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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Seventy-fifth Meeting
Montreal, 16-20 November 2015

PROJECT PROPOSAL: MEXICO

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

Phase-out

•	HCFC phase-out management plan (stage I, fifth and final tranche)	UNIDO/UNDP

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Mexico

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (Stage I)	UNIDO (lead),UNDP	64th	35% by 2018

(II) LATEST ARTICLE 7 DATA (Annex C Group l)	Year: 2014	720.28 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2014	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123					0.57				0.57
HCFC-124					0.46				0.46
HCFC-141b	79.64	160.52		193.05					433.21
HCFC-141b in Imported Pre-blended Polyol									
HCFC-142b		10.80							10.80
HCFC-22	20.57	17.67		14.49	222.15				274.88

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	1,148.80	Starting point for sustained aggregate reductions:	1,214.8
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	417.3	Remaining:	797.5

(V) BUSINESS PLAN		2015	Total
UNDP	ODS phase-out (ODP tonnes)	26.0	26.0
	Funding (US $)	1,206,691	1,206,691
UNIDO	ODS phase-out (ODP tonnes)	5.3	5.3
	Funding (US $)	243,291	243,291

(VI) PROJECT DATA			2009	2010	2011	2012	2013	2014	2015-2017	2018	Total
Montreal Protocol consumption limits			n/a	n/a	n/a	n/a	1,148.8	1,148.8	1,033.9	1,033.9	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	n/a	n/a	1,148.8	1,148.8	1,033.9	746.7	n/a
Agreed funding (US$)	UNDP	Project costs	2,428,987	0	2,502,526	3,800,000	3,800,000	0	1,122,503	0	13,654,016
		Support costs	182,174	0	187,689	285,000	285,000	0	84,188	0	1,024,051
	UNIDO	Project costs		0	2,792,526	695,011	578,341	120,000	226,317	0	4,412,195
		Support costs		0	209,439	52,126	43,376	9,000	16,974	0	330,915
Funds approved by ExCom (US$)		Project costs	2,428,987	0	5,295,052	4,495,011	4,378,341	120,000	0	0	16,717,391
		Support costs	182,174	0	397,128	337,126	328,376	9,000	0	0	1,253,804
Total funds requested for approval at this meeting (US$)		Project costs							1,348,820		1,348,820
		Support costs							101,162		101,162

Secretariat's recommendation:	Blanket approval

PROJECT DESCRIPTION

1. On behalf of the Government of Mexico, UNIDO as the lead implementing agency, has submitted to the 75th meeting a request for funding for the fifth and final tranche of stage I of the HCFC phase-out management plan (HPMP), at a total cost of US $1,449,982, consisting of US $226,317, plus agency support costs of US $16,974 for UNIDO, and US $1,122,503, plus agency support costs of US $84,188 for UNDP. The submission includes a progress report on the implementation of the fourth tranche, the verification report on HCFC consumption and the tranche implementation plan for 2015-2017.

Report on HCFC consumption

HCFC consumption

2. The Government of Mexico reported a consumption of 720.28 ODP tonnes of HCFC in 2014. The 2010-2014 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Mexico (2010-2014 Article 7 data)

HCFC	2010	2011	2012	2013	2014	Baseline
Metric tonnes						
HCFC-22	7,591.2	6,704.53	7,425.30	4,695.20	4,998.00	8,505.1
HCFC-123	92.1	63.29	37.00	20.90	29.00	73.1
HCFC-124	10.9	161.30	29.33	-62.17	21.10	8.0
HCFC-141b	6,744.2	6,196.20	5,882.20	4,691.44	3,941.40	6,123.9
HCFC-142b	158.3	437.70	725.53	89.00	166.00	89.2
Total (mt)	**14,596.7**	**13,563.02**	**14,099.36**	**9,434.37**	**9,155.50**	**14,799.3**
ODP tonnes						
HCFC-22	417.5	368.75	408.39	258.24	274.89	467.8
HCFC-123	1.8	1.27	0.74	0.42	0.58	1.4
HCFC-124	0.2	3.55	0.64	-1.37	0.46	0.2
HCFC-141b	741.9	681.58	647.04	516.06	433.55	673.6
HCFC-142b	10.3	28.45	47.15	5.79	10.79	5.8
Total (ODP tonnes)	**1,171.7**	**1,083.40**	**1,103.98**	**779.14**	**720.28**	**1,148.8**

3. The decrease in HCFC consumption in 2013 is explained by national and international economic activity, and progress in the implementation of HPMP activities. In 2014, HCFC-141b continued to decrease due to phase-out activities implemented in the foam and aerosol sectors, and as a result of the promotion of alternatives for flushing refrigeration circuits. HCFC-22 consumption levels in 2013 and 2014 were lower than the baseline due to imports of HCFC-free equipment and the promotion of alternatives through the technicians' training programme. Overall HCFC consumption in 2014 was 37 per cent below the baseline and 30 per cent below the 10 per cent reduction target.

Verification report

4. 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 2014 was 720.28 ODP tonnes, which was below the maximum allowable consumption target of 1,148.8 ODP tonnes.

Country programme (CP) implementation report

5. The Government of Mexico reported HCFC sector consumption data under the 2014 CP implementation report which is consistent with the data reported under Article 7.

Progress report on the implementation of the third tranche

Activities in the foam manufacturing sector

6. Domestic refrigeration (Mabe): The new formulation replacing HCFC-141b/HCFC-22 foam insulation to hydrocarbon (HC) for MABE appliances is already proven and ready to be used. The incremental operational costs (IOCs) were released and the final audit and administrative closure will be completed shortly.

7. Systems houses: The technical conversion in all systems houses has been completed. The formulations for most of the applications have been developed and are commercially available. A large number of downstream users have already received training and equipment to use the alternatives. Conversion of all downstream users will be completed by the end of 2016. A summary of progress achieved on the systems houses project is presented in Table 2.

Table 2. Status of systems houses project

Systems house (SH)	Technologies developed	Project status as of August 2015	Downstream foam users (DSU) as of August 2015		Expected dates for completion
			Qty	Status	
Acsa	Methyl formate (MF) Pre-blended cyclopentane HFO	Conversion completed Formulations developed Formulations commercially available	73	Optimization ongoing Conversion ongoing	SH: Completed DSU: Mid 2016
Aepsa	MF	Conversion completed Formulations developed Formulation commercially available	5	Conversions completed, waiting for supplier to complete project	SH: Completed DSU: Completed
Bayer	HFC HFO	SH non-eligible	24	Delayed. UNDP is considering to assist end-users directly	SH: Completed DSU: Mid 2016
Comsisa	MF	Conversion in advanced stage Formulations developed Formulation commercially available	22	Conversion completed Pending IOC	SH: Completed DSU: Mid 2016
Dow	HFC HFO (future) Water blown	SH non-eligible	32	Formulations being tested on clients Conversion ongoing	SH: End 2015 DSU: Mid 2016
Eiffel	MF Methylal Methylal HFC/HFO	Conversion completed Formulations developed Formulations commercially available	450	Optimization ongoing Conversion completed IOC pending	SH: Completed DSU: Mid 2016
Huntsman	Water	SH non-eligible	n.a.	Voluntary phase-out	Phased-out
Maxima	MF Water HFC/HFO	Customer conversion ongoing	96	Ongoing technical support to address density issues in spray foam	SH: End 2015 DSU: Mid 2016
Polioles	HFC Water MF HFO (future)	Agreement still to be signed Conversion ongoing Formulations developed (HFC and water) and commercially available MF formulation being optimized	9	Conversion ongoing	SH: End 2015 DSU: End 2015
Pumex	Cyclopentane HFC/HFO	Conversion completed Formulations developed Formulation commercially available	32	Equipment delivered, training ongoing	SH: completed DSU: Mid 2016
Urethane of Mexico	MF Water	Conversion completed Formulations developed Formulation commercially available	46	Conversions completed Pending IOC	SH: Completed DSU: End 2015

Systems house (SH)	Technologies developed	Project status as of August 2015	Downstream foam users (DSU) as of August 2015		Expected dates for completion
			Qty	Status	
Valcom	MF Methylal with HFC (HFO future)	Conversion completed Formulations developed Formulation commercially available	11	Equipment delivery Pending IOC	SH: Completed DSU: Mid 2016
Zadro	Methylal	Conversion completed Formulations developed Formulation commercially available	14	Project completed Pending IOC	SH: Completed DSU: Completed

8. Commercial refrigeration (Fersa, Frigopanel, Metalfrio): Conversion and destruction of ODS-related equipment at Metalfrio (9.2 ODP tonnes) was completed in December 2014. Several modifications that were required to obtain TUV[1] certificate will be completed by the end of October 2015 and the project will be fully completed by the end of 2015. Conversions at Ojeda/Frigopanel (6.4 ODP tonnes) and Fersa (7.3 ODP tonnes) were delayed due to difficulties faced by the enterprises to cover the co-financing. This issue was addressed by local procurement of a portion of the equipment and the reallocation of funds from IOC to incremental capital cost. Contracts with equipment suppliers were signed in February 2015 (Ojeda/Frigopanel) and July 2015 (Fersa). Both projects are expected to be completed during 2016.

Activities in the aerosol manufacturing sector (UNIDO)

9. Silimex: The project was successfully completed in December 2014 with the complete phase-out of 11 ODP tonnes.

Activities in the refrigeration servicing sector (UNIDO)

10. A total of 1,000 technicians received training in good refrigeration practices, 11 training centres received refrigeration equipment to provide training, and additional equipment is being purchased for nine more centres and 80 trainers. In addition, two new flushing machines, related flushing agents and toolkits were ordered. UNIDO is starting the bidding process for the procurement of training equipment, and service equipment and tools for workshops and technicians. Delivery of equipment is expected in the first quarter of 2016. An overview of progress in the refrigeration servicing sector and the remaining activities to be completed in the remaining years of stage I is presented in Table 3.

Table 3. Overview of progress in the refrigeration servicing sector

Activity	A. Overall output as proposed	B. Achieved 1st to 4th tranches	C. Plan of action 5th tranche	D. Final output stage I (B+C)	Status
Customs officers training sessions	2	2	0	2	Completed with 82 officers trained, including some from other countries in the region.
Purchase of refrigerant identifiers	20	12	0	12	Completed. Only 12 refrigerant identifiers were purchased since there are only 12 customs points which have import/export operations of ODS.
Training manual	1/4000	1/4000	0	1/4000	Completed: The training manual was approved by SEMARNAT. 4000 manuals were printed and delivered to the 11 training centres.
Train-the-trainers courses	3	2	0	2	Completed with 38 trainers from 11 training centres in two courses.
Technicians trained	4,000	1,000	3,000	4,000	Ongoing: delay was due to inadequate equipment and flushing agents supplied, as reported in previous tranches. The cleaning agent was replaced and new motors for the equipment ordered. In addition, 11 flushing machines were purchased, which are working properly. With the new motors and new flushing machines, the number of training courses will be increased in the coming year to reach the target of technicians trained.

[1] TUV (Technischer Überwachungsverein) certification on safety of products to humans and the environment.

Activity	A. Overall output as proposed	B. Achieved 1st to 4th tranches	C. Plan of action 5th tranche	D. Final output stage I (B+C)	Status
Purchase of servicing kits	200	0	200	200	Ongoing: The bidding for purchase of equipment is in process and delivery is expected in the first quarter of 2016.
Purchase of flushing units	33	22	11	33	Ongoing: 22 flushing units were purchased and delivered for the 11 training centres.
ODP tonnes of HCFC phased out as cleaning agent	23	0	23	23	The trained technicians will receive equipment for the use of the new cleaning agents. As a result, HCFC reduction in this sub-sector can be achieved.
New standards for AC equipment and policy	3	2	1	3	Ongoing: Two energy-efficiency standards for AC equipment updated (NOM-021-ENER/SCFI-2008 and NOM-O23-ENER-2010) and one new standard being prepared for inverter AC.

Project implementation and monitoring (PMU)

11. The Government of Mexico continued to coordinate the activities being implemented under stage I; enforcing regulations to control HCFC imports, exports and production; and providing support to the customs office through training courses on information regarding possible illegal trade movements. This has resulted in the seizing of a significant quantity of HCFCs, mainly HCFC-22, in bottles for other types of refrigerants such as HFC blends. In consultation with the air-conditioning manufacturers association, the energy standard is being revised to reinforce the avoidance of HCFC-22 content in air-conditioners, and to ensure that all air-conditioners will be HCFC-free, regardless of energy consumption.

Level of fund disbursement

12. As of 15 September 2015, of the US $16,717,391 approved so far, US $10,083,515 (60.3 per cent) had been disbursed (US $2,400,851 for UNIDO and US $7,682,664 for UNDP), as shown in Table 4. The balance of US $6,633,876 will be disbursed in 2016.

Table 4. Financial report of stage I of the HPMP for Mexico (US $)

Tranche		UNIDO	UNDP	Total	Disbursement rate %
First tranche	Approved	*2,792,526	**4,931,513	7,724,039	79.2
	Disbursed	1,600,316	4,515,662	6,115,978	
Second tranche	Approved	695,011	3,800,000	4,495,011	57.6
	Disbursed	478,157	2,111,335	2,589,492	
Third tranche	Approved	578,341	3,800,000	4,378,341	30.6
	Disbursed	281,891	1,055,667	1,337,558	
Fourth tranche	Approved	120,000	0	120,000	33.7
	Disbursed	40,487	0	40,487	
Total	Approved	4,185,878	12,531,513	16,717,391	60.3
	Disbursed	2,400,851	7,682,664	10,083,515	

*Including individual project for Silimex and the commercial refrigeration umbrella project
**Including individual project for Mabe

Implementation plan for the fifth and final tranche of the HPMP

13. The main activities to be implemented between the remainder of 2015 and 2017 are described below:

(a) *Mabe:* Finalize the administrative actions to close the project, undertake a safety audit and start a PU foam production with cyclopentane (UNDP) (balance from previous tranches);

(b) *Systems houses:* Finalize the conversions of the remaining downstream users; and payment of IOC (UNDP) (US $1,122,503);

(c) *Commercial refrigeration (Fersa, Frigopanel, Metalfrio):* Issue a TUV certificate at Metalfrío; deliver and install equipment at Frigopanel/Ojeda and Fersa during 2016 (UNIDO) (balance from previous tranches);

(d) *Refrigeration servicing sector:* Purchase and distribute equipment for good practices in flushing to technicians; continue training programmes in good practices in flushing activities; provide support through the ODS Information and Monitoring System (SISSAO) to the training programme by registering the courses and technicians trained; and delivering flushing kits to selected technicians with the best evaluations at each course in large, medium and small enterprises (UNIDO) (balance from previous tranches); and

(e) *Regulatory activities, public awareness and project monitoring:* Enforce and monitor the quota system and the new energy standard for air conditioners; and undertake verification of the production of HCFC in 2015 (UNIDO) (US $226,317).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Report on HCFC

HCFC consumption

14. The verification report noted that in 2014 imports of HCFC-124 (21 mt) were above the authorized quota (4.5 mt). The reason was that HCFC-124 contained in blends such as MP-39, MP-66 and R-409A was imported without quotas as the tariff code used to regulate the blends containing HCFCs was not included correctly in the licensing and quota system. The Secretariat of Environment and Natural Resources (SEMARNAT) requested the Secretary of Economy to modify the regulation and start the control of these blends. This modification has been approved by the trade committee and will be in place in January 2016 after public consultation and signature by relevant ministries. Strict control on the imports of blends has been implemented and the industry has agreed to control the imports under the maximum available quota. Given the restrictions imposed and the small amounts of HCFC imported in blends, there is no risk that this situation could leave Mexico in non-compliance with the consumption targets while the modification to the regulation is published.

15. At the Secretariat's request, UNIDO provided information on the component to monitor HCFC production included in stage I[2]. An independent verification team audited the production of HCFC-22 at Quimobásicos for the years 2013 and 2014 and concluded that the data provided in the verification report related to the production of HCFCs in Mexico is largely correct, reliable and describes the situation for the period inspected. They also attested that no other HCFC is produced by the plant and that they did not identify any other HCFC producer in Mexico. During the period under review, the HCFC production freeze target had been achieved, the Government of Mexico had been operating and enforcing an adequate quota system, and Quimobásicos has been fully complying with production and consumption quotas issued by SEMARNAT. Table 5 below outlines HCFC-22 production in the Quimobásicos plant.

[2] At the 74th meeting, the Secretariat received from the Government of Mexico, through UNIDO, a request for the Executive Committee to conduct a technical audit of Mexico's HCFC production sector (UNEP/OzL.Pro/ExCom/74//SGP/6). Further, the Sub-Group on the production sector met and agreed to postpone further discussions of the preliminary data and request for authorization to carry out the technical audit of the HCFC production sector in Mexico to the 75th meeting (UNEP/OzL.Pro/ExCom/74/55). This document was resubmitted to the 75th meeting (UNEP/OzL.Pro/ExCom/75/SGP/5).

Table 5. Verification of HCFC-22 production in 2013 and 2014 (mt)

HCFC-22	2013	2014
Quota, production	12,672	12,672
Actual annual production	**7,378**	**9,214**
Quota, consumption	3,139	3,139
Export	5,542	6,163
Actual annual consumption	**1,836**	**3,051**

Progress report on the implementation of the fifth and final tranche

Legal framework

16. The Government of Mexico has already issued HCFC import quotas for 2015 in accordance with the Montreal Protocol control targets, as shown in Table 6.

Table 6. Import and prodution quotas for 2015

Substance	Maximum Allowed Consumption 2015 (mt)	Maximum Allowed Consumption 2015 (ODPt)	Maximum Allowed Production 2015 (mt)
HCFC-22	7,654.50*	421.00	12,671.00**
HCFC-141b	5,468.06	601.49	0
HCFC-142b	156.43	10.16	0
HCFC-123	59.27	1.18	0
HCFC-124	4.05	0.09	0
Total	**13,342.31**	**1,033.92**	**12,671.00**

* Total allowed consumption including consumption of HCFC producer.
** The consumption quota for the producer is 3,798 mt. The difference between the production and consumption quota of the producer has to be exported by the producer.

PU foam manufacturing sector

17. The Secretariat noted with concern that while the project at Mabe appeared to be completed since the previous tranche request, there seems to be no progress in the final steps and the project is still ongoing. UNDP explained that the manufacturing of domestic refrigerators is being relocated to another city (from Queretaro to Celaya). However, all the equipment funded by the HPMP has already been purchased and installed in the new location (Celaya), has undergone the safety audit and is currently operating with cyclopentane. The reason for the delay is that additional equipment funded by the enterprise is only expected to arrive in January 2016. Once this equipment is installed a new safety audit will be required. UNDP also informed that part of the baseline equipment to manufacture with HCFC-141b is still where the original plant was located (Queretaro) and is being used to manufacture a few products. The Secretariat clarified that the project cannot be considered complete until the baseline equipment is destroyed and the manufacturing capacity with HCFC-141b no longer exists. On this basis, the Secretariat requested UNDP to include in the next progress report evidence of the destruction of the baseline equipment in Mabe, closure of HCFC-based manufacturing capacity and confirmation of project completion.

18. As a result of the implementation of the systems house project, formulations based on low-global warming potential (GWP) alternatives are available in the local market and for export. Noting in the report that all the Memorandums of Agreement (MoAs) with downstream users have been signed and the funds committed, the Secretariat followed up on the final list of downstream users that are receiving Multilateral Fund assistance, including their HCFC-141b consumption phase-out (or to be phased out if the project is still ongoing), subsector, baseline equipment and technology adopted. UNDP is in the process of collecting all the information and the task is expected to be finalized by March 2016. The Secretariat, UNDP and UNIDO agreed that this information will be included in the annual progress report

on stage I, which will be submitted along with the second tranche request under stage II of the HPMP to the 77th meeting.

Plan of action

19. As the last funding tranche is being requested in 2015 and the last year for which a consumption target had been established is 2018, in line with decision 74/19[3], UNIDO and UNDP are requested to submit only annual tranche implementation reports as stage II of the HPMP for Mexico is ongoing.

Conclusion

20. Given the compliance with HCFC consumption targets, the enforcement of the licensing and quota system and its improvements made based on the findings of the last independent verification, as well as the continued progress in the implementation of the activities included in stage I, the Secretariat recommends blanket approval for the fifth and last tranche of stage I, on the understanding that UNIDO, UNDP and the Government of Mexico will continue providing annual tranche implementation reports until the completion of the stage as per decision 74/19.

RECOMMENDATION

21. The Fund Secretariat recommends that the Executive Committee:

(a) Take note of the progress report on the implementation of the fourth tranche of stage I of the HCFC phase-out management plan of (HPMP) for Mexico;

(b) Request the Government of Mexico, UNIDO and UNDP to submit progress reports on a yearly basis on the implementation of the work programme associated with the final tranche until the completion of the project and the project completion report no later than the first meeting of the Executive Committee in 2019; and

(c) Request UNIDO and UNDP to include in the next progress report to be submitted along with the request of the second tranche under stage II to the 77th meeting, 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 a report on the destruction of the baseline equipment in Mabe, the closure of HCFC-based manufacturing capacity and the confirmation of project completion.

22. The Fund Secretariat further recommends blanket approval of the fifth (and final) tranche of stage I of the HPMP Mexico, and the corresponding 2015-2017 tranche implementation plan, at the funding levels shown in the table below:

	Project title	Project funding (US $)	Support cost (US $)	Implementing agency
(a)	HCFC phase-out management plan (stage I, fifth tranche)	226,317	16,974	UNIDO
(b)	HCFC phase-out management plan (stage I, fifth tranche)	1,122,503	84,188	UNDP

[3] For HCFC phase-out management plans (HPMPs) for which the last funding tranche was requested one or more years prior to the last year for which a consumption target had been established, to request the lead implementing agency and relevant cooperating agencies to submit annual tranche implementation reports and, where applicable, verification reports on the current stage of the HPMPs until all activities foreseen had been completed and HCFC consumption targets had been met, on the understanding that, when consecutive stages of HPMPs were implemented concurrently, the verification reports should be based on the lower HCFC consumption target committed to by the country concerned.