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EXTENDED DESK STUDY ON RMP EVALUATION

I. Extended Desk Study on RMP Evaluation

1. Background

1. In the Monitoring and Evaluation Work Programme 2003 an evaluation of RMPs is foreseen and a desk study with selected country studies scheduled for submission to the 39th meeting of the Executive Committee, to be followed by further country studies and the final report to be submitted to the 41st meeting of the Executive Committee.

2. The Thirty-first Meeting of the Executive Committee decided:

(a) "to request national ozone**{** XE "ozone" **}** officers, with the assistance of the implementing agency concerned, to review and assess the content, implementation to date and expected outcomes of their RMPs against their objective to phase out all consumption in the refrigeration**{** XE "refrigeration" **}** servicing sector**{** XE "sector" **}** according to the Montreal Protocol**{** XE "Montreal Protocol" **}** timetable**{** XE "timetable" **}**.

(d) "that it will review in 2005 whether further assistance is needed for the post-2007 period, and what assistance the Fund might consider at that time to enable full compliance**{** XE "compliance" **}** with the Protocol's phase-out**{** XE "phase-out" **}** requirements." (Decision 31/48).

3. This evaluation is made to support the planned review by collecting empirical evidence and feedback by the countries concerned with regard to the implementation of their RMPs.

2. Approach

4. In correspondence with his terms of reference, the consultant reviewed the documentation available on RMPs and related projects and analysed the completion reports of training and R&R projects, as well as the earlier evaluation reports on such projects[1]. He identified the main evaluation issues in light of the documentation and discussions with the staff of the Secretariat and participated jointly with a refrigeration servicing specialist and Secretariat staff in the network meeting of the English-speaking Caribbean countries held in Grenada, 9-11 December 2002. During this meeting, extensive discussions were held with all participating Ozone Officers. The technical and institutional aspects of RMP implementation were discussed in two working groups before the plenary adopted recommendations.

5. The evaluation team also visited Jamaica, Saint Lucia and Guatemala in December 2002 and collected information about the actual status of implementation of RMPs, the results achieved and lessons learnt, and the monitoring system put in place. These countries were chosen because they have various types of projects, approved at different times, and implemented by several implementing agencies, and they are in the same region. St. Lucia had the first RMP approved at the 23rd meeting of the Executive Committee. Jamaica had a R&R project approved at the 18th meeting of the Executive Committee, followed by a MAC R&R project at the 23rd meeting, training programmes under a RMP at the 27th meeting and a Terminal Phase-out Management Plan at the

[1] Report on the Evaluation of Training Projects, Document UNEP/OzL.Pro/ExCom/31/20; Desk Study on Recovery and Recycling Projects, Document UNEP/OzL.Pro/ExCom/31/18.

37th meeting. Guatemala had R&R, MAC R&R and training programmes approved at the 18th, 19th and 21st meeting, and various measures to advance training and legislation under a RMP at the 27th and 35th meeting.

6. Sources of information have been documents prepared by the Multilateral Fund Secretariat, UNEP, UNDP and the National Ozone Units (NOUs), intensive interviews conducted with the respective NOUs, and other Government offices, as well as representatives of companies and associations of the private sector in the countries concerned. Cooperation by both public and private sources of information has been, in all countries visited, highly satisfactory. On this basis, three country case studies as well as the present synthesis report were prepared by the consultant, in cooperation with the refrigeration servicing specialist and the Senior Monitoring and Evaluation Officer. The case studies are available on request and can be accessed on the Secretariat's web site, in the section for the Executive Committee, under Evaluation Reports. Comments on the draft reports were received by the NOU Jamaica, UNEP/DTIE, the RMP officer in UNEP/ROWA, UNIDO and Environment Canada; they were taken into account for the final versions.

7. The task for the country visits was to identify those factors which exert a decisive influence on the performance of RMPs in the respective countries and their contribution for reaching compliance with the ODS phase-out schedule set by the Montreal Protocol (MP). According to the findings, the elimination of CFC consumption is the result of a complex interplay of factors which may vary significantly from country to country. Therefore, at this stage it is not possible to draw general conclusions, from a limited sample of case studies from one region. Moreover, these case studies were designed to come up with a rapid analysis of problems encountered and lessons learnt in order to define realistic evaluation issues for later case studies rather than to provide concrete recommendations.

8. The next sections of this report describe the factors which are the most important ones influencing the outcome of RMPs, followed by common problems and evaluation issues identified and a proposal for how to continue the evaluation.

3. The Concept of RMPs and Factors Determining their Outcome

9. The concept of Refrigerant Management Plans (RMP) was adopted by the Executive Committee at its 22nd meeting in June 1997. Subsequently, the Executive Committee requested UNEP to develop guidelines for preparation of RMPs, which were approved at the 23rd Executive Committee Meeting in November 1997. The majority of both recovery/recycling and RMP projects relate to low volume consuming countries (LVC) where 75% to 100% of ODS are consumed in the refrigeration servicing sector.

10. The main objective of RMPs is to develop and implement a comprehensive strategy for phasing out CFC consumption in the refrigeration servicing sector. In contrast to early R&R and training projects which were approved without all conditions for success, such as import restrictions for CFCs, being in place, the RMPs aim at establishing the proper sequencing of projects and policy measures and to proceed in a coordinated way taken into account the linkages between the various activities.

11. RMP projects include three basic sub-projects: 1) training of technicians in good practices in refrigeration, 2) training of customs officers in controlling imports of ODS, 3) recovery and

recycling including a hands-on training on the respective practices. These projects are generally complemented by additional measures such as the improvement of data collection, monitoring, awareness raising, and other related activities.

12. Performance of RMPs in terms of impact achieved depends on a complex set of interrelated factors, many of them beyond the scope of the individual projects implemented under the Plan. Therefore, evaluation requires that all relevant determining factors responsible for success or failure be analyzed. Based on the available desk research, case studies, and experiences in RMP implementation in a certain number of Article 5 countries, the following main categories of influencing factors can be distinguished:

(a) Prices for CFC's and substitutes;

(b) Legislation, incentives and enforcement measures;

(c) Implementation of sub-projects, like training, etc.;

(d) Role of NOU, political support and cooperation with the private sector;

(e) External variables

13. According to decision 22/24 of the Executive Committee from June 1997, recovery and recycling projects should be implemented only after incentives or regulatory measures are put in place, in order to ensure their sustainability. Also customs training shall not be organised before appropriate import regulations are in force. Therefore, appropriate legislation is the first and basic pre-condition to be fulfilled if RMPs are to be implemented. Later RMPs and RMP up-dates were approved with conditions requesting minimum price levels for CFC or similar prices for CFC and substitutes before sub-projects could be implemented.

14. The reduction of CFC consumption can not be attributed to single components of a complex programme. Efforts, for instance, to quantify CFC phased-out out as a result of customs training, are not very enlightening because progress or failure are depending on the overall constellation of factors influencing the phase-out process. Such factors are, among others, political commitment, effectiveness of law enforcement, price relations, performance of the Ozone Unit, closeness of co-operation with industrial and commercial companies, etc. Evidently, it makes not much sense to carry out retrofitting or replacement programmes where no import controls take place and where CFCs are still much cheaper than substitutes. It is therefore convenient to adopt a more holistic approach based on a thorough analysis of all relevant factors influencing the phase-out process when specific programmes or projects are to be designed, prepared, implemented and evaluated.

15. Simplifying the complex constellation of factors to some extent, the following chain of causal relations can be identified:

(a) The first requirement is the introduction of legal regulations free from ambiguities and inconsistencies, which provide clear, transparent and reliable rules for the import, use, and management of refrigerants. This pre-supposes political will and commitment;

(b) The second requirement is the enforcement of law. This pre-supposes the administrative and technical capacity of implementing legal regulations in practice. This implies also that specific measures, such as reduction of import quotas, control of illegal imports, ban on imports of CFC-based equipment, introduction of inspections, etc. are implemented;

(c) The third requirement is the change of market price relations between CFCs and substitutes. This can be achieved either by restricting the availability of controlled substances resulting in price increases or by the implementation of additional measures aimed at reducing demand for CFCs through the introduction of consumption taxes or environmental fees rendering thereby alternative substances more competitive in the market;

(d) The fourth requirement is to provide customs officers with the training required for implementing effective import controls and to train technicians in good practices in refrigeration servicing, it usually includes also R&R and in some cases retrofit programmes;

(e) The last link in the chain is the result: the reduction of consumption of CFCs in the countries concerned.

16. For the countries visited, there are some findings, which are apparently contradictory or at least inconsistent and for which no appropriate explanation can be found without analyzing the overall constellation of the influencing factors. Why are industrial and commercial companies in one country in favour, and in the other country strictly against cost sharing for R&R equipment supplied? Why are prices of CFCs significantly increasing in Jamaica but remaining very low in Guatemala despite the import licensing system, which is operational in both countries? Comprehensive phase-out strategies require a systemic view of the elements and the potential effects of their interconnections.

4. Comparative Assessment of RMP Performance in Jamaica, St. Lucia and Guatemala

17. In the following table a comparative assessment of some of the relevant factors which influence the performance of the RMPs in the countries visited is presented. Some of these factors are implicit elements of the RMP (legislation, import licensing, training of technicians and customs officers, supply of R&R equipment, monitoring), some others are external variables (political support, law enforcement) which generally play an important role regarding results and effectiveness of such programmes.

Table 1: Comparative Assessment of Factors Influencing the Performance of RMPs

Factors/components	Jamaica	Guatemala	Saint Lucia
Political commitment	Strong	Weak in the past, now medium.	Medium
Legislation	Comprehensive. Ozone Act is about to be passed as law.	Satisfactory. Weakness in implementation. Planned to be completed, more specific rules required.	Introduced with some delay. Implementation more or less satisfactory.
Import Licensing	Operational	Operational	In force but not fully operational.
Instruments of law enforcement	Effective	Present instrument needs specification and improvement. Good plans still to be implemented.	Customs overtaxed. No customs inventory. Illegal imports not excluded.
Training of trainers and technicians	Very satisfactory, 130 technicians trained.	Good progress, 980 technicians trained, 540 certified. Local training capacity built up	Satisfactory training projects, though not adequately linked to legal and import licensing system.
Customs training for detection of CFCs	Good progress. 127 customs officers trained. Computerisation and equipment for detecting CFCs needed.	Training satisfactory. 116 customs officers trained. Need for appropriate equipment.	Good performance. Need for more detailed tariff codes and classification of products to detect CFCs and equipment.
Recycling centers	No recycling done in Centers created. Recycling machines owned by companies.	No recycling machines supplied. Own equipment in some enterprises.	No recycling
Data collection and monitoring	Fairly good data collection from importers and customs.	Customs data not very reliable. Comprehensive monitoring involving importers and customs is planned. Systematic inspections are planned.	Sources of data: customs and importers. Data not always reliable. System of monitoring is improving.
Equipment supplied	70 recovery units supplied, in operation. 2 recycling centers, not used. About 20 R&R machines for MAC provided under a USEPA project before RMP was approved.	108 recovery units, 4 recycling centers. 20% of equipment delivered was damaged.	6 R&R units plus 3 for MAC. Machines supplied are being sold to industry. Some companies purchased own equipment.
Refrigerant prices	Due to restricted availability, prices for CFCs rising, in some months higher than substitutes.	CFC prices very low, some distributors are inflating prices of substitutes.	CFC prices very low, price relation with substitutes provides no incentive for conversion.
Strategy of NOU / Government	Firm commitment to terminal phase-out by 2005.	Comprehensive strategy to comply with MP has been developed by the NOU. Good prospects, if expected support from all stakeholders is actually obtained.	Import licensing, training, private sector encouraged to accept cost participation.
Status of compliance	So far in compliance. Prospects for terminal CFC phase-out as scheduled favourable.	In non-compliance. NOU engaged in efforts to improve status up to 2005.	Freeze achieved. Target for 2005 possibly attained. Target 2007 uncertain.

18. From the three country studies conducted so far it appears that the RMPs play a key role for realizing the planned CFC phase-out and contribute to an improved co-ordination among measures and stakeholders. The RMPs:

(a) Helped to establish regular and institutionalized co-operation between the NOU, relevant administrative departments, customs, technical training colleges, importers, and associations of industry and trade in refrigerants, a co-operation which would have not been operational without RMP;

(b) Facilitated co-ordination of activities at various levels (training, customs, dialogue with the private sector, co-ordination among government departments) thereby improving communication and participation of the relevant stakeholders in strategy design and implementation;

(c) Improved through intensified communication the access to information on the refrigeration sector in general, and to the data on consumption, imports, volumes recovered, etc. in particular, facilitating thereby data collection, monitoring, and overall knowledge related to the sector;

(d) Contributed to bringing about a learning process for all stakeholders through the dissemination of information and the channeling and evaluating of mutual experiences.

19. The prospects to achieve further CFC phase-out as planned and scheduled differ depending to a large extent on how well the linkages between the various components of the RMP have been established.

20. The Terminal Phase-out Management Plan in Jamaica has just started and it is too early for an assessment. It can be said already, however, that the commitment and continuity of the NOU and the National Environment and Planning Agency (NEPA), the political coordination and the cooperation with the private sector are the three main factors responsible for the "success story" to be recorded so far in the case of this country. It is important to mention that the NOU has established a regular and co-operative contact with both the private sector working in the refrigeration area, and the various governmental departments responsible for the legal rules and their implementation relating to that sector.

5. Observations Made and Problems Identified

21. Experiences of a few countries visited cannot be considered as being representative for all Article 5 countries. Nevertheless, the problems mentioned by the Ozone Units visited and by representatives of private industrial and commercial companies, as well as by Ozone officers at the network meeting of English speaking Caribbean countries in Grenada suggest that weaknesses and difficulties in implementing RMPs are fairly similar in LVC countries across the region. The following observations were made:

22. A serious problem for successful implementation of RMPs is the price difference between CFCs and alternative substances. As long as CFCs remain significantly cheaper, the market will respond to import restrictions either by illegal imports and/or by building up CFC stockpiles. However, CFC prices can be successfully increased, as done or planned in some countries of the Caribbean region, by reducing annual import quotas with the consequence of limiting the availability of CFCs, and/or by introducing a consumption or environmental tax on the consumption of CFCs as practiced in Antigua and Barbuda and proposed, for instance, in the case of Guatemala.

23. The implementation of some of these measures is not always simple. The introduction of consumer or environment taxes on the use of CFCs requires legislative acts and execution is not easily controllable particularly in the informal sector. The mechanism of inspections may be helpful but it will not necessarily detect hidden stockpiles or illegal imports. Economic incentives are generally depending on the financial capabilities and constraints of the countries concerned. Therefore, the possibilities for each country to take such measures have to be analyzed on a case by case basis.

24. Legislation is a sensitive political issue. The introduction of binding legal rules and their implementation is depending not only on the political will of the governments but also on the composition of the parliaments which are entitled to approve or to reject specific regulations. Governments and the composition of the legislative body may change over time, and the legislative and executive bodies may be more or less susceptible to the influence of industrial or commercial interests. In most of the countries of the region, ozone issues do not belong to the highest priorities of politics. When asked for the extent of political support they enjoy, ozone officers of the region have estimated it at ranging between 50% to 90% of the desirable level.

25. Besides political issues, also technical problems in drafting legal acts may arise. Especially in small countries, no local expertise is available to formulate regulations. Even if political will is demonstrated, some countries have to apply for international technical assistance in order to prepare the legal rules required. This problem has been explicitly mentioned in the case of Belize; some other countries such as Saint Lucia registered significant delays in preparing legislation due to similar problems. In spite of information material developed by UNEP the local adaptation of legal texts has proven to be difficult in some cases.

26. Clear and binding legal rules and time schedules constitute a firm background for the orientation of customs officers and the private sector. This background can be created either by appropriate amendments of existing laws as, for instance, in Guatemala or Antigua and Barbuda, or by preparing a special comprehensive Ozone Act integrating all regulations deriving from the Montreal Protocol, as it is being elaborated in Jamaica. Simultaneously, legislation is required to specify the cases of law infringement and the respective sanctions. It has been noted in some countries that legal acts contain certain ambiguities and inconsistencies, which may lead to erosion of law enforcement.

27. The National Ozone Units play the key role in co-ordinating and implementing the country's ODS phase-out programme. Its tasks range from information gathering and dissemination, monitoring and reporting, to the inter-departmental implementation of administrative measures. The responsibility for the RMP implies an additional workload on its staff the capacity of which is limited, particularly in small countries. Further strengthening the institutional basis of the NOU may therefore improve overall performance, depending on a case by case assessment. In small countries where the Ozone Unit consists of the ozone officer only, he/she is often responsible for all international environmental conventions. Under such circumstances it can be difficult to control, supervise and manage effectively all activities taking place under the Montreal Protocol and other international conventions.

28. As far as it transpired from workshop reports, interviews and the earlier evaluation of training projects (document UNEP/OzL.Pro/ExCom/31/20), training of technicians has usefully transferred technical skills and awareness. Nevertheless, it is not always clear to what extent the participants actually apply the knowledge acquired. They will only do so if the new practices learned are economically viable for them. This depends mainly on the price differential between CFCs and substitute refrigerants. Training in Good Practices is not sufficient if price differences are significant and if the availability of CFCs is not reduced through legislation and import controls. The sequencing and impact of training projects, legislation and market developments should be analyzed in further case studies.

29. Customs training projects are a standard component of RMPs. Notwithstanding their indispensable role, empirical evidence points to the following deficits: 1) customs officers generally have a limited technical knowledge and rotate frequently, 2) they do not always have appropriate equipment (ODS identification kits) or do not always use them to distinguish between allowed and controlled refrigerants, 3) tariff codes are in some cases not sufficiently detailed for the proper classification of controlled or substitute chemicals, and 4) customs are sometimes not adequately computerised to fulfil the necessary monitoring requirements. Evaluation should analyze such constraints which limit the impact of customs training projects.

30. The validity and reliability of data concerning imports and use of ODSs can in many cases be questioned. Sources of information are customs, importers and industrial or commercial companies. It has, in some cases, turned out that the calculation of the baseline was based on erroneous estimates, which might result also in incorrect phase-out targets for the RMP. In other cases, the progressive reduction of imports did not lead to an equivalent reduction of consumption due to existing stockpiles of CFC in the country. Customs officers are not always able to distinguish between controlled and other substances. Technicians have no macro overview of CFC consumption. The most reliable data can be expected from importers in possession of import quotas but even these can be manipulated according to commercial interests. In addition, illegal trade, which is not registered at all, cannot be excluded, particularly in island countries or others with a long coastline. Monitoring is an essential requirement not only for reporting but also for the correction of data and possibly adjusting the RMP objectives. In case of consistent figures, which are rather the exception than the rule, it can be assumed that the data provided can be trusted. In the opposite case, the sources of error should be explored.

31. Exchange of information and close cooperation with the private sector have proven to be a very important factor of achieving the targets of compliance under the MP. Nevertheless, in some countries such co-operation is still weak. Industrial, commercial and servicing companies or their associations are not always properly involved in developing the strategy and action plan, and in selecting the appropriate equipment.

32. In some countries, the national Refrigeration and Air Conditioning Industry Association is playing a driving role in the whole RMP implementation process. The Associations are involved in the awareness creation, the selection of companies and participants for the training courses, in some cases also in the selection of appropriate equipment. They constitute also local capacity for the training of technicians. There are examples that such Associations have decided to voluntarily increase the retail price of CFCs thereby increasing the competitiveness of the alternatives on the market. Moreover, associations of industry or of importers represent effective and mostly reliable sources of information required for elaborating strategies, monitoring, and reporting. It is therefore essential to analyze the co-operation between the NOU and such professional associations.

33. Ozone committees, which have been established in many countries, may constitute a broad institutional basis to assist the NOU in elaborating strategies and creating awareness on MP requirements and preparing and implementing the necessary administrative measures throughout the country. It may therefore be useful to analyse the composition, the role, and the performance of such committees in the countries where they actually exist.

34. It has been noted that recycling centers are, in all countries visited, under-utilised or not utilised at all. It seems that such centers for various reasons (transport, time, lack of trust, prices) have not succeeded to attract service technicians as clients. Simultaneously, some private establishments have purchased their own recovery and recycling equipment, and reportedly manage to recycle some recovered CFC. It has to be further analyzed whether this happened also in other countries. The machines preferred were less bulky and with oil-less compressors, compared to the ones with compressors requiring regular oil change which were supplied by the projects.

35. Servicing of domestic refrigeration equipment presents a special problem. Although domestic refrigerators and their servicing may account for up to 25% of total CFC consumption, these refrigerants cannot be easily recovered and recycled. The quantity of refrigerant per refrigerator is very limited (100-200 grammes) if anything is left in it at all when it comes for repairs. The efforts required to transport either the refrigerator to a workshop with R&R equipment or the R&R equipment to the refrigerator is usually too high to make R&R interesting in view of the small quantities to be recovered. Only hand operated, light weight recovery pumps (scooters) have had some acceptance by service technicians. Retrofitting would imply costs which are not economically viable for the majority of private households. The annual scrap rate lies between 10 and 15% in most countries, so it can be expected that in a few more years new domestic appliances will have replaced the old ones. Hand operated light weight recovery pumps, combined with training workshops in good practices for refrigeration technicians and effective import controls for CFCs in bottles of 1 kg (most domestic appliances are being serviced with such small-sized containers, particularly by the informal sector) seem to be the most important elements for reducing CFC-consumption in the servicing of domestic refrigerators.

36. Retrofitting programmes can be effective, but seem to require that the following elements are in place: an operational and effective import licensing system, a reliable control of the level of CFC consumption, a narrowing price differential between controlled and alternative refrigerants, and the introduction of economic incentives to industrial and commercial companies. New drop-in refrigerants might also offer useful transitional solutions. Awareness-raising will not necessarily be sufficient to motivate the private sector to embark upon conversion of technologies implying additional investments. It is the anticipation of market developments, which can induce such decisions. The factors for success require further analysis.

37. There is a number of external factors that may affect the achievement of intended results. A long coastline, for instance, facilitates smuggling, and lax application of regulations could hamper the implementation of import restrictions. In case of being informed about such problems, evaluations should analyze what measures are actually being taken in the respective countries, and try to assess their impact.

38. In all cases studied, successful CFC phase-out seems to depend to a greater extent on the political will and support than on additional resources, with some exceptions: Some Institutional Strengthening Projects might need increased funding for RMP implementation and monitoring, especially in smaller countries where the NOU might be unable to carry additional burden implied by the co-ordination of RMP projects. Furthermore, reliable monitoring at Customs may in some cases require installation of computer hard- and software, and the supply of identification kits, when this has not been done yet. The supply of additional R&R machines may not be essential, however, because the private sector has shown to be able to purchase its own equipment if economically justified by the demand. The experiences of private initiatives and also models of cost participation and revolving funds for equipment provided with MLF resources should be further analyzed and explored.

39. Furthermore, two types of additional measures may be needed in some cases:

(a) Measures to improve enforcement of legal regulations: elimination of legal ambiguities or inconsistencies, regular inspections at the level of customs, distributers, workshops, fines in case of law infringements;

(b) Incentives to reduce CFC consumption: introduction of consumption tax or environmental fee on CFCs.

(c) Continued training of refrigeration technicians, including supply of hand operated recovery pumps (assembled or as kits), and of customs officers, now in most places with formerly trained local trainers.

6. Issues for Further Evaluations

40. The evaluation issues can be derived from the problems listed above. The issues correspond to and are specified by the tentative list of the questions for field visits (see Annex I).

41. According to the logical chain presented above and the problems identified in the country case studies carried out so far, the following main issues for further RMP evaluations are recommended:

(a) Is appropriate legislation including as center piece an import licensing system in force and operational without legal ambiguities and inconsistencies?

(b) Has the application of legal regulations and import licensing quotas led to the expected reduction of the avaliability of controlled substances? If not, have specific measures of enforcement (consumption taxes, reduction of quotas, inspections, etc.) been introduced? If so, which ones and which are the results?

(c) Has legislation and import licensing contributed to bringing about a significant change in market price relations between controlled and allowed substances? If not, have measures been taken to influence those price relations by restricting demand for CFCs and, in affirmative case, what sort of measures?

(d) Have customs training programmes improved the enforcement of import restrictions and has the training of technicians in good practices contributed to the reduction of consumption of CFCs? If so, to what extent? If not, where are the problems?

(e) Has the R&R equipment supplied actually been used and contributed to the reduction of CFC consumption? If so, what sort of equipment? If not, specify reasons;

(f) Assessment of the performance of the NOU and the political support it receives, including the cooperation with other government departments and the private sector;

(g) How reliable are data on consumption of refrigerants? Which are the sources of information? How reliable are these sources (customs, importers, distributors, etc.)? Are data provided by different sources consistent? If not, whom to trust and why? How detailed are the data by type of refrigerant, equipment in use and user category? How to establish a reliable monitoring system with regard to CFC consumption and project results?

42. On the basis of information collected on these issues the following questions will need to be addressed:

(a) Has the introduction of the RMP as concept helped to synchronize the individual activities? Has a learning process taken place, in the countries and overall? Has the quality of RMP up-dates and new RMPs improved compared to older RMPs? Can the co-ordination and synchronization of measures still be improved?

(b) What is needed in addition to the measures in place? Is the funding which is final for all those countries which got an RMP up-date or a new RMP after the 31st meeting (with 50% additional funding compared to the older ones according to decision 31/48) enough and the activity mix correct to reach the 85% reduction of CFC-consumption in 2007? Would additional funding make a difference? or is rather the country, its government and private sector, supposed to increase their activities? or both in combination?

(c) What does this imply for RMP up-dates or Terminal Phase-out Management Plans (TPMPs) or National CFC phase-out plans? Are the latter still better coordinated? Do they include additional measures or just more funding against the commitment for an accelerated CFC-phase-out by 2005 or 2006?

7. Rationale and Approach for Further Evaluations of RMPs

43. The objective of evaluating RMP projects in Article 5 countries is to learn from past experience in order to draw generalising conclusions regarding the concept, design, and implementation of Refrigeration Management Plans which are for many countries the main instruments to reach the CFC-phase-out targets of 50% in 2005 and 85% in 2007. For this, it is required to explore all relevant factors influencing, in positive or negative terms, the extent of success in achieving the intended results under the RMPs.

44. The final evaluation report will present comparative conclusions, and appropriate recommendations to improve the effectiveness of RMPs and the capacity of Article 5 countries to comply with the provisions of the Montreal Protocol.

45. Value added by further case studies can be expected through deepening the analysis by identifying:

(a) Key factors responsible for achieving RMP objectives across countries in different geographic regions and different political and economic structures with regard to common and differing features;

(b) Comparative findings relating to cost-effectiveness, that means volume of phase-out per input of funds, under different political and economic conditions;

(c) Appropriate methods for modifying current or formulating new phase-out strategies;

(d) Factors determining or changing price relations between CFCs and alternatives under different geographic, political and economic circumstances.

46. The evaluation will analyze RMPs in several Article 5 countries which are still to be determined. In order to have a representative sample, 10 to 12 countries should be visited, using the following criteria for comparing the sample:

(a) Countries in compliance and countries in non-compliance;

(b) LVC countries and higher-volume-consuming countries;

(c) Landlocked countries and countries of open access or transit trade (important regarding illegal imports); as well as large and small countries;

(d) Countries in Asia, Africa, Latin America, Europe and Middle East;

(e) Countries with differing approval date and funding volume of the respective RMP, and other countries with a terminal phase-out plan (TPMP) or National CFC phase-out plan;

(f) RMPs implemented by different agencies.

47. Interviews should be carried out with all relevant stakeholders involved in the design and implementation of the RMP including the NOU, other government departments, representatives of the industrial and commercial sector, and also small servicing shops. These discussions will complement information from existing surveys and reports based on project monitoring.

48. In addition to visits to selected A5 countries the consultant(s) should participate in regional network meetings to obtain feedback from a larger number of countries with regard to the experiences made in implementing their RMPs. This should be done in individual and group discussions, following the example of the network meeting of the English-speaking Caribbean countries held in Grenada, 9-11 December 2002.

49. The consultants are expected to elaborate a report on their findings focussing on the performance of the RMPs against the targets sets for their implementation, the factors which exert a verifiable influence on that performance, and the perspectives of enabling the countries concerned to comply with the CFC phase-out schedules under the Montreal Protocol.

Annex I: Tentative List of Questions for Field Visits

1. Institutional Framework

(a) What is the status of the NOU within the national administrative structure? In which of the departments is it incorporated?

(b) What is the role of the NOU with regard to the preparation, implementation and monitoring of the RMP?

(c) Does the NOU have the personnel and technical capacity to fulfil its tasks in general and the duties relating to the implementation of the RMP in particular?

(d) Has a National Ozone Committee been established? If so, what is its composition and performance?

(e) Does co-operation between the NOU and stakeholders of the private sector, especially the respective industrial or commercial associations, take place? Experiences? Organizational set-ups?

2. Political and Economic Framework

(a) Does the NOU obtain the political support necessary to fulfil its tasks?

(b) What priority is given to ozone issues within the hierarchy of environmental protection issues in the country?

(c) What are the main consumption trends in the refrigeration sector, particularly regarding introduction of new non-CFC equipment and imports of second-hand CFC-based equipment?

(d) Is regular co-operation with the private sector, particularly the associations of industrial and commercial companies operating in the refrigeration sector, established?

(e) Which other political and economic factors do exert an influence on the implementation of the RMP?

3. Legislation

(a) Are imports of CFCs and equipment containing CFCs subject to an Import Licensing System with annual quota allocations for registered importers?

(b) Is certification of refrigeration technicians mandatory?

(c) Has labelling of ODS-free products been introduced?

(d) Are rules and respective sanctions specified in a way that they can unequivocally be applied and observed by all stakeholders?

(e) Is legislation consistent, comprehensive and systematically enforced?

(f) Have tasks for law enforcement been assigned to responsible departments, agencies or institutions?

(g) Have other legal measures been introduced to increase efficiency in phasing out CFCs, for instance, by limiting retrofitting activities to certified technicians only, or by exempting imports and sales of CFC-free equipment from import duties and sales taxes?

4. Training of Trainers and Training of Technicians

(a) What criteria have been used for the selection of trainers. Have Associations been involved? Has local training capacity been built up?

(b) Are modules of Good Practices in Refrigeration being incorporated into the regular curriculum of technical colleges teaching refrigeration?

(c) How many training courses for technicians have taken place? What are the numbers of technicians trained and technicians certified?

(d) Is further training required, especially for the workforce in the informal sector?

(e) Is additional equipment for training purposes required?

(f) How far are training measures sustainable in view of turnover in the service sector?

(g) Can the reduction of CFC consumption attributable to technicians trained in good practices be identified or estimated? If so, to what extent?

5. Customs Training

(a) How many training courses for customs officers have taken place? What is the number of customs officers trained?

(b) Has in-country capacity of customs training built up?

(c) Further training of customs officers required?

(d) Are customs officers, after the training better able to identify controlled substances, and to adequately proceed in cases of law infringement?

(e) Were refrigerant identification kits supplied? Does customs need additional equipment?

(f) Are the tariff codes for refrigerants sufficiently specified in order to identify different mixtures of chemicals?

(g) Are customs computerised for keeping exact records of imported CFCs? If not, how is monitoring being practised?

6. Recovery and Recycling

(a) What are the prices for CFCs and substitutes?

(b) Has a network of recovery and recycling units been established? How many equipment units have been supplied and how were they distributed among users?

(c) How many companies have purchased their own recovery and/or recycling equipment?

(d) Have technicians received adequate separate training on R&R when the equipment was delivered?

(e) How are the machines being used, and what is the destination of recovered CFC?

(f) How many recycling centers are established? Are they active? Are figures or estimates about recycled quantities available?

(g) What are the figures or estimates about reduction of CFC consumption attributable to recovery and recycling activities?

(h) How are domestic refrigerators being dealt with? Is there a need for small vacuum pumps as transportable alternative to R&R equipment? In terms of cost-effectiveness, is it justified to concentrate efforts on the domestic sector?

7. Monitoring and Data Collection

(a) Identification of the sources of data. How reliable are data collected from customs, importers, industrial and commercial associations? Are data collected from different sources consistent or differing?

(b) Has a monitoring system been built up and, if so, is it operational?

(c) What are the formats, frequency and quality of reports relating to CFC consumption data and project results?

8. Role of Implementing Agencies (IAs) and regional networks

(a) Is the communication between NOUs and IAs with respect to RMP preparation, implementation, monitoring and reporting functioning well?

(b) Have IAs adequately supported the NOUs with advice and expertise?

(c) Have regional networks been helpful to facilitate exchange of information and lessons learnt with regard to RMPs?

9. Additional Measures of the Phase-out Strategy

(a) Are consumer taxes or environment fees on the use of CFCs planned or introduced?

(b) Are incentives for retrofitting or replacing CFC-based equipment planned or introduced?

(c) What has been the impact of any retrofit activities, whether funded by the Fund, or self-financed?

(d) Have control or security measures been taken against illegal imports?

(e) Is the annual quota allocation within the Import Licensing System being progressively reduced in accordance with the CFC phase-out schedule as prescribed by the Montreal Protocol?

(f) Are data available or mechanisms in place to collect data on existing stockpiles of CFCs?

10. General Conclusions

(a) Has CFC consumption been actually reduced through the implementation of the RMP? If not, what reasons can identified?

(b) To what extent has the design and the implementation of the RMP helped to achieve the intended synchronisation between legislation, customs training, training of technicians, and the recovery and recycling project?

(c) Is any adjustment needed for the design of RMP updates and national phase-out plans?

(d) Does the NOU have new concepts or strategic plans to accelerate the phase out process? If so, what is being planned?