



HCFC's Phase-out Management Plan HPMP – Stage II

Mid-Year Report

Multilateral Fund for the Implementation of the Montreal Protocol

Implementing Agency:	United Nations Development Programme
Country/Region or Area:	Egypt
Project ID:	00106347
Project Outputs:	107118 - 122723 - 132893
Project Duration:	2019 - 2024
Project Budget for 2023 (AWP):	\$854,558.61
Overall Project Budget:	3,695,722 \$
Reporting Period:	Mid-Year 2023
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Acronyms

(Note: it should be arranged in alphabetical order)

AWP	Annual Work Plan
EEAA	Egyptian Environmental Affairs Agency
GoE	Government of Egypt
HCFC's	Hydrochlorofluorocarbons
HFC's	Hydrofluorocarbons
HPMP	HCFC's phase-out management plan
IOC	Incremental Operating Cost
MoA	Memorandum of agreement
MoE	Ministry of Environment
MLFS	Multilateral Fund secretariat
MP	Montreal Protocol
NOU	National Ozone Unit
ODS	Ozone Depleting substances
PMU	Project Management Unit
PU	Polyurethane foam
SME	Small and Medium Enterprise
SHs	System Houses
UNDP	United Nations Development Programme
VSU	Very Small User
XPS	Xtruded polystereen foam

I. Introduction

- This project is part of the phase-II HCFC Phase-out Management Program (HPMP-II) that addresses the fulfillment of Egypt's Montreal Protocol obligations for the period 2017-2025.
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- The objective of this project is to phase-out the use of HCFC-141b, HCFC-142b and HCFC-22 in eligible PU foam and XPS foam applications in Egypt by using non-ODS/low GWP technologies and, in this way, contribute to Egypt's compliance with the Montreal Protocol. HCFC phase-out obligations will sharply reducing the industry's contribution to global warming.
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- The 1st output addresses the remaining HCFC-141b use in all remaining PU foam applications after foams in Domestic Refrigeration Manufacturing (DRM) sector have been addressed.
- UNDP decided, along with individual projects for larger entities, to use a Group Phase-out Plan approach for the smaller ones, expecting technological and cost benefits through such a group approach in procurement, local works and implementation assistance.
- The 1st output includes the following participants:

PARTICIPANT	PROJECT TYPE	OWNERSHIP	ACRONYM
KIRIAZI Gas Co	Individual	100% Egyptian	Kiriazi
Star Industrial factories	Individual	100% Egyptian	STAR
Beta Technical & Trading Bureau	Group	100% Egyptian	Beta

- The 2nd output includes the following participants:

PARTICIPANT	PROJECT TYPE	OWNERSHIP	ACRONYM
Chemicals for Modern Building	Individual	100% Egyptian	CMB
International company for insulation	Individual	100% Egyptian	Insutech
Modern Plastics	Individual	100% Egyptian	Modern
Chema foam	Individual	100% Egyptian	Chema Foam

- The 3rd output covers the IOC for the same participants of Tranche II.

II. Progress Review <1 Jan 2023 – 30 August 2023>

Section 1: Overall progress against Project Document outputs

- Project outcomes

Sustainable management of environment and natural resources incorporated into poverty reduction strategies/ key national development frameworks and sector strategies

HCFC-141b, 142b and 22 use phased-out and replaced by either methyl formate, n-pentane or HFO in PU insulation foam production in 2 beneficiary companies, 24 SMEs and 4 XPS enterprises.

- Project outputs & indicator/s:

Project Output 1: 00107118				
Output indicators	Baselines	Targets	Progress against targets	Source/Mean of Verification
Phase-out of HCFC-141b at Kirizai		1.98 ODPT	Phasing-out 1.98 HCFC-141b ODP (18 MT) and shift to a new ozone friendly technology	The multilateral fund secretariat
Phase-out of HCFC-141b at STAR		3.52 ODPT	phasing-out 3.52 HCFC-141b ODP (32 MT) and shift to a new ozone friendly technology	
Phase-out of HCFC-141b at BETA		16.50 ODPT	phasing-out 16.50 HCFC-141b ODP (300 MT) and shift to a new ozone friendly technology	The National Ozone committee
Project Output 1: 00122723				
Phase-out of HCFC-142b and HCFC-22 at CMB		4.28 ODPT	Phasing-out 1.98 HCFC-141b ODP (18 MT) and shift to a new ozone friendly technology	The multilateral fund secretariat
Phase-out of HCFC-22 at Insutech		16.50 ODPT	Phasing-out 1.98 HCFC-141b ODP (18 MT) and shift to a new ozone friendly technology	
Phase-out of HCFC-22 at Modern		11.00 ODPT	Phasing-out 1.98 HCFC-141b ODP (18 MT) and shift to a new ozone friendly technology	The National Ozone committee
Phase-out of HCFC-22 at Chema foam		0.55 ODPT	Phasing-out 0.55 HCFC-22 ODP (10 MT) and shift to a new ozone friendly technology	

Section 2: Progress against each output

Output 00107118

UNDP has launched implementation of all three (3) foam projects approved by the 79th ExCom:

- Two enterprises (Kiriazi and Electrostar) that manufacture electric water heaters, and
- One group sub project through (Beta Technical and Trading Bureau).

To cover the technical assistance part and local coordination with all participating enterprises, experts were recruited to assist with the project implementation. An initial technical visit was fielded to Cairo to discuss individual implementation plans with companies which was then followed by a series of visits.

Three implementation agreements (MOAs) were signed. The international bidding was completed for Kiriazi and Electrostar, equipment providers were selected, and equipment is delivered. Beta initiated customer level trials and started to offer commercially HCFC-free commercial systems using in the Egyptian market.

Kiriazi Gas:

The conversion has been designed for HCFC-141b replacement to cyclopentane in in the manufacture of PU rigid insulation foam for water heaters, as the enterprise has experience with this alternative in their (separate) refrigeration manufacturing lines. The memorandum of agreement has been finalized and signed between Kiriazi, the government and UNDP.

All payments have been processed.

Specifications for technological equipment were formulated by the project technical team in consultation with the enterprise and the ITB has been announced. Bids from interested equipment supplier companies were received, and opened in UNDP Cairo office. The bids have been reviewed, equipment has been delivered, installation is done by the supplier and start-up is also done by the beneficiary, safety audit is completed by the local consultant and all the payments were released.

Electrostar:

The conversion has been designed for HCFC-141b replacement to cyclopentane in in the manufacture of PU rigid insulation foam for water heaters, as the enterprise has experience with this alternative in their (separate) refrigeration manufacturing lines. The memorandum of agreement has been finalized and signed between Electrostar, the government and UNDP.

First & second payments have been processed & the last payment will be processed in few days.

Specifications for technological equipment were formulated by the project technical team in consultation with the enterprise and the ITB has been announced. Bids from interested equipment supplier companies were received, and opened in UNDP Cairo office. The bids have been reviewed, equipment has been delivered, installation is done by the supplier and start-up is also done by the beneficiary, safety audit is completed by the local consultant and all the payments were released.

Beta:

A group project has been designed to convert 28 SMEs through Beta Technical and Trading Bureau (“Beta”) for HCFC-141b replacement to methyl formate. A memorandum of agreement has been finalized and signed between Beta, the government and UNDP. Beta completed the

customer level trials at 28 SMEs; these customers have signed a statement of completion and commitment to stop the use of HCFC-based systems. Payments for 24 customers are completed and payments for the remaining four companies are still under process and expected to be completed by Q3 of 2023.

The executive Committee of the multilateral fund for the implementation of the Montreal protocol approved at its 84th meeting, the second tranche of stage-II of the HPMP for the period 2018 to 2019, at a total funding US\$1,836,750 for UNDP.

Output 00122723

UNDP has launched implementation of all four XPS foam projects. To cover the technical assistance part and local coordination with all participating enterprises, experts were recruited to assist with the project implementation. An initial technical visit was fielded to Cairo to discuss individual implementation plans with companies which was then followed by a series of visits. Four implementation agreements (MOAs) were prepared and finalized. Bidding has been completed at CMB, Insutech, Modern & Chemafoam, equipment delivery and installation is done in CMB, Insutech and Chemafoam. Modern still in the installation process.

CMB:

The conversion has been designed for HCFC replacement to 60/40 blend of HFO-1234za and dimethyl ether (DME) in in the manufacture of XPS foam. The memorandum of agreement has been finalized and signed between CMB, the government and UNDP. Direct implementation modality has been selected, first, second and third payment has been processed. Bidding on equipment & bid analysis have been completed and purchase order has been issued. Local works are done by the bebeneficiary, Equipment has been delivered, installation is done by the beneficiary followed then by HCFC phase-out and safety audit is on-going and expected to be completed by Mid December 2023.

Insutech:

The conversion has been designed for HCFC replacement to 60/40 blend of HFO-1234za and dimethyl ether (DME) in in the manufacture of XPS foam. The memorandum of agreement has been finalized and signed between Insutech, the government and UNDP. Direct implementation modality has been selected, first, second and third payment has been processed. Bidding on equipment & bid analysis have been completed and purchase order has been issued. Local works are done by the bebeneficiary, Equipment has been delivered, installation is done by the beneficiary followed then by HCFC phase-out and safety audit is on-going and expected to be completed by Mid December 2023.

Modern:

The conversion has been designed for HCFC replacement to 60/40 blend of HFO-1234za and dimethyl ether (DME) in in the manufacture of XPS foam. The memorandum of agreement has been finalized and signed between Modern, the government and UNDP. Direct implementation modality has been selected, Bidding on equipment & bid analysis have been completed and purchase order has been issued. 1st payment is released and part of Second payment which covers the local works is also released. Part of the equipment is already delivered and in the installation

process and the rest is expected by end of October 2023 followed then by HCFC phase-out and safety audit.

Chema Foam:

The conversion has been designed for HCFC replacement to 60/40 blend of HFO-1234za and dimethyl ether (DME) in the manufacture of XPS foam. The memorandum of agreement has been finalized and signed by Chema foam, the government and UNDP. Direct implementation modality has been selected. first, second and third payment has been processed. Bidding on equipment & bid analysis have been completed and purchase order has been issued. Local works are done by the beneficiary, Equipment has been delivered, installation is done by the beneficiary followed then by HCFC phase-out and safety audit is on-going and expected to be completed by Mid December 2023.

2.2 Please provide additional comments on targeting of beneficiaries, sustainability of results, strengthening national capacities.

Targeting	Who is the project targeting? Were you able to reach the project PU foam users , Large and SMEs consumers, XPS Foam pr yes we were able to reach all the beneficiaries.
Sustainability	What are the actions taken toward sustainability? Coordinating with the NOU to ensure that all the compani not allowed to import HCFC's.
National capacities	How was national capacities enhanced? By training and field visits for employees of The National o
Innovation	Has the project used any innovative tools No
South-South Cooperation	Has there been any cooperation with other Government No
Knowledge Products	What are knowledge products from the project; i.e. strategy , g Guide book for technicians

III. Monitoring and Evaluation

The National Ozone Unit (NOU) is an integral part of the Ministry of Environment under the direct responsibility of the Egyptian Environmental Affairs Agency (EEAA). The NOU will continue to have general responsibility for the implementation of the ODS programmes, including the HPMP. Under the direct supervision of the NOU. The monitoring process will be managed in close cooperation with relevant authorities with the assistance of the Lead IA and the Cooperating IAs.

A monthly progress report will be presented to the CEO/EEAA , and quarterly progress report will be presented to the National ozone committee and annual progress report will be presented to the UNDP/CO, consisting of progress data showing the results achieved against pre-defined targets at the output level, the project quality rating summary, an updated risk long with mitigation measures, and any evaluation or review reports prepared over the period.

The National Ozone Committee is to convene once every three months at the time determined by the Chairman of the Committee or whenever he deems. The Committee may seek the assistance it deems of experts and advisers to attend its meetings at the invitation of the Chairman of the Committee. The Chairman of the Committee presents a summary of the results of its work to the Minister of Environmental after each committee meeting.

MONITORING SCHEDULE				
Monitoring Action	Due by	Completion date	Comments	Responsibility
Progress report	Monthly			NOU
Financial Report	Quarterly			EEAA
Bi-Annual Report	Yearly			UNDP
Annual Report	Yearly			MLFS

IV. Key Challenges, Lessons Learned and Recommendations

- Diversity in HCFC-141b alternatives to satisfy and meet the applicators and manufacturers needs, like: Hydrocarbons; Methyl Formate; HFCs & Water- Based.
- Changing and update the project modality to avoid any bureaucratic barriers during the implementation.
- Delay in shipping the Equipments due to the global economic situation.
- Lack of availability of the alternative technologies recommended in the project document (HFO) which means delay in the implementation.

V. Update on risks and mitigation measures

Risks	Mitigation Measures
Problems in delivery delayed the installation, causing delays and losses to the receiving enterprise	UNDP addressed the concerned authorities, especially the Ministry of Foreign Affairs, to finalize the procedures as soon as possible.
Receiving enterprise not prepared for installation, causes delays to the project and extra storing costs	The international consultant gave many tips during his visits to the beneficiaries, which accelerated the procedures for preparing the sites.

VI. Partnerships and Sustainability

- Ministry of Environment / Egyptian Environmental Affairs Agency (EEAA)
- National Ozone Unit (NOU)
- Multilateral Fund Secretariat (MLFS)
- United Nations Industrial Development Organization (UNIDO) - Lead Agency for HPMP
- System Houses (SHs) – Beta Technical & Trading Bureau
- National Companies (Kiriazi, Star, CMB, Insutech, Modern & Chema foam)

VII. Financial Summary

Table 1: Overview of available resources for the reporting period

Donor	Opening Balance	Allocations/ funds received in 2018	Total
Donor 1		3,695,722 \$	3,695,722 \$
Total			

Table 2: Overview of budget and expenditure per output

Output	Budget		Expenditures		Balance
	MLF	Total	MLF	Total	
00107118	1,042,352 \$	1,042,352 \$	915,103.39 \$	915,103.39 \$	127,248.61 \$
00122723	1,836,750 \$	1,836,750 \$	1,143,799.61 \$	1,143,799.61 \$	692,950.39 \$
00132893	816,620 \$	816,620 \$	0	0	816,620 \$
Total	3,695,722 \$	3,695,722 \$	2,058,903 \$	2,058,903 \$	1,636,819 \$

Annex IV: Assets inventory

No assets have been purchased through this project

SECTION 7: ASSETS LIST									
Asset ID	Description	Type	Serial No.	Tag No.	Model	Location	Acquisition Date	Currency	Cost

Certified by:

Date:

Project Manager's signature

22 September 2023



Key:

Asset ID

Starts at 1 and increases

Description:

Short description of the asset eg: Dell Optiplex 660X

Type:

Electrical, Furniture, Vehicle

Tag No. :

Furniture need a tag number to stick on the item (chosed the numbering)

Location:

The room the asset is in

Acquisition Date:

When it was bought

