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**FINAL REPORT ON THE EVALUATION OF MANAGEMENT, MONITORING
AND VERIFICATION OF NATIONAL PHASE-OUT PLANS IN
NON-LOW-VOLUME-CONSUMING COUNTRIES**

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EXECUTIVE SUMMARY

Main findings

1. The focus of the present evaluation was to review the management, monitoring, reporting and verifications systems in place for national phase-out plans (NPPs), compare them to the approved guidelines and assess their appropriateness and efficacy. In order to assess these aspects of the NPPs, the planning, management and monitoring of the individual activities implemented and their actual results had also to be analyzed and compared to the initial plans. In this sense the current synthesis and the case studies address most aspects of the NPPs evaluated.
2. The countries evaluated, with the exception of India in 2006, the Islamic Republic of Iran from 2001 to 2003 and the Libyan Arab Jamahiriya in 2003, have always been in compliance with their NPP obligations (see Annex I). Argentina, Brazil, the Islamic Republic of Iran, the Libyan Arab Jamahiriya and the Viet Nam were significantly ahead of their CFC phase-out targets for 2006, while the Egypt and Malaysia reached them with a close margin, as did Viet Nam for halons. Malaysia was ahead of its targets for CTC and TCA. These achievements are remarkable, as in most cases the phase-out targets under the NPPs have been advancing the schedules under the Montreal Protocol (see data by country in Annex I).
3. The management model for the NPPs, in particular the division of labour between NOUs and project management units (PMUs) varied considerably among the eight countries visited. While some NOUs hired additional staff with funding from the NPP, in other countries largely independent units with staff contracted by the agency implementing the NPP were created. Given the diversity of political infrastructure and ways of sharing responsibilities between ministries and agencies, it would not be possible to suggest one management regime as preferable to another.
4. The majority of countries visited (Argentina, Islamic Republic of Iran, Libyan Arab Jamahiriya, Malaysia and Viet Nam) reported that they have not used the flexibility clause due to either adherence to the rules of implementing agencies (IAs) or lack of need. Those that have (Brazil, Egypt and India), reported that the flexibility clause has facilitated the updating and/or introducing of new ODS phase-out activities needed to comply with the Agreement. This included providing assistance to firms created after the July 1995 cut off date, moving funds from one budget line to another and re-assigning activities among IAs, and taking into account new technical, social and market aspects not envisaged in the original NPP document.
5. Not all countries visited have established inter-ministerial steering committees for Montreal Protocol related issues. Some of those that did, reported that they would meet infrequently. Whether or not a steering committee existed appeared to relate, in a large part, to the decision-making structure in the country and the authority and strength of the NOU. The countries without steering committees reported that they have stakeholder advisory groups without authority to take decisions.
6. Brazil and the Islamic Republic of Iran indicated that they were now embarking on ODS management decentralization plans in order to strengthen country wide monitoring and enforcement, which could be a particular challenge in large countries. In India, the Ozone Cell requested all state governments to create an organizational unit on state level to assist in ODS monitoring.

7. Although all countries have licensing systems to control imports and, where applicable, exports of ODS, in some countries (India and the Libyan Arab Jamahiriya) they have not covered all relevant transactions and/or were not fully effective to prevent some illegal trade (Islamic Republic of Iran, Libyan Arab Jamahiriya, Malaysia and Viet Nam). Furthermore, a licensing system would be of little value unless coupled with a quota allocation mechanism and associated monitoring which the Libyan Arab Jamahiriya did not establish until recently as reported after the evaluation mission.

8. In most countries records showed how many customs officers have been trained to date (records of workshops held and number of participants) but there was no clear information as to how many in total would still require training and how to institutionalize the training. While some countries have advanced computerized databases and on-line information systems for recording and sharing trade data, others were in various stages of preparing the introduction of such systems for Customs, including links to the NOU and other government authorities.

9. In all countries records showed how many technicians have been trained to date but there was no clear indication in more than half of the countries evaluated as to their total training needs. There have been no comprehensive training plans but only estimates about the number of technicians requiring further training.

10. Recovery and recycling equipment delivery to workshops/technicians often proceeded slower than expected. While monitoring and reporting systems were in various stages of development, the records available in countries where some data have been collected showed that, in many instances, there was little usage of the equipment distributed, limited recovery of CFCs and of some HFC-134a and HCFC-22. A few countries have established reclamation facilities. None of the countries appeared to have a business plan on how to make such reclamation centres self-sustaining. Some companies visited stated that they had taken up this activity to provide a more complete service to their clients without expecting much profit and that recovery and reclamation of HFC-134a and HCFC-22 will help to reach break even.

11. Delays and disbursement rates varied substantially from country to country. Some countries noted that there was a perception of delay because front-end funding of some NPPs created a situation where resources available exceeded planned expenditures and programme acceleration was limited by staff capacity to undertake all preparatory work required. Some also indicated that most delays were either related to administrative disruptions (example, elections) or procurement and equipment delivery taking much longer than expected. Many countries reported that the delayed tasks were now on-going and disbursements rates are indeed improving in most cases.

12. Most annual implementation reports (AIPs) have been bulky, repetitive, and often not clear on overall progress achieved in various areas to date, and on the contributions of completed activities to the phase-out achieved. This could probably be largely due to time pressure when those reports were being drafted by the NOU/PMUs and IAs and the tendency to describe completed activities and their positive results rather than to identify and critically assess any problems and delays encountered. The lack of guidelines for structuring and formatting such reports and the different styles of the various agencies involved also played a role in fostering the large variety of formats and approaches observed. The introduction of the MYA overview tables has already contributed to improving the quality of reporting in some cases (only four of the eight countries evaluated have completed them, yet in the process of preparing a funding request

for the next tranche). Their generalized use should be sufficient to improve reporting without further guidelines on the format of AIPs, which have by now become an established practice for the countries and agencies.

13. With regard to verification, it was found that in several countries, restrictions existed with regard to using private auditors to verify government data and activities. In the Libyan Arab Jamahiriya and Malaysia only government auditors could undertake verifications of government entities (Customs, etc.). In Malaysia, the audit must be done by the office of the Auditor General. In Viet Nam a special agreement was required to allow the private auditing company to review customs records which were provided as per request of the NOU. In Brazil, laws protecting the confidentiality of company data precluded an independent auditor from reviewing such data in databases of the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) and Customs, limiting the audit to checking aggregated data in various databases. In Argentina, however, the verifier was given full access to the databases as well as private company data and is thus able to undertake a proper audit. In the other countries, data access and verification procedures varied and were negotiated among the different entities involved.

14. In general, verification had a positive impact by providing additional information on the existence and efficacy of licensing and quota systems and by cross-checking import data from various sources, confirming that the phase-out has indeed taken place as scheduled. Critical remarks in verification reports allowed the Fund Secretariat to point to deficiencies during the review of some requests for further tranches, as for the Libyan Arab Jamahiriya where the licensing and quota system could not be documented, or in India, where the lack of verification of Customs data delayed discovery of un-recorded CFC imports for MDIs. Where the verification report was not presented jointly with the request for renewed funding or was found to be incomplete, the Executive Committee has in several cases approved the next tranche with the condition that the funds would not be released until the verification report was submitted to the Fund Secretariat and confirmed to be of acceptable quality.

15. For the majority of countries the NPP modality was instrumental in: a) reducing transaction costs; b) accelerating the phase-out and focusing on fully eliminating ODS; c) facilitating coordination among IAs; d) triggering more innovative approaches for ODS phase-out; and e) establishing a greater sense of ownership of problems and results. When comparing the NPP modality and the project-by-project approach, the majority of NOUs interviewed sees a logical management progression towards a larger role of countries to manage the phase-out and to finalize it. The NOUs of the Islamic Republic of Iran, the Libyan Arab Jamahiriya and Malaysia, however, did not see significant differences in implementing previous projects and the current NPPs.

RECOMMENDATIONS

16. The Executive Committee may wish to consider:

- (a) Urging Article 5 countries implementing phase-out plans to consider:
 - (i) Issuing decrees (orders usually emanating at ministry level), if possible, to introduce the needed policies, bans and restrictions given the complexity and time required to create or amend legislation;

- (ii) Undertaking a comprehensive needs analysis for further training of customs officers and developing a training plan utilizing the train-the-trainer approach and integrating ODS issues into the regular curriculum in order to create sustainable training capacities;
 - (iii) Charging fees for technician training from the participants or their employers to increase ownership and generate funds for additional training activities;
 - (iv) Using voucher systems to enable workshops to select R&R equipment they want and need, while paying for part of the cost to increase the likelihood of use and to allow for a greater amount of equipment to be purchased;
 - (v) Developing business plans for reclamation centres, demonstrating how such centres can be made self-sustainable;
 - (vi) Undertaking, where not yet done, a needs analysis (at least an estimate based on best available information or surveys) and developing comprehensive training plans for the remaining numbers of refrigeration technicians to be trained;
 - (vii) Monitoring routinely local market place conditions, since prices of CFCs and substitutes tend to be good indicators of the potential risk for illegal trade.
- (b) Requesting UNEP's CAP regional offices to disseminate the on-line interactive customs training module and manual for customs officers developed in Argentina to all interested Article 5 countries.
- (c) Requesting the implementing agencies to
- (i) Complete carefully the new MYA overview tables for all additional tranches requested, in cooperation with the NOUs and PMUs concerned;
 - (ii) Improve the content and clarity of annual implementation reports (AIPs) by reflecting the data in the MYA overview tables and explaining differences between planned and actual results both for the reporting year and in cumulative terms for the whole NPP;
 - (iii) Indicate the cost of verification reports in the AIPs and annual work plans and ensure that all parts of the verification guidelines are followed;
 - (iv) Find other means of cross-checking Customs data to provide the Executive Committee with the required assurances in countries where individual company data are not accessible;
 - (v) Explore options of working with government auditors in countries where this would result in better access to data.

I. Introduction

17. This evaluation, carried out during 2007, follows up on the “Desk Study on the Evaluation of Management and Monitoring of National Phase-out Plans” – UNEP/OzL.Pro/ExCom/51/13) submitted to the Executive Committee at its 51st Meeting in March 2007 and addresses the evaluation issues identified. Eight country case studies were conducted to complement the evaluation of refrigeration management plans (RMPs) and national phase-out plans (NPPs) in non-low-volume-consuming (non-LVC) countries with an emphasis on the refrigeration sector (document UNEP/OzL.Pro/ExCom/48/12). The focus of the present evaluation was to review the management, monitoring, reporting and verifications systems in place, compare them to the existing guidelines and assess their appropriateness and efficacy. In order to assess these aspects of the NPPs, the planning, management and monitoring of the individual activities implemented and their actual results had also to be analyzed and compared to the initial plans. In this sense the current synthesis and the case studies address most aspects of the NPPs evaluated.

18. The countries selected provide a representative sample of large and small countries in all regions as well as countries with early and recently starting NPPs, countries with phase-out ahead and behind schedule, with one or several implementing agencies (IAs), and with different modes of cooperation between national ozone units (NOUs) and project management units (PMUs). The case studies included: Argentina, Brazil, Egypt, India, the Islamic Republic of Iran, the Libyan Arab Jamahiriya, Malaysia, and Viet Nam.

19. The NPPs in these eight countries were all signed between the 35th Meeting of the Executive Committee in December 2001 for Malaysia and the 46th Meeting in July 2005 for Egypt. Seven of the eight countries had an earlier RMP (the exception being Brazil). The NPPs in these countries subsumed the on-going and remaining tasks of the RMPs aiming at the terminal phase-out of Annex-A, Group I substances (CFCs). In Viet Nam the plan also covered halons, and in Malaysia CTC and TCA.

Table 1

OVERVIEW OF NPPs EVALUATED

Country	Sector	Agency	Approved In Principle (As Per Agreements)	
			Total Funds (US \$)	Phase-Out (ODP Tonnes)
Argentina	CFC phase-out plan	UNIDO/IBRD	7,360,850	1,809.5
Brazil	CFC phase-out plan	Germany/UNDP	26,700,000	5,801.0
Egypt	CFC phase-out plan	UNIDO	3,100,000	537.0
India	Sectoral phase-out plan (CFC)	Germany/Switzerland/ UNDP/UNEP/UNIDO	15,371,883	2,022.0
Islamic Republic of Iran	CFC phase-out plan	France/Germany/ UNDP/UNEP/UNIDO	11,017,251	1,708.5
Libyan Arab Jamahiriya	CFC phase-out plan	UNIDO	2,497,947	450.5
Malaysia	ODS phase-out plan	IBRD	11,517,005	1,910.5
Viet Nam	ODS phase-out plan	IBRD	1,260,000	258.7

Source: Inventory

20. Four evaluation missions took place between June and December 2007 with NPPs in two countries evaluated during each mission. A number of consultants were involved in the various country case studies, either independently or along with the Senior Monitoring and Evaluation Officer (SMEO). The consultants included Ranojoy Basu Ray, G. Victor Buxton, Carlos Canales, Jorge Leiva, and Stefan Musto.

21. Case study reports for each of these eight countries were prepared and circulated as drafts to the respective IAs and the NOUs to ensure correct reporting of the factual information gathered. Comments received have been taken into account when finalizing the reports. The conclusions and recommendations remain the domain of the evaluators. Copies of these reports are available upon request from the Fund Secretariat and can also be found on the Intranet of the Fund Secretariat in the evaluation document library.

II. Management

II.1 Role of NOUs and PMUs

22. The NOUs in most cases have been located within the Ministry of Environment, the Environment Authority or Agency or the Ministry of Natural Resources. In almost all cases, the reporting relationship would be to a Deputy Minister or other senior government authority (under the management rubric of “international cooperation” in Viet Nam) or to a CEO (Egypt, Libyan Arab Jamahiriya). In Argentina, the NOU was attached to the Environment Minister’s Cabinet. In one case (Malaysia), the NOU operated as a regular line unit of the Department of Environment and comprised of regular government staff with salaries paid from the government budget and not the institutional strengthening (IS) project. In Brazil, the NOU also consisted of a line unit of the Climate Change Secretariat located in the Ministry of Environment. Regular staff salaries were funded from the Government budget and contracted specialists from the IS budget. However, in most of the countries, salaries of the NOU staff, although situated in the government hierarchy, were funded via the IS project and staff of the PMUs by the NPPs.

23. The roles of the NOU and PMU varied among the eight countries. In Malaysia, the PMU staff have been contracted using NPP funds and work within the NOU. Argentina has no PMU but has contracted staff working within the NOU. Viet Nam’s NOU Head also managed the PMU and was being paid by the IS project while PMU staff were funded from the NPP. Brazil’s PMU (I&M Unit) contracted temporary UNDP staff working in UNDP offices supervised by local UNDP management, while GTZ worked with a local consultant, both agencies being coordinated by the NOU. India has four PMUs (one for each sector funded from different sector plans); the PMUs for CFC and CTC production sectors are legal entities (societies) registered in India working under the supervision of the NOU. Staff of the PMU for the refrigeration servicing sector have been contracted by GTZ and for foam by UNDP. In the Islamic Republic of Iran, the PMU received direction from the NOU and coordinated local staff and consultants. In the Libyan Arab Jamahiriya, the PMU was created only in December 2007, after the evaluation mission. Egypt’s ODS management structure is comprised of three organizational units (a NOU, a PMU, and a methyl bromide unit) that report directly to the CEO, with the PMU having responsibility for delivery of the activities of the NPP, the NOU for policy and enforcement measures and the third unit focusing on MB.

24. Each NOU/PMU set-up has taken into account domestic law, local government management practices and other considerations. Based on this evaluation, most countries visited have sufficiently strong NOUs and, where applicable, PMUs to ensure the phase-out as planned. The NOU in the Libyan Arab Jamahiriya and the PMU in the Islamic Republic of Iran seemed short staffed and would benefit from further strengthening which is reportedly being addressed now in both countries.

25. The objective of creating PMUs working in parallel to the NOU was to give a specific focus on delivering timely results for the NPP. As can be seen from the case study on Argentina, independent PMUs may not be necessary in all circumstances provided there is a strong NOU that would increase its staff with funding from NPP resources. Given the diversity of political infrastructure and ways of sharing responsibilities between ministries and agencies, it would not be possible to suggest one management regime as being preferable to another. Several countries noted that the creation of the PMU under the NPP has increased the efficiency in managing the phase-out process.

26. Coordination between the NOUs and PMUs in the countries visited has generally been working well, especially where the PMU has been part of the NOU or directed by it. Given the wide range and diversity of management models used, it would not be possible to suggest one as being preferable to another. In each case, an analysis would be needed as to whether the assignment of accountabilities and responsibilities, within the country's legal, administrative and institutional context was facilitating or hindering the NPP implementation. This analysis can be found in the case studies which are available at request.

II.2 Steering committees, decentralization, and coordination among agencies

27. Steering committees were incorporated into the NPP guidelines to assist in creating buy-in from all of the key stakeholders such as other ministries and the private sector thereby creating a sense of ownership, problem solving partnerships and a collective dedication to remediation. India has established the Empowered Steering Committee consisting of the secretaries of related ministries (Finance, Industries and Chemicals) plus nominated experts and supported by a series of working groups, with a mandate to develop policies and actions pertaining to the Montreal Protocol. Brazil's PROZON, a committee of representatives from several ministries (Agriculture, Industry, Foreign Affairs, Science and Technology, Finances and Healthy), is being coordinated by the Ministry of Environment. In addition, the Ozone Working Group (GTO) has been created with stakeholders from the public and private sector. Some countries have not established formal steering committees (Argentina and Viet Nam) and for those that did, not all were operational or met very infrequently (Egypt and Malaysia). The countries without steering committees reported that they have stakeholder advisory groups. For example, Argentina has created the GRUCO-CFCs, a consultative body that has been providing advice and guidance to OPROZ (the NOU) on matters relating to the implementation of the country programme and the NPP.

28. The Islamic Republic of Iran has been decentralising its ODS management by creating Ozone Cells in the provincial offices of the Department of Environment (DOE) supported by provincial Ozone Networks, mirroring the NOU and the National Ozone Committee (steering committee) at the national level. This has been a very important implementation feature because each provincial DOE office in the Islamic Republic of Iran has its own projects, enforcement actions and inspections. The provincial Ozone Cells should deliver R&R equipment and monitor

their use, and apply the identifiers to check mislabelled cylinders. The provincial networks are expected to play a key role in future in relation to project delivery, monitoring and enforcement of all Multilateral Environment Agreements (MEAs).

29. Brazil has also decentralized some of its NPP delivery. IBAMA's regional offices throughout the country have undertaken enforcement actions where discrepancies of actual trade transactions with import licenses have been observed. IBAMA staff indicated that five such inspections were undertaken in 2006 for five of a total of twenty-five importers. During the country programme updating in India, the Ozone Cell requested all state governments to create an organizational unit to assist in ODS monitoring. Each state identified one officer to interact with the Ozone Cell and all State Pollution Control Boards (SPCB). The Ozone Cell provided training to these officers.

30. Inter-agency coordination would be particularly needed when several IAs and bilateral agencies are involved. While form and frequency of exchanges between agencies vary, no country reported serious difficulties with regard to IA coordination. In India GTZ, as lead implementing agency (Lead IA) has been organizing a coordination meeting twice a year with UNDP, UNEP, UNIDO, as well as Switzerland and the World Bank for the CFC and CTC production sectors. The Ozone Cell and the PMUs have joined for the so-called CORE Group meeting to coordinate activities and cooperate on planning and reporting. In the Islamic Republic of Iran, coordination between GTZ and UNIDO as well as UNDP takes place more informally; dates for missions are discussed in advance and draft reports exchanged and collated by GTZ as Lead IA. In Brazil, regular working contacts are maintained between UNDP as Lead IA and GTZ, coordinated by the NOU.

III. Compliance, legislation and enforcement

III.1 Compliance situation

31. The countries evaluated, with the exception of India in 2006, the Islamic Republic of Iran from 2001 to 2003 and the Libyan Arab Jamahiriya in 2003, have always been in compliance with their NPP obligations (see Annex I). Argentina, Brazil, the Islamic Republic of Iran, the Libyan Arab Jamahiriya and Viet Nam were significantly ahead of their CFC phase-out targets for 2006, while Egypt and Malaysia reached them with a close margin, as did Viet Nam for halons. Malaysia was ahead of its targets for CTC and TCA. These achievements are remarkable, as in most cases the phase-out targets under the NPPs have been advancing the schedules under the Montreal Protocol (see data by country in Annex I). It is also remarkable in view of the fact that phase-out reported as achieved in the annual progress reports of the IAs is significantly less than planned, as most tranches are still reported as on-going (see Annex II).

Table 2

PHASE-OUT ACHIEVED AND COMPLIANCE STATUS in 2006

Country	Chemical	Baseline	Montreal Protocol Consumption Limits	2006 Maximum Allowable Consumption (As Per Agreement)	2006 Article 7 Consumption Data	2006 Verified Consumption And Compliance*
Argentina	CFC	4,697.2	2,348.6	1,997.0	1,654.2	1,654.3
Brazil	CFC	10,525.8	5,262.9	2,050.0	477.8	477.7
Egypt	CFC	1,668.0	834.0	595.0	593.6	593.6
India	CFC	6,681.0	3,340.5	1,560.0	3,560.3	3,560.3
Islamic Republic of Iran	CFC	4,571.7	2,285.9	2,285.0	953.3	N/A**
Libyan Arab Jamahiriya	CFC	716.7	358.4	176.0	115.7	N/A**
Malaysia	CFC	3,271.1	1,635.6	579.0	565.2	N/A**
Malaysia	CTC	4.5	0.7	0.7	0.0	N/A**
Malaysia	TCA	49.5	34.7	18.0	5.2	N/A**
Viet Nam	CFC	500.0	250.0	200.0	148.7	148.7
Viet Nam	Halons	37.1	18.6	18.5	0.0	0.0

Source: Inventory, Article 7 data, verification reports

* Shaded field indicates non-compliance for India with the maximum allowable consumption under the NCCoPP of 1,560 ODP tonnes for 2006.

** N/A: not yet available

32. Although India's ODS management system overall seemed to be well established and functional, India has faced a situation of non-compliance in 2006 with the maximum allowable consumption under the NCCoPP. CFC exports fell substantially short of expectations and CFC consumption in the MDI sector grew rapidly. From a lessons-learned perspective it might be worth noting the possible reasons that have led to this situation, namely:

- (a) Failure to link the CFC production sector phase-out targets and export projections to the obligations of the national CFC consumption phase-out plan (NCCoPP) when the latter was agreed upon; the main reasons probably related to over-optimistic expectations with regard to future export perspectives and the reluctance of the CFC producers to amend the production sector agreement;
- (b) Omission by the NOU and IAs, with GTZ as Lead IA, to recognize early the risk of potential non-compliance arising in 2006 and to introduce the needed policy measures. To prevent recurrence of this situation in future years, a combination of domestic sales quotas and a slight modification of the administrative procedures for issuing CFC production quotas would be required. This may not need an amendment to the production sector agreement with the CFC producers. The modification could involve assignment of production quotas up to the limit

specified by the NCCoPP to CFC producers at the beginning of the year. Additional quotas up to the limits agreed by the production sector agreement would then be granted to each individual CFC producer providing that evidence of exports is shown;

- (c) Insufficient awareness by Director General of Foreign Trade resulting in lack of consultation with the Ozone Cell that could have prevented the issuance of the advanced import license for CFC used for export production of MDIs;
- (d) A misinterpretation of decision XVIII/16 of the Eighteenth Meeting of the Parties regarding MDI consumption, which was seen by the Ozone Cell as not falling under the maximum allowable consumption agreed to in the NCCoPP; this was clarified by decision 53/13 of the Executive Committee;
- (e) Lack of a formal licensing system for end users that could have prevented the unconstrained CFC consumption growth in the MDI sector.

III.2 Legislation and enforcement

33. Import and production restrictions have tended to address only the supply-side of the equation. Neglecting the demand-side or phasing-out too fast without adequate training and market place adjustments could create incentives for illegal trade. This has been a risk with regard to Brazil's NPP since the target to train 35,000 technicians out of 60,000 has not yet been met with 17,515 having been trained to date. At the same time the final stages of ODS phase-out have begun with an import ban for CFCs in effect from 1 January 2007.

34. Enforcement and illegal trade could be seen to be inextricably linked. Illegal trade has not been recorded as such until detected. Enforcement would require the appropriate legislation and penalties to serve as a deterrent but could also be closely tied to other enabling aspects such as surveillance, monitoring and inspection. These could in turn be associated with capacity and the availability of the tools needed to enable detection (identifiers).

35. Although all countries report that they have the needed import and/or export controls in place, in some (India, Islamic Republic of Iran, Libyan Arab Jamahiriya, Malaysia and Viet Nam) perceptions in the marketplace of on-going illegal trade have suggested the contrary. Furthermore, a licensing system would be of little value unless coupled with a meaningful quota allocation mechanism and tracking system. Up until the evaluation mission, the Libyan Arab Jamahiriya did not have a formal quota system. Also, in some countries (Egypt, Libyan Arab Jamahiriya and Viet Nam), customs officers have relied solely on document analysis. If customs officers are not adequately trained and equipped, the risk of illegal trade using mislabelled containers would increase.

36. Some of the countries evaluated, such as Libyan Arab Jamahiriya, have legislative gaps but since global production of CFCs should cease by the end of 2009 and in view of the long gestation period for drafting and debating legislation, an attempt to fill such gaps as late as 2008 and 2009 for CFCs may have little effect on the NPP implementation. Nonetheless, these laws should be put in place with a view to sustaining the CFC phase-out and improving the basis for the phase-out of other ODS such as HCFCs. Also, the focus of the phase-out in all countries has now been the servicing sector, which is dispersed and difficult to control; tougher penalties and

the political will to enforce them would likely be required if illegal trade is to be avoided or eliminated.

IV. Implementation

IV.1 Disbursement rates, delays and flexibility

37. Disbursement rates have varied from country to country. Some countries noted that the financial front loading of the NPP created a situation where planned expenditures were limited by staff ability to complete all of the needed pre-requisite tasks. They also noted that many tasks were on-going and that disbursements rates which were low in the initial years of the NPPs have caught up and at the time of this evaluation correspond to implementation requirements. For example, Malaysia reported that its 2006 disbursement rate of 69 % was in line with the status of projects that were still ongoing (see Annex IV).

Table 3

TRANCHES APPROVED AND IMPLEMENTED

Country	Number Of Tranches Approved	Number Of Tranches Completed	Funds Approved (US \$)	Funds Returned (US \$)	Funds Disbursed By End 2006 (US \$)	Percentage Of Disbursement (%)
Argentina	5	0	7,360,850	0	1,237,496	17
Brazil	10	2	26,350,000	0	11,222,308	43
Egypt	2	0	2,200,000	0	624,573	28
India	24	15	13,175,943	0	8,025,216	61
Islamic Republic of Iran	12	2	9,775,196	0	7,109,615	73
Libyan Arab Jamahiriya	2	1	2,220,000	0	1,807,325	81
Malaysia	7	4	10,967,005	0	7,597,275	69
Viet Nam	2	0	1,081,537	0	115579.13	11

Source: Inventory, Progress Reports for 2006

38. Some countries showed delays in equipment procurement and delivery. For example, Egypt reported that the four-year delay of their RMP completion was due in most part to tardiness in equipment procurement and distribution. In the Libyan Arab Jamahiriya, the main reason for implementation delays has been the lack of communication with the former NOU Head. This situation has now reportedly been rectified.

39. For Viet Nam, to date, two tranches have been approved. For both of these tranches, some of the associated activities were of a multi-year nature and thus were still underway. In reality, a single bank account has been set up for the PMU and funds and associated expenditures could not be easily, or accurately, associated with specific activities within each tranche. The disbursement rate for the approved tranches by the end of 2006 was very low but activities including equipment procurement and distribution have accelerated during 2007.

40. India's NOU noted that the delays observed were mostly related to equipment procurement and the selection of suitable beneficiaries. For Brazil, after initial delays, the

financial progress of the NPP (funds disbursed against the total funds approved by the end of the reporting year for the combined tranches approved at the time) has been steadily improving for the last three years: 22 % (December 2004), 36 % (December 2005) and 43 % (December 2006). Funds disbursed reached 59 % of approved funding by July 2007.

41. In Argentina, which also showed a low disbursement rate, activities have proceeded largely as planned, but due to the strong devaluation of the Peso (formerly 1:1 with the US Dollar, now 3:1), available funds have lasted longer than planned and the NOU has been very carefully examining and testing all options before agreeing to equipment procurement. This can be regarded as a very good practice.

42. The NPPs were designed to introduce enhanced flexibility to enable the countries to address changing priorities and needs. The majority of countries have not used the flexibility clause (Argentina, the Islamic Republic of Iran, Libyan Arab Jamahiriya, Malaysia and Viet Nam). Viet Nam and Malaysia have reported that the strict rules and procedures of the World Bank limit the utilization of the flexibility clause. Others (Brazil, Egypt and India) have used it as needed. For example, India reported that it has exercised the flexibility clause by including new companies, some of them founded after July 1995 in the foam and refrigeration manufacturing sectors, and also by moving funds from one budget line to another or assigning some activities to other IAs. Brazil noted that it has used the flexibility clause to react to new technical and market developments not envisaged in the original NPP document.

IV.2 Training of customs officers

43. Customs training has remained on-going in most of the countries visited. Several countries indicated that they have not had sufficient resources to complete the needed training. Until Customs staff at all entry points were properly trained and equipped with computers, and there was a real time electronic linkage between NOU and Customs' databases, reporting delays and errors in consolidating data would remain a problem. Viet Nam and Malaysia noted that they would need a shared computerized database for Customs and other government institutions involved in ODS phase-out.

44. In most countries there were records showing how many workshops have been held and how many customs officers have been trained to date. However, there was no clear indication in many of the countries as to how much in total need to be trained, nor was there a plan on how to address the total training required. Many countries lacked adequately trained numbers of customs officers at a critical time in the phase-out (85 % reduction phase moving to 100 %). For example, there were an estimated 6,000 customs officers in the Libyan Arab Jamahiriya and just 173 have reportedly been trained by 2007.

45. In India, it has been the responsibility of the Customs commissioners (located at the major ports) to ensure that there was an adequate number of officers trained in ODS-related issues on hand in each of the major 48 ports. India indicated that they would maintain their training for customs officers on ODS and other chemicals even after the MLF funding ceases. As in the majority of the countries visited, ODS training has now become part of the regular training programme for new recruits.

46. In the Libyan Arab Jamahiriya, ODS-related information had not yet been built into the training curriculum for customs officers. Training instructors interviewed reported that there was

little point in doing so now as recruits, they believed, were not sufficiently educated. The current entry requirement was completion of secondary school. Until the entry requirements were upgraded, they feel there would be no point in adding ODS to the curriculum as the subject would be too complicated. Customs in the Libyan Arab Jamahiriya has required capacity building and policy reform regarding data collection, monitoring and reporting.

47. In the Islamic Republic of Iran, it was reported that approximately 200 Custom officers have been trained but there were no figures on how many in total need to be trained and no plan how to address the continuing training deficit claimed by the Customs Department.

48. Argentina indicated that more than 800 customs officers have been trained to date and expected to train the remainder by the end of 2008. As to the train-the-trainer component, Argentina reported that they trained 74 trainers and to date 25 have actually conducted training courses. The other countries were unable to supply figures about the numbers of trainers trained who still actively taught on customs training courses.

IV.3 Training of technicians

49. In all countries visited, records showed how many technicians have been trained to date but there is no clear indication in more than half of the countries evaluated (Egypt, Islamic Republic of Iran, Libyan Arab Jamahiriya, Malaysia and Viet Nam) as to their total training needs and there were no comprehensive training plans. Argentina, Brazil and India have established the total numbers of technicians and have defined schedules and targets for further training of technicians. Many countries indicated that they will continue training as long as there is funding available.

50. The Indian training programme for the refrigeration servicing sector can be regarded as a good example of a systematic approach to training needs analysis, course design, implementation and ex-post evaluation, building on the results achieved by the previous HIDECOR project (bilateral Swiss project not funded by the MLF). The Indian experience has shown that providing trainees with a Certificate of Participation provides an important incentive for technicians to take part in training activities. Also, requiring a registration fee to participate in the training programme has not only promoted pride and ownership but has also generated resources to expand activities. The project created additional funds of US \$85,000, enabling the extension of training activities.

51. Argentina has a very successful training programme for technicians. Of an estimated total of 11,000 technicians, 5,862 have been trained via 236 training courses with a 95 % pass rate. Argentina's NOU reported that they were currently planning new courses to include retrofitting. In Brazil, an astounding number of 17,515 technicians have been trained so far in cooperation with the network of vocational schools SENAI which has been a strong achievement. Thirty-five thousand were targeted in total, involving more than 50 % of the estimated total number of 60,000 technicians.

52. The number of technicians in the Islamic Republic of Iran was estimated to be 3,000. To date, 24 training centres have been provided with training equipment and 750 technicians have been trained. However, an estimated 480 of them have only received a short training on the use of equipment delivered to them.

53. Most countries have offered a certificate that attests to the fact that the technician has participated in a training programme on good refrigeration practices, including the use of R&R equipment. Many have established this training as a pre-requisite to being eligible to receive equipment. Several countries have also established or planned to install reclamation programmes (Argentina, Egypt, Libyan Arab Jamahiriya, and Viet Nam where halons are included in the NPP). Viet Nam has been advised to investigate the cost effectiveness of shipping halon 2402 to the Czech Republic for recycling with a view to determining whether this is an economically viable alternative to building a recycling centre in Viet Nam.

54. There are some CFC reclamation centres operating (Argentina and Brazil) but their business was mostly to reclaim HFC-134a and HCFC-22. In the case of Brazil, obligatory reclamation before re-use of ODS was stipulated in CONAMA Regulation 267/00 but was changed in September 2003 by CONAMA Regulation 340/03, which has also foreseen recycling in situ. None of the countries and companies involved appeared to have detailed business plans on how to make such reclamation centres self-sustaining. Some companies visited stated that they would take up this activity to provide a more complete service to their clients without expecting much profit and that recovery and reclamation of HFC-134a and HCFC-22 would help to reach break even.

55. CFC banking was occurring more in the form of stockpiling, and it has been difficult to estimate how much CFC has been stockpiled. With the entry into some markets of cheap drop-in substitutes for CFC-12 and with declining prices for HFC-134a and HCFC-22, CFC stockpiles could quickly be transformed into a costly liability.

IV.4 R&R equipment and refrigerant identifiers

56. In Viet Nam, with the late start of the NPP, the R&R equipment for the technical training centres was delivered in early 2007. In Viet Nam and Malaysia R&R equipment distribution was based on a voucher system. Viet Nam's NOU and the World Bank believed that having shops invest in the purchase of the equipment would maximize the potential for subsequent use. In the Libyan Arab Jamahiriya, R&R machines have been delivered to large maintenance workshops, some medium-sized workshops and five MAC workshops. The programme is proceeding very slowly and there was no information available regarding equipment use. In Egypt, there was only limited use reported for the 490 pieces of R&R equipment delivered to date. In Brazil, India, and the Islamic Republic of Iran 750, 759 and 1,150 pieces of R&R equipment respectively have been supplied but few data were available as yet on actual usage.

57. Refrigerant identifier kits were only recently distributed in most countries. Brazil noted that 16 kits have been purchased and would be turned over to IBAMA in 2008. India noted that 39 kits were given to NACEN for the customs training centres and 19 to port officials at key entry points. The Islamic Republic of Iran noted that 122 kits have been provided to Customs. Again, there was little information available on actual usage.

V. Efficacy and sustainability

V.1 Efficacy of NPPs as implementation modality

58. The early phases of the MLF implementation focused on picking the “low hanging fruit” by converting the large ODS consuming industries with individual investment projects. The countries evaluated noted that the project-by-project approach, as it was undertaken in the past, provided little training or preparation for the NOU to undertake the country driven NPP modality. The capacity building effect of the project-by-project approach could have been greatly enhanced if such approaches were executed in a more participatory manner. The NPP modality has provided these countries with a more comprehensive framework, management flexibility, more focused implementation and enhanced stakeholder coordination but its overall efficacy must be assessed in the context of the management evolution just noted.

59. Some NOUs (Argentina, Brazil, Egypt, India and the Islamic Republic of Iran) said that the NPP accelerated activities, created a focus on final phase-out, facilitated coordination amongst IAs, triggered innovative approaches and increased ownership of results. They noted that the creation of PMUs under the NPP has increased the efficiency in managing the phase-out process. Viet Nam noted that it has provided a renewed focus, an additional momentum, and a holistic vision to the phase-out and noted that the biennial funding and reporting as uniquely provided for their NPP has reduced transaction costs, which is appropriate for a small plan with limited funding.

60. Brazil reported that the NPP has fostered a wider national discussion about innovative mechanisms for CFC phase-out that prompted public-private sector cooperation. Argentina explained that the NPP modality has encouraged a more strategic approach to the CFC phase-out, enabling the focusing of resources on specific phase-out activities that will yield the best results. India noted that under the NPP the mandates of each IA are clearly spelled out with the activities agreed beforehand, and that the NOU can focus more on administration and oversight.

61. The Libyan Arab Jamahiriya on the other hand reported that the new modality has made little difference compared to the earlier project-by-project approach. Malaysia noted that because the NOU is part of the regular government structure, and implementation proceeds with the World Bank rules as for many projects before, the modality shift to the NPP approach has not created significant differences in management practices.

V.2 Sustaining results and institutional capacities

62. The regulatory infrastructure in place would, along with active enforcement, limit ODS imports and production, where applicable. This, jointly with the capacity built in the NOUs and PMUs, the level of awareness and active engagement generated among the stakeholders (other ministries and the private sector) and their sense of problem ownership, the progress achieved in training of customs officers and refrigeration technicians would be the base for sustaining the phase-out achieved so far and for maintaining the momentum for reaching final CFC phase-out in 2010.

63. The Libyan Arab Jamahiriya has been far behind in training activities, showed little stakeholder engagement and has had serious gaps in terms of regulation and enforcement which favoured illegal trade. At the other end of the comfort spectrum regarding sustainability,

Argentina has established a comprehensive institutional and legal framework to control ODS, has put in place advanced training plans, and has shown the commitment to manage not only the CFC phase-out until 2010 but to maintain it beyond that date.

64. Average prices for CFC-12 by 2007 were higher in most countries than for substitutes (HCF-134a, HCFC-22, or various blends). In some countries like Brazil, Egypt and India this has resulted in a decline of the demand for CFC-12 (see Annex III). The new blends such as R-401, R-406 and R-409 that can serve as drop-in substitutes for domestic refrigerators and small commercial applications have been increasingly popular in some places, like Egypt, but in most countries have still hardly been used. Hydrocarbon blends were used rarely in the countries visited, mainly due to safety concerns, except in India where one large manufacturer of domestic refrigerators introduced them several years ago and some service workshops have also provided retrofitting with them.

65. Another aspect of sustaining results was what will happen to the NOUs after 2010 when IS project support may end or be reduced. This would not be a problem for Malaysia as this NOU was staffed with civil servants paid by the Government or for the Islamic Republic of Iran where the Government was committed to continue funding the unit but the situation was uncertain in the other countries. The NOUs are a key component of the Article 5 countries' asset base and often an anchor for their environmental protection programmes as the repository of databases and centre of expertise on atmospheric environmental issues. The Multilateral Fund has been investing in capacity building in these countries for more than 15 years and there would now be an opportunity to further enhance the rate of return on that investment by continuing to use the capacities created for the phase-out of HCFCs and other remaining ODS (TCA and MB).

66. All of the countries indicated that they had not anticipated savings at the end of the NPP but if there were, some felt the funds could be used for more training and continuous monitoring and enforcement.

67. Several countries noted the increasing connection of their ODS programmes with climate change. For example, Brazil reported that the positive impact of their accelerated phase-out of CFCs alone was equal to 25 % of the entire emission reductions for the first phase under the Kyoto Protocol. Some countries have established clear links already, for example, the Libyan Arab Jamahiriya where the steering committee covers both issues and the senior officials also have climate change responsibilities, or Brazil where the NOU is part of the climate change secretariat.

VI. Monitoring and reporting

VI.1 Monitoring

68. Three main components of NPPs must be monitored: ODS use at the enterprise level, imports (and exports for producing countries), and activities such as training and use of equipment. Other desirable monitoring would include: local market place conditions (prices for CFCs and substitutes for being a good indicator of the risk of illegal trade), state of public awareness, training needs and private sector attitudes and concerns.

69. For Egypt, the Libyan Arab Jamahiriya, Malaysia and Viet Nam, ODS use in the service sector at the enterprise level was not monitored. The reasons cited were the lack of staff and the time and cost of this undertaking. Viet Nam's NOU noted that monitoring companies in the servicing sector was simply not feasible, and in the Libyan Arab Jamahiriya, the lack of skilled staff in the NOU was cited. In Egypt, the monitoring system was under development.

70. The NOU of the Islamic Republic of Iran noted that monitoring was done via the verification function where the technical auditor visits MAC workshops to confirm receipt of equipment and current use. In addition, the PMU and NOU along with GTZ staff have periodically visited factory sites. All MAC workshops have reportedly been contacted and questioned as to whether they had received the equipment and actually utilized it. Workshops were requested to document their recycling activities. This would now be followed up by branch officers of the Department of Environment in the provinces.

71. In India, it was the state authorities and the provincial training cells created under the NPP that carry out the monitoring. In Brazil, monitoring was being undertaken by the PMU and coordinated by the NOU with IBAMA monitoring and controlling the imports and use of ODS. Argentina indicated that monitoring of R&R equipment use was routinely undertaken by the NOU.

72. The methods and frequency with which imports were monitored again varied considerably amongst countries. Several countries such as Egypt, the Libyan Arab Jamahiriya and Viet Nam have had no computer-based systems, so reports from Customs were only received and compiled annually implying some delays.

73. In Brazil, import data were generated by IBAMA, reconciling various databases. Argentina has established electronic data management systems and has compared NOU data continuously with Customs data on-line.

74. In many NPPs, the original project document did not contain intermediate goals and targets, only the final ones for 2010. This could be regarded as a weakness in that the lack of intermediate goals implies also a lack of performance indicators in the context of the overall plan (for example number of technicians trained against the total or number of R&R machines up and working by 2004, 2006 and 2008). Without intermediate cornerstones and targets, it was very difficult to assess the cumulative progress achieved in implementing the NPPs.

VI.2 Annual implementation reports

75. In India, it was the local representative of GTZ, the Lead IA, who prepared the consolidated annual implementation reports (AIPs) with inputs from the other IAs. The draft was reviewed by the NOU and formally submitted by GTZ Proklima to the Fund Secretariat. In Brazil, the PMU would prepare the first draft of the AIPs, then discuss it with the NOU and IBAMA and, once agreed, the document was sent by UNDP to the Fund Secretariat. In Argentina, it was the NOU that prepared all draft reports, jointly with UNIDO.

76. As there have been no guidelines on structure, content and volume of the AIPs, they have varied considerably between countries and agencies. While the lead agencies did their best to harmonize and consolidate the contributions from the other agencies, the structures, levels of

detail and styles of presentations in the various sections would often remain distinctly different from each other.

77. The assessment of the quality of progress report could be viewed from several perspectives, mainly completeness, consistency and the ease with which such reports could be read and interpreted. Generally speaking, the NOUs/PMUs of the countries visited and the representatives of IAs interviewed were quite satisfied with their reporting format. The progress reports from Argentina reflect main achievements from the beginning of the plan. In the case of Brazil, the cumulative progress was depicted graphically. However, from an independent observer perspective, most AIPs have been bulky, repetitive and not clear on many aspects, especially on the overall progress to date and the relative contributions of various completed activities to the phase-out achieved. It was not easy to detect what the plan had achieved in relation to the desired end results (example how many are trained against how many need to be trained).

78. The format of the AIPs could be improved with a view to focusing more on results, both current and cumulative. More intermediate goals should be included. These would provide benchmarks for assessing how well the plan has proceeded. Some overview of what was proposed in the original NPP and what has changed would also be helpful. Finally, some reports should be more explicit in assigning ODS reductions to NPP activities.

79. The reporting format of the recently developed overview tables for multi-year agreements (MYAs) has been a useful addition. Although creating extra work at the onset, it will assist not only countries in monitoring and reporting their NPP progress but also the Fund Secretariat in rapidly reviewing progress and interpreting results for reporting purposes to the Executive Committee.

VII. Verification

VII.1 Verification methods and modalities

80. It is the IA's responsibility (the Lead IA in case several agencies are involved) to ensure that proper verifications has been undertaken. Verifications were being undertaken through the cooperative efforts of IAs and the NOUs/PMUs, usually by hiring local auditing companies. There were a number of domestic factors which determine what can and cannot be done regarding verification. In Malaysia and Viet Nam, only government auditors were entitled to audit government entities (Customs, etc.) and to verify their data reporting. In Brazil, strong privacy protection laws have precluded an independent auditor from reviewing individual company data in Customs and IBAMA's databases, making an audit possible only for aggregated data. In Argentina, the verifier was given full access to all databases as well as private sector data and can therefore undertake a proper audit, as per the Guidelines for the verification of national consumption targets of MYAs approved by the 46th Meeting of the Executive Committee.

81. India, the Islamic Republic of Iran, Malaysia, and Viet Nam have indicated that their prime selection criteria were that the verification be undertaken by a certified audit firm. Brazil's criteria have required professional profile in law and accounting and experience in providing auditing services in the private and public sectors. The most comprehensive criteria reviewed were found in Argentina where they assess bidders with regard to professional accounting

capacity, knowledge of the Montreal Protocol, knowledge of government agencies and existing databases and relevant laws, experience with import and export data, and level of fees requested. Many countries noted that the cost weighed heavily in the selection process.

82. Generally speaking, there was close cooperation between the IA and the NOU/PMU in selecting the verifier. In Argentina, it was the NOU who had developed the specifications, managed the bidding process, and briefed and debriefed the verifier. In the case of Egypt, the PMU prepared a short list from 10 proposals and UNIDO contracted the verifier. In the Libyan Arab Jamahiriya, the basis for selecting the verifier by the Environment Authority has not been clear.

83. The methodology used for the preparation of the verification report has followed generally the guidelines adopted by the Executive Committee, except where local laws limited the access of independent consultants to confidential Government data (Brazil, Malaysia and Viet Nam). Quotas, licences issued and customs data were reconciled and in some cases cross-checked with importer and/or enterprise consumption data. In some cases (Malaysia), a representative sample of importers was analyzed.

84. The verification reports generally did not find significant differences between the data on CFC consumption collected from various sources. Discrepancies could usually be traced back to errors in data entry in terms of customs codes or calculation or differences in data collection methods. They could generally be reconciled by the verifiers where they had access to all sources of data. In the case of the Libyan Arab Jamahiriya, the EGA sent a letter to all importers asking them to send their consumption data to the steering committee but the data collected and those from Customs both appeared incomplete.

85. In almost all countries the NOU, in cooperation with the IA, has reviewed the verification report as to its adequacy and suggested corrections to the verifier who could accept or refuse them. One of the anticipated positive outcomes from the verification/audit exercise was that all reporting errors would be detected during the reconciliation and that measures would be instituted to rectify them and avoid them in future. This has been the case in only some countries (Argentina, Egypt, Malaysia and Viet Nam). In some countries, the verification reports were insufficient from a professional auditing perspective (Brazil and the Libyan Arab Jamahiriya), falling short of providing the independent assurance they were intended to generate, mainly because access to data at company level was limited and reconciliation of data from various sources not possible.

86. Institutional arrangements made for monitoring would need to be verified as per Appendix 5-A of all NPPs approved after the approval of the Guidelines for the preparation, implementation and management of performance-based sector or national ODS phase-out plan by the 38th Meeting of the Executive Committee. However, they have not been specifically included in the verification of consumption and monitoring activities in the majority of countries.

87. Regardless of the shortcomings mentioned, there has been a positive impact of the verification reports on NPP implementation. Viet Nam and Malaysia noted that it has provided information on the efficacy of their quota system and actual imports, giving a clear indication that the demand is indeed reducing. Egypt reported, *inter alia*, that it has also provided information on current prices and demand.

88. The information provided allowed the Fund Secretariat during the review of requests for further tranches to point to deficiencies identified in the verification report, as in the case of Libya where the licensing and quota system could not be documented, or in India, where customs data were lacking. When the verification report was not presented jointly with the request for renewed funding or was missing essential information, the Executive Committee has in several cases approved the next tranche with the condition that the funds would not be released before the verification report was submitted to the Fund Secretariat and was confirmed to be of acceptable quality. The verification reports were also very useful for evaluation purposes, in supplementing the information in the AIPs with an often more critical assessment.

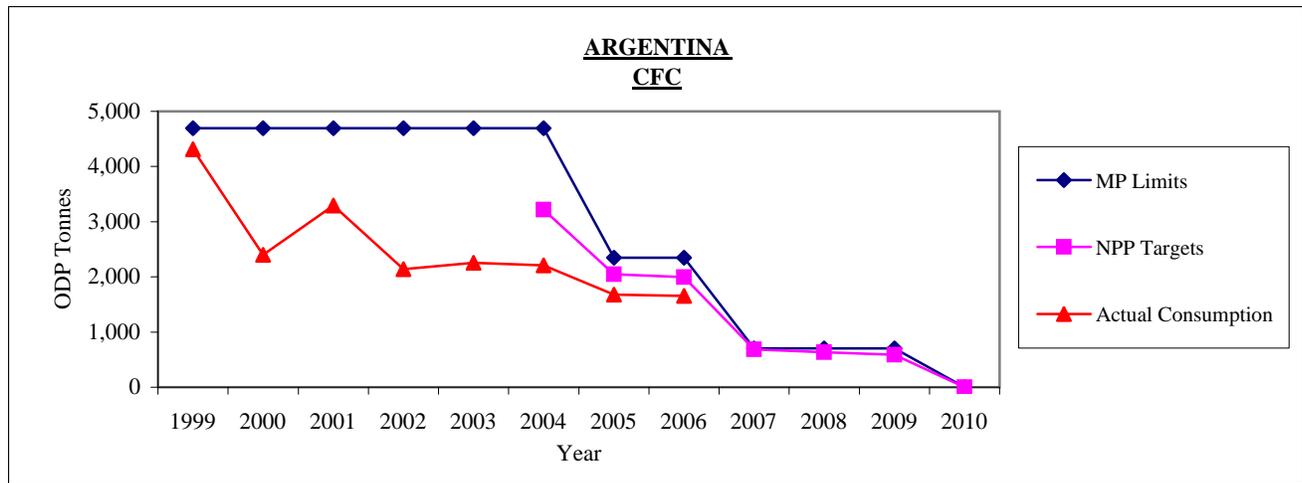
VII.2 Verification costs

89. Viet Nam's NOU reported that it has paid US \$2,700 per audit while its total PMU budget is US \$134,463. In Malaysia a government department undertakes the verification; the cost is unknown and absorbed by the country. In the Libyan Arab Jamahiriya, the cost for first verification was just US \$1,500. Egypt reported that the cost of the verification of the second tranche amounted to US \$11,000 or 1.2 % of the funding for that tranche. Brazil reported an expenditure on verifications of 0.8 % of the support cost for the IA, and Argentina has indicated that the costs for their 2005 and 2006 verifications were US \$6,000 each or about 2.17 % of the support costs for the NPP.

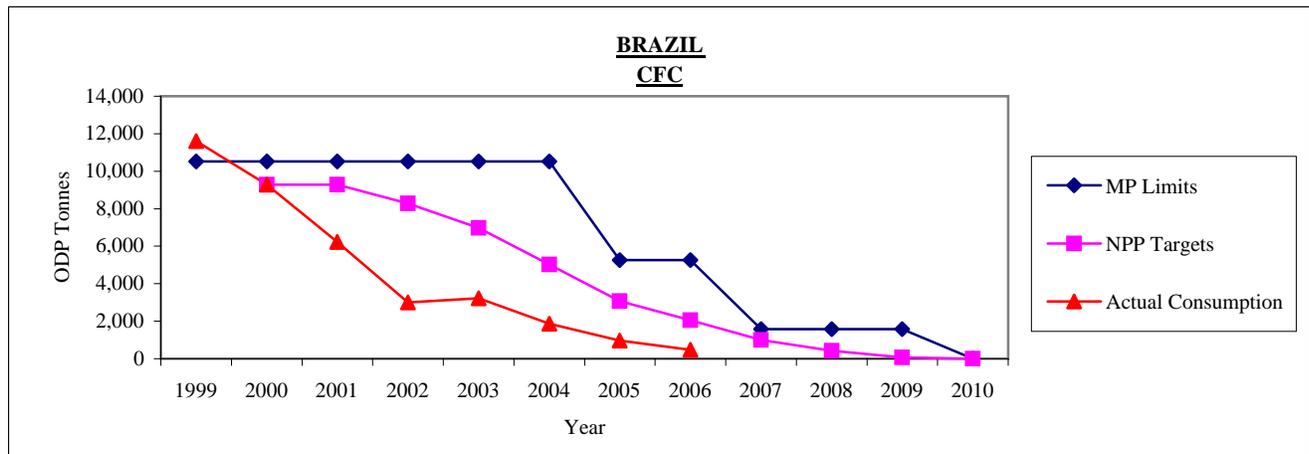
90. Proper verifications have not been cheap, in general, and low cost verifications as evidenced by these case studies (the exception being Viet Nam) resulted in limited scope and quality that failed to provide the necessary crosschecks of ODS consumption data from various sources. Also, the case studies confirmed that poor verifications were usually not the fault of the verifier but rather the result of local constraints limiting access to company level information or to government data imposed by national laws, or the lack of a requirement in the Terms of Reference (TORs) for the verifiers to precisely follow the verification guidelines, or budget limitations for more extensive field visits.

91. There was also the issue of who was responsible for paying for the verification. The typical NPP (example, for Argentina) states "The Lead IA will be responsible for ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's phase-out plan". The NPP for Brazil has stated simply that "the Government of Brazil agrees to allow independent verification audits". The NPP Agreement for Egypt stated "The Lead IA will be responsible for carrying out the activities listed in Appendix 6-A including but not limited to independent verification". The interpretation of these references seemed to vary amongst IAs when it came to who pays. For example, Viet Nam reported that the World Bank has assumed the cost of the verifications. In the case of Malaysia, all audits must be undertaken by a government agency (Audit Department), so the country has paid. In the case of India it was the Lead IA that has been funding the verification via the project funds. This is also the case in Egypt. This issue may require clarification.

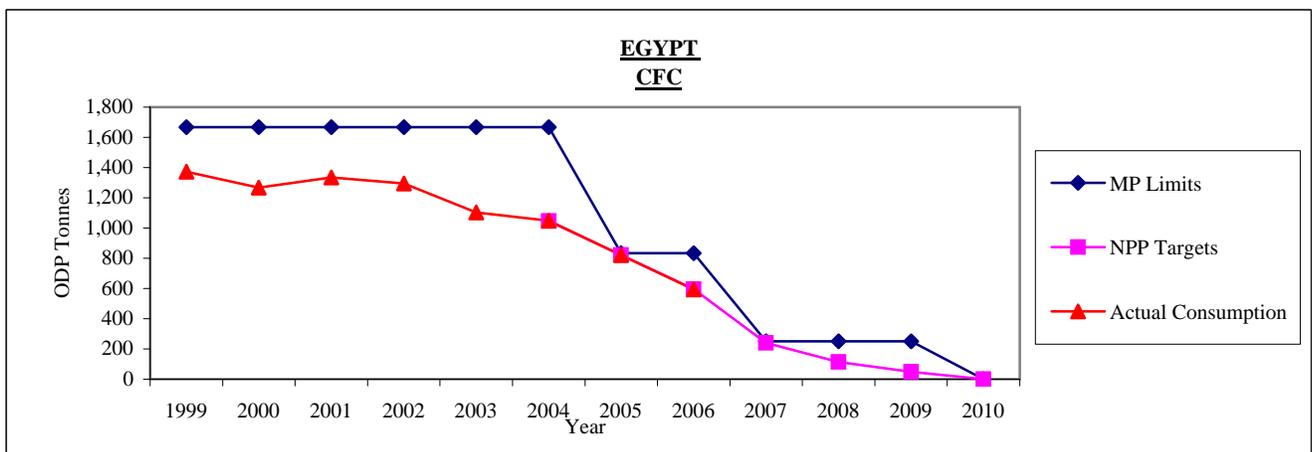
PHASE-OUT TARGETS AND ACHIEVEMENTS



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	4,697.2	4,697.2	4,697.2	4,697.2	4,697.2	4,697.2	2,348.6	2,348.6	704.6	704.6	704.6	0.0
NPP Targets						3,220.0	2,047.0	1,997.0	686.0	636.0	586.0	0.0
Actual Consumption	4,316.3	2,396.7	3,293.1	2,139.2	2,255.2	2,211.6	1,675.5	1,654.2				



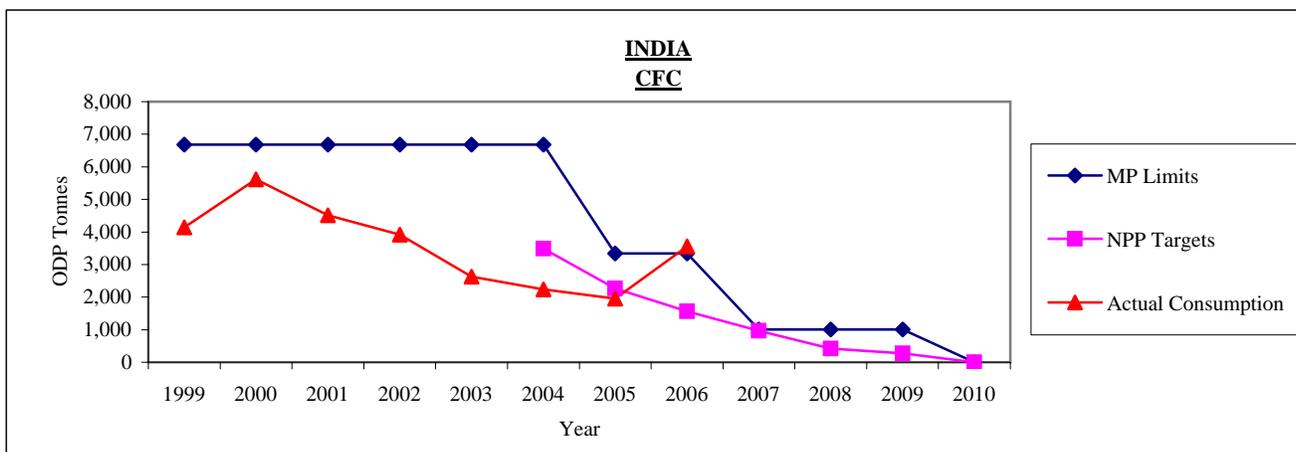
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	10,525.8	10,525.8	10,525.8	10,525.8	10,525.8	10,525.8	5,262.9	5,262.9	1,578.9	1,578.9	1,578.9	0.0
NPP Targets		9,276.0	9,276.0	8,280.0	6,967.0	5,020.0	3,070.0	2,050.0	1,000.0	424.0	74.0	0.0
Actual Consumption	11,612.0	9,275.1	6,230.9	3,000.6	3,224.3	1,870.5	967.2	477.8				



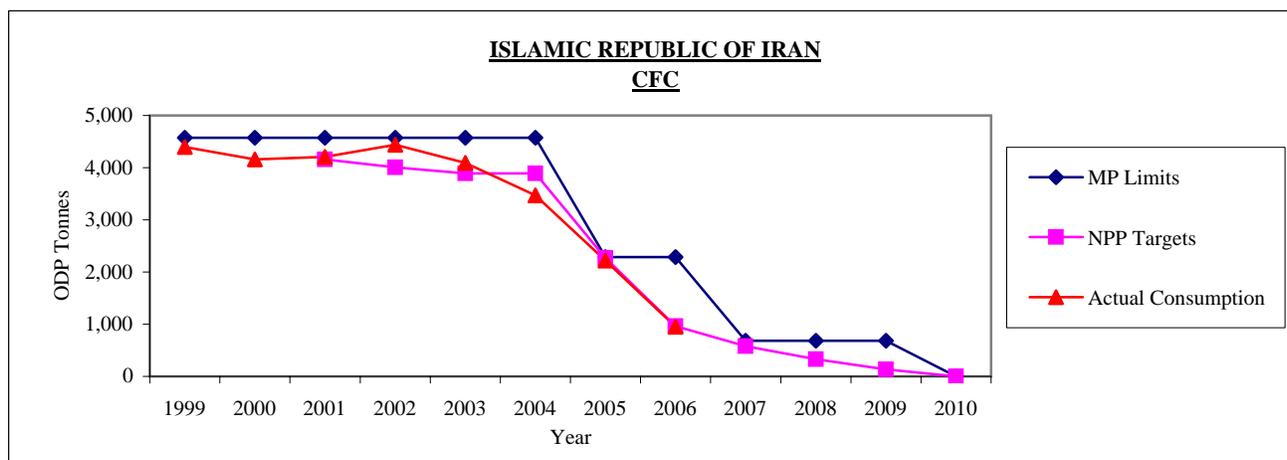
*NPP Targets and Actual Consumption about the same in 2004, 2005 and 2006.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	1,668.0	1,668.0	1,668.0	1,668.0	1,668.0	1,668.0	834.0	834.0	250.2	250.2	250.2	0.0
NPP Targets						1,047.0	822.0	595.0	240.0	113.0	49.0	0.0
Actual Consumption	1,373.6	1,267.0	1,334.8	1,294.0	1,102.2	1,047.6	821.2	593.6				

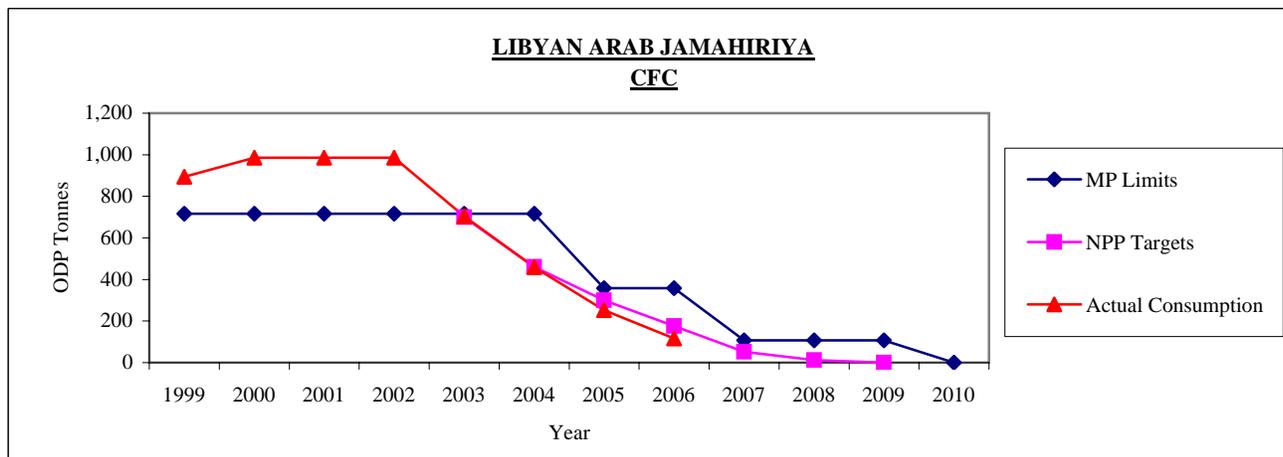
PHASE-OUT TARGETS AND ACHIEVEMENTS



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	6,681.0	6,681.0	6,681.0	6,681.0	6,681.0	6,681.0	3,340.5	3,340.5	1,002.2	1,002.2	1,002.2	0.0
NPP Targets						3,489.0	2,266.0	1,560.0	964.0	417.0	273.0	0.0
Actual Consumption	4,142.9	5,614.3	4,514.3	3,917.7	2,631.5	2,241.6	1,957.8	3,560.3				

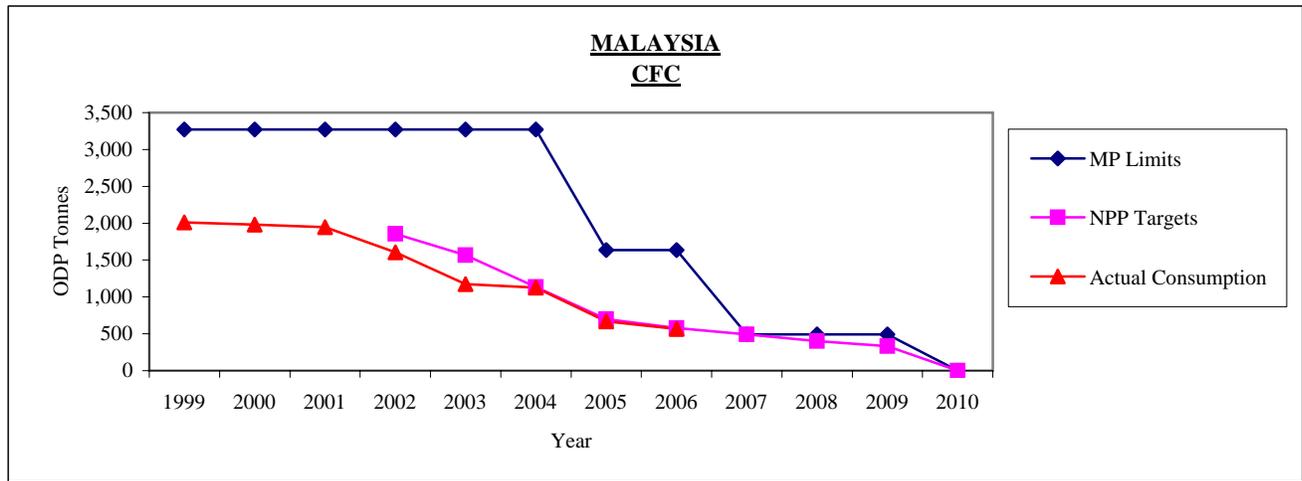


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	4,571.7	4,571.7	4,571.7	4,571.7	4,571.7	4,571.7	2,285.9	2,285.9	685.8	685.8	685.8	0.0
NPP Targets			4,156.5	4,005.4	3,889.4	3,889.4	2,269.2	965.6	578.7	328.4	132.7	0.0
Actual Consumption	4,399.0	4,156.5	4,204.8	4,437.8	4,088.8	3,471.9	2,221.0	953.3				

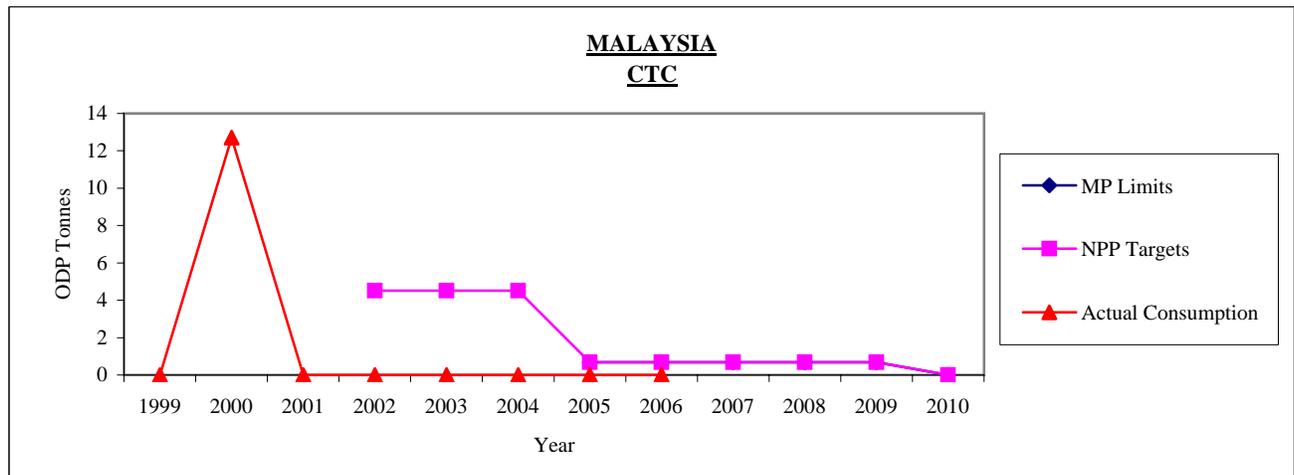


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	716.7	716.7	716.7	716.7	716.7	716.7	358.4	358.4	107.5	107.5	107.5	0.0
NPP Targets					700.0	461.0	300.0	176.0	52.0	11.6	0.0	
Actual Consumption	894.0	985.4	985.4	985.4	704.1	459.0	252.0	115.7				

PHASE-OUT TARGETS AND ACHIEVEMENTS

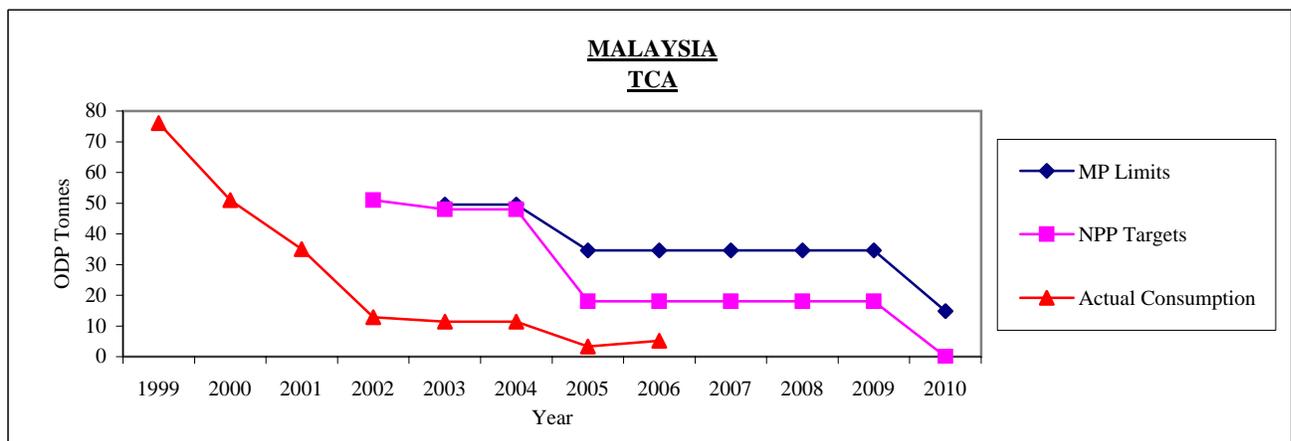


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	3,271.1	3,271.1	3,271.1	3,271.1	3,271.1	3,271.1	1,635.6	1,635.6	490.7	490.7	490.7	0.0
NPP Targets				1,855.0	1,566.0	1,136.0	699.0	579.0	490.0	401.0	332.0	0.0
Actual Consumption	2,010.1	1,979.8	1,946.9	1,605.5	1,174.4	1,128.5	668.3	565.2				



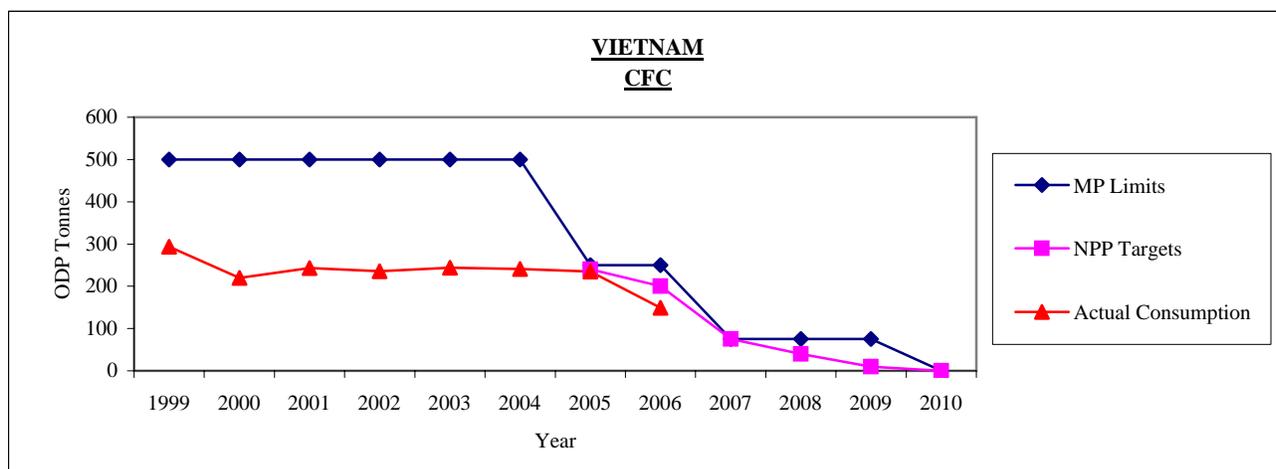
*MP Limits and NPP Targets about the same in 2005 to 2010

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits							0.7	0.7	0.7	0.7	0.7	0.0
NPP Targets				4.5	4.5	4.5	0.7	0.7	0.7	0.7	0.7	0.0
Actual Consumption	0.0	12.7	0.0	0.0	0.0	0.0	0.0	0.0				

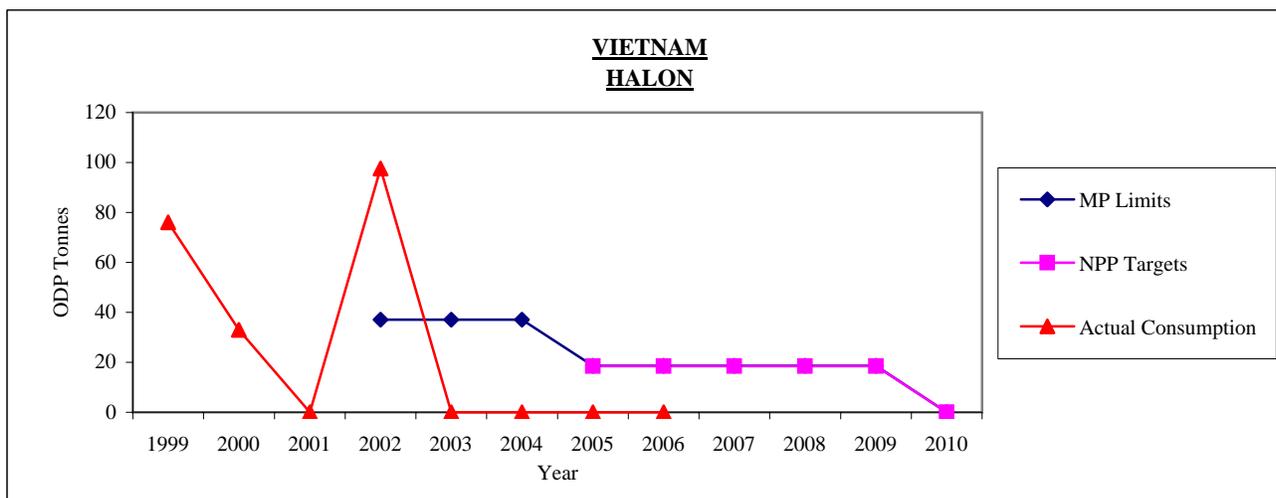


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits							49.5	34.7	34.7	34.7	34.7	14.9
NPP Targets				51.0	48.0	48.0	18.0	18.0	18.0	18.0	18.0	0.0
Actual Consumption	76.1	51.0	35.0	12.9	11.4	11.4	3.3	5.2				

PHASE-OUT TARGETS AND ACHIEVEMENTS



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits	500.0	500.0	500.0	500.0	500.0	500.0	250.0	250.0	75.0	75.0	75.0	0.0
NPP Targets							240.0	200.0	75.0	40.0	10.0	0.0
Actual Consumption	293.9	220.0	243.0	235.5	243.7	241.0	234.8	148.7				



*MP Limits and NPP Targets about the same in 2005 to 2010

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MP Limits				37.1	37.1	37.1	18.6	18.6	18.6	18.6	18.6	0.0
NPP Targets							18.5	18.5	18.5	18.5	18.5	0.0
Actual Consumption	76.0	33.0	0.0	97.6	0.0	0.0	0.0	0.0				

- In Non-Compliance with the MP Limits
- In Non-Compliance with the NPP Targets
- In Non-Compliance with the MP Limits and NPP Targets

Annex II

PHASE-OUT PLANNED AND ACHIEVED BY TRANCHE

Country	Code	Agency	Status	ODP To Be Phased Out	ODP Phased Out
Argentina	ARG/PHA/42/INV/138	UNIDO	ONG	0.0	0.0
Argentina	ARG/PHA/47/INV/147	UNIDO	ONG	100.0	100.0
Argentina	ARG/PHA/47/INV/148	IBRD	ONG	1.5	0.0
Argentina	ARG/PHA/50/INV/150	UNIDO	ONG	200.0	0.0
Argentina	ARG/PHA/53/INV/152	UNIDO	ONG	400.0	
	Total			701.5	100.0
Brazil	BRA/PHA/37/INV/262	UNDP	COM	1,251.0	1,251.0
Brazil	BRA/PHA/37/TRA/260	Germany	ONG	0.0	
Brazil	BRA/PHA/37/TRA/261	Germany	COM	0.0	
Brazil	BRA/PHA/41/INV/264	UNDP	ONG	737.0	737.0
Brazil	BRA/PHA/41/INV/265	Germany	ONG	0.0	
Brazil	BRA/PHA/45/INV/270	UNDP	ONG	743.0	743.0
Brazil	BRA/PHA/47/INV/274	UNDP	ONG	1,020.0	1,020.0
Brazil	BRA/PHA/48/INV/277	Germany	ONG	0.0	
Brazil	BRA/PHA/50/INV/278	UNDP	ONG	1,050.0	0.0
Brazil	BRA/PHA/53/INV/280	UNDP	ONG	576.0	
	Total			5,377.0	3,751.0
Egypt	EGY/PHA/46/INV/91	UNIDO	ONG	190.0	190.0
Egypt	EGY/PHA/50/INV/93	UNIDO	ONG	182.0	0.0
	Total			372.0	190.0
India	IND/FOA/37/INV/353	UNDP	COM	162.5	162.0
India	IND/FOA/41/INV/365	UNDP	COM	210.0	210.0
India	IND/FOA/44/INV/384	UNDP	COM	301.0	301.0
India	IND/REF/38/INV/356	UNDP	COM	0.0	0.0
India	IND/REF/38/INV/359	UNIDO	COM	40.0	59.0
India	IND/REF/41/INV/364	UNDP	COM	0.0	0.0
India	IND/REF/41/INV/366	UNIDO	ONG	67.0	50.0
India	IND/REF/42/INV/369	Germany	COM	0.0	
India	IND/REF/42/INV/370	Switzerland	FIN	0.0	0.0
India	IND/REF/42/INV/371	UNDP	COM	0.0	0.0
India	IND/REF/42/TAS/377	UNEP	COM	0.0	0.0
India	IND/REF/44/INV/379	UNDP	COM	158.0	158.0
India	IND/REF/44/INV/380	Germany	COM	0.0	
India	IND/REF/44/INV/381	Switzerland	FIN	0.0	0.0
India	IND/REF/44/INV/383	UNDP	COM	141.0	141.0
India	IND/REF/44/TAS/382	UNEP	COM	0.0	0.0
India	IND/REF/47/INV/393	Germany	ONG	0.0	
India	IND/REF/47/INV/394	Switzerland	ONG	0.0	0.0
India	IND/REF/47/INV/395	UNDP	ONG	414.0	414.0
India	IND/REF/47/TAS/396	UNEP	ONG	0.0	0.0
India	IND/REF/50/INV/403	UNDP	ONG	138.0	0.0
India	IND/REF/50/INV/404	Germany	ONG	358.0	
India	IND/REF/50/INV/406	Switzerland	ONG	0.0	0.0
India	IND/REF/50/TAS/405	UNEP	ONG	0.0	0.0
	Total			1,989.5	1,495.0
Iran	IRA/PHA/41/INV/160	Germany	ONG	0.0	
Iran	IRA/PHA/41/INV/162	UNIDO	COM	274.1	274.1
Iran	IRA/PHA/41/INV/163	France	ONG	0.0	59.4
Iran	IRA/PHA/41/TAS/161	UNEP	ONG	0.0	0.0
Iran	IRA/PHA/42/INV/165	UNDP	ONG	56.0	56.0
Iran	IRA/PHA/45/INV/169	Germany	ONG	108.7	
Iran	IRA/PHA/45/INV/170	UNIDO	COM	115.5	115.5
Iran	IRA/PHA/45/INV/171	France	ONG	91.4	94.3
Iran	IRA/PHA/48/INV/176	Germany	ONG	294.5	
Iran	IRA/PHA/48/INV/177	UNIDO	ONG	19.4	0.0
Iran	IRA/PHA/51/INV/181	Germany	ONG	250.3	
Iran	IRA/PHA/51/TRA/182	UNIDO	ONG	0.0	
	Total			1,209.9	599.3
Libya	LIB/PHA/41/INV/22	UNIDO	COM	150.0	150.4
Libya	LIB/PHA/45/INV/25	UNIDO	ONG	124.0	124.0
	Total			274.0	274.4
Malaysia	MAL/PHA/35/INV/145	IBRD	COM	0.0	0.0
Malaysia	MAL/PHA/37/INV/147	IBRD	COM	0.0	0.0
Malaysia	MAL/PHA/40/INV/149	IBRD	COM	292.0	292.0
Malaysia	MAL/PHA/44/INV/154	IBRD	COM	430.0	430.0
Malaysia	MAL/PHA/47/INV/156	IBRD	ONG	470.8	470.8
Malaysia	MAL/PHA/49/INV/157	IBRD	ONG	120.0	120.0
Malaysia	MAL/PHA/52/INV/158	IBRD	ONG	88.3	
	Total			1,401.1	1,312.8
Vietnam	VIE/PHA/45/INV/45	IBRD	ONG	40.0	0.0
Vietnam	VIE/PHA/49/INV/47	IBRD	ONG	165.0	0.0
	Total			205.0	0.0

Annex III

REFRIGERANT PRICES 2007 (in US\$/kg)

Country	CFC-12	CFC-11	HFC-134a	HCFC-22	R-401	R-406	R-409	Comments
Argentina	9.00		7.00	3.00		3.00		CFCs are still relatively cheap but their supply is tightly controlled.
Brazil	35.00	No demand	15.00	4.00				Price relations suggest that there is an economic driver to move away from CFC use.
Egypt	15.00	27.00	10.00	6.00	9.00	7.00	8.00	Expect CFC demand to be met by R-401, R-406, R-409.
India	12.75		5.10	8.74				
Islamic Republic of Iran	Price of CFC-12 reportedly about same as HFC-134a	Price of CFC-11 is reportedly higher than HCFC-141b						There does not appear to be a market place incentive to continue using CFCs.
Libyan Arab Jamahiriya	40.90-53.30		65.60-82.00	24.60 - 37.00				Prices do not appear to significantly influence local demand.
Malaysia	5.00/kg	No import	6.80/kg	12.00/kg	10.00/kg	5.30/kg	6.00 /kg	No demand for CFC-11. Price of CFC-12 is still reasonable except the amount imported is controlled.
Viet Nam	7.00/kg (for Chinese R-12) and 8.5/kg (for Indian R-12)	No demand	8.00/kg (for Dupont R-134a) and 5.00/kg (for Chinese R-134a)	4/kg (for Dupont R-22) and 2.5/kg (for Chinese R-22)		3.00/kg		Price of R-12 is higher than HFC and this is an economic driver to move away from CFC use. Other non-CFC refrigerant such as R-404, R- 407 is imported but price would be 20.00/kg.

Source: Information collected during evaluation missions; prices indicated are average retail prices to be paid by technicians/workshops for refrigerants in 13.6 kg cylinders.

Annex IV

Table I: Summary of Refrigeration Sector Training

Country	Estimated total number of technicians that need to be trained	NPP target number of trainees	Number trained to date	Achievement as % of overall plan	Plan for further training needed	Planned training beyond 1 January 2010	Remarks
Argentina	11,000	11,000	5,862	53%	Yes	No	Argentina is currently planning new courses to include retrofitting.
Brazil	60,000	35,000	16,000	46%	Yes	No	Expected that 35,000 technicians have been certified by the end of 2008.
Egypt	24,000	4,000	1,500	30%	Yes	No	Remaining technicians to be trained from 2008 to 2010. Planning new courses to include retrofitting, replacement and drop-in for domestic.
India	10,000 (39,000 *)	10,724	5,691	53%	Yes	No	Remaining technicians to be trained from 2007 to 2010.
Islamic Republic of Iran	3,000	3,000	750	25%	Yes	No	480 trained only in using the equipment provided.
Libyan Arab Jamahiriya	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Serious lack of training plans
Malaysia	7,000	?	3,229	?	?	?	
Vietnam	700 service shops and 150 MAC shops	Unknown	Unknown	Unknown	Unknown	Unknown	

* Estimated total number of refrigeration servicing shops

Annex IV

Table 2: Summary of Customs Training

Country	Estimated total number of Customs Officers that need to be trained	NPP target number of trainees	Number of trainees to date	Achievement as % of overall plan	Plan for further training needed	Planned training beyond 1 January 2010	Training now part of Customs curriculum	Remarks
Argentina	1,500	1,500	900	60%	No	No	Yes	Innovative e-based learning module
Brazil	Was not possible to determine	Was not possible to determine	64	?	?	?	Unknown	Meetings were requested with Customs officials who are part of PROZON (the inter-ministerial steering committee) but they did not materialize.
Egypt	360	360	80	22%	Yes	No	Yes	Planning to train 80 Customs officers during the first half of March 2008.
India	1,300	1,300	369	28%	Yes	NOU indicated that training on ODS and other chemicals will be continued even after NCCoPP.	Yes	
Islamic Republic of Iran	Unknown	Unknown	200	?	No	No	Yes	
Libyan Arab Jamahiriya	6,000	Unknown	173	?	No	No	No	
Malaysia	No information available	No information available	No information available	No information available	No information available	No information available	No information available	
Vietnam	No information available	No information available	No information available	No information available	No information available	No information available	No information available	