FUNDING REQUEST FOR THE PREPARATION OF HFC-RELATED STANDALONE INVESTMENTS PROJECTS

COUNTRY: EGYPT

PROJECT TITLE: Preparation Project for the HFC-related standalone investment project in Egypt
LEAD IMPLEMENTING AGENCY: UNDP
COOPERATING AGENCY: N/A
NATIONAL COORDINATION AGENCY: Egyptian Environmental Affairs Agency (EEAA)
PROJECT INCLUDED IN CURRENT BUSSINESS PLAN: Yes (2018-2020)
ELIGIBLE CONSUMPTION: n/a (HFCs)
AREA: Manufacturing
SECTOR: PU Foam
SUB-SECTOR: Panels, Spray
NUMBER OF ENTERPRISES: one (1)

PROJECT DURATION:	12 months
PROJECT COST:	USD 30,000
SUPPORT COST: (7%)	USD 2,100
TOTAL COST FOR THE MLF:	**USD 32,100**

Project Summary

This document describes the proposed arrangements, preparation strategy and budget for the preparation of the HFC-related standalone investment projects that will support Egypt to contain the HFC consumption and facilitate the early implementation of the Kigali Amendment to the Montreal Protocol.

Such arrangements would be implemented taking into consideration:

a) The need to reflect national context and priorities, national policies and country-motivation and consequently would need the agreement of the relevant official(s) of the Egyptian Environmental Affairs Agency (EEAA) and the national stakeholders to the investment project proposal;
b) To facilitate seamless early implementation of the Kigali Amendment;
b) To draw upon the lessons learnt from the project preparation phase and the sector analysis that will support it;
c) To be dynamic and evolving, and to be open for revisions and adaptation as necessary in response to evolving situations during the preparation process.

PREPARATION PROJECT FOR A AN HFC-RELATED STANDALONE INVESTMENT PROJECT IN EGYPT

1. INTRODUCTION

Egypt is a Party to the Vienna Convention and the Montreal Protocol. It is fully committed to the phaseout of HCFCs and willing to take the lead in assessing and implementing new HFC phasedown technologies, particularly in the foam sector—as it did for CFCs in 1992 when it submitted and completed the first foam sector investment projects ever funded by the Multilateral Fund for the Implementation of the Montreal Protocol (MLF). Currently, the country is taking significant steps towards the ratification of the Kigali Amendment. The ratification process has already been initiated by the Ministry of Environment and is expected to be deliberated in the Cabinet before approval by the Parliament. The process of ratification is expected to take less than one year duration.

Ministerial Decree No. 77 of 2000 issued by Egypt's Ministry of State for Environmental Affairs prohibits the importation of all ODS, including HCFCs, without a permit issued by the Egyptian Environmental Affairs Agency (EEAA). In addition, Decree No. 139 of 2003 issued by the Ministry of Trade and Industry bans imports of new and used equipment containing ODS.

Minister of State for Environmental Affairs issued Decree No. 80 of 8th April, 2013 for the re-establishment of the National Ozone Committee with the mandate of assisting the Egyptian Environmental Affairs Agency in the implementation of Egypt's obligations, by selecting the mechanism to regulate the import and export of quantities of ozone-depleting controlled substances to achieve schedules of gradual reduction, in order to ensure verification of compliance by Egypt with the provisions of the Montreal Protocol to protect the ozonelayer.

The quota system for Egypt is unique as compared to most other countries. As per Article 4 of the National Law for Competition Protection and Combating Monopoly Practices (Law no. 3 of 2005 and its 2010 amendment), no company can have more than 25% of the market share, and as per Article 6, Agreements or contracts between competing Persons in any relevant market are prohibited if they cause any of the following: b) Dividing product markets or allocating them on ground of geographical areas, distribution centers, type of customers, goods, market shares, or seasons or periods of time. In view of this, the National Ozone Committee sets the maximum quota allowed for Egypt for the year based on the HPMP Agreement. Imports are approved on a first come first served basis, with a limitation of 2 containers/ISO tanks per approval, and next approval for the same importer is given after showing proof of import of previous shipment. However, manufacturers are excluded from the 2-container limitation with the understanding that growth over the years is not allowed.

The NOU maintains a database of maximum import allowed by the country for the year, as set by the National Ozone Committee. As pre-shipment approval is given to an importer, the quantity is noted. After goods are imported, the importer provides all documentation to NOU and receives the clearance letter advising Customs that the consignment may be released. This quantity is noted in the database, and the balance from the national quota is calculated. If the total of the pre-shipment permits issued reaches the maximum of the quota, no additional pre-shipment permits are issued until the actual import data is available and checked if there is any balance left. This situation has not happened till date as imports have been less than the available quota for the year.

The Government of Egypt is implementing the Stage I & II of its HCFCs Phase-out Management Plan (HPMP) and has:

- Meeting the HCFCs compliance targets as per the Montreal Protocol;
- Maximizing climate benefits while phasing-out HCFCs;

- Leapfrogging, as feasible, high GWP alternatives;
- Synchronizing with relevant parts in the national development;
- Minimizing impacts on the consuming sectors and end users;
- Involving all relevant stakeholders and ensure ownership of activities; and
- Adopting robust, but doable, policies and work-plans under the HPMPs

2. OBJECTIVES OF THIS FUNDING REQUEST

The objective of this document is to request funding for

- the preparation of an individual investment project for the elimination of HFC in the manufacture of PU Foam;
- the survey of the PU foam industry on the use of any other use of HFCs.

The HFCs-related Standalone Investment Project will be prepared and submitted to the ExCom appreciation following the guidelines established under the Decisions 78/3(g) and 79/45.

3. OVERVIEW OF THE PU FOAM SECTOR

There is currently no information on the consumption of HFCs in Egypt due to the lack of any surveys in this area. The polyurethane foam (PU) is, however, well surveyed—the last time as part of the HPMP-2 which contains an HCFC-141b phaseout plan for the entire PU foam industry. From previous projects it's known that at least one PU foam comapany uses HFCs.

The PU foam industry plays a significant role in the economy of Egypt. The key areas of application in Egypt are in rigid and, to a lesser degree, integral skin products, including domestic refrigerators and freezers, commercial refrigeration equipment, insulated truck bodies, insulation panels for diverse applications, electric water heaters thermoware products, spray foam in construction and other insulation applications, decorative articles and window frames, pour-in-place applications and automotive, furniture and other applications

Apart from the domestic refrigeration manufacturing, Egypt's foam manufacturers heavily depend on chemical and technology supply through system houses. These provide ready to use PU systems consisting of a component "A" (a fully formulated polyol system or FFS) and a component "B" (isocyanate, in this case MDI). The two components, when brought in contact and thoroughly mixed, create a foamed polymer with the desired product properties. They are able to incorporate a large range of blowing agents but leave the choice generally to the customer/end-user. Those system houses, however, not preblend cyclopentane, the phaseout compound of many Egyptian PU foam enterprises.

4. TECHNOLOGY

Current HFC use in A5 countries is relatively small and mostly restricted to co-blending. High price is the motivator to stay as much as possible away from HFCs. However the use as co-blowing agents to reduce density in HCO blowing foams is rising sharply as the reduction in denisty makes up the higher price.

There are currently three HFCs used in foam applications. Following table includes the main physical properties of HFCs can be used in Foams:

Table-1 – Main Properties of HFCs used in PU foams

Parameter	HFC-134a	HFC-245fa	HFC- 365mfc
Chemical Formula	CH_2FCF_3	$CF_3CH_2CHF_2$	$CF_3CH_2CF_2CH_3$
Molecular Weight	102	134	148
Boiling point (^{0}C)	-26.2	15.3	40.2
Gas Conductivity (mWm^{0}K at 10 ^{0}C)	12.4	12.0 (20 ^{0}C)	10.6 (25 ^{0}C)

Flammable limits in Air (vol. %)	None	None	3.6-13.3
TLV or OEL (ppm)	1,000	300	Not established
GWP (100 y)	1,410	1,020	782
ODP	0	0	0

5. HFC CONSUMPTION

As mentioned, the use of HFCs in foam applications is very small. While this project preparation plan will review HFCs use in this industry in depth, preliminary search showed at least one company is using it in production and a few others just in an early trial stage. The search did not include refrigeration applications, however, widespread as of yet not surveyed.

6. COMPANY PROFILE

The Government of Egypt submitted in November 1996 a proposal to phaseout the remaining use of CFCs in the Egyptian foam industry. This proposal was approved in May 1997. The project included a component to support the Army's Construction Factory in its phaseout CFC phaseout program. (EGY/97/G66 – Phaseout of the Remaining ODS Consumption in the Foam Sector, Sub-project Army Factory). The company produces PU panels an PU spray/PIP foam. The challenge at that time was that the army was not allowed to use interim technologies nor flammable blowing agents. The limited choice led to the use of HFC-134a which was directly injected.

The intended technology is the use of liquid HFOs but this needs first to be discussed and checked against current safety policies.

The Army factory undertakes construction projects for the Egyptian army. The PU foam activities focuses on sandwich PU panels for construction applications such as cold stores, prefab housing for defense and other uses. Spray/PIP foam is used for the same purpose as well for repair activities. The factory is located at the outside of Cairo, Egypt.

7. BUDGET

No.	Budget description	Budget (US $)
1.	International Experts	9,000
2.	National Consultant	8,000
3.	Information collection, consolidation and analysis	5,000
4.	Meetings, Missions	5,000
5.	Project Proposal	3,000
	Total	**30,000**

8. Implementation Timeframe

Activities		2017		2018										
		11	12	1	2	3	4	5	6	7	8	9	10	11
Project Start-up														
1	ExCom Project Approval													
2	Receipt of Funds													
3	Project Document Signature													
4	Consultants Recruitment													
Project Implementation														
5	Data Collection													
6	Consultation Meetings													
7	Draft the project document													

8	Peer Review													
9	Submission to the ExCom													