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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eightieth Meeting
Montreal, 13-17 November 2017

PROJECT PROPOSALS: BRAZIL

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

Phase-out

- HCFC phase-out management plan (stage I) (annual progress report) — UNDP /Germany
- HCFC phase-out management plan (stage II, second tranche) — UNDP/UNIDO/Germany/Italy

Stage I of the HPMP for Brazil (annual progress report)

1. On behalf of the Government of Brazil, UNDP as the lead implementing agency, has submitted to the 80th meeting the annual progress report on the implementation of the work programme associated with the fifth tranche of the HCFC phase-out management plan (HPMP)[1] [2], in line with decision 75/53(b).

2. The date of completion of stage I of the HPMP established in the Agreement between the Government and the Executive Committee was December 2016. At the 75th meeting, when the last tranche of stage I was submitted, UNDP requested an extension of the date of completion to December 2017 and proposed a revised plan of action and a disbursement schedule. In approving the last funding tranche, the Executive Committee also approved the extension of the completion date of stage I.[3]

Progress report on the implementation of the fifth tranche

Legal framework

3. A Normative Instruction providing for the annual HCFC import quotas for 2020 and 2021 has been drafted and is undergoing public consultation and approval. The Government continues to support the Brazilian Association of Technical Standards (ABNT) in developing and discussing specific standards on the handling, installation and maintenance of equipment using flammable refrigerants (e.g., security in refrigeration systems; installation of residential split and compact air-conditioning systems; and reverse production of refrigerators).

Polyurethane (PU) foam manufacturing sector

Conversion of 12 stand-alone PU foam enterprises (79.71 ODP tonnes)

4. Ten enterprises (64.76 ODP tonnes) in the continuous panel and integral skin/flexible moulded applications had completed their conversions prior to the current reporting period (three had opted for hydrocarbon (HC), three for methyl formate, three for methylal, and one for methylene chloride). One enterprise (Espumatec, 11.98 ODP tonnes) has experienced financial difficulties and has not yet purchased the equipment; and another enterprise (Panisol, 3.0 ODP tonnes) is still facing difficulties due to its location in an urban area, which may preclude the use of HC-based-technology. UNDP continues to assist the enterprise in seeking an alternative technology.

Conversion of 11 systems houses with close to 380 downstream users (89.1 ODP tonnes)

5. One additional systems house (Polyurethane) has completed conversion of the plant for a total of eight systems houses converted. Two of the systems houses (U-Tech and Ecoblaster) have completed the conversion of all their downstream users (12 and 18 enterprises, respectively) for a total of three systems house/downstream user projects completed. Only one systems house (Ecopur) is unlikely to participate in the HPMP; accordingly, the funds allocated for its conversion (US $135,500) will be returned to the Fund upon confirmation of its non-participation in the HPMP; its downstream users will be assisted through other systems houses. Table 1 summarizes the status of the systems houses project component.

[1] The fifth and final tranche of stage I of the HPMP was approved at the 75th meeting at a total cost of US $2,035,094, consisting of US $1,470,700, plus agency support costs of US $110,313 for UNDP, and US $409,091, plus agency support cost of US $45,000 for Germany.

[2] As per the letter of 21 August 2017 from the Ministry of Environment of Brazil to UNDP.

[3] Decision 75/53(b) requests the Government of Brazil, UNDP and the Government of Germany to submit progress reports on a yearly basis on the implementation of the work programme associated with the fifth and final tranche until the completion of the project, verification reports until approval of stage II of the HPMP, and the project completion report to the second meeting of the Executive Committee in 2018.

Table 1. Implementation status of systems houses and downstream-users

Approved HPMP					HPMP implementation										
Systems house (SH)	Downstream users (DSU)				DSU identified									Status*	
	FMF/ISF**		PUR ***		Identified FMF/ISF/PUR		Total	DSU validated cumulative						SH	DSU
	No	ODP t	No	ODP t	Yes	No		Found eligible	ODP t	Project ongoing	Project completed	ODP t phased out	Total DSU		
Ariston	7	1.4	98	49.6	11	0	11	10	4.05	0	9	38.59	9	COM	COM [1]
Ecoblaster	17	5.7			24	0	24	22	8.41	0	18		18	COM	COM [1]
U-Tech	0	0			14	0	14	14	0.11	-	12		12	COM	COM [1]
Amino	49	6.9			50	0	50	48	11.07	23	23		46	COM	ONG
Arinos****	85	10.8			36	0	36	35	1.45	20	15		35	COM	ONG
Purcom	101	11.8			108	0	108	102	16.49	39	63		102	COM	ONG
Shimtek	14	2.9			5	0	5	3	2.94	1	2		3	COM	ONG
Polyurethane	0	0			17	0	17	17	3.77	17	-		17	COM	N.S.
M.Cassab	0	0			15	0	15	TBD	TBD	TBD	TBD	TBD	TBD	ONG	N.S.
Polisystem	0	0			6	0	6	TBD	TBD	TBD	TBD	TBD	TBD	ONG	N.S.
Ecopur	0	0			0	0	0	0	0	0	0	0	0	WTHN	N.S.
Grand total	**273**	**39.5**	**98**	**49.6**	**286**	0	**286**	**251**	**48.29**	**100**	**142**	**38.59**	**242**	**n/a**	**n/a**

*COM: Completed; ONG: Ongoing; N.S.: Not started; WTHN: Withdrawn.
**Flexible moulded foam and integral skin foam.
***Rigid PU foam applications (water heater, thermoware, packaging, and pipe-in-pipe).
****Non-eligible enterprise (non-Article 5 ownership) converted to methylal and methyl formate with its own resources. Associated funds (US $179,300 plus agency support cost of US $13,448) were returned to the Fund by deducting them from the fifth tranche approved at the 75th meeting.
TBD: To be determined.
[1] Completed as per approval. However, more enterprises can be added in the future.

6. In summary, so far 10 individual enterprises, eight systems houses and 142 downstream users have completed their conversions to low-GWP alternatives, with the phase-out of 103.35 ODP tonnes of HCFC-141b.

Refrigeration servicing sector

7. Monitoring visits to vocational training institutions were carried out; the evaluation and final report on capacity-building activities was prepared; demonstrations on the improvement of containment practices for existing HCFC systems continued and the related equipment procurement is in progress; an application for mobile telephones (mobile app) to assist technicians is being developed; and awareness activities continue to be implemented (e.g., website updates, social media outreach and information dissemination).

Project implementation and monitoring unit (PMU)

8. The PMU continued to support the National Ozone Unit (NOU) in implementing the HPMP activities.

Level of fund disbursement

9. As of August 2017, of the US $19,417,866 approved for stage I[4], US $14,088,461 (73 per cent) had been disbursed (US $10,652,853 for UNDP and US $3,435,608 for the Government of Germany). The balance of US $5,329,405 will be disbursed in the period from 2017 to 2020 (Table 2).

Table 2. Financial report of stage I of the HPMP for Brazil

Implementing/ bilateral agency	Funds approved (US $)	Funds disbursed		Balance (US $)
		(US $)	(%)	
UNDP	15,326,957	10,652,853	70	4,674,104
Government of Germany	4,090,909	3,435,608	84	655,301
Total	**19,417,866**	**14,088,461**	**73**	**5,329,405**

[4] Excluding US $179,300 (plus agency support cost of US $13,448) returned to the Fund that was associated with non-eligible enterprise.

Remaining activities and request for extension of stage I

10. Implementation of the following activities have been delayed: conversion of two remaining PU foam enterprises (Espumatec and Panisol), two systems houses (Polisystem and M. Cassab) and 229 downstream users; demonstrations on the improvement of containment practices in supermarkets; training of refrigeration technicians; completion of the mobile application for the online documentation system; and dissemination of the results of stage I as part of the awareness campaign.

11. As reported by UNDP, implementation delays are due to the economic crisis faced by the country, which has affected the PU foam sector; the fragmentation of the PU foam market, which makes it difficult to harmonize information on the HCFC phase-out schedule in Brazil influencing enterprises' decision to participate; the geographical distribution of downstream users, which makes difficult to the systems houses to implement their projects; the reluctance by downstream users to participate in the project due to a belief that operational costs would be increased; the availability and low-cost of high-global warming potential (GWP) HFCs and HFC-based blends in the local market; the payment of incremental operating cost (IOC) one year after the enterprise conversion; the relationship between stage I and stage II, since many enterprises operated in sectors covered by both stages; and the need for larger investment in technical assistance and equipment for the demonstration projects in the refrigeration servicing sector, which has not yet been delivered by the supplier.

12. Given this situation, UNDP on behalf of the Government of Brazil requested that an extension of stage I from December 2017 to December 2019 be considered.

Comments

Request for extension of stage I

13. In reviewing the request to extend the completion date of stage I of the HPMP from December 2017 to December 2019, the Secretariat noted that:

(a) The overall HCFC consumption target of stage I of 1,194.80 ODP tonnes by 1 January 2015 has already been surpassed (i.e., 1,025.81 ODP tonnes in 2015 and 875.29 ODP tonnes in 2016);

(b) The HCFC-141b reduction target from the PU foam sector of 168.8 ODP tonnes has already been surpassed; the majority of individual foam enterprises and systems houses, and a large number of downstream users have been converted, and HCFC-141b consumption has decreased from 616.8 ODP tonnes in 2009 to 314.94 ODP tonnes in 2015 and 260.90 ODP tonnes in 2016; and

(c) The HCFC-22 reduction target of 51.5 ODP tonnes from the refrigeration servicing sector has been surpassed; a significant amount of activities have been implemented, and HCFC-22 consumption has decreased from 637.9 ODP tonnes in 2009 to 596.2 ODP tonnes in 2015 and 519.1 ODP tonnes in 2016.

14. Regarding the above assessment, UNDP stressed that HCFC reductions have been achieved through the proper operation of the licensing and quota system, and through actions taken by the Government and the implementing agencies to disseminate information on the need to keep reaching the compliance targets up to 2020.

15. On the implementation of the PU foam, UNDP explained that there were approximately 100 additional downstream foam enterprises that have signed conversion contracts with systems houses for which the extension of stage I would allow completion of their projects. In addition, other stage I enterprises that completed their conversions are not reported as completed as they still have not signed a commitment

letter not to use HFCs, as there are still many other enterprises that have not converted. It is expected that enterprises will be willing to sign the letters as implementation of the stage I is completed and stage II achieve additional progress. UNDP considered important to continue working under stage I not only with the assisted systems houses, but also with systems houses not eligible to receive assistance from the Multilateral Fund to minimize the introduction of high-GWP technologies in the PU foam sector and avoid migration of downstream users to these technologies.

16. On the refrigeration servicing sector, UNDP explained that the delay in delivery of equipment (expected in early 2018) was caused by providers, and stressed that the completion of the demonstration projects during stage I is indispensable, as outcomes regarding leakage reduction and energy efficiency are awaited by the Brazilian Supermarket Association, the applied methodology is expected to be replicated in other supermarkets, and findings from the demonstration of sealed system design practices in supermarkets will be applied in stage II to extend the economic life of HCFC-22-based systems and minimize early replacement by high-GWP-based systems.

17. Based on the discussions, the Secretariat concluded that although many activities have already been completed and HCFC consumption has been reduced beyond the proposed targets, the Government of Brazil could benefit from the extension, as there is still significant work to be completed and make the HCFC reductions sustainable, and over 85 per cent of the funds balance has been committed to complete ongoing activities and other activities that will start soon. Specifically, the conversion of Espumatec will be completed; UNDP will provide technical assistance and assess alternative options such as HFOs to avoid conversion to HFCs at Panisol (experiencing difficulties in introducing HC-based-technology due to its location); and the conversion of all the downstream users[5] of the systems houses will be completed (i.e., 100 foam enterprises with ongoing conversion and 129 enterprises to be verified for eligibility and start conversion soon after). The funding of US $106,990 that has not yet been committed in the refrigeration servicing sector, will be used to train 588 technicians on better containment practices; to train technical teams in the supermarkets participating in the demonstration projects; to update the technical material for the supermarkets, to prepare case studies on the demonstrations, and to disseminate the results.

18. Given the current overall status of progress of the HPMP (stage I and stage II), the large workload still remaining in stage I, and the availability of funds from both stages, the request for the second tranche of stage II submitted to the 80th meeting should be considered in conjunction with the extension of stage I. A discussion on the remaining activities under stage I is outlined below and the discussion on the request for the second tranche of stage II is in the second part of the document.

Issues related to the foam sector

19. Upon a request for clarification on the enterprises included in stage I, UNDP confirmed that only eligible enterprises will be assisted, and any savings associated with ineligible enterprises would be returned to the Multilateral Fund at the end of the implementation of the stage I.

20. With regard to the return of US $135,500 associated with the conversion of the systems house Ecopur (referred to in paragraph 5 above), UNDP indicated it does not want to discard the participation of the systems house yet, as it considers important to continue discussing with the enterprise to participate in the project, avoiding the adoption of high-GWP blowing agent alternatives. The Secretariat will continue monitoring the status of Ecopur and the conversion of its downstream end-users in future annual reports.

21. UNDP informed that two systems houses (Shimtek and U-Tech) have requested to temporarily use high-GWP-HFC polyol systems, as HFOs are not yet available on a commercial scale in the country; both

[5] Out of the 371 downstream users for which funding was approved in stage I, 286 have been reported in line with decision 77/18(b)(i). UNDP submitted a list of downstream foam enterprises under stage I; an updated list is submitted along with every annual progress report. So far conversion of 142 enterprises have been completed.

systems houses have signed a commitment stating the temporary use of HFC blends and the abolishment of their use once HFOs are commercially available and the systems have been developed and optimized with no additional cost to the Multilateral Fund. In line with decision 74/20, UNDP is being requested to continue assisting the two enterprises in securing the supply of the alternative technologies, and to report to the Executive Committee on the status of use of the interim technology at each meeting until the original technology selected or another low-GWP technology has been fully introduced. In addition, IOCs will not be paid until the originally approved technology is fully introduced.

Recommendation

22. The Executive Committee may wish:

(a) To take note of the 2017 progress report on the implementation of the HCFC phase-out management plan (stage I) for Brazil, submitted by UNDP;

(b) To approve the extension of the duration of stage I of the HPMP to December 2019 on the understanding that no further extensions will be approved;

(c) To request the Government of Brazil, UNDP and the Government of Germany to continue submitting progress reports on a yearly basis on the implementation of the work programme associated with stage I of the HPMP until the completion of the project, and the project completion report to the first meeting of the Executive Committee in 2020;

(d) To note that enterprises Shimteck and U-Tech in the polyurethane foam sector for which conversion had been approved based on a low-global warming potential (GWP) alternative was using HFC temporarily due to lack of availability of HFOs;

(e) To request UNDP:

(i) To continue assisting Shimteck and U-Tech, during the implementation of the HPMP, to secure the supply of the alternative technologies selected, on the understanding that any incremental operating costs would not be paid until the alternative technology is fully introduced;

(ii) To report to the Executive Committee on the status of use of the interim technology selected by Shimteck and U-tech at each meeting until the original technology selected or another technology with a low-GWP had been fully introduced;

(iii) To include in the next progress report to be submitted to the last Executive Committee meeting in 2018:

a. The complete list of downstream foam enterprises assisted by the Multilateral Fund under stage I, including their HCFC-141b consumption phased out, subsector, baseline equipment and technology adopted; and

b. The status of implementation of the conversion of the enterprises Ecopur and Panisol, on the understanding that the remaining funds from the conversion of Ecopur will be returned to the Multilateral Fund in the event that the enterprise should withdraw from the project.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Brazil

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase out plan (Stage II)	Germany, Italy, UNIDO, UNDP (lead)	75th	45% by 2021

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2016	875.29 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2016	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123				0.0	0.1				0.2
HCFC-124				0.3	1.2				1.5
HCFC-141b		260.9							260.9
HCFC-142b				0.4	1.9				2.3
HCFC-22				91.6	519.0				610.6

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	1,327.3	Starting point for sustained aggregate reductions:	1,327.3
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	684.36	Remaining:	642.94

(V) BUSINESS PLAN		2017	2018	2019	After 2020	Total
UNIDO	ODS phase-out (ODP tonnes)	0.0	82.8	0.0	36.7	119.6
	Funding (US $)	0	6,869,442	0	3,045,630	9,915,072
Germany	ODS phase-out (ODP tonnes)	8.9	49.9	0.0	13.0	71.7
	Funding (US $)	763,435	4,293,637	0	1,116,345	6,173,417
UNDP	ODS phase-out (ODP tonnes)	53.3	105.4	0.0	18.0	176.7
	Funding (US $)	4,416,643	8,740,184	0	1,492,650	14,649,477

(VI) PROJECT DATA			2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Montreal Protocol consumption limits (*)			1,194.60	1,194.60	1,194.60	1,194.60	1,194.60	862.74	862.74	862.74	862.74	n/a
Maximum allowable consumption (ODP tonnes) (*)			1,194.60	1,194.60	1,194.60	1,194.60	1,194.60	862.74	730.02	730.02	730.02	n/a
Agreed* funding (US $)	UNDP	Project costs	3,078,900	0	**2,627,704**	**7,168,396**	0	**3,895,000**	0	0	0	16,770,000
		Support costs	215,523	0	**183,939**	**501,788**	0	**272,650**	0	0	0	1,173,900
	UNIDO	Project costs	1,950,275	0	0	**3,420,039**	0	**2,846,383**	**2,000,000**	**1,000,000**	0	11,216,697
		Support costs	136,519	0	0	**239,403**	0	**199,247**	**140,000**	**70,000**	0	785,169
	Germany	Project costs	1,299,386	0	686,978	**2,363,637**	0	**1,004,545**	**1,500,000**	0	**872,727**	7,727,273
		Support costs	144,614	0	76,457	**263,059**	0	**111,800**	**166,941**	0	**97,129**	860,000
	Italy	Project costs	250,000	0	0	0	0	0	0	0	0	250,000
		Support costs	32,500	0	0	0	0	0	0	0	0	32,500
Funds approved by ExCom (US$)		Project costs	6,578,561	0	0	0	0	0	0	0	0	6,578,561
		Support costs	529,156	0	0	0	0	0	0	0	0	529,156
Total funds requested for approval at this meeting (US$)		Project costs			**3,314,682**							3,314,682
		Support costs			**260,396**							260,396

(*) Reflect the figures in the revised Agreement (Annex II).

Secretariat's recommendation:	Individual consideration

PROJECT DESCRIPTION

23. On behalf of the Government of Brazil, UNDP, as the lead implementing agency, has submitted to the 80th meeting a request for funding for the second tranche of stage II of the HPMP at a total cost of US $5,180,078, consisting of US $4,127,704, plus agency support costs of US $288,939 for UNDP, and US $686,978, plus agency support costs of US $76,457 for the Government of Germany.[6]

24. The submission includes a progress report on the implementation of the first tranche, the verification report on HCFC consumption and the tranche implementation plan for 2017 to 2018.

Report on HCFC consumption

HCFC consumption

25. The Government of Brazil reported a consumption of 875.29 ODP tonnes of HCFC in 2016, which was 34.1 per cent below the HCFC consumption baseline and 26.7 per cent below the limit established in its Agreement with the Executive Committee. The 2012-2016 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Brazil (2012-2016 Article 7 data)

HCFC	2012	2013	2014	2015	2016	Baseline
Metric tonnes						
HCFC-22	17,020.03	14,256.44	14,320.78	12,757.62	11,101.86	14,401.0
HCFC-123	170.79	0.00	3.00	0.00	-2.87	14.9
HCFC-124	204.83	164.59	113.20	238.12	69.22	351.3
HCFC-141b	4,027.82	3,641.42	3,373.04	2,863.05	2,371.80	4,741.3
HCFC-142b	12.02	14.88	54.06	60.96	35.74	86.3
Total (metric tonnes)	**21,435.47**	**18,077.33**	**17,864.08**	**15,919.75**	**11,575.75**	**19,594.8**
ODP tonnes						
HCFC-22	936.10	784.10	787.64	701.67	610.60	792.0
HCFC-123	3.42	0.00	0.06	0.00	-0.06	0.30
HCFC-124	4.51	3.62	2.49	5.24	1.52	7.70
HCFC-141b	443.06	400.56	371.03	314.94	260.9	521.70
HCFC-142b	0.78	0.97	3.51	3.96	2.32	5.60
Total (ODP tonnes)	**1,387.87**	**1,189.25**	**1,164.74**	**1,025.81**	**875.29**	**1,327.30**

26. The decrease in HCFC consumption is due to legislative measures, implementation of phase-out activities in the foam and refrigeration sectors approved under stage I and II of the HPMP, conversion of multinational enterprises in domestic refrigeration without assistance from the Multilateral Fund, and the economic slowdown over the last few years.

Country programme (CP) implementation report

27. The Government of Brazil reported HCFC sector consumption data under the 2016 CP implementation report that is consistent with the data reported under Article 7.

Verification report

28. The verification report confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports and that the total consumption of HCFCs for 2016 was 875.29 ODP tonnes. There were no records of imports of polyols containing HCFC-141b. The verification concluded that Brazil is in compliance with the Agreement with the Executive Committee.

[6] As per the letter of 21 August 2017 from the Ministry of Environment of Brazil to UNDP.

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

PU foam manufacturing sector

Conversion of 14 stand-alone PU foam enterprises (56.57 ODP tonnes)

29. Two enterprises have completed conversion to methyl formate with a total phase-out of 5.27 ODP tonnes of HCFC-141b; seven have signed service contracts for formulation development, three have prepared work plans and will start conversions in 2018, and two have not started. Table 2 summarizes the status of progress.

Table 2: Status of progress for individual projects in the PU foam manufacturing sector

Status of implementation	Enterprises	HCFC phase-out (ODP t)	Technology
Project completed	2 (Cold Air, IBF)	5.27	Methyl formate (MF)
Signed contracts for formulation development or plant conversion	7 (Artico, Bulltrade, F. Ibipora, Gelopar, Isar, Niju, Refrimate)	30.04	CO_2, HFO, HC, MF and methylal
Validated eligibility and prepared workplan. Will start conversion in 2018	3 (Sao Rafael, Tecpur, Termjet/Thermotelas)	10.80	CO_2, MF
Contacted. No activities have started yet	2 (Ananda Metais, Poliumetka)	10.45	HC, MF
Total	**14**	**56.57**	

Conversion of 14 systems houses with more than 700 downstream users (115.65 ODP tonnes)

30. One systems house (Purcom) has completed conversion to methyl formate and is in the process of validating eligibility of its downstream users. The remaining systems houses are at early stages of implementation. Table 3 summarizes the status of progress.

Table 3. Status of progress for group projects in the PU foam manufacturing sector

Status of implementation systems house	Systems house	Technology	Downstream users (DSU)	HCFC phase out (ODP t)	Status of implementation DSU
Completed formulation and plant conversion	Purcom	MF	90	14.88	Eligibility being validated
Signed contract for formulation development and plant conversion, prepared formulation development and plant conversion plans	Amino	MF	46	12.24	
	Ariston	MF	32	3.24	
	Ecoblaster	MF	40	8.82	
	U-Tech	MF, HFO	22	1.55	
Signed contract for formulation development	Flexivel	HFO	260	8.15	
Non-eligible systems houses will develop formulations; self-funded	Univar	Methylal	84	24.38	
	Basf	HFO	8	3.02	Not started
	Dow	HFO	11	12.76	
Systems house contacted. No activities have started yet	Comfibras	HFO	12	0.82	
	Polyurethane	CO2	16	4.02	
	M. Cassab	CO2	24	7.03	
	Polisystem	MF	47	12.96	
	Shimtek	HFO	13	1.82	
Total	**14**		**705**	**115.65**	

Refrigeration and air-conditioning manufacturing sector (61.05 ODP tonnes)

31. Conversion activities have not started yet. The project management team started working in August 2017.

Refrigeration servicing sector

32. A total of 737 refrigeration technicians were trained in best commercial refrigeration practices; market research was conducted on training capacity in the country and ten regional training institutions were selected as implementation partners. Technical specifications for the procurement of training and demonstration tools were prepared; the handbook on best practices in refrigeration was updated; and awareness activities were undertaken, including the development of a sector communication plan, a meeting with stakeholders from the servicing sector, and the development and dissemination of technical material on leakage and maintenance of refrigeration systems.

PMU

33. The PMU continued to provide support to the NOU and beneficiaries in implementing stage II of the HPMP by: visiting enterprises; preparing reports and technical documentation; organizing meetings with the Ministry of Environment (MAA), the Brazilian Cooperation Agency (ABC) and UNDP; providing technical analyses of products; facilitating the preparation and monitoring of service contracts; ensuring financial control of the funds approved; and organizing awareness-raising activities.

Level of fund disbursement

34. As of August 2017, of the US $6,578,561 approved so far, US $1,429,428 had been disbursed as shown in Table 4. The balance of US $5,149,133 will be disbursed between 2017 and 2019.

Table 4. Financial report of stage II of the HPMP for Brazil (US $)

Implementing/bilateral agency	First tranche	
	Approved	**Disbursed**
UNDP	3,078,900	988,838
UNIDO	1,950,275	40,470
Government of Germany	1,299,386	400,120
Government of Italy	250,000	0
Total	**6,578,561**	**1,429,428**
Disbursement rate (%)		21.7

Implementation plan for the second tranche of the HPMP

35. The following activities will be implemented in 2017 and 2018:

(a) *PU foam sector:* Finalize conversion of three additional PU foam enterprises; conversion of systems houses that opted for CO_2 or HFO technologies; and conversion of downstream users associated to systems houses converted to MF and methylal (UNDP) (US $3,777,704 plus fund balance from the first tranche);

(b) *Refrigeration and air-conditioning manufacturing sector:* Start the conversion of the commercial refrigeration enterprises (UNIDO) (funding from the first tranche);

(c) *Refrigeration servicing sector:* Training of 70 trainers and 870 technicians in best refrigeration and air-conditioning practices; preparation of best-practices handbooks on alternative technologies in the refrigeration and air-conditioning sector and demonstration of low-GWP alternatives; continued procurement of demonstration units and tool-kits; development of awareness material, networking activities with stakeholders and operation and maintenance of the website to disseminate information on good refrigeration practices (Government of Germany) (US $686,978 plus fund balance from the first tranche); and

(d) *Regulations and PMU:* Preparation of additional regulatory instruments for HCFC management and continuous implementation of monitoring activities (UNDP) (US $ 440,000 plus fund balance from the first tranche).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Request for funding for the second tranche in light of the request for extension of stage I

36. The Secretariat noted the joint efforts by the Government of Brazil and the implementing agencies to continue implementing ongoing activities from stage I and to initiate activities under stage II, despite the economic situation in the country, the difficulties in addressing conversion of downstream foam enterprises, and the delay in implementation of the refrigeration servicing sector due to equipment procurement difficulties.

37. Noting the request for extending the completion date of stage I to December 2019; that the projects approved under stage II in the commercial refrigeration and room air-conditioning manufacturing sectors had not started; and that US $10.48 million[7] out of the US $25.99 million so far approved for stages I and II, remain to be disbursed, the Secretariat questioned whether additional funding was required at this point.

38. UNDP pointed out that no funds are being requested for the refrigeration and air-conditioning manufacturing sector at the 80th meeting. With regard to the PU foam sector, a large part of the funding from stage I not yet disbursed has already been committed in contracts, while the complete funding under stage II has already been disbursed or is committed in existing contracts. Consequently, it will not be possible to sign any new contracts in the foam sector under stage II, thus adding implementation delays, unless funding from the second tranche is made available. Remaining funds from stage I cannot be used to sign on new foam enterprises, while the funds not used yet for the servicing and PMU components cannot be used to convert foam enterprises in stage II either, as these are different projects with their own activities.

39. In further discussing the subject, it was mentioned that when stage II was approved, it was expected that by 2018 all activities included in stage I would have been completed, and that all the activities approved under the first tranche of stage II would have been started without delays. However, these expectations did not occur (the refrigeration and air-conditioning manufacturing sector has not started and the foam sector has experienced delays due to the economic situation in the country). Under these circumstances, the Secretariat proposed an extension of two years of stage II with the last tranche in 2023 (instead of 2021), and a revision of the schedule of the funding tranches (i.e., part of the funds being requested in 2017 and 2018 would be moved to future years), without modifying the consumption targets or the commitments to establish the bans proposed by the Government under stage II. This modification would allow implementation of all activities approved and would rationalize the level of funds released that could be immediately executed by the implementing agencies.

40. The Government of Brazil and implementing agencies agreed on the suggestion of a two-year extension of stage II on the understanding that sufficient funding would be available to comply with the targets set in the original plan, including the ban on the use of HCFC-141b in PU foam by 1 January 2021. Accordingly, US $1.6 million from 2017 and US $5.9 million from 2018 was moved to the years 2020 to 2023 (including support costs). The details of the new tranche distribution are presented in Annex I. With regard to implementation of the foam sector plan, UNDP highlighted that it would be important to have flexibility with regard to the time at which preparation funding could be requested for stage III, as it will

[7] US $6.76 million with UNDP, US $1.91 million with UNIDO, US $1.55 million with the Government of Germany, and US $250,000 with the Government of Italy.

have an impact on reaching the 2025 target of the Montreal Protocol. It was agreed that preparatory funds for stage III could be requested by 2020 instead of 2019 as determined by the original Agreement.

Conversion of heat exchanger manufacturing lines

41. Stage II of the HPMP approved at the 75th meeting, included the conversion of two heat exchanger manufacturing lines for a value of US $1,5000,000 each, as part of the air-conditioning manufacturing sector, to be implemented by UNIDO. In approving this project component, the Committee requested the Secretariat to undertake additional work on incremental costs for the conversion of heat exchanger manufacturing lines in enterprises converting to R-290 technology,[8] and to adjust the cost of stage II of the HPMP as appropriate, upon receipt of the submission of the request for the second tranche (decisions 75/43(f) and 77/69). The additional work undertaken by the Secretariat has been completed and is reflected in the study contained in document UNEP/OzL.Pro/ExCom/77/69. The cost adjustment will be based on the technical information contained in that study, and will be carried out in 2018 when the request for funds for UNIDO is submitted.

Revision to the HPMP Agreement

42. In view of the revised funding schedule and the extension of the completion date of stage II of the HPMP, Appendix 2-A of the Agreement between the Government of Brazil and the Executive Committee has been updated and a new paragraph 16 has been added to indicate that the updated Agreement supersedes that reached at the 75th meeting, as contained in Annex II to the present document. The full updated Agreement will be appended to the final report of the 80th meeting.

Conclusion

43. Brazil continues to be in compliance with the Montreal Protocol and the HCFC consumption targets in the Agreement with the Executive Committee. HCFC consumption in 2016 was 34.1 per cent below the HCFC consumption baseline and 26.7 per cent below the limit established in the Agreement. With the first tranche of stage II, two individual PU foam enterprises completed their conversion to methyl formate, phasing out 5.33 ODP tonnes of HCFC-141b, and one systems house completed its conversion and formulation development to assist downstream users to convert to methyl formate. Other PU foam enterprises have also started their projects. In the refrigeration servicing sector, 737 refrigeration technicians were trained in best commercial refrigeration practices, while the projects in the refrigeration and room air-conditioning sectors have not begun. As stage I of the HPMP requires a two-year extension to be completed, implementation and disbursement schedule for stage II would also has to be extended from 2021 to 2023 to allow implementation of all activities approved. The Agreement between the Government and the Executive Committee would be modified to reflect this change.

RECOMMENDATION

44. The Executive Committee may wish to consider:

(a) Noting:

(i) The progress report on the implementation of the first tranche of stage I of the HCFC phase-out management plan (HPMP) in Brazil;

(ii) That the Fund Secretariat has updated Appendix 2-A of the Agreement between the Government of Brazil and the Executive Committee to reflect an extension of stage II and revised funding schedule, and that a new paragraph 16 has been added

[8] The technical study produced by the Secretariat contained in document UNEP/OzL.Pro/ExCom/77/69 will be used as reference for the cost adjustment.

to indicate that the updated Agreement supersedes that reached at the 75th meeting, as contained in Annex II to the present document;

(iii) That the extension of stage II would not preclude the Government of Brazil from submitting the request for funding for the preparation of stage III in 2020, if applicable; and

(b) Approving the second tranche of stage II of the HPMP for Brazil, and the corresponding 2018 tranche implementation plan, in the amount of US $3,575,078, consisting of US $2,627,704, plus agency support costs of US $183,939 for UNDP; and US $686,978, plus agency support costs of US $76,457 for the Government of Germany.

Annex I

REVISED TRANCHE DISTRIBUTION STAGE II OF THE HPMP FOR BRAZIL

ORIGINAL

Row	Particulars	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
1.1	Montreal Protocol reduction schedule (ODP t)	1,194.60	1,194.60	1,194.60	1,194.60	1,194.60	862.74	862.74	862.74	862.74	n/a
1.2	Maximum allowable total consumption (ODP t)	1,194.60	1,194.60	1,194.60	1,194.60	1,194.60	862.74	730.02	730.02	730.02	n/a
2.1	Lead IA (UNDP) agreed funding (US $)	3,078,900		4,127,704	8,168,396		1,395,000				16,770,000
2.2	Support costs for Lead IA (US $)	215,523		288,939	571,788		97,650				1,173,900
2.3	Cooperating IA (UNIDO) agreed funding (US $)	1,950,275		0	6,420,039		2,846,383				11,216,697
2.4	Support costs for Cooperating IA (US $)	136,519		0	449,403		199,247				785,169
2.5	Cooperating IA (Germany) agreed funding (US $)	1,299,386		686,978	3,863,637		1,004,545	872,727			7,727,273
2.6	Support costs for Cooperating IA (US $)	144,614		76,457	430,000		111,800	97,129			860,000
2.7	Cooperating IA (Italy) agreed funding (US $)	250,000									250,000
2.8	Support costs for Cooperating IA (US $)	32,500									32,500
3.1	Total agreed funding (US $)	6,578,561		4,814,682	18,452,072		5,245,928	872,727			35,963,970
3.2	Total support costs (US $)	529,156		365,396	1,451,191		408,697	97,129			2,851,569
3.3	Total agreed costs (US $)	7,107,717		5,180,078	19,903,263		5,654,625	969,856			38,815,539

PROPOSED (changes in bold)

Row	Particulars	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
2.1	Lead IA (UNDP) agreed funding (US $)	3,078,900		**2,627,704**	**7,168,396**		**3,895,000**				16,770,000
2.2	Support costs for Lead IA (US $)	215,523		**183,939**	**501,788**		**272,650**				1,173,900
2.3	Cooperating IA (UNIDO) agreed funding (US $)	1,950,275			**3,420,039**		**2,846,383**	**2,000,000**	**1,000,000**		11,216,697
2.4	Support costs for Cooperating IA (US $)	136,519			**239,403**		**199,247**	**140,000**	**70,000**		785,169
2.5	Cooperating IA (Germany) agreed funding (US $)	1,299,386		686,978	**2,363,637**		**1,004,545**	**1,500,000**		**872,727**	7,727,273
2.6	Support costs for Cooperating IA (US $)	144,614		76,457	**263,059**		**111,800**	**166,941**		**97,129**	860,000
2.7	Cooperating IA (Italy) agreed funding (US $)	250,000									250,000
2.8	Support costs for Cooperating IA (US $)	32,500									32,500
3.1	Total agreed funding (US $)	6,578,561		**3,314,682**	**12,952,072**		**7,745,928**	**3,500,000**	**1,000,000**	**872,727**	35,963,970
3.2	Total support costs (US $)	529,156		**260,396**	**1,004,249**		**583,697**	**306,941**	**70,000**	**97,129**	2,851,569
3.3	Total agreed costs (US $)	7,107,717		**3,575,078**	**13,956,321**		**8,329,625**	**3,806,941**	**1,070,000**	**969,856**	38,815,539

Difference (including support cost)	0	0	-1,605,000	-5,946,941	0	2,675,000	2,837,085	1,070,000	969,856	0

Annex II

TEXT TO BE INCLUDED IN THE UPDATED AGREEMENT BETWEEN THE GOVERNMENT OF THE FEDERATIVE REPUBLIC OF BRAZIL AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE II OF THE HCFC PHASE-OUT MANAGEMENT PLAN

16. **This updated Agreement supersedes the Agreement reached between the Government of Brazil and the Executive Committee at the 75th meeting of the Executive Committee.**

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	1,194.60	1,194.60	1,194.60	1,194.60	1,194.60	862.74	862.74	862.74	862.74	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	1,194.60	1,194.60	1,194.60	1,194.60	1,194.60	862.74	730.02	730.02	730.02	n/a
2.1	Lead IA (UNDP) agreed funding (US $)	3,078,900	0	**2,627,704**	**7,168,396**	0	**3,895,000**	0	0	0	16,770,000
2.2	Support costs for Lead IA (US $)	215,523	0	**183,939**	**501,788**	0	**272,650**	0	0	0	1,173,900
2.3	Cooperating IA (UNIDO) agreed funding (US $)	1,950,275	0	0	**3,420,039**	0	**2,846,383**	**2,000,000**	**1,000,000**	0	11,216,697
2.4	Support costs for Cooperating IA (US $)	136,519	0	0	**239,403**	0	**199,247**	**140,000**	**70,000**	0	785,169
2.5	Cooperating IA (Germany) agreed funding (US $)	1,299,386	0	686,978	**2,363,637**	0	**1,004,545**	**1,500,000**	0	**872,727**	7,727,273
2.6	Support costs for Cooperating IA (US $)	144,614	0	76,457	**263,059**	0	**111,800**	**166,941**	0	**97,129**	860,000
2.7	Cooperating IA (Italy) agreed funding (US $)	250,000	0	0	0	0	0	0	0	0	250,000
2.8	Support costs for Cooperating IA (US $)	32,500	0	0	0	0	0	0	0	0	32,500
3.1	Total agreed funding (US $)	6,578,561	0	**3,314,682**	**12,952,072**		**7,745,928**	**3,500,000**	**1,000,000**	**872,727**	35,963,970
3.2	Total support costs (US $)	529,156	0	**260,396**	**1,004,249**		**583,697**	**306,941**	**70,000**	**97,129**	2,851,569
3.3	Total agreed costs (US $)	7,107,717	0	**3,575,078**	**13,956,321**		**8,329,625**	**3,806,941**	**1,070,000**	**969,856**	38,815,539
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)										163.16
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)										51.50
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)										577.34
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)										300.90
4.2.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)										168.80
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)										52.00
4.3.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)										0.00
4.3.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)										0.00
4.3.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)										5.60
4.4.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)										0.00
4.4.2	Phase-out of HCFC-123 to be achieved in previously approved projects (ODP tonnes)										0.00
4.4.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)										0.30
4.5.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)										0.00
4.5.2	Phase-out of HCFC-124 to be achieved in previously approved projects (ODP tonnes)										0.00
4.5.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)										7.70