Phase-out of CFC-11 at approximately 30 small companies in the flexible polyurethane foam sector. Phase I will set up a technical assistance programme to identify needs and to develop a programme to meet those needs. Phase II will convert 30 small users to methylene chloride, including measures to ensure the safe and effective use of methylene chloride at each plant.					
	TOTAL FOR MALAYSIA	ODP 80	COST	\$1,045,000		NUMBER OF PROJECTS: 1

FOAM

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Philippines	<u>Elimination of CFC-use at small manufacturers of flexible foam</u> Phase-out of CFC-11 at approximately 20 small enterprises producing flexible polyurethane foam. Phase I will provide technical assistance to educate the companies involved. Phase II will convert the enterprises to methylene chloride. In some cases other technologies (additives and single block vacuum curing units) may be used.	35	UNDP	\$745,000	1 year (1994)	Investment
	<u>Phase-out of the residual use of CFC in the manufacture of extruded polystyrene foam sheet in 3 companies</u> Phase-out of residual CFC used in the extruded polystyrene foam sheet (XPS) industry in the Philippines and establishment of safe production conditions in the plants that have already converted to non ODS technologies. It will be implemented in co-operation with the Polystyrene Packaging Council of Philippines.	24	UNDP	\$505,000	1 year (1994)	Investment
	TOTAL FOR PHILIPPINES	ODP 59	COST	\$1,250,000		NUMBER OF PROJECTS: 2
Thailand	<u>Elimination of the use of CFC in the manufacture of laminated rigid polyurethane foam insulation panels at Modular Compound</u> Phase-out of CFC-11 used in the manufacture of laminated rigid PUF panels by a water/HCF-141b technology, and phase-out of CFC-11 used in the production of PUF imitation wood by a water blown system. Low-pressure foam dispensing equipment will be replaced with high-pressure units and a pre-blending unit will be installed. Recurrent incremental operating cost are expected, related to higher isocyanate use and the use of HCFC-141b, which will be partially offset by savings from the elimination of cleaning solvents and less material losses.	40	UNDP	\$508,000	1 year (1994)	Investment
	TOTAL FOR THAILAND	ODP 40	COST	\$508,000		NUMBER OF PROJECTS: 1
	TOTAL FOR ASIA AND THE PACIFIC	ODP 179	COST	\$2,803,000		NUMBER OF PROJECTS: 4
	TOTAL FOR FOAM SECTOR	ODP 393	COST	\$4,198,000		NUMBER OF PROJECTS: 6

HALON

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
ASIA AND THE PACIFIC						
China	Halon-1211 recovery/recharge machines and training Establishment of a demonstration network of halon recovery/recharge machines, training on extinguisher maintenance and servicing procedures, equipment operation and other conservation measures. Procurement of 127 compressors for the recovery/recharge machines will be done through UNDP.	-	USA	\$735,000	1 year (1994)	Investment
	<i>TOTAL FOR CHINA</i>	<i>ODP</i>	<i>COST</i>	<i>\$735,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
India	Conversion from halon-1211 to ABC-DCP in portable extinguisher manufacturing at Real Value Appliances Ltd. Replacement of halon 1211 used in the production of portable extinguishers with ABC-DCP powder. There are no requirements for imported technology and all expertise are available within the enterprise. NOTE: ODS to be phased-out has been considered under the project ABC-DCP manufacturing facility.	-	IBRD	\$588,600	1.5 years (1994-1995)	Investment
	ABC-DCP manufacturing facility Production of ABC-dry chemical powder to be used as an alternative to halons in portable extinguishers. It will involve a technology transfer agreement with ABC-DCP manufacturers in developed countries.	1560	IBRD	\$620,900	1 year (1994)	Investment
	<i>TOTAL FOR INDIA</i>	<i>ODP 1,560</i>	<i>COST</i>	<i>\$1,209,500</i>	<i>NUMBER OF PROJECTS: 2</i>	
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	<i>ODP 1,560</i>	<i>COST</i>	<i>\$1,944,500</i>	<i>NUMBER OF PROJECTS: 3</i>	
	<i>TOTAL FOR HALON SECTOR</i>	<i>ODP 1,560</i>	<i>COST</i>	<i>\$1,944,500</i>	<i>NUMBER OF PROJECTS: 3</i>	

REFRIGERATION

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
AFRICA	<u>ODS phase-out at Kiriazi Refrigeration Manufacturing Co.</u> Replacement of CFC in the production of refrigerators and freezers at Kiriazi Refrigeration Manufacturing Co., with cyclopentane as foam blowing agent and HFC-134a as refrigerant. It will include redesigning refrigerator models (prototype, testing, trial manufacturing and adaptation, and reliability tests), and conversion of the refrigeration system, insulation foam blowing system, and the refrigeration service carried out by the company.	137	UNIDO	\$3,831,163	18 months (1994-mid 1995)	Investment
	<u>ODS phase-out at Delta Industrial Co.</u> Replacement of CFC in the production of refrigerators and freezers at Delta Industrial Co.'s plants in Almaza and Nasr City, with cyclopentane as foam blowing agent and HFC-134a as refrigerant. It will include redesigning refrigerator models (prototype, testing, trial manufacturing and adaptation, and reliability tests), and conversion of the refrigeration system, insulation foam blowing system, and the refrigeration service carried out by the company.	97	UNIDO	\$3,532,180	18 months (1994-mid 1995)	Investment
	<u>ODS phase-out at Electrostar Refrigeration Co.</u> Replacement of CFC in the production of refrigerators and freezers at Electrostar Refrigeration Co., with cyclopentane as foam blowing agent and HFC-134a as refrigerant. It will include redesigning refrigerator models (prototype, testing, trial manufacturing and adaptation, and reliability tests), and conversion of the refrigeration system, insulation foam blowing system, and the refrigeration service carried out by the company.	96	UNIDO	\$1,842,801	18 months (1994-mid 1995)	Investment
	<u>Conversion to CFC free-technology in the commercial refrigeration sector</u> To complete phase I of CFC phase-out in the manufacture of commercial refrigeration equipment (5 companies serving the refrigeration market and 1 company also serving MAC). It includes the replacement of CFC-11 in the production of rigid PUF insulation with water/cyclopentane system, replacement of CFC-12 as refrigerant with HFC-134a, and reclamation-recycling equipment and training in 2 companies. The low-pressure foam machines will be replaced with high pressure machines.	224	UNDP	\$2,100,000	1 year (1994)	Investment
TOTAL FOR EGYPT		554	COST	\$11,306,144	NUMBER OF PROJECTS: 4	
TOTAL FOR AFRICA		554	COST	\$11,306,144	NUMBER OF PROJECTS: 4	

REFRIGERATION

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
ASIA AND THE PACIFIC	China					
	Application development for conversion of compressor manufacturing to HFC-134a rotary compressor designs at Shanghai Refrigerator Compressor Co. Ltd.	100	IBRD	\$1,400,000	2 years (1994-1995)	Investment
	Production of up to 500,000 high efficiency rotary HFC-134a compressors to supply the needs of the Shanghai Shangling General Refrigeration Factory and others as they introduce HFC134a refrigerant into their line of refrigerators. Technology will be obtained from Mitsubishi (Japan). In Phase I detailed engineering, product development and lab and field testing of 1,000 units produced under factory conditions will be conducted. Full conversion of the factory will be made during Phase II.					
	Engineering assistance for conversion of refrigerator manufacture to HFC-134a with rotary compressor at Shanghai Shangling General Refrigerator Factory	108	IBRD	\$1,570,000	2 years (1994-1995)	Investment
	Replacement of CFC-12 with HFC-134a as refrigerant in household refrigerators manufactured by Shanghai Shangling General Refrigerator Factory. In Phase I, detailed engineering, product development and lab and field testing of 500 units produced under factory conditions, will be conducted. Full conversion of the plant will be made during Phase II.					
	Engineering assistance for conversion of refrigerator manufacture to HFC-152a/HCF-22 blended refrigerant in conventional compressors at Chang Ling Co. Ltd.	70	IBRD	\$860,000	2 years (1994-1995)	Investment
	Replacement of CFC-12 with a blended of HFC-152a and HCFC-22 as refrigerant in household refrigerators manufactured by Chang Ling. Technology has been developed locally in cooperation with Xi'an Jiaotong University. In Phase I, detailed engineering, product development and lab and field testing of 500 units produced under factory conditions will be conducted. Full conversion of the factory will be made during Phase II.					
	Engineering assistance for conversion of refrigerator manufacture to a ternary blend refrigerant (MP-39) in conventional compressors at Shanghai Shanglu Electrical Appliances Co. Ltd.	70	IBRD	\$1,010,000	2 years (1994-1995)	Investment
	Replacement of CFC-12 with a blend of HCFC-22 and HFC-152a in household refrigerators manufactured by Shanglu. Technology has been developed in co-operation with DuPont China Limited and the Shanghai General Mechanical Institute. In Phase I, detailed engineering, product development and lab and field testing of 500 units produced under factory conditions will be conducted. Full conversion of the plant will be made during Phase II.					

REFRIGERATION

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
China	Engineering assistance for conversion of refrigerator manufacture to use HFC-152a refrigerant in conventional compressors at Wanbao Electrical Appliances Co. Ltd. Replacement of CFC-12 with a blend of HCFC-22 and HFC-152a in household refrigerators manufactured by Shanglu. Technology has been developed in co-operation with DuPont China Limited and the Shanghai General Mechanical Institute. In Phase I, detailed engineering, product development and lab and field testing of 500 units produced under factory conditions will be conducted. Full conversion of the plant will be made during Phase II.	80	IBRD	\$1,360,000	2 years (1994-1995)	Investment
	Engineering assistance for conversion of refrigerator manufacture to use HFC-134a refrigerant with Tecumseh designed compressors at Hua Yi Electrical Appliances General Co. Replacement of CFC-12 with HFC-134a as refrigerant in household refrigerators manufactured by Hua Yi in a new facility using new reciprocating compressors manufactured by Tecumseh (USA). Retroactive financing of Phase I of the project (detailed engineering, product development and lab and field testing of 500 units produced under factory conditions) is being requested.	60	IBRD	\$1,442,000	2 years (1994-1995)	Investment
	TOTAL FOR CHINA					
		ODP	COST	\$7,642,000	NUMBER OF PROJECTS: 6	
India	Conversion of compressor designs for refrigeration and appliances from CFC-12 to HFC-134a at Kirloskar Copeland Ltd. Replacement of CFC-12 with HFC-134a for hermetic compressors. In phases I and II, engineering development, prototype manufacturing and testing of compressors 15 different models will be conducted based on technology purchased from Copeland (USA). It will also establish requirements for retooling, training, and other activities needed to complete the conversion to HFC-134a designs and provide customer training in use of new compressors. Phase III is the commercial manufacturing. NOTE: Funds allocated for the implementation of phases I and II. Local ownership fraction of 51 % was considered in the incremental cost analysis.	125	IBRD	\$651,900	4 years (1994-1998)	Investment
	TOTAL FOR INDIA					
		ODP	COST	\$651,900	NUMBER OF PROJECTS: 1	
Jordan	ODS phase-out at Household Appliance Manufacturing Co. Replacement of CFC in the production of domestic refrigerators at HAMCO with HCFC-141b as foam blowing agent and HFC-134a as refrigerant. It will include redesigning refrigerator models (prototype, testing, trial manufacturing and adaptation, and reliability tests), and conversion of the refrigeration system, insulation foam blowing system, and the refrigeration service carried out by the company.	16	UNIDO	\$537,765	18 months (1994-mid 1995)	Investment

REFRIGERATION

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
Jordan	ODS phase-out at National Refrigeration Co. Replacement of CFC in the production of domestic refrigerators at NRC located in Amman with HCFC-141b as foam blowing agent and HFC-134a as refrigerant. It will include redesigning refrigerator models (prototype, testing, trial manufacturing and adaptation, and reliability tests), and conversion of the refrigeration system, insulation foam blowing system, and the refrigeration service carried out by the company.	10	UNIDO	\$533,555	18 months (1994-mid 1995)	Investment
	<i>TOTAL FOR JORDAN</i>	ODP 26	COST	\$1,071,320		NUMBER OF PROJECTS: 2
Malaysia	Elimination of CFC-11 and CFC-12 in the manufacture of home refrigerators at Sharp Roxy Replacement of CFC-11 as blowing agent for production of panels and cabinets for domestic refrigeration by converting to cyclopentane process, and replacement of CFC-12 with HFC-134a as a refrigerant. High-pressure foaming equipment, mixing station, storage tank, gas detectors and fire protection system will be installed, an improved mix of polyurethane will be applied, and safety training will be included. Charging and vacuuming systems will be installed for the new refrigerant, new leak detector for HFC-134a will be provided and test room will be built.	65	UNDP	\$962,000	2 years (1994-1995)	Investment
	<i>TOTAL FOR MALAYSIA</i>	ODP 65	COST	\$962,000		NUMBER OF PROJECTS: 1
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	ODP 704	COST	\$10,327,220		NUMBER OF PROJECTS: 10
	<i>TOTAL FOR REFRIGERATION SECTOR</i>	ODP 1,258	COST	\$21,633,364		NUMBER OF PROJECTS: 14

SOLVENT

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
China	<u>ODS-free cleaning equipment manufacturing center for phasing out ODS consuming solvents across China</u> To install a manufacturing capability for ODS-free cleaning equipment in No. 2 Institute (Taiyuan City). Six types of cleaning system will be produced: ultrasonic, centrifugal, brush, spray and immersible, and accessories, for in-line and batch systems of each type (300 batch units/year). It will take 8 years to fulfil the overall objective of conversion to non-ODS processes. Equipment manufactured will be produced at an estimated average savings of \$65,100/unit, representing savings to the Fund over \$52 million in a 3 year span. For the entire ODS phase-out from this sector, the accumulated savings to the Fund would be double that amount.	-	UNDP	\$524,734	2 years (1994-1995)	Investment
	TOTAL FOR CHINA	ODP	COST	\$524,734		NUMBER OF PROJECTS: 1
India	<u>Conversion to electronic cleaning process from ODS solvents to wet media blasting and aqueous cleaning at ITI Mankapur</u> Phase out the use of CFC-113-methanol-nitro methane blend (TMS formula), CFC-12, CFC-113-methylene chloride blend (TMC formula), carbon tetrachloride and methyl chloroform in the flux removal, precision cleaning and photoresist development operations in 3 manufacturing divisions by aqueous processes. The company currently uses 1 multi-stage continuous operation vapor degreaser, 4 batch operation immersion ultrasonic degreasers and one each of photoresist developing and stripping baths which are to be removed and replaced.	48	UNIDO	\$1,020,000	18 months (1994-1995)	Investment

Syringe and hypodermic needle manufacturer using CFC-113/silicone replacement at Albert David Ltd. Bhopal

The enterprise will work with a foreign supplier of technology in Germany (Herbert Eccard GMBH) for redesigning and supplying a new system machine to phase-out CFC-113 used in the production line. It will also work with mould manufacturers for design of new kind of moulds required for the new production line. The new system will require modification arrangements for insertion of the cannula to the hub of the needle. It requires a more skilled operator and an automated system for alignment of the needles and quality control.

SOLVENT

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
India	ODS phase-out in sterilization and siliconisation of disposable syringes and needle at Hindustan Syringes & Medical Devices Private Ltd. Haryana Phase out CFC-12 use in the 88-12 mixture of CFC-12 and ethylene oxide (EO) for sterilization of disposable syringes, needles and other medical devices. In phase I, replacement of the current system to mixture of CO2 and EO will be provided. In phase II, use of CFC-113 as a carrier medium for siliconisation of syringe barrels and plungers will be replaced by resorting to direct spraying of a modified silicon oil via specially designed spray system. Alternative methods for application of silicon, currently diluted with CFC-113 for siliconisation of needle points, will be explored. NOTE: Funds allocated are for implementation of phase I only.	50	IBRD	\$816,600	1 year (1994)	Investment
	TOTAL FOR INDIA	ODP 99	COST	\$2,547,700		NUMBER OF PROJECTS: 3
Malaysia	Elimination of the use of 111 TCA in the automobile bumper cleaning processes at Perusahaan Otomobil Nasional Bhd. (Proton) Phase-out of 1,1,1-trichloroethane (111 TCA) used to remove the mould release agent from the polypropylene bumpers prior to painting and installation on the cars, by converting to an aqueous cleaning process using deionized water rinsing followed by a drying stage. Raw water is both plentiful and inexpensive; the waste water will be discharged to the existing water treatment plant.	20	UNDP	\$700,439	21 months (1994-1995)	Investment
	TOTAL FOR MALAYSIA	ODP 20	COST	\$700,439		NUMBER OF PROJECTS: 1
	TOTAL FOR ASIA AND THE PACIFIC	ODP 119	COST	\$3,772,873		NUMBER OF PROJECTS: 5
	TOTAL FOR SOLVENT SECTOR	ODP 119	COST	\$3,772,873		NUMBER OF PROJECTS: 5

SEVERAL

Consolidated 1994 Work Programme
Part II: Projects above \$500,000

REGION/ Country	Project title/Project description	ODS to be phased-out	I. A.	Requested funds	Time frame	Type of project
ASIA AND THE PACIFIC						
China	Preparation of projects ODS III	-	IBRD	\$660,000	1 year (1994)	Project preparation
	<i>TOTAL FOR CHINA</i>	<i>ODP</i>	<i>COST</i>	<i>\$660,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
India	Training of the Financial Intermediary on Multilateral Fund and World Bank project processing procedures	-	IBRD	\$600,000	1 year (1994)	Training
	<i>TOTAL FOR INDIA</i>	<i>ODP</i>	<i>COST</i>	<i>\$600,000</i>	<i>NUMBER OF PROJECTS: 1</i>	
	<i>TOTAL FOR ASIA AND THE PACIFIC</i>	<i>ODP</i>	<i>COST</i>	<i>\$1,260,000</i>	<i>NUMBER OF PROJECTS: 2</i>	
	<i>TOTAL FOR SEVERAL SECTOR</i>	<i>ODP</i>	<i>COST</i>	<i>\$1,260,000</i>	<i>NUMBER OF PROJECTS: 2</i>	