

Annex IV
LIST OF NEW PROJECTS APPROVED AS ELIGIBLE FOR FUNDING
INCLUDING THOSE FUNDED AT THE 18th MEETING

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Aerosol					
<i>Hydrocarbon</i>					
Romania**	Phasing out of CFCs at Farmec S.A.	730.0	UNIDO	\$1,012,344	1.22
Foam					
<i>Flexible polyurethane</i>					
China**	Elimination of CFC-11 in the manufacture of flexible slabstock PUF at Tianjin Daqui Foam Plant	190.0	UNDP	\$180,800	0.84
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Zibo No. 3 Plastic Plant	100.0	World Bank	\$281,370	2.49
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Qingyang Chemical Corp.	90.0	World Bank	\$409,060	4.02
China	Elimination of CFC-11 in the manufacture of flexible slabstock PUF at Jiangsu Jintan Insulation Mat.	12.0	UNDP	\$74,580	4.33
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Yinguang Chemical Group	85.0	World Bank	\$424,880	4.42
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Hangzhou Plastic Foam Factory	60.0	World Bank	\$358,210	5.28
China	Phaseout of CFCs in the manufacture of flexible slabstock PUF at Jinan Shiyan Plastic Plant	35.0	World Bank	\$236,509	5.98
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Qinhuangdao No. 3 Plastic Plant	60.0	World Bank	\$418,100	6.17
<i>Integral skin</i>					
China**	Elimination of CFCs in the manufacture of integral skin and cold cured PUF moldings at Jiangxi Auto Engineering Plastic Plant	39.2	UNDP	\$192,100	4.33

(*) Includes agencies' overhead costs where applicable
(**) Funded at the 18th Meeting

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
India	Phase-out of CFCs in the manufacture of molded PUF automotive seat cushions at Roloforms Polymer Ltd.	26.0	World Bank	\$183,512	6.25
India	Phase-out of CFCs in the manufacture of cold cured PUF moldings at Punjab Scooters Ltd.	39.0	UNDP	\$352,786	8.00
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at Blitz Ind. Com. de Plasticos	9.7	UNDP	\$135,600	12.37
India	Phase-out of CFCs in the manufacture of cold cured and integral skin PUF moldings at Amit Polyseats Ltd.	19.3	UNDP	\$274,590	12.53
India	Phase-out of CFCs in the manufacture of cold cured PUF moldings at Meenakshi Polymers Pvt. Ltd.	15.0	UNDP	\$241,820	14.26
<i>Polystyrene and/or polyethylene</i>					
India**	Phase-out of CFCs in the manufacture of extruded polyethylene foam at Shroff Textiles Ltd.	25.0	World Bank	\$222,836	7.89
<i>Rigid polyurethane</i>					
Mexico**	Conversion to CFC-free technology in the manufacture of polyurethane foam at Paneles	81.0	UNDP	\$113,000	1.23
Turkey**	Conversion to CFC-free technology in the manufacture of rigid polyurethane foam insulation panels at Barlan Metal	462.0	UNIDO	\$908,577	1.74
Mexico**	Conversion to CFC-free technology in the manufacture of insulated construction panels at Galvamet	88.7	UNDP	\$220,915	2.20
Algeria	Phasing out CFC-11 in the manufacture of sandwich panels at Batimetal Béni Mansour	110.0	UNIDO	\$561,215	2.93
Algeria	Phasing out CFC-11 in the manufacture of sandwich panels by discontinuous method at Prosider Berrahal	82.0	UNIDO	\$490,985	3.44
Mexico	Conversion to CFC-free technology in the manufacture of rigid polyurethane foam (spray) - Group project	100.0	UNDP	\$573,475	5.08
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at Madef/Isoltec	65.3	UNDP	\$390,980	5.30

(*) Includes agencies' overhead costs where applicable

(**) Funded at the 18th Meeting

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Philippines	Phaseout of the use of CFCs in the manufacture of PU foam for insulation and structural purposes at Himalaya Mfg. Corp.	17.0	UNDP	\$114,130	5.94
India	Phase-out of CFCs in the manufacture of rigid PUF spray insulation at Beardsell Ltd.	21.2	UNDP	\$145,770	6.07
India	Phase-out of CFC-11 in the manufacture of rigid PUF for insulated thermoware at Arihant Thermoware Ltd.	23.7	World Bank	\$165,489	6.18
India	Phase-out of CFCs in the manufacture of rigid PUF insulated thermoware at Asian Advertisers	19.4	UNDP	\$138,425	6.31
India	Phase-out of CFC-11 in the manufacture of rigid PUF insulated thermoware at Wimco Pen Co.	18.5	World Bank	\$134,798	6.44
Syria	Investment project for phasing out CFCs at Krayem Cold Stores Co.	65.0	UNIDO	\$728,398	6.45
India	Phase-out of CFCs in the manufacture of rigid PUF products at Lloyd Insulations and Polyproducts	76.7	UNDP	\$565,000	6.51
India	Phase-out of CFC-11 in the manufacture of rigid PUF insulated thermoware at Cello Plast	21.0	World Bank	\$159,692	6.72
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at three enterprises: Brafer, Invicta and Therm-Jet	38.0	UNDP	\$310,750	7.24
India	Phase-out of CFC-11 in the manufacture of rigid PUF insulated thermoware at Cello Thermoware Ltd.	17.4	World Bank	\$146,245	7.37
India	Phase-out of CFC-11 in the manufacture of rigid PUF products at Polyproducts	18.5	World Bank	\$158,415	7.57
Halon					
<i>Fire extinguisher</i>					
Philippines**	Umbrella project for the conversion of production of portable halon fire extinguishers of members companies of Fire Protectors Federation Inc.	77.1	UNDP	\$128,942	1.48
Refrigeration					
<i>Commercial</i>					
Syria**	Umbrella project for phasing out CFCs at Krayem Int. Co. (Krayem Co. and Krayem Brothers Co.)	89.0	UNIDO	\$1,210,880	7.83

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(**) Funded at the 18th Meeting

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at Meghdoot Refrigeration Industries	18.0	World Bank	\$185,987	9.14
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at V. Krishna & Co.	14.8	World Bank	\$166,133	9.93
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at Friz-Tech P. Ltd.	11.5	World Bank	\$150,200	11.56
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at V. Krishna Engineers P. Ltd.	17.0	World Bank	\$229,153	11.93
Brazil	Elimination of CFC-11 and CFC-12 in the production of commercial refrigeration equipment at Geltec	18.3	World Bank	\$257,923	12.47
Brazil	Elimination of CFC-11 and CFC-12 in the production of commercial refrigeration equipment at Everest Refrigeracao Ind. e Comercio Ltda.	11.2	World Bank	\$168,427	13.30
Brazil	Conversion of CFC-11 to cyclopentane foam blowing agent and CFC-12 to HFC-134a refrigerant at Tecnomecanica Esmaltec Ltda.	68.7	World Bank	\$1,044,165	13.45
Thailand	Phase out of CFC-11 in the manufacturing of equipment for the food and beverage industry at Siam Stainless Steel Co. Ltd.	14.0	World Bank	\$240,577	15.21
<i>Domestic</i>					
Brazil**	Elimination of CFC-11 and CFC-12 in the manufacture of commercial chest freezers at Refrigeracao Parana S.A. Curitiba	363.0	World Bank	\$1,760,103	4.29
Iran**	Conversion of domestic refrigerator production facilities to phase out CFC-12 and CFC-11 (Second group) at Faritz Iran, Gadook, Lorestan, Movalled, Pars Machine and Pars Monark)	372.0	UNIDO	\$3,602,029	4.99
China**	Phasing out ODS at the Hangzhou Huari Refrigerator Co.	338.0	UNIDO	\$3,195,539	5.43
China	Elimination of CFCs 11 and 12 in the manufacture of domestic freezers at Guingdao Haier General Freezer Company	278.8	UNDP	\$2,879,555	5.94
Tunisia	Umbrella project to phase out ODS at the 6 small refrigerator manufacturers	78.5	UNIDO	\$863,949	9.74

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(**) Funded at the 18th Meeting

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
China	Elimination of CFCs 11 and 12 in the manufacture of domestic freezers at Henan Freezer Factory	167.7	UNDP	\$2,882,184	9.88
Pakistan	Phasing out ODS at the Chest Freezer Factory of Riaz Electric Co. Ltd.	48.2	UNIDO	\$929,975	11.09
Pakistan	Phasing out ODS at the refrigerator and chest freezer plants of Pak Elektron Ltd. (PEL)	68.0	UNIDO	\$1,367,633	11.58
Argentina	Elimination of CFC in the manufacturing plant of domestic refrigerators at Adzen S.A. C.I.F.	12.0	World Bank	\$403,376	13.64
Solvent					
CFC-113					
China**	Elimination of ODS (CFC-113) used in the production line at Hunan Computer Factory	21.0	UNDP	\$118,311	4.99
China	Elimination of CFC-113 used in the production line at Shanghai Sixth Radio Factory	4.5	UNDP	\$156,392	10.40
China	Elimination of the use of CFC-113 and methyl chloroform in the color picture tube cleaning processes at the Shanghai Novel CPT. Corp. Factory	75.0	UNDP	\$960,444	11.33
China	Elimination of the use of CFC-113 in the electron gun final cleaning processes at the Tianjin Picture Tube Factory	6.7	UNDP	\$149,838	19.73
Thailand	Conversion of precision cleaning processes from CFC-113 to aqueous and alternative solvent cleaning and conversion of insulator applications from CFC-113 to perfluorocarbons at Thai CRT Co. Ltd.	5.0	World Bank	\$112,367	19.73
Brazil	Elimination of CFC-113 in medical parts cleaning and silicone deposition, and CFC-12 used in sterilization at Tecnobio	16.0	World Bank	\$358,766	19.84
CFC-113, TCA					
Thailand**	Conversion of plastic lens cleaning processes from CFC-113 and 1,1,1 TCA to aqueous cleaning at Crystal Lens Corporation Ltd.	1.9	World Bank	\$45,008	21.00
TCA					
Egypt**	Conversion of cleaning processes from 1,1,1 TCA to aqueous cleaning at Sital	2.0	UNIDO	\$55,126	6.40

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(**) Funded at the 18th Meeting

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Egypt	Conversion of cleaning processes from 1,1,1 TCA to cleaning in perchloroethylene at Abbasol	8.0	UNIDO	\$174,635	19.32
Egypt	Conversion of cleaning processes from 1,1,1 TCA to aqueous cleaning at Technopol	6.0	UNIDO	\$141,531	20.87
Thailand	Conversion of metal cleaning processes from 1,1,1 TCA to aqueous cleaning at BKJ Engineering Co. Ltd. (BKJ)	6.7	World Bank	\$210,730	27.96
China	Elimination of the use of TCA in the Baoshi Electronics Corporation Shijazhuang Manufacturing Operations	7.4	UNDP	\$321,937	38.50
Total		5,086.6		\$35,497,171	

(*) Includes agencies' overhead costs where applicable
(**) Funded at the 18th Meeting

(b) Low ODS-consuming countries

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Aerosol					
<i>Hydrocarbon</i>					
Viet Nam**	Conversion to hydrocarbon aerosol propellant technology at Cosmetics Producing and Trading Company (CP & T)	85.0	UNDP	\$322,186	3.35
Viet Nam**	Conversion to CFC-free hydrocarbon aerosol propellant technology at Daso Company Ltd.	27.0	UNDP	\$124,684	4.08
Sri Lanka**	Conversion to CFC-free hydrocarbon aerosol propellant technology at International Cosmetic Ltd. (ICL)	5.2	UNDP	\$44,034	7.49
Refrigeration					
<i>Domestic</i>					
Tanzania**	Phasing out of CFCs at Tanzania Domestic Appliance Manufacturers Ltd.	43.0	UNIDO	\$669,853	8.96
Mozambique**	Phasing out of CFCs at Industria de Aplicacoes Technico-Domesticas Limitada (Indatec)	41.0	UNIDO	\$657,112	9.20
Total		201.2		\$1,817,869	

(*) Includes agencies' overhead costs where applicable

(**) Funded at the 18th Meeting

(c) MAC and compressor

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Refrigeration					
<i>Compressor</i>					
China	Phasing out ODS at the compressor factory of the Huangshi Dongbei Refrigeration Co.		UNIDO	\$1,015,904	
<i>MAC</i>					
Malaysia	Phase-out of CFC-12 MAC manufacturing equipment and conversion of HFC-134a MAC manufacturing equipment at UCM Industrial Corporation Berhad		World Bank	\$1,659,741	
Total				\$2,675,645	

(*) Includes agencies' overhead costs where applicable
(**) Funded at the 18th Meeting

(d) CFC recycling and halon banking

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Refrigeration					
<i>Refrigerant recovery and recycling</i>					
Dominican Republic**	Demonstration project in commercial refrigeration (food storage, distribution and retailing)		UNDP	\$88,140	
Global**	Global MACs project: Phase 2		UNDP	\$565,000	
Region: LAC**	Regional Latin America demonstration project in recovery of ODS in MACs: Phase I (Argentina, Colombia)		UNDP	\$233,910	
Guatemala**	Implementation of a national programme for recovery and recycling of refrigerant	26.2	UNDP	\$290,161	9.80
Jamaica**	Implementation of a national programme for recovery and recycling of refrigerant	16.7	UNDP	\$194,885	10.32
Panama**	Implementation of a national programme for recovery and recycling of refrigerant	16.7	UNDP	\$194,885	10.32
Barbados**	CFC-recovery, recycling and training in refrigeration	14.0	UNIDO	\$186,642	11.80
Uruguay**	Recovery and recycling of CFC-12 in maintenance workshops for industrial refrigeration equipment	3.5	World Bank	\$99,041	25.00
Total		77.1		\$1,852,664	

(*) Includes agencies' overhead costs where applicable
(**) Funded at the 18th Meeting

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Aerosol					
<i>Project preparation</i>					
India**	Preparation of umbrella project for ODS phase-out in the aerosol sector (small-scale industries)		UNIDO	\$22,600	
Syria**	Preparation of an investment project in the aerosol sector		UNIDO	\$28,250	
<i>Technical assistance</i>					
Uruguay**	Total aerosol sector phaseout project (technical assistance)	16.0	UNDP	\$61,020	3.37
Foam					
<i>Project preparation</i>					
Argentina**	Preparation of an investment project in the foam sector		UNIDO	\$22,600	
Malaysia**	Preparation of an investment project in the foam sector		UNIDO	\$45,200	
Senegal**	Preparation of an investment project in the foam sector		UNIDO	\$11,300	
<i>Project preparation</i>					
China**	Formulation of investment projects in the tobacco sector		UNIDO	\$56,500	
Refrigeration					
<i>Project preparation</i>					
China**	Formulation of investment projects in the refrigeration sector with particular attention to domestic refrigeration and compressor manufacturing		UNIDO	\$62,150	
Romania**	Preparation of investment projects in the domestic and commercial refrigeration sectors		UNIDO	\$22,600	
Syria**	Preparation of an investment project in recovery and recycling sector		UNIDO	\$16,950	

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(**) Funded at the 18th Meeting

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Several					
<i>Institutional strengthening</i>					
Benin**	Creation of an Ozone Bureau		UNEP	\$56,500	
Bolivia**	Establishment of the Ozone Governmental Commission (COGO)		UNEP	\$102,830	
Central African Republic**	Establishment of the National Technical Ozone Group (Ozone Unit)		UNEP	\$51,528	
Egypt**	Institutional strengthening project for the Montreal Protocol related activities (Phase II)		UNIDO	\$49,607	
Guinea**	Creation of an Ozone Bureau		UNEP	\$56,500	
Namibia**	Establishment of a National Ozone Office		UNEP	\$69,794	
<i>Project preparation</i>					
Argentina**	Project preparation assistance		UNDP	\$28,250	
Argentina**	Project preparation		World Bank	\$50,850	
Bolivia**	Project preparation assistance		UNDP	\$22,600	
Brazil**	Formulation of two investment projects in the commercial and domestic refrigerator sector		UNIDO	\$56,500	
Brazil**	Project preparation assistance		UNDP	\$62,150	
Brazil**	Project preparation		World Bank	\$113,000	
Central African Republic**	Project preparation assistance		UNDP	\$16,950	
Chile**	Project preparation		World Bank	\$79,100	
China**	Project preparation assistance		UNDP	\$113,000	
China**	Project preparation		World Bank	\$33,900	
Colombia**	Project preparation assistance		UNDP	\$31,640	
Congo**	Project preparation assistance in recovery and recycling of refrigerant, foam and halon sectors		UNDP	\$28,250	
Dominican Republic**	Project preparation assistance in foams and refrigeration		UNDP	\$16,950	
Egypt**	Project preparation assistance		UNDP	\$22,600	
India**	Project preparation assistance		UNDP	\$113,000	

(*) Includes agencies' overhead costs where applicable

(**) Funded at the 18th Meeting

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
India**	Project preparation		World Bank	\$339,000	
Indonesia**	Project preparation assistance		UNDP	\$56,500	
Indonesia**	Project preparation		World Bank	\$33,900	
Jordan**	Project preparation		World Bank	\$45,200	
Macedonia**	Preparation of projects in the refrigeration, aerosol and foam sectors		UNIDO	\$33,900	
Malawi**	Project preparation assistance		UNDP	\$7,910	
Malaysia**	Project preparation assistance		UNDP	\$20,340	
Malaysia**	Project preparation		World Bank	\$33,900	
Mexico**	Preparation of investment projects		UNIDO	\$56,500	
Mexico**	Project preparation assistance		UNDP	\$11,300	
Pakistan**	Project preparation		World Bank	\$113,000	
Panama**	Project preparation assistance		UNDP	\$11,300	
Peru**	Project preparation assistance		UNDP	\$28,250	
Philippines**	Preparation of a recovery and recycling project in the refrigeration sector		UNIDO	\$16,950	
Philippines**	Project preparation assistance		UNDP	\$50,850	
Thailand**	Project preparation assistance		UNDP	\$3,390	
Thailand**	Project preparation		World Bank	\$22,600	
Turkey**	Project preparation		World Bank	\$113,000	
Uganda**	Project preparation assistance		UNDP	\$5,650	
Uruguay**	Project preparation		World Bank	\$33,900	
Venezuela**	Project preparation assistance		UNDP	\$48,590	
Venezuela**	Project preparation		World Bank	\$45,200	
Zambia**	Project preparation assistance		UNDP	\$5,650	
Zimbabwe**	Project preparation		World Bank	\$56,500	
<i>Training</i>					
China**	Training workshop on safety aspects of CFC substitutes		UNEP	\$93,112	

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(**) Funded at the 18th Meeting

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Total		16.0		\$2,811,061	

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(**) Funded at the 18th Meeting

(g) Bilateral cooperation

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US \$) (*)	C.E. (US\$/kg)
Refrigeration					
<i>Refrigerant recovery and recycling</i>					
Dominican Republic**	Demonstration project in commercial refrigeration (food storage, distribution and retailing)	7.6	USA	\$74,000	20.00
Philippines**	MACs servicing demonstration project	11.0	USA	\$285,500	27.32
Solvent					
<i>CFC-113</i>					
Malaysia**	Phasing out the use of CFC-113 in the electronics industry through the technical promotion of no clean processes		France	\$226,600	
Total		18.6		\$586,100	

(*) Includes agencies' overhead costs where applicable
(**) Funded at the 18th Meeting

SUMMARY OF NEW PROJECTS LIST

Sector	Number of projects	Phased-out (ODP tonnes)	Cost (US \$) (*)	C.E. (US\$/kg)
(a) Investment projects ranked by order of cost-effectiveness				
Aerosol	1	730.0	\$1,012,344	1.39
Foam	33	2,130.6	\$10,013,012	4.70
Halon	1	77.1	\$128,942	1.67
Refrigeration	18	1,988.7	\$21,537,788	10.83
Solvent	12	160.2	\$2,805,085	17.51
TOTAL:	65	5,086.6	\$35,497,171	6.98
(b) Low ODS-consuming countries				
Aerosol	3	117.2	\$490,904	4.19
Refrigeration	2	84.0	\$1,326,965	15.80
TOTAL:	5	201.2	\$1,817,869	
(c) MAC and compressor				
Compressor	1		\$1,015,904	
MAC	1		\$1,659,741	
TOTAL:	2		\$2,675,645	
(d) CFC recycling and halon banking				
Refrigerant recovery and recycling	8	77.1	\$1,852,664	
TOTAL:	8	77.1	\$1,852,664	
(e) Work programme/amendment				
Project preparation	2		\$50,850	
Technical assistance	1	16.0	\$61,020	
Project preparation	3		\$79,100	
Project preparation	1		\$56,500	
Project preparation	3		\$101,700	
Institutional strengthening	6		\$386,759	
Project preparation	39		\$1,982,020	
Training	1		\$93,112	
TOTAL:	56	16.0	\$2,811,061	
(g) Bilateral cooperation				
Refrigerant recovery and recycling	2	18.6	\$359,500	
CFC-113	1		\$226,600	
TOTAL:	3	18.6	\$586,100	
GRAND TOTAL:	139	5,399.5	\$45,240,510	