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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-sixth Meeting
Montreal, 2-6 November 2020
Postponed to 8-12 March 2021[1]

PROJECT PROPOSAL: MAURITIUS

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

<u>Phase-out</u>

- HCFC phase-out management plan (fourth tranche) — Germany

[1] Due to coronavirus disease (COVID-19)

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Mauritius

(I) PROJECT TITLE	**AGENCY**	**MEETING APPROVED**	**CONTROL MEASURE**
HCFC phase out plan (Stage I)	Germany	63rd	100% by 2030

(II) LATEST ARTICLE 7 DATA (Annex C Group l)	Year: 2019	4.75 (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-123				0.0	0.0				0.0
HCFC-124				0.0	0.0				0.0
HCFC-141b				0.0	0.0				0.0
HCFC-142b				0.0	0.0				0.0
HCFC-22				0.0	4.75				4.75

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	8.0	Starting point for sustained aggregate reductions:	8.0
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	8.0	Remaining:	0.0

(V) BUSINESS PLAN		**2020**	**After 2022**	**Total**
Germany	ODS phase-out (ODP tonnes)	1.49	0.54	2.03
	Funding (US $)	180,758	187,705	368,463

(VI) PROJECT DATA			**2011**	**2012-2013**	**2014**	**2015-2016**	**2017**	**2018-2019**	**2020**	**2021-2022**	**2023**	**2024**	**2025-2029**	**2030**	**Total**
Montreal Protocol consumption limits			n/a	8.0	8.0	7.20	7.20	7.20	5.20	5.20	5.20	5.2	2.80	0.20	n/a
Maximum allowable consumption (ODP tonnes)			n/a	8.0	8.0	7.14	7.14	7.14	4.00	4.00	1.57	1.57	0.16	0	n/a
Agreed funding (US$)	Germany	Project costs	157,050	0	131,400	0	332,750	0	161,300	0	67,500	0	0	100,000	950,000
		Support costs	18,846	0	15,851	0	40,140	0	19,458	0	8,142	0	0	12,063	114,500
Funds approved by ExCom (US$)		Project costs	157,050	0	131,400	0	332,750	0	0	0	0	0	0	0	621,200
		Support costs	18,846	0	15,851	0	40,140	0	0	0	0	0	0	0	74,837
Total funds requested for approval at this meeting (US$)		Project costs	0	0	0	0	0	0	**161,300**	0	0	0	0	0	**161,300**
		Support costs	0	0	0	0	0	0	**19,458**	0	0	0	0	0	**19,458**

Secretariat's recommendation:	Blanket approval

PROJECT DESCRIPTION

1. On behalf of the Government of Mauritius, Germany as the designated implementing agency, has submitted a request for funding for the fourth tranche of the HCFC phase-out management plan (HPMP), at the amount of US $161,300, plus agency support costs of US $19,458.[2] The submission includes a progress report on the implementation of the third tranche and the tranche implementation plan for 2020 to 2023.

Report on HCFC consumption

2. The Government of Mauritius reported a consumption of 4.75 ODP tonnes of HCFC in 2019, which is 40.6 per cent below the HCFC baseline for compliance. The 2015-2019 HCFC consumption is shown in Table 1.

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

HCFC	2015	2016	2017	2018	2019	Baseline
Metric tonnes (mt)						
HCFC-22	120.58	109.66	106.10	124.31	86.33	143.09
HCFC-123	0.40	0.20	0.00	0.10	0.00	0.00
HCFC-124	(0.05)	0.00	0.00	0.00	0.00	0.00
HCFC-141b	1.36	0.00	0.00	0.00	0.00	1.18
HCFC-142b	(0.03)	0.00	0.00	0.00	0.00	0.00
Total (mt)	**122.26**	**109.86**	**106.10**	**124.41**	**86.33**	**144.28**
ODP tonnes						
HCFC-22	6.63	6.03	5.84	6.84	4.75	7.87
HCFC-123	0.01	0.00	0.00	0.00	0.00	0.00
HCFC-124	(0.00)	0.00	0.00	0.00	0.00	0.00
HCFC-141b	0.15	0.00	0.00	0.00	0.00	0.13
HCFC-142b	(0.00)	0.00	0.00	0.00	0.00	0.00
Total (ODP tonnes)	**6.79**	**6.04**	**5.84**	**6.84**	**4.75**	**8.00**

3. The consumption of HCFCs is seeing a decreasing trend because of an import ban on HCFC-based equipment enforced from 1 January 2013; the implementation of the licensing and quota system to reduce HCFC consumption; training of technicians on good service practices and safe use of alternatives to HCFCs; the increase in availability of HFC-based alternatives in residential air-conditioning and commercial refrigeration applications; and awareness and outreach activities relating to HCFC-free alternatives. The increase in HCFC consumption in 2018 was mainly on account of a temporary increase in demand for servicing in shipping industry. In 2019, import of HFC-23 was also reported (i.e., 1.7 mt) for top-up and servicing of shipping containers docking at the port.

Country programme (CP) implementation report

4. The Government of Mauritius reported HCFC sector consumption data under the 2019 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

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

Legal framework

5. The national ozone unit (NOU) is in charge of the review and clearance of the requests for imports of HCFCs; prior to imports, clearances are issued by the Ministry of Environment, Solid Waste

[2] As per the letter of 4 September 2020 from the Ministry of Environment, Solid Waste Management and Climate Change of Mauritius to the Secretariat.

Management and Climate Change and the Ministry of Health (Dangerous Chemical Control Board). The Government of Mauritius is implementing an HCFC licensing and quota system in line with the targets specified in the HPMP Agreement.

6. Customs and enforcement officers training was undertaken by the Mauritius Revenue Authority Training Academy with their own resources; the training programme of the Academy includes regulations, controls and monitoring requirements for controlled substances under the Montreal Protocol. Two refrigerant identifiers were procured and will be distributed at the present tranche request.

Refrigeration servicing sector

7. The following activities were implemented:

(a) Training of 30 refrigeration and air-conditioning (RAC) technicians (an additional 100 technicians would be trained by the end of 2020) on good servicing practices and safe use of low-global-warming potential (GWP) flammable alternatives; and equipment and tools for good service practices (e.g., recovery units, recovery cylinders, electronic weighing scales, hydrocarbon leak detectors) were procured and provided to five training institutes; and

(b) Consultations on procedures for implementing an incentive scheme for promoting R-290-based air-conditioners and promotion of the scheme in Ozone Day awareness activities; importers are now expected to submit their bid for procurement of 160 R-290-based air-conditioners.

Project implementation and monitoring

8. Project management and monitoring, and coordination with the implementing agency is undertaken by the NOU with the assistance of technical experts. The expenditures as of September 2020 amounted to US $57,534 (i.e., US $51,526 for staff and consultants, US $2,710 for travel, US $2,312 for meetings and workshops, and US $986 for other operational expenses). The balance of US $37,466 will be spent by the end of 2021.

<u>Level of fund disbursement</u>

9. As of September 2020, of the US $621,200 approved so far, US $361,077 had been disbursed as shown in Table 2. The balance of US $260,123 will be disbursed by the end of 2022 during the implementation of the fourth tranche.

Table 2. Financial report of the HPMP for Mauritius (US $)

Funding tranche	Funds approved	Funds disbursed	Disbursement rate (%)
First	157,050	157,050	100
Second	131,400	131,400	100
Third	332,750	72,627	21.8
Total	621,200	361,077	58

<u>Implementation plan for the fourth tranche of the HPMP</u>

10. The following activities will be implemented between December 2020 and July 2023:

(a) Training of five trainers and 50 customs officers on enforcement of HCFC regulations, monitoring and reporting of HCFCs and illegal trade; and distribution of two refrigerant identifiers (US $13,000);

(b) Training of 10 trainers on good practices for servicing RAC equipment using low-GWP refrigerants; training of 300 technicians on good service practices while servicing HCFC-based equipment, recovery and reuse of HCFCs and safe use of low-GWP alternatives; procurement and distribution of six sets of small commercial refrigeration equipment using hydrocarbon refrigerant for hands-on training to training institutes (US $75,000);

(c) Procurement of recovery units, recovery cylinders and other tools for use in recovery of refrigerants; procurement of servicing tools for 30 service technicians (e.g., digital manifold gauges, nitrogen cylinders, recovery cylinders) (US $28,000);

(d) Design and finalization of configuration of CO_2-based cascade systems for use in supermarkets; procurement and installation of equipment in one identified supermarket; dissemination of performance results to encourage larger adoption of these systems in other supermarkets (US $260,123 from the previous tranche);

(e) Awareness and information outreach on HPMP activities primarily relating to training and low-GWP technology promotion initiatives, and regulations on HCFC phase-out and HFC phase-down (US $27,000); and

(f) Project management, coordination and monitoring (US $18,300): US $13,200 for staff and consultants, US $3,000 for travel, and US $2,100 for other operational expenses.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

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

Legal framework

11. The Government of Mauritius has already issued HCFC import quotas for 2020 at 3.56 ODP tonnes for about five importers, which is lower than the Montreal Protocol control targets and 11 per cent below the target of 4.00 ODP tonnes set in its Agreement with the Executive Committee.

Refrigeration servicing sector

12. The Secretariat sought clarification on the low number of technicians trained in Mauritius (30) over a period of more than three years since the approval of the third tranche; the Government of Germany explained that this was due to the additional time taken to conduct a gap analysis of necessary tools and equipment and organize a local purchase of R-290-based air-conditioners required for the training; additional training activities for 100 service technicians would be implemented before the end of 2020. The Government of Germany also explained that the COVID-19 pandemic has been controlled since May 2020 and in-person training is expected to be conducted in the country.

13. The Government of Germany explained that the implementation of activities relating to recovery and recycling was delayed due to administrative changes in the Government of Mauritius, and the prolonged approval process of activities; their current proposal is to implement a recovery and reuse scheme of refrigerants that would be provided as a service by service technicians; service technicians would be provided training on recovery and recycling of refrigerants and the users of different equipment (large establishments using air-conditioning equipment, large commercial refrigeration equipment) would be encouraged through various outreach programmes on using these services. It is expected that while servicing and decommissioning equipment, HCFC-22 would be recovered.

14. Regarding the end-user incentive scheme for air-conditioners using R-290, the Government of Germany explained that the activities planned during the third tranche could not be implemented due to the lengthy negotiation and finalization process of potential suppliers for these equipment. Regarding the demonstration project in supermarkets through an incentive scheme, the Government of Germany also explained that the project is aimed to promote the adoption of CO_2-based cascade systems in mini-supermarkets (i.e., around 75 in the country), based on superior performance of the CO_2-based systems; the results are expected to be available by early 2022 and would be publicised through workshops targeted at users, technology demonstration shows and other information outreach programmes including those by the technology supplier from South Africa. With regard to these two activities, the Government of Mauritius is considering implementation of differential taxes for energy-efficient air-conditioners and chillers based on low-GWP refrigerants after discussions with the relevant national stakeholders; 30 percent of the cost of the equipment would be borne by the beneficiary supermarket. The Government is also considering implementation of additional regulations for reducing/banning imports of HFC-based RAC equipment after assessing the evolving market and technology scenarios. With these measures coupled with information outreach activities on energy-efficient cooling performance and the local conditions that favor adoption of environment-friendly technologies, the sales of R-290-based air-conditioners and the adoption of CO_2-based chillers is expected to increase. In line with decision 84/84(d), the Government of Germany will submit detailed reports on the results of the incentive schemes for end-users and mini-supermarkets once they have been completed, to allow the Secretariat to develop fact sheets to inform future projects.

15. The Government of Germany confirmed that the Government of Mauritius is fully aware of decisions 72/13 and 73/34 on retrofit of equipment using flammable refrigerants; all training activities are for equipment designed for use of flammable refrigerants; and retrofits are not encouraged.

<u>Gender policy implementation</u>

16. The Government of Mauritius is committed to working with the Government of Germany on implementing gender policy in line with decision 84/92(d).[3] During the implementation of the HPMP, women will be encouraged to participate in various activities and the related activities will be reported as a part of the HPMP tranche progress report.

<u>Impact of the COVID-19 pandemic on HPMP implementation</u>

17. In 2020, the COVID-19 pandemic has affected overall pace of implementation of business and economic activities, including HPMP activities, in Mauritius. Currently, keeping in view the low incidence of COVID-19 infections in the country, the Government has removed restrictions and project activities including in-person training, are expected to commence from October 2020.

<u>Sustainability of the HCFC phase-out</u>

18. Support is being provided to the Mauritius Institute of Training and Development and RAC technicians are trained on good service practices including recovery and reuse of HCFCs, and safe adoption of low-GWP technologies. Over the next three years, the end-user incentive programmes for residential air-conditioning equipment and for chillers in supermarkets are expected to result in faster introduction of RAC equipment based on low-GWP refrigerants on account of general awareness on low-GWP technologies; the forthcoming development and implementation of HFC-related regulations is expected to result in faster adoption of low-GWP technologies. The training programmes for customs and enforcement officers would be continued with support from the Mauritius Revenue Authority Training Academy and this would facilitate effective control of HCFC consumption. All these aforementioned efforts, in addition

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

to the ban on the import of HCFC-based equipment since 1 January 2013 would ensure the sustainability of HCFC phase-out.

Conclusion

19. The Secretariat notes that an enforceable system of licensing and quotas for HCFC imports is in place. The HCFC consumption in 2019 was 40.6 per cent below the HCFC baseline for compliance and 33.4 per cent below the maximum allowable consumption for that year in the Agreement with the Executive Committee; the Government of Mauritius has issued import quotas for 2020 at 31.5 per cent lower than the 2020 control targets. While the implementation of activities was slow during the third tranche, the activities are expected to progress faster in light of the completion of equipment support to facilitate training of RAC technicians, progress in the end-user incentive programmes for residential air-conditioners and refrigerant use in supermarkets, and closer coordination with the Government on HPMP activities. The disbursement of funds under the third tranche is 21.83 per cent. As a pre-condition for the release of funds requested in the fourth tranche, the Government of Mauritius has agreed to confirm, through the Government of Germany, that an order has been placed for 160 R-290-based air-conditioners, and that the agreement on the demonstration of climate-friendly refrigeration equipment has been signed with the beneficiary supermarket, and co-financing arrangements have been finalised.

RECOMMENDATION

20. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the third tranche of stage I of the HCFC phase-out management plan (HPMP) for Mauritius; and further recommends blanket approval of the fourth tranche of stage I of the HPMP for Mauritius, and the corresponding 2020-2023 tranche implementation plan, at the funding level shown in the table below, on the understanding that:

(a) The Treasurer would not release the funding for the fourth tranche until confirmation was received by the Secretariat from the Government of Mauritius, through the Government of Germany, that:

(i) An order had been placed for procurement of 160 R-290-based air-conditioners;

(ii) The agreement on demonstration of climate-friendly refrigeration equipment had been signed with the beneficiary supermarket and co-financing arrangements for the installation of equipment by the beneficiary had been finalised; and

(b) The Government of Germany will submit detailed reports on the results of the incentive schemes for end-users and mini-supermarkets once they have been completed, to allow the Secretariat to develop fact sheets to inform future projects, in line with decision 84/84(d):

	Project title	Project funding (US $)	Support cost (US $)	Implementing agency
(a)	HCFC phase-out management plan (stage I, fourth tranche)	161,300	19,458	Germany