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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Seventy-first Meeting
Montreal, 2-6 December 2013

PROJECT PROPOSAL: INDIA

This document consists of the comments and recommendation of the Fund Secretariat on the following project proposals:

Phase-out

- HCFC phase-out management plan (stage I, second tranche) UNDP/UNEP/Germany

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

India

(I) PROJECT TITLE	AGENCY
HCFC phase out plan (Stage I)	Germany, UNDP (lead), UNEP

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2012	1,653.85 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2012	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123			0.72		2.00				2.72
HCFC-124					1.52				1.52
HCFC-141b	5.81	631.62		37.90		20.41			695.75
HCFC-141b in Imported Pre-blended Polyol		8.25							8.25
HCFC-142b		25.74			59.31				85.05
HCFC-22		14.52		458.81	387.23				860.56

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	1,608.2	Starting point for sustained aggregate reductions:	1,691.25
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	341.77	Remaining:	1,349.48

(V) BUSINESS PLAN		2013	2014	2015	Total
UNEP	ODS phase-out (ODP tonnes)	5.53		1.38	6.91
	Funding (US \$)	386,550		96,638	483,188
Germany	ODS phase-out (ODP tonnes)	13.96		3.2	17.16
	Funding (US \$)	969,514		222,378	1,191,892
UNDP	ODS phase-out (ODP tonnes)	112.35	0	23.09	135.44
	Funding (US \$)	7,525,000	0	1,546,377	9,071,377

(VI) PROJECT DATA			2012	2013	2014	2015	Total	
Montreal Protocol consumption limits			n/a	1,608.20	1,608.20	1,447.38		
Maximum allowable consumption (ODP tonnes)			n/a	1,608.20	1,608.20	1,447.38		
Agreed Funding (US\$)	Germany	Project costs	925,452	869,508		199,440	1,994,400	
		Support costs	106,440	100,006		22,938	229,384	
	UNDP*	Project costs	10,000,000	7,000,000		1,438,490	18,438,490	
		Support costs	750,000	490,000		100,694	1,340,694	
	UNEP	Project costs	430,800	344,640		86,160	861,600	
		Support costs	52,388	41,910		10,478	104,776	
Funds approved by ExCom (US\$)								
			Project Costs	11,356,252	0	0	0	11,356,252
			Support Costs	908,828	0	0	0	908,828
Total funds requested for approval at this meeting (US\$)								
			Project Costs		8,214,148			8,214,148
			Support Costs		631,916			631,916

Secretariat's recommendation:	For individual consideration
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*New agency fee for UNDP adjusted to reflect 7 per cent (decisions 66/17(c) and 67/15(b)(i))

PROJECT DESCRIPTION

1. On behalf of the Government of India UNDP, as the lead implementing agency, has submitted to the 71st meeting of the Executive Committee a request for funding for the second tranche of stage I of the HCFC phase-out management plan (HPMP)¹ at a total cost of US \$8,846,064, consisting of US \$7,000,000, plus agency support costs of US \$490,000 for UNDP, US \$344,640, plus agency support costs of US \$41,910 for UNEP, and US \$869,508, plus agency support costs of US \$100,006 for Germany. The submission includes a progress report on the implementation of the first tranche of the HPMP together with the tranche implementation plan for 2014 to 2015.

Progress report on the implementation of the first tranche of the HPMP

2. Activities planned in stage I of the HPMP include: phase-out of HCFC-141b used in polyurethane foam applications by 16 enterprises (eight manufacturing insulation foam for domestic refrigeration equipment, three² manufacturing continuous sandwich panels and five manufacturing discontinuous sandwich panels); technical assistance to 15 systems houses; activities in the refrigeration servicing sector; enabling activities to support HPMP implementation; and activities related to monitoring, coordination and management.

Phase-out activities in the foam sector

3. The conversion of the 16 foam enterprises to hydrocarbon technology is under implementation. All enterprises chose cyclopentane as the alternative technology and set milestones for performance-based Memorandum of Agreements (MOAs) to be signed with the Government of India. Ten enterprises have signed such MOAs, have initiated the equipment procurement process and started seeking clearance for storage and use of a flammable foam-blowing agent on the manufacturing premises. Large companies have submitted their modified production processes and layout drawings for conversion. The remaining five eligible enterprises are expected to sign their MOAs by the end of 2013. UNDP expects to disburse US \$8.98 million under this activity during the next eight months.

4. Technical assistance to the 15 locally-owned systems houses for customizing formulations using low-global-warming-potential (GWP) alternative blowing agents has also commenced. The systems houses are in the process of researching and developing new formulations using HCFC-free blowing agents, mainly HFOs. Ten systems houses have signed MOAs, and the remaining five are expected to sign their MOAs by the end of 2013. UNDP expects to disburse US \$2.4 million under this activity during the next eight months.

5. Through technical workshops and consultations, small and medium-size foam enterprises (SMEs) have been informed of the latest developments and emerging technological options. Once new foam formulations are developed, technical assistance activities, including outreach workshops for sharing information with SMEs, will be undertaken.

Technical assistance for the servicing sector

6. The following activities have been implemented in the refrigeration servicing sector:

- (a) A stakeholder workshop was organized to launch the HPMP implementation for refrigeration and air-conditioning (RAC) servicing sector. Seventy-two participants attended the workshop, which further covered alternatives, technology, best servicing

¹ The HPMP for India was approved by the Executive Committee at its 66th meeting to reduce consumption of HCFCs by 10 per cent of the baseline by 1 January 2015.

² One continuous panels enterprise is self-funded and is not eligible for funding under the Multilateral Fund.

practices and the upcoming train-the-trainers programme. A website was designed to communicate with the servicing technicians and the stakeholders;

- (b) Training materials (servicing and installation) and a technician's handbook have been developed; and 40 trainers have been trained in good servicing practices. Contracts were signed with 15 training partners (established during CFC phase-out) for further training of technicians. Equipment has been provided for training on HCFC-related issues; and
- (c) Integration of HCFC issues into the syllabus of the Government Industry Training Institutes (ITIs) has been initiated and will be introduced through a train-the-trainers programme. This approach will complement the training of technicians in the informal sector.

Enabling activities for compliance with stage I of the HPMP

7. The amended regulations for ODS control were approved and entered into force. Salient features include *inter-alia* a ban on establishing new manufacturing capacity for products made with or containing HCFCs by 21 January 2013; a ban on issuance of licenses to import HCFC-141b pre-blended polyols from 21 January 2013; the introduction of a quota system for production, consumption and supply of domestically produced HCFCs for non-feedstock applications and reporting system for all feedstock applications; and a ban on imports of air-conditioning and refrigeration equipment and other products using HCFCs from 1 January 2015.

8. The enabling activities focus on legislative support and enhancing the capacity of the customs and enforcement officers to control and monitor consumption of HCFCs and prevent illegal trade. An agreement has been signed with the National Academy of Customs (NACEN) to integrate HCFC policies and enforcement issues into the general training curriculum for customs officers. Amendment of the curriculum in architectural colleges to integrate HCFC-free building design and construction has been planned. Consensus is being sought among stakeholders to amend the building codes, at which point legislative amendments will be proposed.

Project management unit

9. The Project Management Unit (PMU) has been coordinating activity implementation and facilitating communication among key stakeholders. HCFC production and consumption for non-feedstock uses were closely monitored. The PMU prepared the implementation strategy and annual implementation plans, coordinated activities in different sectors, managed financial resources and organized meetings and workshops to ensure full cooperation of all stakeholders.

Status of fund disbursement

10. As of 23 October 2013, of the US \$11,356,252 approved for the first tranche, US \$3,229,953 (28 per cent) had been disbursed. The remaining balance of US \$8,126,299 (72 per cent) will be disbursed in 2014 and 2015 (Table 1).

Table 1. Financial report associated with the first tranche of the HPMP for India

Description	Funds disbursement in the first tranche (US \$)		
	Approved	Disbursed	Balance
Conversion of 15 enterprises	7,150,850	1,567,834	5,583,016
Technical assistance to 15 systems houses and SMEs	2,249,150	676,119	1,573,031
Refrigeration servicing sector	925,452	662,000	263,452
Enabling activities	430,800	264,000	166,800
Project management unit	600,000	60,000	540,000
Total	11,356,252	3,229,953	8,126,299

Annual plans for the second tranche of the HPMP

11. The main activities to be implemented between 2014 and 2015 are presented below:
- (a) Continuing the conversion of the 15 foam enterprises to phase out the consumption of 2,523 metric tonnes (277.5 ODP tonnes) of HCFC-141b in the polyurethane foam sector;
 - (b) Completing the trial of new foam formulations by the 15 selected systems houses and applying new formulations in 30 enterprises; providing technical assistance to SMEs in the foam sector;
 - (c) Undertaking 408 training programmes to train 10,200 technicians in good servicing practices including proper flushing of refrigeration systems; printing 4,000 training manuals and purchasing at least 200 flushing kits for training purposes for distribution to service technicians; and registering trained technicians in the monitoring system's data base;
 - (d) Supporting the original equipment manufacturers (OEM) to conduct trials on retrofitting existing HCFC-based refrigeration systems to non-HCFC refrigerants;
 - (e) Conducting six training courses for trainers and for supervisory customs officers and other enforcement agencies; providing ODS identifiers; developing a programme to address the trade in HCFCs and HCFC-related equipment, and the prevention of illegal HCFC trade; and
 - (f) Project monitoring and evaluation, including a verification of HCFC consumption that will be undertaken in 2014 and 2015 to verify HCFC production and consumption in 2013 and 2014.

SECRETARIAT'S COMMENTS AND RECOMMENDATION**COMMENTS**Operational licensing system

12. In line with decision 63/17, confirmation has been received from the Government that an operating national system of licensing and quotas for HCFC imports, production and exports is in place and that the system is capable of ensuring compliance with the Montreal Protocol HCFC phase-out schedule.

13. The Government of India has indicated that the quotas for HCFC imports, production, sales for domestic non-feedstock uses and exports have been set according to the Montreal Protocol control measures for the period of 2013 to 2015.

HCFC consumption and production

14. The HCFC baseline for compliance has been established at 1,608.2 ODP tonnes, based on the actual consumption reported under Article 7 of the Montreal Protocol for 2009 and 2010 as shown in Table 2. The established baseline is equal to that in the Agreement between the Government of India and the Executive Committee; therefore no adjustments to the Agreement are required. The consumption increase of HCFC-22 and HCFC-142b in 2012 is a reflection of the economic growth in the country's infrastructure. HCFC-142b growth is mainly due to an increased import of the refrigerant blend R-406A used as drop-in substitutes in different RAC applications. The comprehensive set of regulations

promulgated by the Government of India will reduce HCFC consumption according to the Montreal Protocol control measures.

Table 2. Article 7 HCFC consumption in India (2007-2012)

HCFC	2007	2008	2009	2010	2011	2012	Baseline
Metric tonnes							
HCFC-123	27.0	101.0	238.0	115.0	-	136.00	176.5
HCFC-124	-	-	620.0	603.0	288.74	69.25	611.5
HCFC-141b	4,712.0	12,589.0	7,900.0	7,837.0	7,924.00	6,400.00	7,868.5
HCFC-142b	-	390.0	3,001.0	805.0	645.00	1,308.40	1,903.0
HCFC-22	13,577.0	10,831.0	9,387.0	12,503.0	10,266.39	15,646.51	10,945.0
Total (mt)	18,316.0	23,911.0	21,146.0	21,863.0	19,124.13	23,560.16	21,504.5
ODP tonnes							
HCFC-123	0.5	2.0	4.8	2.3	-	2.72	3.5
HCFC-124	-	-	13.6	13.3	6.35	1.52	13.5
HCFC-141b	518.3	1,384.8	869.0	862.1	871.64	704.00	865.5
HCFC-142b	-	25.4	195.1	52.3	41.93	85.05	123.7
HCFC-22	746.7	595.7	516.3	687.7	564.65	860.56	602.0
Total (ODP tonnes)	1,265.5	2,007.9	1,598.7	1,617.6	1,484.57	1,653.85	1,608.2

15. In addition, India also imported 755.00 mt (83.05 ODP tonnes) of HCFC-141b in pre-blended polyols in 2009. This level of imports has been reduced to 75 mt (8.25 ODP tonnes) in 2012 and has been banned in 2013. UNDP assured that the domestic systems houses will be able to absorb this demand and the ban on imports of HCFC-141b contained in polyols (not counted as consumption) would not represent a risk of increase on imports of pure HCFC-141b given the existing regulation and the expected impact of the on-going projects in the foam sector.

Technical issues

16. The Secretariat and UNDP discussed the current level of progress achieved in the implementation of the foam projects. UNDP indicated that individual enterprise level of progress in activities is being monitored by the NOU with the PMU and the implementing agency. The 10 enterprises that signed MOAs represent 70 per cent of the total consumption of HCFC-141b to be phased out in the stage I of the HPMP and are currently negotiating procurement agreements with equipment suppliers. Purchase contracts are expected to be signed during the end of 2013 and first quarter of 2014, and equipment installation would be taking place by the second half of 2014. It is expected that the enterprises will initiate production with HCFC-free technologies by the last quarter of 2014.

17. The equipment procurement and installation process for the 10 systems houses that have signed their MOAs is following the same timeline as that of the individual foam enterprises. The development of HCFC-free formulations is expected to be completed by 2014 and formulations would be introduced onto the market soon after. The Government and industry continue monitoring technology developments to expedite the process. The remaining five systems houses will sign their MOAs by the end of 2013.

18. In addressing the technologies being introduced in the RAC servicing sector, UNDP reported that a range of alternatives are being evaluated for adoption and the equipment manufacturers will decide on the choice of technology in stage II of the HPMP. The training programme for technicians includes good service practices in the installation and servicing of RAC equipment, as well as alternative technologies such as HC-290, HFC-410a and HFC-32. All trained technicians will be regularly updated through a specific newsletter on the latest technical developments.

Conclusions

19. The Secretariat noted that the import/export licensing and quota systems are operational and will enable the Government to progressively reduce its consumption to at least 10 per cent of its baseline by 2015. The total quota for 2013 has been issued according to the Montreal Protocol compliance targets. It also noted that the conversion in 15 foam enterprises and trials of non-HCFC-based polyol formulations are progressing. The pre-blended polyols using HCFC-free blowing agents are expected to be available for downstream-users in the next 2 to 3 years. Foreign-owned systems houses will also supply pre-blended polyol product with alternative blowing agents. With HCFC-free products to be available in the local market in the coming years, some downstream foam enterprises have been informed of the process and available technical options in the future. Training and enabling activities conducted in the refrigeration servicing sector have raised the industry's awareness for HCFC control. In view of the reasonable progress achieved during the first tranche implementation and the 28 per cent funding disbursement, the Secretariat recommends approval of the funding for the second tranche.

Revision of the HPMP Agreement

20. In line with decisions 66/17(c) and 67/15(b)(i), the agency fees for the second and third tranche of the HPMP for India have been adjusted to reflect the new administrative cost regime to UNDP. Accordingly, Appendix 2-A ("The Targets and Funding") has been updated, and a new paragraph 16 has been added to indicate that the updated Agreement supersedes that reached at the 66th meeting, as shown in Annex I to the present document. The full revised Agreement will be appended to the final report of 71st meeting.

RECOMMENDATION

21. The Executive Committee may wish to consider:

- (a) Noting the progress report on the implementation of the first tranche of stage I of the HCFC phase-out management plan of (HPMP) for India;
- (b) Noting that the Fund Secretariat had updated Appendix 2-A of the Agreement between the Government of India and the Executive Committee to reflect the change in support costs due to the new administrative cost regime; and
- (c) Approving the second tranche of stage I of the HPMP for India, and the corresponding 2014-2015 tranche implementation plan, at the amount of US \$8,846,064, consisting of US \$7,000,000, plus agency support costs of US \$490,000 for UNDP, US \$344,640, plus agency support costs of US \$41,910 for UNEP, and US \$869,508, plus agency support costs of US \$100,006 for Germany.

Annex I

TEXT TO BE INCLUDED IN THE UPDATED AGREEMENT BETWEEN THE GOVERNMENT OF INDIA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS

(Relevant changes are in bold font for ease of reference)

16. This updated Agreement supersedes the Agreement reached between the Government of India and the Executive Committee at the 66th meeting of the Executive Committee.

APPENDIX 2-A: THE TARGETS, AND FUNDING

		2012	2013	2014	2015	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	N/A	1,608.20	1,608.20	1,447.38	N/A
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	N/A	1,608.20	1,608.20	1,447.38	N/A
2.1	Lead IA (UNDP) agreed funding (US\$)	10,000,000	7,000,000	0	1,438,490	18,438,490
2.2	Support costs for Lead IA (US\$)	750,000	490,000	0	100,694	1,340,694
2.3	Cooperating IA (UNEP) agreed funding (US\$)	430,800	344,640	0	86,160	861,600
2.4	Support costs for (UNEP)	52,388	41,910	0	10,478	104,776
2.5	Cooperating IA (Germany) agreed funding US\$	925,452	869,508	0	199,440	1,994,400
2.6	Support costs for (Germany) (US\$)	106,440	100,006	0	22,938	229,384
3.1	Total agreed funding (US\$)	11,356,252	8,214,148	0	1,724,090	21,294,490
3.2	Total support cost (US\$)	908,828	631,916	0	134,110	1,674,854
3.3	Total agreed costs (US\$)	12,265,080	88,846,064	0	1,858,200	22,969,344
4.1.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)					0
4.1.2	Phase-out of HCFC-123 to be achieved in previously approved projects (ODP tonnes)					0
4.1.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)					3.50
4.2.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)					0
4.2.2	Phase-out of HCFC-124 to be achieved in previously approved projects (ODP tonnes)					0
4.2.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)					13.50
4.3.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)					310.53
4.3.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)					0
4.3.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)					554.97
4.4.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)					0
4.4.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)					0
4.4.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)					123.70
4.5.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)					31.24
4.5.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)					0
4.5.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)					570.76
4.6.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)					0
4.6.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)					0
4.6.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols					83.05
