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CONSOLIDATED 1995 WORK PROGRAMME

This revision has been issued to incorporate additional information provided by the Implementing Agencies. This revision replaces document UNEP/OzL.Pro/ExCom/16/8.

1. This Consolidated Work Programme was prepared by the Fund Secretariat from information included in the 1995 work programmes of the implementing agencies.
2. Individual work programmes of each implementing agency are provided separately in documents UNEP/OzL.Pro/ExCom/16/9 (UNDP), 16/10 (UNEP), 16/11 (UNIDO), 16/12 (World Bank), along with comments of the Fund Secretariat where applicable.

Overview

3. The implementing agencies work programmes estimate US \$277 million (excluding agencies support costs) for pipeline investment projects in 43 countries out of 99 Article 5 countries with the following regional distribution: 12 in Africa; 14 in Asia and the Pacific; 2 in Europe; and 15 in Latin America and the Caribbean.
4. In addition, country programme preparation is being requested for the first time for 4 Article 5 countries, namely, Bolivia, Croatia, El Salvador and Ethiopia.
5. Table 1 shows the distribution of funds and ODS to be phased out and Annex I provides the information at the country level.

6. Additional support for institutional strengthening might be requested during 1995 for Article 5 countries with country programmes under preparation and might be submitted for consideration by the Executive Committee at subsequent meetings.

Amount of ODS to be phased out

7. Implementation of pipeline investment projects would lead to the elimination of nearly 25,485 ODP tonnes of controlled substances and 5,000 tonnes in the production sector. It is to be noted that some of the projects referred to in the work programmes would phase-out greater amounts of ODS than those reported in the Country Programmes of several Article 5 countries.

Regional distribution

8. The largest allocations of funds are in the Asia and the Pacific region (US \$177.48 million), followed by Latin America and the Caribbean (US \$64.40 million), Africa (US \$22.35 million) and Europe (US \$8.16 million).

9. The emphasis of pipeline project activities in 1995 continues to be on the refrigeration sector (US \$128.95 million for over 8,350 ODP tonnes phase out) followed by the foam sector (US \$77.74 million for over 7,950 ODP tonnes phase out). Projects in these two sectors are geographically distributed in all regions as follows: 12 countries in Africa, 14 countries in Asia and the Pacific, 2 countries in Europe, and 13 in Latin America and the Caribbean.

10. In the refrigeration sector, investment projects and recovery and recycling programmes are being proposed in the following sub-sectors: chillers and compressor manufacturing (one country each), commercial refrigeration (13 countries), domestic refrigeration (19 countries), domestic and commercial refrigeration (2 countries), conversion of MAC manufacturing plants (5 countries), and refrigerant recovery and recycling programmes (12 countries).

11. The cost-effectiveness values of projects in the same sub-sector range widely. For example, in the domestic refrigeration sub-sector, the range varies from US \$2.14/kg to US \$50.00/kg, while in the commercial refrigeration the range varies from US \$14.20/kg to US \$70.86/kg.

12. While the cost effectiveness values in the foam sector varies from US \$4.05/kg to US \$43.33/kg, most of the pipeline projects are in a narrowed range (US \$6/kg to US \$12/kg).

13. Projects in the aerosol sector are provided for eight countries in Asia and the Pacific (US \$12.91 million) and two countries in Africa (US \$2.59 million). Projects in two countries (China and India) account for 2,500 ODP tonnes of the total 4,775 tonnes estimated to be phased out.

14. Halon banking activities are being proposed for 12 countries in all regions except for Europe. However, phase out investment projects in this sector are only being proposed for two countries (China and Thailand), which will lead to the elimination of 3,450 ODP tonnes. The cost-effectiveness values of pipeline projects in this sector are below US \$6.50/kg except for projects in one country.

15. A total of US \$25.69 million has been estimated to be needed by the implementing agencies for projects in the solvent sector that will lead to the phase out 840 ODP tonnes. It should be noted that 62 per cent of the funds and 84 per cent ODP tonnes to be phased out are concentrated in seven Asian and Pacific countries. Cost-effectiveness values of pipeline projects in the solvent sector are below the US \$100/kg, the limit adopted by the Executive Committee except for one country.

16. One project (China) at a cost of US \$5 million is being proposed in the production sector (HCFC-22) with a total phase out estimated at 5,000 ODP tonnes. In 1994, the Executive Committee granted "permission to proceed" to this project.

17. In one country (Chile), a multi-sector project (covering all sectors) is being proposed at a cost of US \$8 million with an estimate amount of 400 ODP tonnes to be phased out (US \$20.00/kg).

Overview of work programmes by implementing agency

18. The UNDP work programme estimates US \$73.69 million, including US \$8.48 million support costs, for pipeline investment projects, including US \$18.01 million for projects deferred at the Fifteenth Meeting. The activities being proposed constitute half of what UNDP had estimated to include in its original work programme for 1995.

19. The thrust of UNDP's activities continues to be in the foam and refrigeration sectors accounting for 47 per cent and 23 per cent respectively of fund allocations in the work programme. However, 8 per cent of the funds will be allocated to the aerosol sector projects in 4 countries. Refrigerant recovery/recycling projects are also prominent in the work programme with projects proposed in 9 countries at an average cost of US \$0.3 million.

20. UNDP's work programme covers 24 Article 5 countries concentrated in Latin America and the Caribbean, and Asia and the Pacific regions. A total of 6,448 tonnes ODS are expected to be phased out as a result of the proposed projects in the work programme.

21. UNEP's work programme proposes, inter alia, to complete the residual activities from approved work programmes; strengthen the Ozone Units in order to build their capacity to make informed policy and investment decisions; promote low-cost phase-out activities without major investment costs; provide sectoral information conveyed through a range of communication mechanisms; provide training activities and networking; and assist in formulating country programmes and institutional strengthening projects for low-ODS consuming countries. The level of funding needed is estimated at US \$3.52 million. Specific comments by the Fund Secretariat on UNEP work programme are provided in document UNEP/OzL.Pro/ExCom/16/10.

22. UNIDO is proposing to develop and implement investment projects mainly in the foam and refrigeration sectors and, to a lesser extent, in the aerosol, halon and solvent sectors. From discussions held with representatives of CFC producing countries, UNIDO could be involved in the formulation and implementation of investment projects in the production sector. In addition, UNIDO will continue to cooperate with UNEP in country programme preparation and training programmes for low-ODS consuming countries. The level of funding which UNIDO envisions for implementation of pipeline projects in 1995 is estimated at US \$84.61 million including US \$9.73 million support costs.

23. UNIDO's work programme covers 24 Article 5 countries in all regions. A total of 6,941 tonnes ODS are expected to be phased out as a result of the proposed projects in the work programme.

24. The World Bank will continue to focus its activities on the identification, preparation and implementation of investment projects in 12 medium and large-ODS consuming countries, with the following regional distribution: 8 in Asia and the Pacific; 3 in Latin America and the Caribbean; and 1 in Europe. The estimated volume of new operations will be in line with the Three-Year Plan and Budget estimates. The work programme proposes implementation of projects in all sectors with most activities planned in the refrigeration sector. The average level of funding for implementation of the pipeline projects is US \$133.8 million.

25. Proposed activities in the World Bank's work programme continue to be in refrigeration (US \$78.9 million) and foam (US \$20.8 million). In addition, the World Bank is proposing implementation of an investment project in the production sector at a cost of US \$5 million.

26. A total of 16,717 tonnes ODS are expected to be phased out as a result of the proposed projects in the work programme.

Pipeline investment projects already prepared

27. In order to facilitate the deliberations of the joint Sub-Committee meetings, the Fund Secretariat requested the assistance of the implementing agencies to provide more information of the "pipeline investment projects" included in their work programmes, indicating projects that have already been prepared (or in final stage of preparation); projects under preparation, indicating the stage of preparation and expenditure; projects that have been identified, but no action had been taken to prepare them; and, finally, the balance of project preparation allocations without sectoral identification.

28. Of the total activities proposed in the implementing agencies' work programmes for 1995, investment projects have been prepared in 21 countries and projects are under preparation in 32 countries. The total cost of projects already prepared amounts to US \$98.24 million (excluding agencies' support costs) to phase out about 13,660 ODP tonnes. The cost of projects under preparation is estimated at US \$135.12 with an associated ODS phase out of 13,050 tonnes. The cost of projects that have only been identified, is estimated at US \$38.04 million.

COMMENTS AND RECOMMENDATIONS OF THE FUND SECRETARIAT

COMMENTS

29. The work programmes submitted by the implementing agencies were developed in line with previous work programmes which were approved by the Executive Committee.

30. Implementing agencies were not directed to prepare their work programmes in a manner that they could be used as a planning tool for 1995 investment activities corresponding to the expected amount of available funds, hence the staggering total request of approximately US \$277 million projected by the implementing agencies for funding in 1995. It is estimated that the amount of funds available in 1995 would be less than US \$130 million.

31. Both UNIDO and the World Bank have budgeted for project preparation to prepare new investment projects while UNDP has not requested such funds.

32. It is to be noted that some of the projects referred to in the work programmes would phase-out greater amounts of ODS than those reported in the Country Programmes of several Article 5 countries.

RECOMMENDATIONS

33. The Fund Secretariat is providing the following provisional recommendations pending the outcome of the joint meeting of the Financial Matters Sub-Committee and Project Review Sub-Committee.

1. When considering UNEP's work programme, the Executive Committee may wish to take account of the comments by the Secretariat as provided in document UNEP/OzL.Pro/ExCom/16/10.

2. The Committee should take note of the work programmes of UNDP, UNIDO, and the World Bank and request the three agencies to readjust the scope of their implementation activities during 1995 to be commensurate with the expected amount of funds to be available in 1995.

3. To approve the requests of UNIDO in the amount of US \$288,150 including US \$33,150 as support costs, and the World Bank in the amount of US \$1,174,925 for activities in their work programmes, taking into consideration the recommendation in paragraph 2 above.

Table 1

IMPLEMENTING AGENCIES' WORK PROGRAMMES FOR 1995

DISTRIBUTION OF FUNDS (*) AND ODS TO BE PHASED OUT BY AGENCY AND BY SECTOR
(In United States Dollars and ODP tonnes)

AGENCY/SECTOR	Africa		Asia and the Pacific		Europe		Latin American/Car.		Global	TOTAL	
	ODS	Funds	ODS	Funds	ODS	Funds	ODS	Funds	Funds	ODS	Funds
IMPLEMENTING AGENCY											
UNDP	225	2,210,000	3,367	41,500,000			2,856	21,510,000		6,448	65,220,000
UNEP		372,200		62,000		40,000		399,000	1,824,500		2,697,700
UNIDO	1,927	19,639,249	4,253	43,918,756	500	6,027,275	361	5,300,000		7,041	74,885,280
WORLD BANK			15,309	94,500,000	286	2,100,000	1,122	37,200,000		16,717	133,800,000
SECTOR											
AEROSOL	1,130	2,590,853	3,645	12,910,000						4,775	15,500,853
FOAM	431	6,610,000	5,208	54,231,883	450	4,000,000	1,863	12,900,000		7,952	77,741,883
HALON		500,000	2,468	6,500,000			195	1,300,000		2,663	8,300,000
REFRIGERATION	581	11,204,637	5,777	83,326,873	336	4,127,275	1,761	32,790,000		8,455	131,448,785
SOLVENT	10	943,759	711	15,950,000			120	8,800,000		841	25,693,759
TOBACCO FLUFFING			120	2,000,000						120	2,000,000
MULTI-SECTOR							400	8,000,000		400	8,000,000
PRODUCTION			5,000	5,000,000						5,000	5,000,000
SEVERAL		372,200		62,000		40,000		619,000	1,824,500		2,917,700
TOTAL											
	2,152	22,221,449	22,929	179,980,756	786	8,167,275	4,339	64,409,000	1,824,500	30,206	276,602,980

(*)

These figures do not include agencies support costs (US \$18.56 million).

US \$1.45 million, requested by UNIDO and the World Bank for project preparation, is not included in this table.

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

Annex I Page 1

Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
AFRICA					
Sector: AEROSOL					
<i>Algeria</i>	Conversion of the aerosol filler at Enad	800.0	UNIDO	\$1,590,853	1.99
<i>Sudan</i>	ODS phase out in aerosol filler at Sudan Cosmetics and Household Ltd	330.0	UNIDO	\$1,000,000	3.03
Sector: FOAM					
<i>Algeria</i>	ODS phase out in 2 foam producing plants (Batimetal, Prosider)	181.0	UNIDO	\$5,000,000	27.62
<i>Egypt</i>	Elimination of CFC in the manufacture of extruded polystyrene foam at Interfood Packaging	80.0	UNDP	\$450,000	5.63
	Elimination of CFC in the manufacture of extruded polystyrene foam at Arab Packaging	120.0	UNDP	\$360,000	3.00
<i>Sudan</i>	ODS phase out in foam producing plant at Patra Foam Co.	50.0	UNIDO	\$800,000	16.00
Sector: HALON					
<i>Egypt</i>	National halon management programme		UNDP	\$500,000	
<i>Seychelles</i>	Halon banking project		UNIDO		
<i>Zimbabwe</i>	Halon banking project		UNIDO		
Sector: REFRIGERATION					
<i>Cameroon</i>	ODS phase out in the domestic refrigeration manufacturing plant at Union Camerounaise d'Enterprise	86.0	UNIDO	\$1,200,000	13.95
<i>Egypt</i>	Umbrella project to cover small foamers	25.0	UNDP	\$500,000	20.00
<i>Kenya</i>	ODS phase out at Kenya Cold Storage and subsidiary companies	30.0	UNIDO	\$2,125,653	70.86
<i>Mauritius</i>	Recovery, recycling and demonstration programme in the refrigeration sector		UNDP	\$400,000	
<i>Mozambique</i>	Retrofitting project in commercial refrigeration		UNIDO		
<i>Nigeria</i>	ODS phase out in the domestic refrigeration manufacturing plant at Thermocool Engineering Nigeria, Ltd.	170.0	UNIDO	\$3,000,000	17.65
<i>Seychelles</i>	Servicing and maintenance in the refrigeration sector		UNIDO		
<i>Swaziland</i>	ODS phase out in domestic refrigeration manufacturing plant at Fridgemaster	100.0	UNIDO	\$2,178,984	21.79
<i>Tanzania, United Repu</i>	ODS phase out in the domestic refrigeration manufacturing plant at Dailan Air	30.0	UNIDO	\$1,500,000	50.00
<i>Zimbabwe</i>	Servicing and maintenance of refrigeration equipment		UNIDO		
	ODS phase out at one domestic refrigeration plant	140.0	UNIDO	\$300,000	2.14
Sector: SOLVENT					
<i>Algeria</i>	ODS phase out at a razor-blade manufacturing plant at Enad	10.0	UNIDO	\$413,297	41.33

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

Annex 1 Page 2

Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>Egypt</i>	ODS phase out in the electronic cleaning processes at 3 electric companies (Benha Co., AIO, Saker)		UNIDO	\$530,462	
ASIA AND THE PACIFIC					
Sector: AEROSOL					
<i>Bangladesh</i>	Conversion to CFC free technology at Advanced Chemical Industries (ACI)	124.0	UNDP	\$400,000	3.23
<i>China</i>	Investment project in aerosol sector (2 subprojects)	1,700.0	IBRD	\$1,700,000	1.00
<i>India</i>	ODS phase out in 24 aerosol small-scale fillers	75.0	UNIDO	\$1,200,000	16.00
	Investment project in the aerosol sector (25 subprojects)	800.0	IBRD	\$3,000,000	3.75
<i>Jordan</i>	Investment project in aerosol sector (4 subprojects)	200.0	IBRD	\$1,200,000	6.00
<i>Lebanon</i>	ODS phase out in aerosol filler at Cosmatine Industries	83.0	UNIDO	\$300,000	3.61
<i>Malaysia</i>	Conversion to CFC free technology at Maya Chemicals, Malacca	38.0	UNDP	\$200,000	5.26
	Umbrella project for conversion to CFC free technology at Power Cosmetics, Acta Corp., and Aero Technique	40.0	UNDP	\$300,000	7.50
	First umbrella project for medium-size aerosol fillers	50.0	UNDP	\$1,000,000	20.00
	Second umbrella project for small-size aerosol fillers	50.0	UNDP	\$1,000,000	20.00
<i>Thailand</i>	Conversion to CFC free technology at Sanit	130.0	UNDP	\$680,000	5.23
	Conversion to CFC free technology at Packserv	155.0	UNDP	\$730,000	4.71
	Conversion to CFC free technology		UNDP	\$400,000	
<i>Viet Nam</i>	Elimination of CFC in aerosol plants	200.0	UNDP	\$800,000	4.00
Sector: FOAM					
<i>China</i>	Elimination of CFC in the manufacture of EPS/PE foam at Cangzhou	75.0	UNDP	\$440,000	5.87
	Elimination of CFC in the manufacture of EPS/PE foam at J.I.P. Boutou	90.0	UNDP	\$520,000	5.78
	Elimination of CFC in the manufacture of EPS/PE foam at Tianjin Kangda	55.0	UNDP	\$400,000	7.27
	Elimination of CFC in the manufacture of EPS/PE foam at Harbin Longxin	60.0	UNDP	\$300,000	5.00
	Elimination of CFC in the manufacture of EPS/PE foam at Yichun	20.0	UNDP	\$410,000	20.50
	Elimination of CFC in the manufacture of EPS/PE foam at Handan No. 1	30.0	UNDP	\$420,000	14.00
	Elimination of CFC in the manufacture of EPS/PE foam at Handan No. 7	50.0	UNDP	\$330,000	6.60
	Elimination of CFC in the manufacture of EPS/PE foam at Xuzhou No. 11	55.0	UNDP	\$360,000	6.55
	Elimination of CFC in the manufacture of EPS/PE foam at Ganjiang	10.0	UNDP	\$320,000	32.00
	Elimination of CFC in the manufacture of rigid polyurethane foam for domestic refrigerator at Kelon	600.0	UNDP	\$5,700,000	9.50
	Elimination of CFC in the manufacture of rigid polyurethane foam for domestic refrigerator at Zhongyi	430.0	UNDP	\$3,400,000	7.91

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

Annex I Page 3

Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>China</i>	Investment project in foam sector (7 to 10 subprojects)	750.0	IBRD	\$9,800,000	13.07
<i>India</i>	Several projects		UNDP	\$2,500,000	
	Investment project in the foam sector (10 subprojects)	250.0	IBRD	\$3,000,000	12.00
<i>Indonesia</i>	ODS phase out in 6 small-scale foam producing plants		UNIDO	\$1,500,000	
	Investment project in foam sector (4 subprojects)	308.0	IBRD	\$1,400,000	4.55
<i>Iran, Islamic Republic</i>	Elimination of CFC in the manufacture of flexible foam at 4 enterprises (USC, Abre Saamal, Shizar, Safoam)	35.0	UNIDO	\$4,103,967	117.20
	Elimination of CFC in the manufacture of rigid foam at 4 enterprises (Fabis, Iran Steel Parts, USC, Mammoth)	1,110.0	UNIDO	\$5,207,164	4.69
<i>Jordan</i>	Investment project in foam sector (2 subprojects)	50.0	IBRD	\$500,000	10.00
<i>Lebanon</i>	ODS phase out in 2 foam producing plants (Ets Henri Abdallah, Nasri Karam)	30.0	UNIDO	\$1,000,000	33.33
<i>Malaysia</i>	Elimination of CFC in the manufacture of rigid foam in floriculture at Florafoam	24.0	UNDP	\$200,000	8.33
	Elimination of CFC in the manufacture of rigid foam panel at Frank Chee	10.0	UNDP	\$250,000	25.00
	Elimination of CFC in the manufacture of rigid foam panel at T.M. Collin and Refrigeration	11.0	UNDP	\$200,000	18.18
	Elimination of CFC in the manufacture of rigid foam panel at Super Engineering	6.0	UNDP	\$150,000	25.00
	Elimination of CFC in the manufacture of integral skin and molded flexible foams at Muda Murni	21.0	UNDP	\$300,000	14.29
	Elimination of CFC in the manufacture of integral skin and molded flexible foams at Bristol Industries	9.0	UNDP	\$250,000	27.78
	Elimination of CFC in the manufacture of integral skin and molded flexible foams at Sze Chuan	7.0	UNDP	\$200,000	28.57
	Elimination of CFC in the manufacture of cold-cure molded polyurethane foams at Urethane Foam	35.0	UNDP	\$350,000	10.00
	Elimination of CFC in the manufacture of pre-insulation pipe at Amstrad Industries	5.0	UNDP	\$150,000	30.00
	Elimination of CFC in the manufacture of molded foam at Seng Kong Furniture		UNDP		
	Elimination of CFC in the manufacture of molded foam at S. Kian Seng		UNDP		
	Elimination of CFC in the manufacture of rigid foam panels at Power Tool		UNDP		
	Elimination of CFC in the manufacture of integral skin/ molded flexible foams at BFS		UNDP		
	Elimination of CFC in the manufacture of integral skin/ molded flexible foams at Lion Seating		UNDP		
	Elimination of CFC in the manufacture of integral skin/ molded flexible foams at Art Wright Industries		UNDP		
	Several projects in the foam sector	270.0	UNIDO	\$2,700,000	10.00
	Investment project in foam sector (3 subprojects)	86.0	IBRD	\$700,000	8.14
<i>Pakistan</i>	Investment project in foam sector	90.0	IBRD	\$1,300,000	14.44
<i>Philippines</i>	Elimination of CFC in the manufacture of flexible box at Lastex Foam	2.5	UNDP	\$150,000	60.00

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

Annex I Page 4

Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>Philippines</i>	Elimination of CFC in the manufacture of flexible box at Everfoam	3.0	UNDP	\$150,000	50.00
	Elimination of CFC in the manufacture of flexible box at Mega Foam	5.0	UNDP	\$120,000	24.00
	Elimination of CFC in the manufacture of flexible molded at Autofoam	15.0	UNDP	\$200,000	13.33
	Elimination of CFC in the manufacture of rigid foam at Himalaya	17.0	UNDP	\$650,000	38.24
	Elimination of CFC in the manufacture of rigid foam at National Panasonic	157.0	UNDP	\$180,000	1.15
	Elimination of CFC in the manufacture of rigid foam at Uratex Foams	73.7	UNDP	\$1,650,000	22.39
	Elimination of CFC in the manufacture of flexible continuous foam at Asian Foam		UNDP		
	Elimination of CFC in the manufacture of rigid foam at Gommeco	3.0	UNDP	\$190,000	63.33
<i>Syrian Arab Republic</i>	Elimination of CFC in the manufacture of flexible foam at Dakkak	30.0	UNIDO	\$980,752	32.69
<i>Thailand</i>	Phase out of CFC in the manufacture of rigid polyurethane foam for thermoware at Krieng Thavorn Containers	65.0	UNDP	\$500,000	7.69
	Investment project in foam sector (5 subprojects)	255.0	IBRD	\$1,100,000	4.31
Sector: HALON					
<i>China</i>	ODS phase out in the halon sector	1,200.0	UNIDO	\$1,500,000	1.25
	Investment project in halon sector (3 to 5 subprojects)	1,050.0	IBRD	\$1,800,000	1.71
<i>Indonesia</i>	National halon management programme		UNDP	\$200,000	
<i>Jordan</i>	Halon banking project		UNIDO		
<i>Malaysia</i>	National halon management programme		UNDP	\$500,000	
<i>Philippines</i>	National halon strategy phase out	18.0	UNDP	\$2,000,000	111.10
<i>Thailand</i>	Investment project in halon sector (3 subprojects)	200.0	IBRD	\$500,000	2.50
Sector: OTHER					
<i>Indonesia</i>	Investment project in tobacco fluffing	120.0	IBRD	\$2,000,000	16.67
Sector: PRODUCTION					
<i>China</i>	Investment project in the production sector	5,000.0	IBRD	\$5,000,000	1.00
Sector: REFRIGERATION					
<i>Bangladesh</i>	Recovery and recycling of CFC refrigerant, including some investment/technology conversion projects		UNDP	\$200,000	
<i>China</i>	Conversion to CFC free technology at Xiling domestic refrigeration plant	360.0	UNIDO	\$5,051,223	14.03
	Compressor factory at Jiaxpera	290.0	UNIDO	\$3,200,000	11.03
	Investment project in MAC (4 subprojects)	300.0	IBRD	\$8,000,000	26.67
	Investment project in domestic refrigeration (4 or 5 subprojects)	450.0	IBRD	\$10,000,000	22.22
<i>India</i>	Investment project in domestic refrigeration	294.0	IBRD	\$4,000,000	13.61
	Investment project in domestic refrigeration	100.0	UNIDO	\$2,500,000	25.00
<i>Indonesia</i>	Several projects		UNDP	\$2,000,000	

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

Annex I Page 5

Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>Indonesia</i>	Investment project in MAC (2 subprojects)	700.0	IBRD	\$4,100,000	5.86
	Investment project in domestic refrigeration (4 subprojects)	365.0	IBRD	\$5,900,000	16.16
<i>Iran, Islamic Republic</i>	ODS phase out in 5 domestic and commercial refrigeration manufacturing plants (Pars Machine Co., Iran Freeze Co., Gadook, Moualled Co., Lorestan, Co.)	350.0	UNIDO	\$5,000,000	14.29
<i>Lebanon</i>	ODS phase out in the domestic refrigeration manufacturing plant at Opaco Ltd.	84.0	UNIDO	\$1,500,000	17.86
<i>Malaysia</i>	Elimination of CFC in the manufacture of commercial refrigeration equipment at Weltex		UNDP		
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Wincool		UNDP		
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Kwang Tai Ref. & Engineering		UNDP		
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Ban Lee		UNDP		
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Lever Ref.		UNDP		
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Foji Furniture & Ref.		UNDP		
	Investment project in MAC (5 subprojects)	522.0	IBRD	\$4,000,000	7.66
	Investment project in chiller	105.0	IBRD	\$900,000	8.57
<i>Pakistan</i>	Investment project in domestic refrigeration (5 subprojects)	300.0	IBRD	\$10,000,000	33.33
<i>Philippines</i>	National Panasonic refrigerant	135.0	UNDP	\$570,000	4.22
	Elimination of CFC refrigerant in the manufacture of refrigerators at Gommeco	4.5	UNDP	\$300,000	66.67
	Investment project in domestic refrigeration (4 subprojects)	68.0	IBRD	\$3,200,000	47.06
	Recovery and recycling of CFC refrigerant in MAC (2 subprojects)	123.0	IBRD	\$1,100,000	8.94
<i>Sri Lanka</i>	Elimination of CFC in the manufacture of domestic refrigerators at Glacio	6.8	UNDP	\$230,000	33.82
	Elimination of CFC in the manufacture of domestic refrigerators at Regnis	6.4	UNDP	\$300,000	46.88
	Elimination of CFC in the manufacture of domestic refrigerators at AEC	7.3	UNDP	\$400,000	54.79
	Recovery and recycling of CFC refrigerant and demonstration programme		UNDP	\$400,000	
<i>Syrian Arab Republic</i>	ODS phase out in one domestic and one commercial refrigeration manufacturing plants at Krayam	46.0	UNIDO	\$2,075,650	45.12
<i>Thailand</i>	Elimination of CFC in the manufacture of commercial refrigeration equipment at 5 plants (Electrolux, Arco, Makasan, Sommerville, and Alue Metal & Hassmann)	50.0	UNDP	\$700,000	14.00
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Reangwa Standard Industry	20.0	UNDP	\$300,000	15.00
	Investment project in domestic refrigeration (6 subprojects)	860.0	IBRD	\$5,600,000	6.51
	Investment project in MAC (2 subprojects)	200.0	IBRD	\$800,000	4.00

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

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Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>Viet Nam</i>	Retrofitting project in commercial refrigeration (conversion of industrial chillers)	30.0	UNIDO	\$1,000,000	33.33
Sector: SOLVENT					
<i>China</i>	Elimination of TCA at Baoshi Electronics Corporation	7.0	UNDP	\$480,000	68.57
	Elimination of CFC-113 in the electron gun final cleaning process at Tianjin Picture Tube Factory	7.0	UNDP	\$180,000	25.71
	Conversion of Chengdu line to no-clean flux manufacturing line	100.0	UNDP	\$800,000	8.00
	Elimination of CFC-113 at Baoshi Electron Gun Division	8.0	UNDP	\$300,000	37.50
	Elimination of CFC-113 at Baoshi Component Division (pin and anode button)	52.6	UNDP	\$400,000	7.60
	Elimination of CFC-113 at Beijing Compressor Factory	16.0	UNDP	\$600,000	37.50
	Elimination of CFC-113 at Hunan Computer Factory (PCB)	5.6	UNDP	\$300,000	53.57
	Elimination of CFC-113 at Xian Huanghe Machinery Plant (HF PCB)	1.6	UNDP	\$300,000	187.50
	Elimination of CFC-113 at Chongqing Communication Equipment Works (switching system)	6.4	UNDP	\$300,000	46.88
	Elimination of CFC-113 at Meishan Communication Equipment Works (photo terminal equipment)	4.8	UNDP	\$300,000	62.50
	Elimination of CFC-113 at Shanghai Railway Communication Equipment Works (PCB)	6.4	UNDP	\$300,000	46.88
	Elimination of CFC-113 at Shanghai Huguang Instrument Plant (switch, power supply, PCB)	6.4	UNDP	\$300,000	46.88
	Elimination of CFC-113 at Shanghai Radio Works	4.0	UNDP	\$300,000	75.00
	ODS phase out in the solvent sector	96.0	UNIDO	\$3,000,000	31.25
<i>India</i>	ODS phase out at 10 plants in the solvent sector	64.0	UNIDO	\$1,500,000	23.44
<i>Indonesia</i>	Elimination of TCA at FDK-Intercalin	0.3	UNDP	\$200,000	666.60
	Elimination of CFC-113 at Padma Pacific	1.2	UNDP	\$120,000	100.00
	Electronic cleaning processes at 5 electronic plants		UNIDO	\$600,000	
	Investment project in solvent sector (3 subprojects)	5.0	IBRD	\$500,000	100.00
<i>Malaysia</i>	Umbrella project for small operators	24.0	UNDP	\$1,000,000	41.67
	Investment project in solvent sector (6 subprojects)	143.0	IBRD	\$2,100,000	14.69
<i>Philippines</i>	Non-ODS cleaning process at SBII Corporation	13.3	UNDP	\$120,000	9.02
	Non-ODS technology at MPI Corporation	3.6	UNDP	\$250,000	69.44
	Umbrella project covering six enterprises	120.0	UNDP	\$400,000	3.33
<i>Thailand</i>	Investment project in solvent sector (5 subprojects)	15.0	IBRD	\$1,300,000	86.67
EUROPE					
Sector: FOAM					
<i>Turkey</i>	ODS phase out in 6 foam producing plants (Go-Ya Sungen Ltd. St., Sungersan-Inegol, Urosan Kimya Sanayil A.S., Bursas Kimya Sanayil A.S., Inmet Kaplama Sanayi, Purtiz Teknik Izolasyon)	250.0	UNIDO	\$2,500,000	10.00
	Investment project in foam sector (3 subprojects)	200.0	IBRD	\$1,500,000	7.50

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

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Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
Sector: REFRIGERATION					
<i>Romania</i>	ODS phase out in domestic refrigeration manufacturing plant at Arctic	250.0	UNIDO	\$3,527,275	14.11
<i>Turkey</i>	Investment project in domestic refrigeration	86.0	IBRD	\$600,000	6.98
LATIN AMERICA AND THE CARIBBEAN					
Sector: FOAM					
<i>Argentina</i>	CFC phase out in flexible foam at Belmo	98.0	UNDP	\$1,000,000	10.20
	CFC phase out in flexible foam at Limansky	84.0	UNDP	\$500,000	5.95
	Elimination of CFC in the manufacture of foam products at Piero	80.0	UNDP	\$500,000	6.25
	Elimination of CFC in the manufacture of foam products at Suavestar	60.0	UNDP	\$400,000	6.67
	Elimination of CFC in the manufacture of foam products at Nuvel-Corp-Suavegon	60.0	UNDP	\$400,000	6.67
	Elimination of CFC in the manufacture of foam products at New Market	70.0	UNDP	\$400,000	5.71
	Elimination of CFC in the manufacture of foam products at Termica	70.0	UNDP	\$400,000	5.71
	Umbrella project for small flexible foamers	40.0	UNDP	\$200,000	5.00
	Umbrella project for small rigid foamers	40.0	UNDP	\$200,000	5.00
<i>Brazil</i>	Several projects	500.0	UNDP	\$3,000,000	6.00
	ODS phase out in 2 foam producing plants (Frisokar, Caloi S.A.)	186.0	UNIDO	\$2,000,000	10.75
	Investment project in foam sector (2 subprojects)	35.0	IBRD	\$500,000	14.29
	Investment project in foam sector (3 subprojects)	40.0	IBRD	\$1,000,000	25.00
<i>Mexico</i>	Several projects	200.0	UNDP	\$1,000,000	5.00
<i>Peru</i>	Elimination of CFC in the manufacture of polystyrene foam products at Promola	150.0	UNDP	\$700,000	4.67
<i>Venezuela</i>	Elimination of CFC in the manufacture of polystyrene foam at Fandec	150.0	UNDP	\$700,000	4.67
Sector: HALON					
<i>Argentina</i>	Halon banking project	60.0	UNDP	\$300,000	5.00
<i>Brazil</i>	Halon banking project	45.0	UNDP	\$400,000	8.89
<i>Colombia</i>	Halon banking project	30.0	UNDP	\$200,000	6.67
<i>Mexico</i>	Halon banking project	30.0	UNDP	\$200,000	6.67
<i>Uruguay</i>	Halon banking project	30.0	UNDP	\$200,000	6.67
Sector: MULTI-SECTOR					
<i>Chile</i>	Investment project in all sectors (several subprojects)	400.0	IBRD	\$8,000,000	20.00
Sector: REFRIGERATION					
<i>Argentina</i>	Investment project in MAC	40.0	IBRD	\$1,500,000	37.50
	Investment project in domestic refrigeration (2 subprojects)	50.0	IBRD	\$2,500,000	50.00
	Investment project in domestic refrigeration (6 subprojects)	150.0	IBRD	\$7,200,000	48.00

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

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Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>Argentina</i>	Investment project in commercial refrigeration (compressor)	30.0	IBRD	\$100,000	3.33
	Investment project in refrigerated transportation		IBRD	\$700,000	
<i>Barbados</i>	Retrofitting service and maintenance in cold storage and chiller rooms	5.0	UNIDO	\$300,000	60.00
<i>Brazil</i>	Conversion to CFC free technology at Multibras Chest Freezers	166.0	UNDP	\$800,000	4.82
	Recovery and recycling of CFC refrigerant in MAC units	60.0	UNDP	\$500,000	8.33
	ODS phase out at domestic refrigeration plants	170.0	UNIDO	\$3,000,000	17.65
	Investment project in domestic refrigeration (2 subprojects)	377.0	IBRD	\$8,700,000	23.08
<i>Colombia</i>	Conversion to CFC free technology at Friomix	10.0	UNDP	\$30,000	3.00
	Conversion to CFC free technology at Super Nordico	3.4	UNDP	\$170,000	50.00
	Conversion to CFC free technology at Industrias Westell	20.4	UNDP	\$280,000	13.73
<i>Costa Rica</i>	Conversion to CFC free technology at Atlas Electrica	40.0	UNDP	\$480,000	12.00
	Recovery and recycling of CFC refrigerant	10.0	UNDP	\$200,000	20.00
<i>Cuba</i>	Elimination of CFC in a commercial refrigeration manufacturing plant	5.0	UNDP	\$200,000	40.00
<i>Guatemala</i>	Recovery and recycling of CFC refrigerant	50.0	UNDP	\$300,000	6.00
<i>Jamaica</i>	Recovery and recycling of CFC refrigerant	50.0	UNDP	\$300,000	6.00
<i>Mexico</i>	Recovery and recycling of CFC refrigerant	76.0	UNDP	\$350,000	4.61
	End-users	50.0	UNDP	\$350,000	7.00
<i>Panama</i>	Recovery and recycling of CFC refrigerant	50.0	UNDP	\$300,000	6.00
<i>Peru</i>	Recovery and recycling of CFC refrigerant	50.0	UNDP	\$300,000	6.00
<i>Trinidad and Tobago</i>	Recovery and recycling of CFC refrigerant	25.0	UNDP	\$200,000	8.00
<i>Venezuela</i>	Elimination of CFC in the manufacture of domestic refrigerators at Coresmalt	65.5	UNDP	\$850,000	12.98
	Elimination of CFC in the manufacture of domestic refrigerators at Frigilux	44.7	UNDP	\$910,000	20.36
	Elimination of CFC in the manufacture of domestic refrigerators at Madosa	93.0	UNDP	\$300,000	3.23
	Elimination of CFC in the manufacture of domestic refrigerators at Eterna	0.4	UNDP	\$140,000	350.00
	Conversion of CFC-12 to HFC-134a compressors for domestic refrigerators at Vecomesa		UNDP	\$540,000	
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Nutal	14.5	UNDP	\$250,000	17.24
	Elimination of CFC in the manufacture of commercial refrigeration equipment at Pinova	24.7	UNDP	\$440,000	17.81
	Additional companies identified	30.0	UNDP	\$600,000	20.00
Sector: SOLVENT					
<i>Brazil</i>	Several projects	24.0	UNDP	\$600,000	25.00
	Investment project in solvent sector		IBRD	\$700,000	
	Investment project in solvent sector (3 subprojects)		IBRD	\$3,700,000	
	Investment project in solvent sector (2 subprojects)		IBRD	\$2,600,000	

DISTRIBUTION OF PIPELINE INVESTMENT PROJECTS

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Country	Project title	ODS to be phased-out (ODP tonnes)	I. A.	Funds allocated (US \$)	Cost effectiveness (US\$/kg)
<i>Colombia</i>	Elimination of CFC-113 at one or two plants	8.0	UNDP	\$200,000	25.00
<i>Mexico</i>	Several projects	76.0	UNDP	\$700,000	9.21
<i>Uruguay</i>	Several projects	12.0	UNDP	\$300,000	25.00
Sector: SEVERAL					
<i>Mexico</i>	Institutional strengthening (phase II)		UNDP	\$220,000	