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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Seventy-ninth Meeting  
Bangkok, 3-7 July 2017

**Corrigendum**

**AMENDMENT TO THE MONITORING AND EVALUATION WORK PROGRAMME FOR  
2017 (Decision 77/7(b))**

This document is being issued to:

- **Replace** Annex I as attached.

## Annex I

### TERMS OF REFERENCE FOR THE DESK STUDY FOR THE EVALUATION OF THE REFRIGERATION SERVICING SECTOR

#### Background

1. The servicing sector, as one of the largest consumer of ODS, is of the utmost importance to all Article 5 countries. For the majority of low-volume consuming (LVC) countries, the servicing sector will be the main source of funding to meet compliance, and will be greatly affected by the HFC phase-down. The importance of the servicing sector was stressed by decision XXVIII/2 of the Meeting of the Parties, which recommends making cost eligible various categories related to this sector<sup>1</sup> and requested the Executive Committee to develop, within two years, guidelines for financing the phase-down of HFCs.

#### Objective of the desk study

2. The desk study will analyse the progress made in the phase-out of HCFCs in the projects funded by the Multilateral Fund in the refrigeration servicing sector. It will focus on the contribution of specific activities within servicing sector plans to reduce HCFCs, the impact of servicing arising from introduction of low GWP alternatives when relevant, and challenges encountered during project implementation. The evaluation will draw lessons from these projects to help future, similar activities in the sector. Taking into account the limitations of a desk study, it will attempt to identify potential issues that could be related to the phasing-down of HFCs.

#### Scope and output

3. The desk study will select projects in the refrigeration servicing sector in both LVC and non-LVC countries, in various geographical regions and implemented by various implementing agencies.

4. A report with findings, lessons learned and recommendations will be submitted to the 80<sup>th</sup> meeting. Following the initial findings, the report may recommend that further data collection and analysis be needed, which will require field visits in a number of selected countries during a second stage of the evaluation.

#### Desk study evaluation questions

5. A series of evaluation questions follows, describing the main issues to be tackled by the evaluator.

#### Implementation issues

6. What have been the main activities implemented in the servicing sector under the HPMPs in LVC and non-LVC countries and what has been their impact on HCFC phase-out? What were the main issues and success factors encountered in the project implementation in LVC countries as compared to non-LVC countries?

7. To what extent have activities in the servicing sector contributed to a transition to low GWP alternatives? What were the differences in LVC and non-LVC countries aiming at facilitating acceptance and introduction of low-GWP alternatives to HCFCs? How can HFC-phase down activities in the servicing sector build on this experience?

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<sup>1</sup> Paragraph 15(c) of document UNEP/OzL.Pro.28/12.

8. To what extent activities being implemented have contributed or could potentially contribute to HFC phase-down in applications not covered in the HPMPs (e.g., domestic refrigeration, commercial refrigeration based on R-404A and R-407C, and mobile air-conditioning)? What could be modified in the project design and implementation to facilitate this?
9. Who are the major stakeholders and what was their role in the implementation of the project? Is there a coordination mechanism and, if so, how did it work?
10. What has been the role, if any, of refrigeration associations in the design and implementation of activities in the sector and what were the main limitations encountered, if any?
11. Was reporting on the implementation of activities regularly done? Is the reporting providing relevant information on challenges encountered and lessons learned?
12. Which were the reasons for delays in project implementation?

### **Policy, legal and regulatory frameworks**

13. What have been the policies and legislation or other regulatory measures adopted by the countries in relation to the refrigeration servicing sector? What measures have been taken to enable the safe introduction of low-GWP, flammable or toxic refrigerants and which were the main barriers in introducing them? Were there interactions with national, international or regional standards setting bodies related to the safe use of flammable or toxic alternatives?
14. Were there new enforcement procedures and monitoring tools developed to control HCFC use in the sector as well as HCFC-based equipment imports? If so, can they be applied to HFC use and HFC-based equipment?
15. Is there a legislation targeting illegal trade of refrigerants? To what extent illegal trade of refrigerants have been identified in Article 5 countries (e.g., HCFC-22 labelled as HFC-134a)? Have imports of mislabeled refrigerants been identified?
16. Have activities been undertaken to support inspections and certifications, standardized technical testing, and enforceable technical standards for alternative technologies and if so, what was their impact? To what extent can activities for the phase-down of HFCs build on these activities?
17. Were there delays in adopting this legislation and, if yes, why?

### **Refrigerant containment (recovery, recycling, reclamation)**

18. What activities have been undertaken to promote the recovery of refrigerants and what was their impact? What measures have been taken to sustain these activities in a cost-effective manner? Can recovery and reclamation tools and techniques for HCFCs be transferred to the HFC phase-down?
19. Were stockpiles of used or unwanted controlled substances managed cost-effectively?

### **Technology-related issues**

20. Have challenges been encountered to service equipment with alternative technologies and if so, what were they?
21. Does reducing the refrigerant charge size in the design of systems impacts the amounts of refrigerants emitted during assembly and/or installation?

22. Have servicing activities contributed to improving the energy efficiency of the equipment? If so, were such improvements in energy efficiency monitored or assessed?
23. How, if at all, did servicing activities address the risks associated with retrofitting HCFC-based equipment with flammable alternatives?
24. Have alternatives to HCFCs been promoted, that sustain the operation of HCFC-based equipment until the end of life? If so, which alternatives have been used and what were the results?
25. Have challenges been encountered to service equipment with alternative technologies and if so, what were they?
26. Have demonstration projects contributed to the servicing sector and if so, how and what were the results.
27. What was the role of international companies in introducing alternative technologies and to what extent this has influenced the refrigeration servicing sector, HCFC phase-out and introduction of low-GWP alternatives?
28. What were the key lessons learned to deal with low-GWP alternatives.

### **Training**

29. To what extent have training programmes for refrigeration technicians been developed to contribute to address safety in handling low-GWP alternatives? Have they integrated an approach on safe handling of flammable refrigerants and an understanding of related regulations and standards? Do they address issues related to the consequences of poor installation and servicing of equipment that uses flammable refrigerants? Do training programmes include a module on good practices and standards in refrigeration?
30. To what extent are training in refrigeration programmes self-sustaining? How did the Multilateral Fund resources help in enhancing the capacity of national vocational/training centres and other local institutes involved in training of refrigeration technicians?
31. Are there certification systems for technicians who successfully participate in training programmes? Are these mandatory through regulations? Was there any obstacle in making the certifications mandatory?
32. What types of certification schemes have been established in different Article 5 countries and how effective are they to ensure good practices in refrigeration?

### **Awareness-raising and dissemination of information**

33. Was there updated information on technically and economically feasible alternative technologies to be applied by local refrigeration and air-conditioning manufacturers? What were the capacity building activities implemented by the project?
34. How did technical assistance projects address awareness-related challenges? What awareness-raising strategy was used and what were the results? How did the servicing community change following these activities?
35. Was there any collaboration with the customs departments in raising awareness on the handling of the new refrigerants?

### **Funding-related issues**

36. Was there a difference in the adequacy of funding between LVCs and non LVCs countries? Was co-funding in place, either from other funds or otherwise? Were there delays due to obtaining co-funding? What were the opportunities and challenges related to co-funding and what lessons can be learned from there? How the flexibility that is afforded Article 5 countries through their Agreements with the Executive Committee was used to optimize the allocation upon implementation of the HPMP?

37. How will the increase in the funding available for the servicing sector under decision 74/50, affect the ongoing projects and acceptance of alternatives to HCFCs and HFCs with low-GWP and zero-GWP?

### **Sustainability**

38. What activities have been undertaken to achieve the long-term sustainability of the technicians and customs training programmes funded by the Multilateral Fund? (E.g. adaptation of the curricula of training and vocational schools to address flammable alternatives and low-GWP and zero-GWP alternatives, mandatory training for technicians or any other measure).

39. What lessons in training in good practices can be applied for long-term strategies to be implemented?

40. Have there been issues related to availability and affordability of spare parts and refrigerants and how have they been addressed?

41. What activities could be implemented to reduce emissions during the operation of equipment, while maintaining energy efficiency?

### **Methodology**

42. A consultant will be recruited based on his or her experience and knowledge of the subject matter and of the functioning of the Montreal Protocol and the Multilateral Fund. The consultant will prepare a desk study that includes an in-depth review of the existing documentation such as project documents, progress reports, verification and project completion reports; minutes from regional ozone officers meetings, ODS alternative surveys, as well as information gathered from interviews and discussions with members of the Secretariat and bilateral and implementing agencies and local stakeholders.