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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-fifth Meeting
Montreal, 25-29 May 2020
Postponed to 19-22 July 2020*

PROJECT PROPOSAL: CHILE

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

Phase-out

- HCFC phase-out management plan (stage II, third tranche)

UNDP, UNEP
and UNIDO

* Due to coronavirus disease (COVID-19)

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

Chile

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (Stage II)	UNDP (lead), UNEP, UNIDO	76 th	65% by 2021

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2018	38.18 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)							Year: 2019		
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					24.01				24.01
HCFC-123					0.05				0.05
HCFC-124					0.01				0.01
HCFC-141b		7.40			0.61				8.02
HCFC-142b					0.11				0.11
HCFC-225									
HCFC-141b in imported pre-blended polyols		3.03							3.03

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	87.5	Starting point for sustained aggregate reductions:	87.5
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	71.52	Remaining:	15.98

(V) BUSINESS PLAN		2020	2021	Total
UNDP	ODS phase-out (ODP tonnes)	0.6	0.00	0.6
	Funding (US \$)	45,133	0.00	45,133
UNEP	ODS phase-out (ODP tonnes)	0.3	0.00	0.3
	Funding (US \$)	24,664	0.00	24,664
UNIDO	ODS phase-out (ODP tonnes)	1.5	0.00	1.5
	Funding (US \$)	110,285	0.00	110,285

(VI) PROJECT DATA			2016	2017	2018	2019	2020	2021	Total
Montreal Protocol consumption limits			78.75	78.75	78.75	78.75	56.88	56.88	n/a
Maximum allowable consumption (ODP tonnes)			78.75	78.75	78.75	78.75	48.12	30.62	n/a
Agreed* funding (US \$)	UNDP	Project costs	700,955	0	1,401,911	0	42,181	0	2,145,047
		Support costs	49,067	0	98,134	0	2,952	0	150,153
	UNEP	Project costs	65,481	0	130,962	0	21,827	0	218,270
		Support costs	8,513	0	17,025	0	2,837	0	28,375
	UNIDO	Project costs	309,210	0	618,420	0	103,070	0	1,030,700
		Support costs	21,645	0	43,289	0	7,215	0	72,149
Funds approved by ExCom (US\$)		Project costs	1,075,646	0	2,151,293	0	0	0	3,226,939
		Support costs	79,225	0	158,448	0	0	0	237,673
Total funds requested for approval at this meeting (US\$)		Project costs					167,078		167,078
		Support costs					13,004		13,004

Secretariat's recommendation:	Blanket approval

PROJECT DESCRIPTION

1. On behalf of the Government of Chile, UNDP as the lead implementing agency, has submitted a request for funding for the third and final tranche of stage II of the HCFC phase-out management plan (HPMP), at a total cost of US \$180,082, consisting of US \$42,181, plus agency support costs of US \$2,952 for UNDP, US \$21,827, plus agency support costs of US \$2,837 for UNEP, and US \$103,070, plus agency support costs of US \$7,215 for UNIDO.¹ The submission includes a progress report on the implementation of the second tranche, the verification report on HCFC consumption for 2017 to 2019 and the tranche implementation plan for 2020 to 2022.

Report on HCFC consumption

2. The Government of Chile reported under country programme implementation report a consumption of 32.20 ODP tonnes of HCFC in 2019, which is 63 per cent below the HCFC baseline for compliance. The 2015-2019 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Chile (2015-2019 Article 7 data)

HCFC	2015	2016	2017	2018	2019*	Baseline
Metric tonnes						
HCFC-22	661.06	915.63	710.09	570.73	436.56	859.19
HCFC-123	2.26	3.77	0.91	10.34	2.71	1.41
HCFC-124	1.09	0.27	0	0	0.57	0.52
HCFC-141b	282.36	116.98	244.74	59.32	72.88	357.14
HCFC-142b	2.23	0.28	3.24	0.93	1.71	9.66
HCFC-225	0.00	0.00	0.00	0.00	0.00	4.2
Sub-total (mt)	949.00	1,036.93	958.98	641.32	514.43	1,232.12
HCFC-141b in imported pre-blended polyols**	3.18	59.55	28.86	32.55	27.58	n/a
Total (mt)	952.18	1,096.48	987.80	673.87	542.01	1,232.12
ODP tonnes						
HCFC-22	36.36	50.36	39.05	31.39	24.01	47.26
HCFC-123	0.05	0.08	0.02	0.21	0.05	0.03
HCFC-124	0.02	0.01	0	0	0.01	0.01
HCFC-141b	31.06	12.87	26.92	6.53	8.02	39.29
HCFC-142b	0.14	0.02	0.21	0.06	0.11	0.63
HCFC-225	0.00	0.00	0.00	0.00	0.00	0.29
Sub-total (ODP tonnes)	67.63	63.33	66.20	38.18	32.20	87.50
HCFC-141b in imported pre-blended polyols**	0.35	6.55	3.17	3.58	3.03	n/a
Total (ODP tonnes)	67.98	69.88	69.37	41.76	35.23	87.50

*Country programme data.

**Country programme data. This consumption is not part of the starting point for aggregate reduction on HCFC consumption.

3. While the average consumption of HCFCs was 69.08 ODP tonnes between 2015 and 2017, in 2018 it decreased by 40 per cent from the average consumption and by a further 15 per cent between 2018 and 2019 (measured in ODP tonnes). The HCFC consumption in 2019 is approximately 59 per cent (measured in ODP tonnes) below the maximum allowable consumption under the Agreement between the Government and the Executive Committee.

4. This steep reduction in consumption was due to enforcement of the licensing system and reductions on import quotas for HCFC; the completion of the conversion of enterprises in the foam sector (with a

¹ As per the letter of 11 March 2020 from the Ministry of the Environment of Chile to UNDP.

permanent phase-out of HCFC-141b) and in big supermarkets (with a permanent phase-out of HCFC-22); and the implementation of phase-out activities related to the refrigeration servicing sector. The import of non-HCFC-based refrigeration and air-conditioning (RAC) equipment, also contributed to a reduction on HCFC consumption.

5. The increase in consumption of HCFC-141b between 2018 and 2019 was from stockpiling due to the ban on imports and exports of this substance in bulk and contained in pre-blended polyols, which began on 1 January 2020.

Country programme (CP) implementation report

6. The Government of Chile reported HCFC sector consumption data under the 2018 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

Verification report

7. The verification report confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports; and that the consumption of HCFCs reported under Article 7 of the Montreal Protocol for 2017 and 2018 was correct (as shown in Table 1 above); and that the country is in compliance with both the Montreal Protocol reduction schedule and the maximum allowable consumption for HCFCs in its Agreement with the Executive Committee for 2017 to 2019. The verification concluded that the Government of Chile has a clear and robust regulation to control the imports of HCFC and other ODS as well as a clear procedure to issue the permits to import.

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

Legal framework

8. In order to fulfil the requirements of its Agreement with the Executive Committee and to implement the Kigali Amendment, the Government of Chile updated the regulation that controls ODS import quotas and the registry of ODS importers and exporters, which entered into force on 1 January 2020. The updated regulation *inter alia* reduces the maximum import volumes of HCFCs in 2020 and 2021 by 45 per cent and 65 per cent, respectively; prohibits the import and export of HCFC-141b as pure substance and contained in blends and fully formulated polyols; and includes HFCs as a controlled substance and allows the National Customs Service to put into force a licensing system for them.

9. Training on the HCFC-related regulations was conducted for only 15 of the 60 customs officers that were proposed. After addressing internal administrative issues and the social and political unrest, further training sessions for customs officers were planned for March 2020. However, the training has to be postponed due to the COVID-19 pandemic.

Polyurethane (PU) foam manufacturing sector

10. Stage II of the HPMP included a foam sector plan to phase-out 12.43 ODP tonnes of HCFC-141b used as a blowing agent in five individual PU discontinuous panel foam enterprises, and 10.49 ODP tonnes of HCFC-141b used by 36 small- and medium-sized downstream users (SMEs) through a systems house (Ixom, assisting eight SMEs) and a chemical distributor (Austral, assisting 28 SMEs), at a funding cost of US \$1,938,134. While Chile also imported HCFC-141b contained in pre-blended polyol systems, no funding was provided for this consumption as it was not included in the country's starting point for aggregate reduction in HCFC consumption.

11. To initiate the implementation of the foam sector plan, a workshop for the foam enterprises, the systems house and the chemical distributor was held in September 2018; it was attended by 16 foam enterprises and six providers of foam systems.

12. As of November 2019, the following foam enterprises had been converted to alternative technologies:

- (a) Two individual enterprises; one (Inema) to cyclopentane/HFO and one (Polchile and Claudia Letelier F&C) to HFO technology, with a phase-out of 7.22 ODP tonnes (77.36 mt) of HCFC-141b;
- (b) Two SMEs (Ingepur and Sociedad Aislaciones Térmicas) formerly part of the group supported by Austral, with a total consumption of 1.03 ODP tonnes (9.36 mt) of HCFC-141b, and one SME (Fidel Valenzuela) formerly part of the group supported by Ixom, with a total consumption of 0.26 ODP tonnes (2.36 mt) of HCFC-141b, completed their conversion to HFO technology as “individual enterprises” without any additional funding from the Multilateral Fund; and
- (c) Twenty-seven SMEs supported by Austral, (one (Victor Himmers) moved from Ixom to Austral during project implementation), to HFO technology with a total phase-out of 6.37 ODP tonnes (57.91 mt) of HCFC-141b.

13. Conversions for the three remaining individual enterprises are ongoing; two enterprises (Danica and Refricentro) with a consumption of 4.16 ODP tonnes (37.82 mt) of HCFC-141b have selected HFO technologies, signed agreements with the Government, had equipment delivered and will complete conversions by June 2020; and one enterprise (Superfrigo) with a consumption of 1.05 ODP tonnes (9.55 mt) of HCFC-141b is presently reviewing their choice of technology and is expected to sign the agreement with the Government as soon as a decision is reached, and is expected to complete its conversion by June 2021.

14. Delays were reported in the implementation of the group project associated with the systems house (Ixom), which had included eight SMEs; the company is presently reviewing the agreement and finalizing formal commitments with the remaining six SMEs.

15. The progress in the implementation of the foam sector in Chile is summarized in Table 2 below:

Table 2: Progress of the implementation of the PU foam sector in Chile

Enterprise	Technology	HCFC-141b (ODP tonnes)	Status
Individual enterprises			
Inema	Cyclopentane/HFO	4.97	Completed
Poliuretanos Polchile	HFO	2.25	Completed
Ingepur (SME originally with Austral)	HFO	0.87	Completed
Fidel Valenzuela and Claudia Letelier F&C (SME originally with Ixom)	HFO	0.26	Completed
Sociedad Aislaciones Térmicas S.A. (SME originally with Austral)	HFO	0.16	Completed
Termodustrial Paneles (ex-Danica)	HFO	3.38	Agreement signed, equipment delivered, completion by June 2020
Refricentro	HFO	0.78	Agreement signed, equipment delivered, completion by June 2020
Superfrigo	HFO or cyclopentane	1.05	Agreement still to be signed

Enterprise	Technology	HCFC-141b (ODP tonnes)	Status
Group projects for SMEs			
Austral Chemical, S.A (26 out of 28 SMEs, plus one from Ixom)	HFO	6.37	Completed
Ixom Chile, S.A. (6 out of 8 SMEs)	HFO	3.67	Agreement under review; finalizing formal commitments with the remaining six of their end-users

Refrigeration servicing sector

16. The following activities were undertaken:

- (a) Twenty-two training courses on best refrigeration practices were conducted for a total of 566 technicians, 492 of them were certified; an additional 60 students of refrigeration and air-conditioning (RAC) at a technical school received basic training on good refrigeration practices; 22 teachers from 24 educational institutions were trained as trainers; two technicians attended trainings on natural refrigerants in Germany and Costa Rica, and 12 technicians attended a training on low-GWP refrigerants in Brazil;
- (b) Two specialized training courses were conducted on leak detection (for 16 technicians) and prevention, and good practices in the use of flammable refrigerants (for 36 technicians). In partnership with a supplier which worked closely with the pilot project using trans-critical CO₂ for supermarkets, 32 teachers, 142 students from various universities and 206 technicians received training on technical matters related to the trans-critical CO₂ technology;
- (c) Three labour competencies for the installation of air-conditioning systems (industrial level), the installation of refrigeration systems (industrial level) and the installation and maintenance of RAC equipment (commercial level) were being updated;
- (d) Several meetings to encourage the use of alternatives to HCFCs in the agro-industry sector, encouraging the training and certification of servicing technicians; and four workshops for 112 participants in the agro-industry sector, on natural refrigerants and energy efficiency savings related to converting their installations to HCFC alternatives (e.g., trans-critical CO₂, trans-critical CO₂/ ammonia, and ammonia);
- (e) A technical and economic assessment on the feasibility of establishing three more regional reclamations centres have been completed (the first was piloted during stage I); once the selection process is established, contracts will be signed with beneficiaries to ensure their commitment to reclaim refrigerants and regular reporting of the amounts of recovered, recycled and reclaimed refrigerants; and
- (f) An awareness campaign in the RAC sector to support the implementation of HPMP activities was implemented, and included a short video regarding HCFCs and HFCs in RAC; lectures, seminars, workshops, conferences and fairs to disseminate good refrigeration practices, alternatives to HCFCs, energy efficiency improvements, and the Montreal Protocol goals to stakeholders and decision makers; monthly bulletins, and website and social media publications on activities and/or technologies to phase-out HCFCs; and a ceremony for the first converted foam enterprises to motivate the conversion process of other enterprises.

Project implementation and monitoring unit (PMU)

17. Technical support and monitoring were conducted by the national ozone unit (NOU). The NOU also established partnerships with stakeholders, conducted verification of HCFC consumption, participated in technical committees, implemented and monitored all activities under the HPMP, and published and distributed bulletins and other information. Out of the US \$157,229 budgeted for the PMU (US \$101,009 for UNDP and US \$56,220 for UNIDO), US \$50,019 has been disbursed (US \$25,804 for UNDP and US \$24,215 for UNIDO); of this US \$39,215 was for staff and consultants and US \$10,804 was for consultation meetings and travel. The balance of US \$107,210 (UNDP US \$75,205 and UNIDO US \$32,005) will be disbursed during the implementation of the third tranche.

Level of fund disbursement

18. As of March 2020, of the US \$3,226,939 approved so far, US \$1,816,751 had been disbursed (US \$1,401,894 for UNDP, US \$104,163 for UNEP and US \$310,694 for UNIDO), as shown in Table 3. The balance of US \$1,410,188 will be disbursed in 2020.

Table 3. Financial report of stage II of the HPMP for Chile (US \$)

Agency	First tranche		Second tranche		Total	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNDP	700,955	700,955	1,401,911	700,939	2,102,866	1,401,894
UNEP	65,481	11,151	130,962	93,012	196,443	104,163
UNIDO	309,210	309,210	618,420	1,484	927,630	310,694
Total	1,075,646	1,021,316	2,151,293	795,435	3,226,939	1,816,751
Disbursement rate (%)	95		37		56	

Implementation plan for the third and final tranche of the HPMP

19. The following activities will be implemented by December 2021:

- (a) Four training courses for 40 customs officers to continue strengthening the capacity of the National Customs Services to identify illegal ODS cases; and continue monitoring implementation of the ban of HCFC-141b in bulk and in imported pre-blended polyols (UNEP) (US \$13,100);
- (b) Finalize the conversion of the enterprises included in the foam sector plan (UNDP) (US \$37,351);
- (c) A train-the-trainer course on good refrigeration practices and alternatives to HCFC; three training courses on good service practices in refrigeration for 60 technicians; two training courses each on the handling of alternative refrigerants and on leak prevention for 40 technicians; and revision of the good practices manual and preparation of a manual on flammable refrigerants management; establish two recovery, recycling, and reclamation regional centres with relevant equipment and tools (e.g., recovery machines, storage tanks, vacuum pumps, leak detectors, refrigerant charging units); awareness activities; and two training workshops to provide technical assistance to assemblers and operators of cold rooms and air-conditioning sectors for 40 participants (UNIDO) (US \$93,700);
- (d) Awareness and outreach programmes for large users and refrigeration technicians to promote the introduction of RAC equipment based on low-GWP refrigerants, and one workshop to train students from selected universities on matters related to the Montreal Protocol and ozone layer protection, and other awareness activities (UNEP) (US \$8,727); and

- (e) PMU for monitoring the implementation of the HPMP to include hiring of consultants/experts, preparation of verification of HCFC consumption (UNDP) (US \$4,830); (UNIDO) (US \$9,370).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

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

Legal framework

20. The Government of Chile has issued HCFC import quotas for 2020 at 46.5 ODP tonnes, which is lower than the Montreal Protocol control targets of 56.88 ODP tonnes and the maximum allowable consumption of 48.12 ODP tonnes in its Agreement with the Executive Committee.

PU foam manufacturing sector

21. Upon request, UNDP clarified that the delay in the conversion of several foam enterprises was caused by the social unrest in October 2019 and more recently, the situation regarding COVID-19 pandemic. UNDP also confirmed that the ban on the import of HCFC-141b in bulk and contained in pre-blended polyols has been in effect since 1 January 2020; that no import quotas for HCFC-141b have been issued, and that the foam enterprises that have not completed their conversion have been using stocks of material imported in previous years.

Refrigeration servicing sector

22. UNDP also clarified that the certification of technicians was not yet mandatory; the certification process is validated and certified by the governmental institution "ChileValora", which belongs to the Ministries of Work, Economy, and Education. Currently, the technicians are certified in one or two of the following profiles: installer of air-conditioning systems, installer of refrigeration systems, and/or installer/maintenance of air-conditioning and refrigeration equipment.

Gender policy implementation²

23. During the implementation of the third tranche, UNDP will collaborate with the Government of Chile to support the Multilateral Fund's gender policy. The NOU will monitor and report on gender participation and will determine the baseline data of women technicians in the RAC sector to compare with female participation in HPMP activities implemented in the previous tranches. The NOU has also committed to raising awareness to encourage female participation during implementation of activities funded under the Multilateral Fund.

Sustainability of the HCFC phase-out

24. The Government of Chile has an enforceable licensing and quota system and has implemented a ban on the import of HCFC-141b in bulk and contained in pre-blended polyols since 1 January 2020. The strict control and monitoring of imports, strengthening of the capacity of customs and the RAC servicing sector and institutionalizing the certification process will further ensure the sustainability of the HCFC

² Decision 84/92(d) requested bilateral and implementing agencies to apply the operational policy on gender mainstreaming throughout the project cycle.

phase-out. The conversion of a number of foam enterprises from HCFC-141b to HFOs and cyclopentane formulations also supports the permanent phase-out of HCFC consumption in the country.

Conclusion

25. Chile continues to be in compliance with the Montreal Protocol and its Agreement with the Executive Committee. The country's HCFC consumption in 2019 is 63 per cent below the HCFC baseline for compliance and 59 per cent below the limit established in the Agreement. Activities in the foam sector are proceeding, and the conversion of 27 SMEs to HFOs and five individual enterprises to cyclopentane/HFO and HFO has been completed with the phase-out of 14.88 ODP tonnes of HCFC-141b, with the remaining enterprises completing their conversions by June 2021. The ban on the import of HCFC--141b in bulk and in imported pre-blended polyols entered into force on 1 January 2020. Activities in the refrigeration servicing sector are also proceeding. Fund disbursement for the second tranche has reached 37 per cent, with the overall disbursement reaching 56 per cent. Stage II of the HPMP will be completed by December 2022 as established in paragraph 14 of the Agreement between the Government and the Executive Committee.

RECOMMENDATION

26. The Fund Secretariat recommends that the Executive Committee:

- (a) Takes note of the progress report on the implementation of the second tranche of stage II of the HCFC phase-out management plan of (HPMP) for Chile; and
- (b) Requests the Government of Chile, through UNDP as lead implementing agency, 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, verification reports until approval of stage III, and the project completion report to the first meeting in 2023.
- (c) The Fund Secretariat further recommends blanket approval of the third and final tranche of stage II of the HPMP for Chile, and the corresponding 2020-2021 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 II, third tranche)	42,181	2,952	UNDP
(b)	HCFC phase-out management plan (stage II, third tranche)	21,827	2,837	UNEP
(c)	HCFC phase-out management plan (stage II, third tranche)	103,070	7,215	UNIDO