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IMPLEMENTATION OF THE MONTREAL PROTOCOL
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Montreal, 4–8 December 2024
Item 9(d) of the provisional agenda¹

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 III, first tranche) | UNIDO and Germany | Individual consideration |
|---|-------------------|--------------------------|

¹ UNEP/OzL.Pro/ExCom/95/1

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issuance of the document.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Mexico

(I) PROJECT TITLE	AGENCY
HCFC phase-out plan (stage III)	UNIDO (lead), Germany

(II) LATEST ARTICLE 7 DATA (Annex C, Group I)	Year: 2023	168.23 ODP tonnes
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2023	
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					167.81				167.81
HCFC-123			0.42						0.42

(IV) CONSUMPTION DATA (ODP tonnes)			
2009–2010 baseline:	1,148.8	Starting point for sustained aggregate reductions:	1,208*
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	945.1	Remaining:	262.9

*As revised at the 79th meeting (decision 79/38(c)(iii))

(V) ENDORSED BUSINESS PLAN		2024	2025	2026	Total
UNIDO	ODS phase-out (ODP tonnes)	18.38	0.00	0.00	18.38
	Funding (US \$)	1,715,858	0	0	1,715,858

(VI) PROJECT DATA			2024	2025-2026	2027	2028	2029	2030	Total
Montreal Protocol consumption limits (ODP tonnes)			746.72	373.36	373.36	373.36	373.36	0	n/a
Maximum allowable consumption (ODP tonnes)			373.36	209.20	190.90	135.70	123.40	0	n/a
Project costs requested in principle (US \$)	UNIDO	Project costs	5,249,250		6,561,563			1,312,312	13,123,125
		Support costs	367,448		459,309			91,862	918,619
	Germany	Project costs	300,000		375,000			75,000	750,000
		Support costs	37,000		46,250			9,250	92,500
Total project costs recommended in principle (US \$)			5,549,250		6,936,563			1,387,312	13,873,125
Total support costs recommended in principle (US \$)			404,448		505,559			101,112	1,011,119
Total funds recommended in principle (US \$)			5,953,698		7,442,122			1,488,424	14,884,244

(VII) Request for approval of funding for the first tranche (2024)		
Implementing agency	Funds recommended (US \$)	Support costs (US \$)
UNIDO	5,249,250	367,448
Germany	300,000	37,000
Total	5,549,250	404,448

Secretariat's recommendation:	Individual consideration
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PROJECT DESCRIPTION

Background

1. On behalf of the Government of Mexico, UNIDO as the lead implementing agency has submitted a request for stage III of the HCFC phase-out management plan (HPMP), at a total cost of US \$15,903,810, consisting of US \$13,438,000, plus agency support costs of US \$940,660 for UNIDO and US \$1,365,000, plus agency support costs of US \$160,150 for the Government of Germany, as originally submitted.² The implementation of stage III of the HPMP will phase out the remaining consumption of HCFCs by 2030.

2. The first tranche of stage III of the HPMP being requested at this meeting amounts to US \$6,361,713, consisting of US \$5,371,200, plus agency support costs of US \$375,984 for UNIDO and US \$550,000, plus agency support costs of US \$64,529 for the Government of Germany, as originally submitted.

Status of implementation of stage II of the HCFC phase-out management plan

3. Stage II of the HPMP for Mexico was originally approved at the 73rd meeting³ and revised at the 77th and 90th meetings⁴ to phase out 533.6 ODP tonnes of HCFCs used in the aerosol/solvent and refrigeration and air-conditioning (RAC) servicing sectors and, and to meet the 67.5 per cent reduction from the baseline by 2022, at a total cost of US \$11,087,772, plus agency support costs. Stage II of the HPMP will be completed by December 2024, as stipulated in the Agreement between the Government of Mexico and the Executive Committee and decision 90/46(b).

Report on HCFC consumption

4. The Government of Mexico reported a consumption of 168.23 ODP tonnes of HCFCs in 2023, which is 85.4 per cent below the HCFC baseline for compliance. The 2019–2023 HCFC consumption is shown in table 1.

Table 1. HCFC consumption in Mexico (2019–2023 Article 7 data)

HCFC	2019	2020	2021	2022	2023	Baseline
Metric tonnes (mt)						
HCFC-22	3,044.49	2,214.06	2,283.05	3,796.08	3,051.07	8,505.1
HCFC-123	40.00	-3.90	14.20	-2.22	21.07	73.10
HCFC-124	0.00	0.00	0.00	0.00	0.00	8.0
HCFC-141b	535.89	316.10	41.05	0.00	0.00	6,123.9
HCFC-142b	112.82	0.00	-0.44	-0.76	0.00	89.2
Total (mt)	3,733.20	2,526.25	2,337.86	3,793.10	3,072.14	14,799.3
ODP tonnes						
HCFC-22	167.45	121.77	125.57	208.78	167.81	467.8
HCFC-123	0.80	-0.08	0.28	-0.04	0.42	1.4
HCFC-124	0.00	0.00	0.00	0.00	0.00	0.2
HCFC-141b	58.95	34.77	4.52	0.00	0.00	673.6
HCFC-142b	7.33	0.00	-0.03	-0.05	0.00	5.8
Total (ODP tonnes)	234.53	156.46	130.34	208.69	168.23	1,148.8

² As per the letter of 30 July 2024 from the Ministry of Environmental and Natural Resources (SEMARNAT) of Mexico to UNIDO.

³ Decision 73/58

⁴ Decisions 77/52 and 90/46

5. The declining consumption of HCFCs in Mexico has mainly been due to the completion of projects in the polyurethane (PU) foam, domestic refrigeration, commercial refrigeration, extruded polystyrene foam, and the aerosol/solvent sectors, as well as the introduction of affordable new technologies in the RAC sector. After a significant decrease in 2020 and 2021, triggered by the COVID-19 pandemic, HCFC-22 consumption bounced back to pre-pandemic levels in 2022, indicating a recovering industry and an uptick in imports, previously delayed by supply-chain issues. However, gradual reductions are expected to extend beyond 2024.

Country programme implementation report

6. The Government of Mexico reported HCFC sector consumption data under the 2023 country programme (CP) implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

Status of progress and disbursement

7. During stage II of the HPMP, eight aerosol/solvent manufacturing enterprises converted to HCFC-free technologies, collectively phasing out 63.37 ODP tonnes of HCFC-141b and HCFC-22. In addition, the consumption of HCFCs by enterprises that were ineligible for funding due to foreign ownership, reported at 272.10 ODP tonnes of HCFC-141b and HCFC-22 at the time of approval of stage II, has been phased out. In line with the established ban, the Government stopped granting import quotas for HCFC-141b in 2022.

8. Activities implemented in the RAC servicing sector include inter alia, distribution of tools and supplies to identify ODS to nine customs laboratories; collaboration agreements signed between the Ministry of Environment and Natural Resources (SEMARNAT) and four academic institutions that manage eighteen training centers throughout the country; training of 112 instructors (including 12 women) from 15 training centers and 5,000 technicians (ongoing) in refrigeration best practices, including the use of alternatives to HCFCs for the cleaning of RAC systems; distribution to technicians of 500 sets of tools for good servicing practices; distribution of 6,000 copies of the updated manual on good practices for the use of alternatives to HCFCs; training courses combining online learning with hands-on face-to-face sessions and including gender-specific sessions; strengthening of recovery, recycling and reclamation (RRR) centers; and the training of customs and law enforcement officials on new policies and regulations, national commitments under the Montreal Protocol, prevention of illicit trade in already eliminated HCFCs, updated methods for identifying pure and blended HCFCs, and the 2022 update of harmonized customs codes.

9. A total amount of US \$10,882,913 has been disbursed and the remaining US \$204,859 will be disbursed in 2024.

Stage III of the HCFC phase-out management plan

Remaining consumption eligible for funding

10. After deducting 945.1 ODP tonnes of HCFCs associated with stages I and II of the HPMP, the remaining consumption eligible for funding in stage III amounts to 262.9 ODP tonnes of HCFC-22 (262.5 ODP tonnes), HCFC-123 (0.3 ODP tonnes) and HCFC-124 (0.1 ODP tonnes).

Sector distribution of HCFCs

11. Mexico produces HCFC-22 and imports almost exclusively HCFC-22. In 2023, HCFC-22 represented more than 99 per cent of national consumption in mt and ODP tonnes. It is used in the RAC servicing sector to service centralized supermarket systems, condensing units, medium-sized AC units and small-capacity AC equipment used in homes and small businesses that usually require recharging due to

leaks during operation, installation, or repair. The end users of HCFC-22-based equipment are generally domestic and small commerce (stores) located in low-income population areas distributed all over the country, which use the service of informal technicians, experienced but without proper training. The only other HCFC consumed is HCFC-123 (less than 1 per cent) used for extinguishers in the firefighting sector, and in the service and maintenance of centrifugal chillers in supermarkets and food distribution centres around the country. The estimated demand of HCFCs in servicing is shown in table 2.

Table 2. Estimate of demand for HCFCs in the RAC servicing sector in Mexico

Application	HCFCs consumed in servicing	
	mt	(%)
Window AC units	339	11
Split AC units	161	5
Medium-sized AC units	1,296	42
<i>Total AC</i>	<i>1,796</i>	<i>58</i>
Commercial refrigeration (mostly condensing units and centralized systems)	1,255	41
Other servicing*	0.3	0
Total consumption of HCFC-22	3,051	99
Centrifugal chillers using HCFC-123	20	1
Total HCFCs	3,071	100

*Initial refrigerant charge of commercial refrigeration systems, particularly those that are field-assembled, such as condenser unit systems utilized in mini-markets and convenience stores.

Residential air-conditioning

12. In 2022, there were 8.1 million residential AC units in operation. There are still an estimated 38.3 million people in the country who require but do not own an AC unit. HCFC-22 is still predominant in window AC (1.7 million units), but this type of unit is being replaced by the split type. Residential AC equipment that uses HCFC-22 is no longer produced nor imported due to its non-compliance with the energy-efficiency standards that regulate these units.

Commercial refrigeration and air-conditioning

13. There are 967,000 commercial establishments with at least one RAC installation; of these, 63,953 are considered large sized. There are 6,067 supermarkets, 53,553 convenience stores and 2,696 department stores using RAC systems. Commercial refrigeration systems using HCFC-22 are no longer manufactured; manufacturing of these systems has shifted to mostly R-404A and HFC-134a, with alternatives such as R-290 being used in self-contained commercial refrigeration units with charges of up to 150 g. However, in centralized systems in supermarkets 40 per cent of the existing equipment still uses HCFC-22.

14. Medium-sized AC units are a large user of HCFC-22. At present, AC manufacturing has shifted to R-410A and R-407C for split, packaged, ducted and variant refrigerant flow (VRF), and HFC-134a is commonly used in chillers. Alternatives include R-290 (not widely accessible yet) and transitional HFCs such as HFC-32, R-449C, the R-452B series, and R-454B, and there is also very limited experience with transcritical CO₂. Manufacturing of reciprocating chillers using HCFC-123 has also ceased since 2021.

15. As the number of HCFC-based equipment units is reduced over time, the rate of replacement by equipment using alternative refrigerants is higher in large enterprises dealing with commercial refrigeration, but lower in small enterprises (e.g., convenience stores).

Technician profile and training, and recovery, recycling and reclaiming infrastructure

16. Out of the estimated 97,750 servicing technicians in Mexico, 95,000 work in the domestic and commercial RAC subsectors. Women account for 3 per cent of all sector employees, mostly in the capacity of enterprise owners, managers, or coordinators; there are very few female RAC technicians.

17. Mexico's technicians include a large group working in small workshops, not formally trained or certified, and servicing a variety of appliances across all subsectors; and a much smaller group of trained technicians, often professionally affiliated, working for equipment manufacturers and distributors who offer servicing for new equipment and units, mainly during the first years of use. Fifty-seven per cent of all technicians have completed at least one technical training, with less than 2 per cent trained specifically on refrigerants. About a third of all technicians have complete servicing tool sets at their disposal but very few technicians employ good practices for refrigerant disposal and recovery.

18. Currently, there are seven refrigerant RRR centres and 24 collection and scrapping centres in Mexico. Out of the seven RRR centres in operation, two are being strengthened under the HPMP. Three centres receive commercial refrigerators for scrapping and recycling, one (Quimobásicos) destroys refrigerants, and two are currently considering relocation due to being only partly operational.

19. There are 18 training institutes for refrigeration technicians in the country, eight of them participating in the HPMP and intending to continue providing dedicated training under the KIP. The National Council for the Standardization and Certification of Labour Skills, operating under the Ministry of Public Education, is responsible for developing and managing the technical competency and training standards. Currently, out of the five national standards adopted for the RAC sector, three regulate the training and certification of personnel performing the installation, operation, maintenance and start-up of AC equipment. Certification in the handling of low- or zero-GWP refrigerants such as CO₂ and HCs, used in medium and large-sized appliances, has not yet been considered.

Phase-out strategy

20. Stage III of the HPMP will focus on the phase-out of HCFC-22 still being consumed by a large group of users (domestic and small commerce (stores)) spread around the country, generally in low-income areas, who are not able to replace their equipment due to lack of financial resources and use the service of informal technicians, experienced but without proper training. For this purpose, stage III includes a combination of activities to: strengthen the regulatory framework and related institutions enforcing it; strengthen the capacity of the educational institutions involved in technician training; provide technical assistance to the RAC servicing sector to expand the application of good servicing practices including RRR; provide assistance to end users to facilitate their replacement of old inefficient HCFC-22 equipment; monitor the phase-out achieved in other sectors assisted under previous stages; and implement public awareness and a gender programme to close the gender gaps in the sector.

Proposed activities

21. A summary of the activities proposed under stage III is presented in table 3.

Table 3. Activities proposed under stage III of the HPMP for Mexico

Activity	Budget (US \$)
I. Legal framework (UNIDO)	
Strengthening policy framework including by banning imports of HCFC-based RAC equipment (US \$500,000); continuous improvement and updating of the ODS licensing and quota system (SIIPROM) to monitor ODS imports, exports and consumption, record HCFC and HFC recovery, and ensure an integrated control of information at the national level (US \$240,000); and study and establishment of policies and standards required to operate RRR centres (US \$80,000)	820,000
II. Customs activities (UNIDO)	
Training of 500 customs officers on new legislation and harmonized customs system, new refrigerants, identification of ODS and alternative refrigerants, and illegal trade prevention methods (US \$200,000); training of 300 importers and customs agents on declaration and reporting of refrigerants and RAC equipment, and on the safe handling of refrigerant cylinders (US \$100,000); training of 240 enforcement officers in provincial governments to support enforcement, including	720,000

Activity	Budget (US \$)
controlling illegal access of polyols premixed with HCFCs (US \$100,000); and provision of 100 refrigerant identifiers to the main customs control points (US \$320,000)	
III. Capacity building for the RAC servicing sector (UNIDO)	
Identification of informal technicians be part of the training programme called “train experienced untrained technicians”; training of instructors in 15 training centres and 7,260 technicians in good servicing practices, the safe handling of flammable refrigerants and maintenance for energy efficiency; and development of good servicing practice certification programmes and workshops to evaluate and certify 7,000 technicians (US \$550,000)	5,923,000
Extension of the ongoing training programme for RAC technicians on good service practices in collaboration with local institutes to train 2,400 technicians who have not been able to access previously organized training (US \$625,000)	
Training 750 technicians in installing and servicing large industrial and commercial facilities (AC and large commercial coolers) and the safe handling of alternatives, and collecting data from participants on the remaining HCFC-based equipment installed in the country (US \$312,500)	
Provision of training equipment ⁵ for additional 12 training centres and 12 evaluation centres to support leak prevention, and equipment and tools ⁶ for 1,000 certified technicians (US \$235,500)	
Integration of good servicing practices into the national system of technological centres for RAC technicians by developing, in cooperation with the Secretariat of Education, a national certification curriculum (US \$480,000); and integration of good servicing practices into the National Occupational Competition Standards (NOCs) for refrigeration technicians (US \$480,000)	
Assistance to the assessment and qualification bodies in updating the assessment criteria, including the Recognition in Prior Learning (RPL) certification criteria to cover the components of good servicing practice (US \$240,000)	
Provision of training tools and equipment ⁷ to training schools and to institutes that provide grade assessments (US \$100,000)	
Certification of RAC technicians through a campaign that considers previous studies and/or experience and that covers the costs of evaluation tests (US \$480,000)	
Provision of tools and equipment ⁸ to at least 2,000 selected servicing workshops to enable good practices learned in the training programme (US \$2,420,000)	
IV. Technical assistance to the RAC servicing sector (UNIDO, Germany)	
RRR programme (UNIDO): Development and demonstration of business model for economically viable RRR with a local HCFC-22 enterprise handling HCFCs (US \$150,000)	1,945,000
Provision of equipment ⁹ and technical support to six existing RRR centers to improve their operations and solve technical challenges (i.e. logistical, lack of storage volume, lack of training in the use of equipment, difficulties in the use of gas measuring devices) (US \$940,000)	
Development of a technical and economically feasible roadmap for HCFC refrigerant destruction, considering collection, transport and storage modalities, and existing technologies (US \$120,000)	
Study tours for selected servicing technicians and stakeholder representatives for the demonstration of the successful supply chain of refrigerants (including virgin and reclaimed), and ODS destruction policies in countries more advanced in this area (US \$735,000)	
Technical support to HCFC-123 users (Germany) Study on HCFC-123 users and available alternative technologies (US \$30,000); 10 webinars and dissemination of written material on upcoming HCFC bans, alternative technologies, and safe disposal of old equipment (US \$20,000);	550,000

⁵ Including, inter alia, refrigerant recovery units and cylinders, scales, vacuum pump, air-conditioning equipment, charging hoses, flushing equipment, nitrogen blowing equipment, multifunction digital manifold, leak detector, pressure gauge, torque wrench set, refrigerant balance and anemometer.

⁶ Including, inter alia, refrigerant recovery units and cylinders, vacuum pump, flushing kit, scale, charging hoses, manifolds, torque wrench set, flaring and pipe cutters.

⁷ Pedagogical tools, simulators, AC and refrigeration models, basic tools.

⁸ Including, inter alia, recovery unit and cylinders, vacuum pump, refrigerant weight scale (for charging refrigerant), vacuum gauge, and leak detector.

⁹ Reclaiming units, storage tanks, transfer pumps, recovery tanks, refrigerant identifiers, chromatographs, moisture testers, miscellaneous laboratory equipment, cylinder cleaning and inspection equipment, and recovery units and cylinders.

Activity	Budget (US \$)
and demonstration of alternative technology to HCFC-123 in one small and medium-sized enterprise (SME) (US \$500,000)	
Technical assistance to end users of commercial refrigeration - small enterprises (Germany): Development of a strategy to prevent the small commercial refrigeration users' transition to interim technology alternatives, identification of end-users and assembling enterprises in the sector interested in working with low-GWP alternatives (US \$50,000); technical assistance to local assembling enterprises to develop five plug-in commercial refrigeration R-290 units based on imported kits (US \$500,000); technical assistance to five end users (e.g. convenience store, small supermarket) to install the plug-in units (US \$150,000); workshops on best practices with sector associations (e.g., National Association of Self-Service and Department Stores (ANTAD)) to build end-user awareness on low-GWP technologies and best practices (US \$50,000)	750,000
Technical assistance to end users of commercial refrigeration - large enterprises (UNIDO): In coordination with national programmes for the replacement of RAC equipment, promotion of the installation of commercial refrigeration equipment by technicians trained by the HPMP, recovering refrigerant from old units and ensuring their proper disposal; provision of technical assistance and advice on financing opportunities to end users replacing obsolete equipment; scale-up to larger users of the five plug-in R-290 technology kits tested in small enterprises; and establishment of a promotion programme for the adoption of R-290 technology kits to an estimated 1,000 users (US \$625,000)	890,000
Technical assistance to end users of AC equipment (UNIDO): In coordination with national programmes for the replacement of RAC equipment, promotion of the installation of AC equipment by technicians trained by the HPMP, recovering refrigerant from old units and ensuring their proper disposal; provision of technical assistance and advice of financing opportunities to end users replacing obsolete equipment to adopt low-GWP technology (US \$265,000)	
V. Monitoring and control of HCFC production and consumption (UNIDO)	
Yearly monitoring through the licensing and quota system, and verification-site visits by independent international experts; conduct periodic visits to systems houses and PU foam enterprises to monitor and verify that there is no consumption of polyols pre-blended with HCFC-141b	120,000
VI. Public awareness (UNIDO)	
Implementation of a public awareness campaign to promote consumer's acceptance of appliances using low-GWP refrigerants including media campaigns, conferences, and press dissemination by SEMARNAT and other relevant stakeholders; and dissemination of information, discussion, and planning with new authorities to facilitate decision-making, regulations, and controls	660,000
VII. Gender programme (UNIDO)	
Addition of gender sessions to all training on ozone issues to sensitize participants on the importance of gender mainstreaming and women's empowerment (US \$150,000); include percentage goal awareness module in training for technicians to set a percentage goal that would be increased periodically as a gender quota (US \$150,000); update instructional videos to include women and preparation of video clips of female technicians working in the sector to address cultural barriers (US \$250,000); graphic integration of women in all materials produced (US \$50,000); dissemination campaign on gender issues in enterprises in the RAC sector to promote the participation of women and reduce gender gaps (US \$150,000); enable a section within SIIPROM on gender aspects related to the Montreal Protocol including tools to mainstream gender in Montreal Protocol projects (US \$120,000); distribute brochures or leaflets to promote the participation of women in the RAC sector (US \$150,000); implement the first training day as a free and inclusive professional training event with a gender focus in the RAC sector (US \$150,000); organize and promote a collaboration network of women in the sector, focused on developing training days, mentoring schemes, networking and to drive competency-based certification (US \$240,000); and systematization of lessons learned on gender perspective (US \$150,000)	1,560,000
VIII. Project coordination and monitoring	
UNIDO	800,000
Germany	65,000
Total for stage III	14,803,000

Project implementation and monitoring

22. The system established under stages I and II of the HPMP will continue into stage III, with the project management unit within SEMARNAT working with the other Mexican Government Secretariats and in coordination with UNIDO to manage, coordinate and monitor activities, report on progress and liaise with stakeholders. The cost of those activities amounts to US \$865,000, consisting of US \$800,000 for UNIDO and US \$65,000 for the Government of Germany, and includes project staff and consultants (US \$756,000), domestic travel (US \$55,000), meetings and workshops (US \$36,000) and operating expenses (US \$18,000).

Gender policy implementation

23. In line with decisions 84/92(d), 90/48(c) and 92/40(b), the Government of Mexico commits to taking gender equality into consideration at all stages of implementation of the HPMP. For this purpose, stage III of the HPMP includes a comprehensive programme to ensure the integration of gender mainstreaming considerations in all activities implemented under the HPMP, and promoting the participation of women in these activities and in the RAC sector, as shown in component VII in table 3. Training sessions and meetings on ozone-related issues will further raise participants' awareness of the importance of gender mainstreaming and gender parity. Collection of sex-disaggregated data and qualitative information to analyze and track gender issues will be implemented, and all training and dissemination material will be updated to include gender mainstreaming.

Total cost of stage III of the HCFC phase-out management plan

24. The total cost of stage III of the HPMP for Mexico has been estimated at US \$14,803,000 (plus agency support costs), as originally submitted, to achieve a 100 per cent reduction by 2030. The proposed activities and cost breakdown are summarized in table 4.

Table 4. Total cost of stage III of the HPMP for Mexico as submitted

Activity	Agency	Cost (US \$)	First tranche (US \$)
I. Legal framework	UNIDO	820,000	328,000
II. Customs activities	UNIDO	720,000	288,000
III. Capacity building for the RAC servicing sector	UNIDO	5,923,000	2,369,200
IV. Technical assistance to the RAC servicing sector RRR programme	UNIDO	1,945,000	778,000
- Technical assistance to HCFC-123 users	Germany	550,000	220,000
- Technical assistance to end users of commercial refrigeration - small enterprises	Germany	750,000	300,000
- Technical assistance to end users of commercial refrigeration - large enterprises and to end users of AC equipment	UNIDO	890,000	356,000
V. Monitoring and control of HCFC production and consumption	UNIDO	120,000	48,000
VI. Public awareness	UNIDO	660,000	264,000
VII. Gender programme	UNIDO	1,560,000	624,000
Project implementation and monitoring	UNIDO	800,000	316,000
	Germany	65,000	30,000
Total		14,803,000	5,921,200
Total UNIDO		13,438,000	5,371,200
Total Germany		1,365,000	550,000

Implementation plan for the first tranche of stage III of the HCFC phase-out management plan

25. The first tranche of stage III of the HPMP in the total amount of US \$5,921,200 will be implemented between January 2025 and December 2027 and will include the following activities:

- (a) *Legal framework and customs activities:* Hold consultation meetings and workshops on policies and regulations with Government authorities and public audiences; prepare an impact assessment for Government approval; issue a ban on imports of all HCFC-based RAC equipment; installation, implementation and maintenance of the electronic import licensing system (SIIPROM) and training for the NOU personnel, and importers on its use; train 180 customs officers; organize of two annual one-day workshops for importers and customs agents on declaration and reporting of refrigerants and RAC equipment, and the safe handling of refrigerant cylinders, including a manual; and distribute 100 refrigerant identifiers to main customs control points (UNIDO) (US \$616,000);
- (b) *Capacity building for the RAC servicing sector:* Train 34 instructors at the 17 training centres so that they can provide training to 2,300 technicians on good equipment maintenance practices, the safe handling of flammable refrigerants and maintenance for energy efficiency; develop certification programs in good maintenance practices and two training workshops on certification; train 300 technicians a year who have not been able to access previously organized training; purchase training equipment¹⁰ for 12 training centres and 12 evaluation centres to support the leak prevention programme, as well as equipment and tools for 1,000 certified maintenance technicians; and start procurement of tools/equipment for selected servicing workshops (UNIDO) (US \$2,369,200);
- (c) *Technical assistance to the RAC servicing sector:*
 - (i) RRR programme: Develop and demonstrate a business model for economically viable RRR with a local HCFC-22 enterprise handling HCFCs; update training at the existing RRR centers; and organize a study trip to a country in the region for selected servicing technicians and representatives of the NOU for a demonstration of the successful supply chain of refrigerants, including practical and theoretical training (UNIDO) (US \$778,000);
 - (ii) Technical support to HCFC-123 users: Conduct a study on HCFC-123 users and available alternative technologies; hold 10 webinars and disseminate written material on upcoming HCFC bans, alternative technologies, and the safe disposal of old equipment; and start demonstration of alternative technology to HCFC-123 in one SME (Germany) (US \$220,000);
 - (iii) Technical support and assistance to end users of commercial refrigeration - small enterprises: Develop a strategy to prevent small commercial refrigeration users from transitioning to high-GWP interim technology alternatives, and identify end users and assembling enterprises in the sector interested in working with low-GWP alternatives; provide technical assistance to local assembling enterprises to develop five plug-in commercial refrigeration R-290 units based on imported kits; and develop a workshop series on best practices to build end-user awareness on low-GWP alternatives (Germany) (US \$300,000);
 - (iv) Technical assistance to end users of commercial refrigeration - large enterprises, and to end users of AC equipment: Start promoting installation of commercial refrigeration and AC equipment by technicians trained by the programme, ensuring the proper disposal of old equipment; identify low-income-household end users of

¹⁰ Leak detector, pressure gauge, refrigerant recovery machine, refrigerant tank, vacuum pump, air conditioning equipment, torque wrench set, refrigerant balance and anemometer.

HCFC-22 equipment; start providing technical assistance and advice on financing opportunities to end users replacing obsolete equipment (UNIDO) (US \$356,000);

- (d) *Monitoring and control of HCFC production and consumption:* Begin yearly monitoring through the licensing and quota system, verification site visits by independent experts, and periodic visits to systems houses and PU foam enterprises to monitor and verify that there is no consumption of polyols pre-blended with HCFC-141b (UNIDO) (US \$48,000);
- (e) *Public awareness:* Initiate a public awareness campaign to promote consumers' acceptance of *appliances* using low-GWP refrigerants; and engage in dissemination of information, discussion, and planning with new authorities to facilitate decision-making, regulations, and controls (UNIDO) (US \$264,000);
- (f) *Gender programme:* Include percentage goal awareness module in training for technicians; set a percentage goal that would increase periodically; produce instructional videos, video clips and other materials that include women working in the sector to address cultural barriers and gender stereotypes; and conduct a dissemination campaign on gender issues in companies in the sector to promote the participation of women and reduce gender gaps (UNIDO) (US \$624,000); and
- (g) Project monitoring: (UNIDO) (US \$316,000) (Germany) (US \$30,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

26. The Secretariat reviewed stage III of the HPMP in light of stages I and II of the HPMP, stage I of the KIP, the policies and guidelines of the Multilateral Fund, including the criteria for funding HCFC phase-out in the consumption sector for stage II of HPMPs (decisions 74/50 and 90/31), and the 2024–2026 business plan of the Multilateral Fund.

Overarching strategy

HCFC reductions between 2024 and 2029

27. The Secretariat notes with appreciation the commitment of the Government of Mexico to establish maximum allowable consumption levels between 2025 and 2029 that are lower than those established by the Montreal Protocol (i.e., reductions of 81.8 per cent of the baseline in 2025 and 2026, and 83.4 per cent in 2027, 88.2 per cent in 2028 and 89.3 per cent in 2029). These HCFC reductions are reflected in the Agreement between the Government and the Executive Committee.

Total HCFC phase-out and servicing tail

28. In the plan as submitted, the Government of Mexico proposed to meet a 97.5 per cent reduction of its HCFC baseline consumption by 2030. Noting that in line with paragraph 8 ter(e)(i) of Article 5 of the Protocol, the last consumption target in the Agreement for total HCFC phase-out plans should be zero (and not 2.5 per cent of the baseline), the Government of Mexico agreed to adjust to zero the maximum annual consumption of HCFCs for the year 2030 in the Agreement between the Government and the Executive Committee. UNIDO indicated that the Government does not want to use the tail after 2030 but there are some concerns about the need for HCFCs for servicing after that date.

29. The Secretariat notes that as an Article 5 country, Mexico would have flexibility to consume HCFCs in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol with regard to the

servicing tail for the period 2030–2040. In line with decision 86/51, to allow for consideration of the final tranche of its HPMP, the Government of Mexico would be required to submit a detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption is in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol for the period 2030–2040. Furthermore, if by that time Mexico intended to have consumption during the period 2030–2040, in line with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol, the Government should submit proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030.

Legal framework and HCFC licensing and quota system

30. Noting that more than 50 per cent of the supply of HCFCs to the local market comes from local production rather than imports, upon request UNIDO explained that the HCFC-22 import quotas are applied based on a consensus agreement with the local producer and importers. Quotas are allocated by calendar year, based on historical percentages, and import statistics. The authority that issues the quotas is the General Directorate of Industry, Clean Energies and Air Quality Management (DGIELGCA) with the support of SEMARNAT. This mechanism has proven effective in the past and a similar approach will be applied for the period 2025–2030 in line with the targets established under the Agreement between the Government and the Executive Committee. Furthermore, negotiations have already started with the HCFC-producing enterprise, and a concrete HCFC reduction and phase-out plan would be completed once the updated licensing and quota system is established.

Technical and cost-related issues

Relation with the KIP

31. UNIDO provided explanations on how the last stage of the HPMP and the KIP will be implemented at the same time in a coordinated manner to avoid overlapping of activities and ensure maximum coverage of the RAC servicing sector. UNIDO explained that the current use of HCFC-22 in Mexico is on equipment that is old and reaching end of life, by users that have little resources to replace them and that commission the services of informal technicians. This group of users and technicians are spread all over the country, difficult to identify and require strategies for the formalization of technicians through training and certification, and for the proper management of HCFC-based banks to reduce leakage and venting during servicing and avoid migration to HFCs. These groups are not targeted by the KIP, which addresses more recent equipment using HFCs, generally owned by larger enterprises and serviced by technicians with some training.

32. The main actions required immediately for stage III of the HPMP are: expanding the number of training centres able to provide training in good servicing practices and the handling of low-GWP alternatives, both in large cities and small towns where the main concentration of HCFC-22 exists; promoting participation by the highest possible number of informal technicians in the training provided by these centres; establishing standards for the certification of refrigeration technicians and designing mechanisms to support the certification of experienced informal technicians; ensuring that the RRR centres are economically viable, and providing technical assistance and support to end users still using HCFC-based equipment to prevent migration to HFC-based equipment.

Components I and II: Legal framework and customs activities

33. Regarding the updates to the legal framework, some of the regulatory measures being considered under stage III include establishing more precise enforcement regulations to prevent the import of HCFC-based equipment and HCFC-22 in blends, implementing stricter controls on HCFC venting and leakage, and strengthening legal mechanisms to ensure effective enforcement of HCFC-related regulations. On the updates to SIIPROM, this digital platform already offers a comprehensive online interface to enable all transactions related to the licensing and quota system to be managed electronically. It is proposed that

the platform manages the registration of trained and certified technicians, include additional modules to support the operation of Montreal Protocol projects, facilitate report submissions, and provide real-time updates and information to users. The Government continues to be responsible for covering the operational costs of SIIPROM; the funds requested will be used to support the updates and maintenance of the system, ensure that it remains functional, up-to-date, reliable and effective in managing the HCFC and HFC licensing and quota processes, the registry of technicians and the relevant information on projects and consumption. Upon consultation between the Secretariat and UNIDO on all the activities proposed in the legal framework and customs activities, in light of ongoing efforts in these areas, the budgets were adjusted from US \$820,000 to US \$700,000 for the legal framework and from US \$720,000 to US \$650,000 for customs activities, as shown in table 5.

Component III: Capacity building for the RAC servicing sector

34. The first two activities proposed under this component relate directly to technician training. UNIDO explained that the first one will cover 7,260 informal technicians through 15 training centres assisted by the HPMP, and the second activity covers an additional 2,400 informal technicians who have no access to these training centres. Different from the previous stages and the KIP, which rely on technicians to come forward on their own to receive training, this activity will actively seek out independent untrained technicians. These two training activities differ from the training being imparted under the KIP as they provide more basic training only focused on good servicing practices for untrained technicians, while the training in the KIP focuses on low-GWP alternatives and the safety issues associated with them.

35. Within the same component, the Secretariat and UNIDO also discussed the activity proposed to integrate good servicing practices into the national system of technological centres for RAC technicians (US \$480,000) and into the NOCs for refrigeration technicians (US \$480,000). Noting ongoing efforts to integrate good servicing practices into the curricula of the training institutions and into the technicians' certification, UNIDO agreed to reduce the budget for these activities together to US \$480,000.

36. Two adjustments were made to the provision of tools included in this component. Upon confirmation of a mistake in the allocation of US \$235,500 to provide the equipment proposed for 12 training and evaluation centres and 1,000 certified technicians, UNIDO corrected the figure to US \$1,000,000. The tools and equipment proposed for 2,000 workshops were also adjusted from US \$2,420,000 to US \$3,025,000. With this adjustment, a minimum of 2,500 workshops could be assisted. Due to the adjustments made to the different activities under component III, the total funding for this component was changed from US \$5,923,000 to US \$6,812,500, as shown in table 5.

Component IV: Technical assistance for the RAC servicing sector

37. RRR programme: The funding requested under stage III aims to address challenges identified during stage II of the HPMP, including lower amounts of refrigerant received for reclaiming by some centres. The project intends to demonstrate, in collaboration with a major supplier, economically viable RRR and refrigerant classification for disposal as a model to assist the self-sustained operation of existing centres and the establishment of new RRR centers. To overcome barriers related to low recovery volume, it is planned to set up RRR centers in proximity to supplier distribution centers and incentivize technicians to return recovered gases to these distributors. The expected increase in the price of new HCFC-22 due to gradual supply reduction as proposed under stage III will also have an impact on the amounts recovered and reclaimed. The project also intends to provide destruction options for HCFCs. Upon request, UNIDO justified the relevance of the study tours in the implementation of previous activities and clarified that they would not only be related to RRR but to other relevant areas of the HPMP such as the application of low-GWP technologies. UNIDO agreed to reduce the level of funds allocated to study tours from US \$735,000 to US \$440,000, leaving the total for the RRR component at US \$1,650,000, as shown in table 5.

38. Technical support to HCFC-123 users: The Secretariat noted that CP reports have not included consumption of HCFC-123 in servicing, only in firefighting. Also noting that the KIP already includes demonstration projects for centrifugal chillers, additional details were requested on the estimated number of chillers using HCFC-123, the characteristics of the targeted chiller (type, cooling capacity, refrigerant charge, age, operating condition), the estimated cost of the chiller replacement, and an explanation of how the performance, energy gains and associated savings for the chiller owner would be monitored and used to ensure scalability. Upon discussion of the matter, this activity was removed from the HPMP.

39. Technical assistance to HCFC-22 end users of commercial refrigeration - small enterprises: The Government of Germany explained that the objective of this activity is to make plug-in commercial refrigeration R-290 technology kits¹¹ locally available for convenience stores to replace their HCFC-22 equipment reaching end of life. There are three to five local enterprises already assembling equipment with R-290, and technical assistance will be given for the provision of the seven imported kits to be used as models. These units could be commercial refrigeration cabinets, island cases, multideck, chest freezers, and display cabinets. Technical assistance will be provided to several end users to install the equipment and monitor its performance, and the results will be disseminated through workshops with ANTAD. The Secretariat notes that a similar activity is being implemented by the Government of Germany in another Article 5 country with success where local enterprises have been able to assemble the kits to serve the local market. Measures being considered under the legal framework component to prevent the import of all types of HCFC-based equipment will provide support to this initiative.

40. Technical assistance to HCFC-22 end users of commercial refrigeration - large enterprises and to end users of AC equipment: The approach followed by UNIDO for large enterprises (e.g., supermarkets) is to provide them with technical assistance (rather than equipment or economic incentives) to adopt low-GWP technologies, as well as to advise on existing financial mechanisms available for replacing their equipment. The project also intends to extend the plug-in R-290-unit project to large enterprises and to implement a targeted promotion campaign for the adoption of low-GWP technologies estimated to reach 1,000 users all over the country. The project is linked with other HPMP activities to ensure proper disposal of replaced equipment and refrigerant recovery, and to promote the installation by technicians trained by the programme. For AC end users the approach followed is similar to the one for end users of commercial refrigeration.

41. In line with decision 92/36(g), the Secretariat requested UNIDO and the Government of Germany, upon completion of the three technical assistance projects addressed to end users, to submit a final report on their implementation, including the HCFC phase-out and energy-efficiency gains achieved.

Component V. Monitoring and control of HCFC production and consumption

42. UNIDO explained that this activity will verify compliance with the quotas and discuss HCFC production levels, exports and market trends. In addition, it will undertake monitoring activities to ensure the sustainability of the HCFC phase-out in other sectors and prevent any return of consumption of, for example, HCFC-141b pre-blended in polyols. While there are already mechanisms in the country to enforce the licensing and quota system, the activities proposed under this component intend to prevent and identify potential illegal consumption in the market. These activities will be absorbed by the Government once the plan is completed.

¹¹ They are self-contained units (pre-assembled with all necessary components); factory-sealed (refrigerant charge already included, so no further handling of refrigerants is required on-site) and have integrated controls (including temperature controls, defrost systems, and other electronic components pre-configured for efficient operation).

Component VII. Gender programme

43. The Secretariat noted the comprehensive programme on gender mainstreaming included in stage III of the HPMP and requested more details on the activities included, and on how these activities would not overlap with those included in the KIP, where a total of US \$414,000 was approved for awareness including gender activities.

44. UNIDO explained that gender issues in the RAC sector are long-standing and deeply rooted. Gender activities in Montreal Protocol projects are relatively new, and the financing allocated so far has yielded modest results. The proposed substantial programme aims to address these issues more comprehensively and effectively. While the KIP focuses on a more dynamic part of the RAC sector in its initial stages, stage III of the HPMP targets the more informal and traditionally conservative segments of the industry.

45. UNIDO indicated that significant investment is required to tackle these challenges on the multiple fronts addressed by the proposed activities and further highlighted that the budget request represents a small percentage of the total budget for stage III and is within with the Multilateral Fund cost guidelines. This investment aims to create a transformative change to promote gender equality.

46. UNIDO clarified that gender activities under the KIP focus on a campaign at the institutional and public-policy level, a dissemination campaign to promote technical careers at upper secondary schools, and the documentation and promotion of good practices; and none of these activities are repeated in stage III of the HPMP. The gender programme activities in stage III of the HPMP target awareness-raising; updating all customs and technician training, as well as manuals on good servicing practices, to include the gender perspective; supporting women's participation in the RAC sector; and systematizing lessons learned.

47. Upon rationalization of the costs included in the proposal based on ongoing efforts on this area, the budget was adjusted from US \$1,560,000 to US \$980,000, which corresponds to 7 per cent of the value of stage III of the HPMP. UNIDO will include in the progress reports submitted with the requests of tranches progress on the activities included in the gender programme.

Project implementation and monitoring

48. The project implementation and monitoring budget was submitted for UNIDO and the Government of Germany at US \$865,000 or 6.2 per cent of the submitted cost of the activities in the servicing sector and agreed at US \$660,625, or 5 per cent of the agreed cost in the servicing sector, only for UNIDO.

Total project cost

49. The total cost for stage III of the HPMP amounts to US \$13,873,125 to phase out 168.23 ODP tonnes (3,072.14 mt) of HCFCs; an additional 94.67 ODP tonnes (1,720.13 mt) of HCFCs will be deducted from the country's remaining HCFC consumption eligible for funding, resulting in an overall cost-effectiveness of the project of US \$2.89/kg. The budget breakdown is shown in table 5.

Table 5. Total cost of stage III of the HPMP for Mexico (as agreed)

Activity	Agency	As submitted (US \$)	Agreed cost (US \$)	Phase-out (mt)	CE* (US \$/kg)
I. Legal framework	UNIDO	820,000	700,000	3,072.14**	4.30
II. Customs activities	UNIDO	720,000	650,000		
III. Capacity building to the RAC servicing sector	UNIDO	5,923,000	6,812,500		
IV. Technical assistance to the RAC servicing sector					

Activity	Agency	As submitted (US \$)	Agreed cost (US \$)	Phase-out (mt)	CE* (US \$/kg)
- RRR programme	UNIDO	1,945,000	1,650,000		
- Technical assistance to HCFC-123 users	Germany	550,000	0		
- Technical assistance to end users of commercial refrigeration - small enterprises	Germany	750,000	750,000		
- Technical assistance to end users of commercial refrigeration - large enterprises, and to end users of AC equipment	UNIDO	890,000	890,000		
V. Monitoring and control HCFC production and consumption	UNIDO	120,000	120,000		
VI. Public awareness	UNIDO	660,000	660,000		
VII. Gender programme	UNIDO	1,560,000	980,000		
Project implementation and monitoring	UNIDO	800,000	660,625	0.00	n/a
	Germany	65,000	0	0.00	n/a
Subtotal		14,803,000	13,873,125	3,072.14	4.51
Additional reductions from the remaining consumption eligible for funding				1,720.13	
Total		14,803,000	13,873,125	4,792.27	2.89

*CE=Cost-effectiveness

** Based on latest reported consumption (2023)

50. The Secretariat notes that the level of funded tonnage (168.23 ODP tonnes) is lower than the 262.9 ODP tonnes of remaining HCFC consumption eligible for funding in stage III.

51. The funding for the first tranche was maintained at 40 per cent of the value of stage III of the HPMP, adjusted from U \$5,921,200 to US \$5,549,250. Activities were maintained as submitted except for the technical support to HCFC-123 users, which was removed from stage III of the HPMP.

Impact on the climate

52. The activities proposed in the servicing sector, which include better containment of refrigerants through training and the provision of equipment, will reduce the amount of HCFC-22 used for RAC servicing. Each kilogram of HCFC-22 not emitted due to better refrigeration practices results in savings of approximately 1.8 CO₂-eq tonnes. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by Mexico, including its efforts indicate that the implementation of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits.

Sustainability of the HCFC phase-out and assessment of risks

53. The risk of non-sustainability of customs training beyond the completion of the KIP and the HPMP will be mitigated by the organizational changes made to customs authorities. In July 2021, the Government of Mexico created the National Customs Agency of Mexico (ANAM) as a decentralized administrative body. In addition, the Federal Attorney for Environmental Protection (PROFEPA) plays an important role in the detection of irregularities and the prevention of illicit trafficking of substances subject to regulation by the Montreal Protocol and has personnel assigned to most customs offices to fulfil this function. In this connection, the training provided during stage III of the HPMP will concentrate on HCFCs and their related equipment, the HPMP will be implemented between 2025 and 2030. The first stage of the KIP will be implemented at the same time but will focus more on controlling the licensing of HFC imports. Subsequent stages of the KIP will strengthen HFC control measures in accordance with the phase-down plan. At that point, based on experience with CFCs and HCFCs, training and controls would be updated based on lessons

learned, which would be easily absorbed by the Customs Department once the last stage of the KIP is completed.

54. The commitments and activities of stage III of the HPMP will be sustained over time with the implementation and strengthening of the licensing and quota system for HCFCs, and with the development of policies, including the ban on imports of HCFC-based equipment. The development of a national certification curriculum in cooperation with the Secretariat of Education, and the integration of good servicing practices into the NOCs for refrigeration will ensure that future technicians continue receiving training in good servicing practices, and the project to monitor production and consumption will assist in ensuring the sustainability of the phase-out already achieved in other sectors.

55. Potential risks to the timely implementation of activities include importers trying to introduce HCFCs under non-controlled tariff codes to skip quota control, which will be mitigated by the continuous training of customs officers. The risk of an insufficient response from technicians to the training and certification programmes will be addressed by the communication strategy promoting those programmes, and the periodic monitoring and review of feedback. Any potential influx of equipment containing HCFCs due to dumping or imports would be mitigated through the quota allocation, and close contact between the NOU and customs to stop the imports and control smuggling. The risk of technicians not providing recovered HCFCs to RRR centres will be tackled through ongoing communication with certified technicians to analyze trends and define adjustments. Resistance to technological change, to the gender approach and to new capabilities to adopt low-GWP alternatives will be mitigated through awareness campaigns focused on each segment of society.

Co-financing

56. Replacement of HCFC-based equipment with equipment based on low-GWP alternatives under the HPMP is expected to be funded by the end users. Advice will be provided to medium and large end users on existing financial mechanisms available for replacing their equipment.

2024–2026 draft business plan of the Multilateral Fund

57. UNIDO and the Government of Germany are requesting US \$13,873,125, plus agency support costs, for the implementation of stage III of the HPMP for Mexico. The total requested value of US \$5,953,698, including agency support costs for the period of 2024–2026, is US \$4,237,840 above the amount in the business plan.

Draft Agreement

58. A draft Agreement between the Government of Mexico and the Executive Committee for stage III of the HPMP is contained in annex I to the present document.

RECOMMENDATION

59. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage III of the HCFC phase-out management plan (HPMP) for Mexico for the complete phase-out of HCFC consumption, in the amount of US \$14,884,244, consisting of US \$13,123,125, plus agency support costs of US \$918,619 for UNIDO and US \$750,000, plus agency support costs of US \$92,500 for the Government of Germany, on the understanding that no more funding from the Multilateral Fund will be provided for the phase-out of HCFCs;

- (b) Noting:
 - (i) The commitment of the Government of Mexico to completely phase out HCFCs by 1 January 2030, and that HCFCs will not be imported after that date, except for those allowed for a servicing tail between 2030 and 2040, where required, consistent with the provisions of the Montreal Protocol;
 - (ii) That upon completion of the end-user projects on commercial refrigeration and air-conditioning included in stage III of the HPMP, UNIDO and the Government of Germany will submit final reports on their implementation in line with decision 92/36(g), including the HCFC phase-out and the energy-efficiency gains achieved;
- (c) That, to allow for consideration of the final tranche of its HPMP, the Government of Mexico should submit:
 - (i) A detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption is in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol for the period 2030-2040;
 - (ii) If Mexico were intending to have consumption during the period 2030–2040, in line with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol, proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030;
- (d) Deducting 262.9 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding; and
- (e) Approving:
 - (i) The draft Agreement between the Government of Mexico and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage III of the HPMP, contained in annex I to the present document; and
 - (ii) The first tranche of stage III of the HPMP for Mexico, and the corresponding tranche implementation plan, in the amount of US \$5,953,698, consisting of US \$5,249,250, plus agency support costs of US \$367,448 for UNIDO and US \$300,000, plus agency support costs of US \$37,000 for the Government of Germany.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF MEXICO AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE III OF THE HCFC PHASE-OUT MANAGEMENT PLAN

Purpose

1. This Agreement represents the understanding of the Government of Mexico (the “Country”) and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) set out in Appendix 1-A (“The Substances”) to a sustained level of zero ODP tonnes by 1 January 2030 in compliance with Montreal Protocol schedule.
2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A (“The Targets, and Funding”) in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of the Substances that exceeds the level defined in row 1.2 of Appendix 2-A as the final reduction step under this Agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances that exceeds the level defined in rows 4.1.3, 4.2.3, 4.3.3, 4.4.3 and 4.5.3 (remaining consumption eligible for funding).
3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees, in principle, to provide the funding set out in row 3.1 of Appendix 2-A to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (“Funding Approval Schedule”).
4. The Country agrees to implement this Agreement in accordance with stage III of the HCFC phase-out management plan approved (“the Plan”). In accordance with subparagraph 5(b) of this Agreement, the Country will accept independent verification of the achievement of the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A of this Agreement. The aforementioned verification will be commissioned by the relevant bilateral or implementing agency.

Conditions for funding release

5. The Executive Committee will only provide the Funding in accordance with the Funding Approval Schedule when the Country satisfies the following conditions at least eight weeks in advance of the applicable Executive Committee meeting set out in the Funding Approval Schedule:
 - (a) That the Country has met the Targets set out in row 1.2 of Appendix 2-A for all relevant years. Relevant years are all years since the year in which this Agreement was approved. Years for which there are no due country programme implementation reports at the date of the Executive Committee meeting at which the funding request is being presented are exempted;
 - (b) That the meeting of these Targets has been independently verified for all relevant years, unless the Executive Committee decided that such verification would not be required;
 - (c) That the Country had submitted a Tranche Implementation Report in the form of Appendix 4-A (“Format of Tranche Implementation Reports and Plans”) covering each previous calendar year; that it had achieved a significant level of implementation of

activities initiated with previously approved tranches; and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and

- (d) That the Country has submitted a Tranche Implementation Plan in the form of Appendix 4-A covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

Monitoring

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A (“Monitoring Institutions and Roles”) will monitor and report on implementation of the activities in the previous Tranche Implementation Plans in accordance with their roles and responsibilities set out in the same Appendix.

Flexibility in the reallocation of funds

7. The Executive Committee agrees that the Country may have the flexibility to reallocate part or all of the approved funds, according to the evolving circumstances to achieve the smoothest reduction of consumption and phase-out of the Substances specified in Appendix 1-A:

- (a) Reallocations categorized as major changes must be documented in advance either in a Tranche Implementation Plan as foreseen in subparagraph 5(d) above, or as a revision to an existing Tranche Implementation Plan to be submitted eight weeks prior to any meeting of the Executive Committee, for its approval. Major changes would relate to:
 - (i) Issues potentially concerning the rules and policies of the Multilateral Fund;
 - (ii) Changes which would modify any clause of this Agreement;
 - (iii) Changes in the annual levels of funding allocated to individual bilateral or implementing agencies for the different tranches;
 - (iv) Provision of funding for activities not included in the current endorsed Tranche Implementation Plan, or removal of an activity in the Tranche Implementation Plan, with a cost greater than 30 per cent of the total cost of the last approved tranche;
 - (v) Changes in alternative technologies, on the understanding that any submission for such a request would identify the associated incremental costs, the potential impact to the climate, and any differences in ODP tonnes to be phased out if applicable, as well as confirm that the Country agrees that potential savings related to the change of technology would decrease the overall funding level under this Agreement accordingly;
- (b) Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the subsequent Tranche Implementation Report;
- (c) The Country agrees, in cases where HFC technologies have been chosen as an alternative to HCFCs, and taking into account national circumstances related to health and safety: to monitor the availability of substitutes and alternatives that further minimize impacts on the climate; to consider, in the review of regulations standards and incentives adequate provisions that encourage introduction of such alternatives; and to consider the potential

for adoption of cost-effective alternatives that minimize the climate impact in the implementation of the Plan, as appropriate, and inform the Executive Committee on the progress accordingly in tranche implementation reports; and

- (d) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

Considerations for the refrigeration servicing sector

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sector included in the Plan, in particular:

- (a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and
- (b) The Country and relevant bilateral and/or implementing agencies would take into consideration relevant decisions on the refrigeration servicing sector during the implementation of the Plan.

Bilateral and implementing agencies

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNIDO has agreed to be the lead implementing agency (the “Lead IA”) and the Government of Germany has agreed to be the cooperating implementing agency (the “Cooperating IA”) under the lead of the Lead IA in respect of the Country’s activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of the Lead IA and/or Cooperating IA taking part in this Agreement.

10. The Lead IA will be responsible for ensuring coordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per subparagraph 5(b). The Cooperating IA will support the Lead IA by implementing the Plan under the overall coordination of the Lead IA. The roles of the Lead IA and Cooperating IA are contained in Appendix 6-A and Appendix 6-B, respectively. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 of Appendix 2-A.

Non-compliance with the Agreement

11. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in row 1.2 of Appendix 2-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next tranche of funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amount set out in Appendix 7-A (“Reductions in Funding for Failure to Comply”) in respect of each ODP kg of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the Country did not comply with this Agreement, and take related decisions. Once decisions are taken, the specific case of non-compliance with this Agreement will not be an impediment for the provision of funding for future tranches as per paragraph 5 above.

12. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decisions that may affect the funding of any other consumption sector projects or any other related activities in the Country.

13. The Country will comply with any reasonable request of the Executive Committee, the Lead IA and the Cooperating IA to facilitate implementation of this Agreement. In particular, it will provide the Lead IA and the Cooperating IA with access to the information necessary to verify compliance with this Agreement.

Date of completion

14. The completion of the Plan and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption level has been specified in Appendix 2-A. Should at that time there still be activities that are outstanding, and which were foreseen in the last Tranche Implementation Plan and its subsequent revisions as per subparagraph 5(d) and paragraph 7, the completion of the Plan will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per subparagraphs 1(a), 1(b), 1(d), and 1(e) of Appendix 4-A will continue until the time of the completion of the Plan unless otherwise specified by the Executive Committee.

Validity

15. All of the conditions set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Montreal Protocol unless otherwise defined herein.

16. This Agreement may be modified or terminated only by mutual written agreement between the Government of the Country and the Executive Committee of the Multilateral Fund.

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	392.8
HCFC-141b	C	I	803.9
HCFC-142b	C	I	10.9
HCFC-123	C	I	0.3
HCFC-124	C	I	0.1
Total			1,208.0

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2024	2025-2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	746.72	373.36	373.36	373.36	373.36	0	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	373.36	209.20	190.90	135.70	123.40	0	n/a
2.1	Lead IA (UNIDO) agreed funding (US \$)	5,249,250	-	6,561,563	-	-	1,312,312	13,123,125
2.2	Support costs for Lead IA (US \$)	367,448	-	459,309	-	-	91,862	918,619
2.3	Cooperating IA (Government of Germany) agreed funding (US \$)	300,000	-	375,000	-	-	75,000	750,000
2.4	Support costs for Cooperating IA (US \$)	37,000	-	46,250	-	-	9,250	92,500
3.1	Total agreed funding (US \$)	5,549,250	-	6,936,563	-	-	1,387,312	13,873,125
3.2	Total support costs (US \$)	404,448	-	505,559	-	-	101,112	1,011,119
3.3	Total agreed costs (US \$)	5,953,698	-	7,442,122	-	-	1,488,424	14,884,244
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)							262.5
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)							130.3
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)							0
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)							0
4.2.2	Phase-out of HCFC-141b to be achieved in the previous stage (ODP tonnes)							803.9
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)							0
4.3.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)							0
4.3.2	Phase-out of HCFC-142b to be achieved in the previous stage (ODP tonnes)							10.9
4.3.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)							0
4.4.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)							0.3
4.4.2	Phase-out of HCFC-123 to be achieved in the previous stage (ODP tonnes)							0
4.4.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)							0
4.5.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)							0.1
4.5.2	Phase-out of HCFC-124 to be achieved in the previous stage (ODP tonnes)							0
4.5.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)							0

* Date of completion of stage II as per stage II Agreement and decision 90/46(b): 31 December 2024

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the second meeting of the year specified in Appendix 2-A.

APPENDIX 4-A: FORMAT OF TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plans for each tranche request will consist of five parts:

- (a) A narrative report, with data provided by tranche, describing the progress achieved since the previous report, reflecting the situation of the Country in regard to phase out of the Substances, how the different activities contribute to it, and how they relate to each other.

The report should include the amount of ODS phased out as a direct result from the implementation of activities, by substance, and the alternative technology used and the related phase-in of alternatives, to allow the Secretariat to provide to the Executive Committee information about the resulting change in climate relevant emissions. The report should further highlight successes, experiences, and challenges related to the different activities included in the Plan, reflecting any changes in the circumstances in the Country, and providing other relevant information. The report should also include information on and justification for any changes vis-à-vis the previously submitted Tranche Implementation Plan(s), such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes;

- (b) An independent verification report of the Plan results and the consumption of the Substances, as per subparagraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in subparagraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;
 - (c) A written description of the activities to be undertaken during the period covered by the requested tranche, highlighting implementation milestones, the time of completion and the interdependence of the activities, and taking into account experiences made and progress achieved in the implementation of earlier tranches; the data in the plan will be provided by calendar year. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall Plan that are foreseen. The description should also specify and explain in detail such changes to the overall plan. This description of future activities can be submitted as a part of the same document as the narrative report under subparagraph (b) above;
 - (d) A set of quantitative information for all Tranche Implementation Reports and Plans, submitted through an online database; and
 - (e) An Executive Summary of about five paragraphs, summarizing the information of the above subparagraphs 1(a) to 1(d).
2. In the event that in a particular year two stages of the Plan are being implemented in parallel, the following considerations should be taken in preparing the Tranche Implementation Reports and Plans:
- (a) The Tranche Implementation Reports and Plans referred to as part of this Agreement, will exclusively refer to activities and funds covered by this Agreement; and
 - (b) If the stages under implementation have different HCFC consumption targets under Appendix 2-A of each Agreement in a particular year, the lower HCFC consumption target will be used as reference for compliance with these Agreements and will be the basis for the independent verification.

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. In order to assist the Country in monitoring and evaluating the progress of implementation of the Agreement, the project management will be within the Department of Environment and Natural Resources-Environmental Management Bureau (DENR-EMB), which will be responsible for:

- (a) Coordination with stakeholders in the public and private sectors;

- (b) Preparation or review of terms of reference for consultancy services to support implementation, and supervision of HCFC phase-out activities;
- (c) Preparation of monitoring reports in cooperation with the Lead IA and as required by the Executive Committee, including the Tranche Implementation Reports and Plans according to the schedule set forth in Appendix 2-A;
- (d) Facilitating project supervision or evaluation as may be required by the Lead IA and the Monitoring and Evaluation Officer of the Executive Committee;
- (e) Undertaking procurement of goods and services necessary for implementation of the commercial refrigeration and foam sector plans, technical assistance, and monitoring and supervising works of the consultants;
- (f) Financial management to ensure effective use of the Multilateral Fund resources;
- (g) Updating and maintenance of a project management information system;
- (h) Facilitating performance and financial audits as required;
- (i) Organizing meetings and workshops for DENR-EMB's staff and staff of other relevant agencies to ensure full cooperation of all stakeholders in the HCFC phase-out efforts;
- (j) Informing the industry of the availability of funds from the Multilateral Fund;
- (k) Organizing training and technical assistance for the beneficiaries;
- (l) Supervision and evaluation of projects with assistance from technical experts to be engaged as part of the technical assistance component; and
- (m) Monitoring progress of HCFC phase-out on the demand side by direct oversight of subproject implementation.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

1. The Lead IA will be responsible for a range of activities, including at least the following:
 - (a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's Plan
 - (b) Assisting the Country in preparation of the Tranche Implementation Reports and Plans as per Appendix 4-A;
 - (c) Providing independent verification to the Executive Committee that the Targets have been met and associated tranche activities have been completed as indicated in the Tranche Implementation Plan consistent with Appendix 4-A;
 - (d) Ensuring that the experiences and progress is reflected in updates of the overall plan and in future Tranche Implementation Plans consistent with subparagraphs 1(c) and 1(d) of Appendix 4-A;

- (e) Fulfilling the reporting requirements for the Tranche Implementation Reports and Plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee, and should include the activities implemented by the Cooperating IA;
- (f) In the event that the last funding tranche is requested one or more years prior to the last year for which a consumption target had been established, annual tranche implementation reports and, where applicable, verification reports on the current stage of the Plan should be submitted until all activities foreseen had been completed and HCFC consumption targets had been met;
- (g) Ensuring that appropriate independent technical experts carry out the technical reviews;
- (h) Carrying out required supervision missions;
- (i) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;
- (j) Coordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;
- (k) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the Cooperating IA, the allocation of the reductions to the different budget items and to the funding of the Lead IA and each Cooperating IA;
- (l) Ensuring that disbursements made to the Country are based on the use of the indicators;
- (m) Providing assistance with policy, management and technical support when required;
- (n) Reaching consensus with the Cooperating IA on any planning, coordination and reporting arrangements required to facilitate the implementation of the Plan; and
- (o) Timely releasing funds to the Country/participating enterprises for completing the activities related to the project.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the Plan's results and the consumption of the Substances mentioned in Appendix 1-A, as per subparagraph 5(b) of the Agreement and subparagraph 1(b) of Appendix 4-A.

APPENDIX 6-B: ROLE OF THE COOPERATING IMPLEMENTING AGENCIES

1. The Cooperating IA will be responsible for a range of activities. These activities are specified in the Plan, including at least the following:

- (a) Providing assistance for policy development when required;
- (b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the Lead IA to ensure a coordinated sequence in the activities;
- (c) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A; and

- (d) Reaching consensus with the Lead IA on any planning, coordination and reporting arrangements required to facilitate the implementation of the Plan.

APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$105.54 per ODP kg of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met, on the understanding that the maximum funding reduction would not exceed the funding level of the tranche being requested. Additional measures might be considered in cases where non-compliance extends for two consecutive years.

2. In the event that the penalty needs to be applied for a year in which there are two Agreements in force (two stages of the Plan being implemented in parallel) with different penalty levels, the application of the penalty will be determined on a case-by-case basis taking into consideration the specific sectors that lead to the non-compliance. If it is not possible to determine a sector, or both stages are addressing the same sector, the penalty level to be applied would be the largest.
