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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
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Montreal, 18-22 May 2015

Corrigendum

TERMS OF REFERENCE FOR THE DESK STUDIES ON: THE HCFC PHASE-OUT PROJECTS IN THE REFRIGERATION AND AIR-CONDITIONING MANUFACTURING SECTOR AND ON PILOT DEMONSTRATION PROJECTS ON ODS DISPOSAL AND DESTRUCTION (DECISION 73/7(b))

This document is issued to:

- **Replace** Annex I **with** the attached.
- In Annex II, paragraph 4, **replace** the first sentence **with** the following:

4. The evaluation will assess to what extent the demonstration and pilot projects generated practical data and experience on management and financing modalities for ODS disposal in a variety of countries, including very low-volume-consuming countries.

Annex I

TERMS OF REFERENCE FOR THE DESK STUDY OF THE EVALUATION OF REFRIGERATION AND AIR-CONDITIONING (RAC) MANUFACTURING PROJECTS

Background

1. At its 54th meeting, the Executive Committee approved guidelines for the preparation of HCFC phase-out management plans (HPMPs) and released funding in advance to the implementing agencies (IAs) to begin HPMP preparations[1]. The guidelines adopted a staged approach that allows for updates as new technologies are developed. Subsequently, at its 55th meeting the Executive Committee invited bilateral and IAs to prepare and submit proposals for demonstration projects for the conversion of HCFC in the RAC manufacturing sub-sectors to low-global warming potential (GWP) technologies to identify all the steps required and to assess their associated costs[2]. Following decision 55/43, four demonstration projects were implemented in various subsectors in China[3]. In addition, about fourteen countries submitted stand-alone investment projects and projects included in their HPMP to phase out HCFC-22 in several subsectors and applications in the RAC sector. Due to complicated technical issues involved, some of the investment projects also included technical assistance components.

Objective and scope

2. The desk study will provide background information on the progress made in the phasing-out of HCFC in the RAC manufacturing sector. It will examine projects in various RAC sub-sectors, namely: room air conditioning, commercial refrigeration, industrial refrigeration and air-conditioning (ICR) and will address issues related to low GWP alternatives. It may indicate areas and topics for a more in-depth, detailed evaluation, with concrete objectives and scope that could be useful for the implementation of RAC projects associated with stage II of HPMP.

3. The desk study will focus on the following:

Policy, legal and regulatory frameworks

4. The guidelines for preparing HPMPs encouraged countries to revise their licensing systems to accommodate the adjustments required by the phasing-out of HCFCs, to include a monitoring and control system as well as other policies activities to address HCFC in the RAC sector. The following issues will be addressed:

(a) Were existing policies reviewed to facilitate the phase-out of HCFCs in RAC sector and in the introduction of HCFC-free RAC technology? What actions were taken in the area of policies legislation and regulations?

(b) Were there new enforcement procedures and monitoring tools developed to control HCFC use in the sector as well as HCFC-based equipment imports?

(c) Were the policies and regulations including import/export legislations concerning the HCFC and HCFC-based equipment effective? How did the timing of legislation affect the projects?

[1] Decision 54/39.
[2] Decision 55/43.
[3] Conversion from HCFC-22 to ammonia/CO_2 technology in the manufacture of two-stage refrigeration system; conversion of room air-conditioning compressor manufacturing from HCFC-22 to propane; conversion from HCFC-22 technology to HFC-32 technology in the manufacture of commercial air-source chillers/heat pumps; and conversion from HCFC-22 to propane.

(d) How has energy efficiency been addressed relative to policies and regulations identified?

(e) Were there inspections and certification infrastructure, standardized technical testing, and enforceable technical standards for the alternative technology?

(f) Were there activities to assess standards and codes relevant to the RAC sector use of alternatives to HCFCs?

Technology–related issues

5. Using HCFC-free technology implies adopting innovating approaches leading to environmental benefits, but also overcoming barriers. The desk study will assess issues related to the use of low GWP technologies and alternatives and will address the following issues:

(a) Were there delays in project implementation and if so what were their causes?

(b) What was the role of demonstration projects in testing alternative technologies and facilitating the collection of accurate data on costs and application of the technologies and the conditions relevant for the introduction of the alternative technology in the country on a larger scale?

(c) How did projects deal with issues related to safety and flammability, high GWP and toxicity? Were there requirements for additional investments on safety equipment and systems? Were the various components needed available? How was the commissioning of equipment done?

(d) How did the international companies influence the adoption of the alternative technology? How did SMEs implement the phase-out process?

(e) What happened after project completion? How is the sustainability of the project being ensured? How is the project designed to guarantee and monitor sustainable outcomes?

(f) Were the manufacturing plant equipment destroyed, and, if not, why?

Technical assistance and awareness

6. Many project documents mention the need of improving the technical capacities of the RAC manufacturing enterprises in using alternative technology and in applying appropriate safety and security measures. The evaluation will assess the availability and use of updated information on technically and economically feasible alternative technologies that can be applied by local RAC manufacturers. It will examine the capacity building activities implemented by the project.

7. In some countries the users are not aware of the availability and benefits of the energy efficient variety of RAC technology. The evaluation will examine how technical assistance projects addressed awareness-related challenge. What awareness-raising strategy was used and what were the results? How did the RAC community changed following these activities? What was the role of professional refrigeration associations in helping with and disseminating information about the new technology?

Financing-related issues

8. The evaluation will examine, appropriately and to the degree possible, the information related to the incremental capital cost (ICC), the incremental operational costs (IOC) and sub-categories for implementing the project (comparing planned to actual costs); what was the cost-effectiveness of the

projects and whether there were any changes, when applicable; and determination of the split between energy costs and other operating costs when applicable.

9. The study will investigate the co-funding from enterprises for implementing the project and compare this to the planned co-funding. The desk study will draw lessons from co-funding experiences, in terms of both challenges and opportunities.

Post-sale servicing

10. The desk study will tackle issues related to *inter alia*, training, availability and affordability of spare parts and refrigerants, installation and post-sale costs issues, including market acceptance of the new product. How did the servicing sector manage with the introduction of low GWP alternatives?

Methodology and schedule of submission

11. The desk study will include an in-depth review of the existing documentation as well as the information gathered from interviews and discussions with members of the Secretariat, bilateral and IAs.

12. The findings from the desk study, as well as lessons learned and recommendations, will be presented to the Executive Committee for consideration at the 75th meeting. Further data collection and analysis may be needed, which will require field visits in a number of selected countries during the second stage of the evaluation.

13. A budget of US $12,000 was approved for this desk study component of the evaluation at the 73rd meeting[4].

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[4] Decision 73/7(c), UNEP/OzL.Pro/ExCom/73/62.