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Corrigendum

COUNTRY PROGRAMME: EGYPT

This Corrigendum is being issued to replace:

- page 3 of the Country Programme Cover Sheet;
- page iii of the Executive Summary; and
- pages 30 and 31 of the Country Programme.

accomplished between 1992 and 1998.

The net incremental economic cost to Egypt for the phase-out of ODSs range from \$62 million to \$146 million, depending on the country's economic growth rate through 2010 and the speed at which the phase-out is implemented. The following depicts the incremental costs commensurate with the phase-out scenario to be followed:

Description of Costs	Incremental Cost (million \$) in Scenario		
	Allowable	Accelerated	Optimum
Capital	16	38	37
Operating, administrative	6-11	20-30	19-29
Early replacements (refrig.)	71-119	4	6
Total	93-146	62-72	62-72

The following conclusions arose while developing the proposed scenarios for phasing-out ODSs in Egypt:

- The most significant net incremental costs to Egypt are those associated with the early replacement of domestic refrigerators when virgin CFC-12 is no longer available for recharge (there will be about 10 million refrigerators in service in 2010);
- A significant proportion of the incremental operating and administrative costs relates to the incremental production costs for domestic refrigerators based on HFC-134a;
- The incorporation of a recycling/recovery programme reduces consumption of ODSs.

The Action Plan proposed for Egypt is based on the "optimum" phase-out scenario. The principal agents are the Government of Egypt, which is responsible for establishing a "National Ozone Policy", UNDP, and the World Bank which will be the implementing agencies for investment projects. The Egyptian Environmental Affairs Agency (EEAA) in liaison with the Federation of Egyptian Industries, will be responsible for the co-ordination of ODS phase-out.

The "National Ozone Policy" is aimed, among others, to:

- create the "Ozone Panel", within the Federation of Egyptian Industries, to develop co-ordinated government-industry policies;
- monitor ODS phase-out progress and expedite implementation of specific projects;
- establish a licensing system for ODS users and ODS import monitoring procedures; and

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	Accelerated Phaseout (1993-1998) US \$M	Optimum Phaseout (1994-1998) US \$M	Allowable Phaseout (2000-2010) US \$M
Net Incremental Capital Costs	38	37	16
Net Incremental Operational & Administrative Costs	20 - 30	19 - 29	6 - 11
Early Replacement Costs for Refrigerators	4	6	71 - 119
TOTAL	62 - 72	62 - 72	93 - 146

ECONOMIC COST TO EGYPT OF PHASEOUT

11. The net incremental economic cost to Egypt for phaseout of ODSs ranged from \$62M to \$146M (in 1991 US dollars) depending on the speed of the phaseout and economic growth conditions through 2010.

12. The primary conclusion drawn for this analysis is that a prompt and orderly ODS phaseout minimizes the economic cost to Egypt. The determination of reimbursement of these economic costs is an issue for IMFMP Executive Committee to decide in accordance with the Montreal Protocol (Annex E).

13. In order of importance to the economic cost to Egypt, the following conclusions were also reached:

- (1) The economic cost associated with the forced early replacement of domestic refrigerators is the dominant element in the analysis. This stems from the fact that there will be roughly 10 million refrigerators in service in Egypt in 2010, but replacement costs only apply to those continuing to use CFC-12. Obviously, an early transition to refrigeration by HFC-134a for domestic refrigerators will reduce the population of CFC-12 refrigerators in 2010, and hence reduce early replacement costs. Average age of the CFC-12 refrigerator population in 2010 was also a factor. In the accelerated cases, the average CFC-12 refrigerator was within 2-3 years of replacement while in the delayed case CFC-12 refrigerators had 8-10 years of remaining life.
- (2) Operational and administrative costs ranged from \$6M to \$30M, and were primarily reflective of the net incremental costs for HFC-134a domestic refrigerators. The timing of the introduction of these refrigerators was a factor in the magnitude of operational costs.
- (3) The incorporation of recycle/recovery into the accelerated phaseout cases had the effect of directly reducing ODS consumption and slightly reducing protocol limits. Its primary benefit was to assure local supplies of CFC-12 at a cost approximately \$2/kg below import costs. This savings (up

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Conclusions

6.38 The estimated economic costs to Egypt range from \$62M to \$146M in current US dollars depending on the rate at which the phaseout develops, and economic growth conditions thru 2010.

6.39 While the results of this analysis appear definitive and lead to the conclusion that a prompt and orderly phaseout will minimize the economic cost to Egypt, it should be borne in mind that the IMFMP does not provide for reimbursement of all of the economic costs included in this analysis.

6.40 Other conclusions from the analysis are:

- (a) The economic cost associated with the forced early replacement of domestic refrigerators is a dominant element in the analysis. This stems from the fact that there will be approximately 10 million refrigerators in service in Egypt in 2010 and the replacement costs only apply to those continuing to use CFC-12. Obviously, an early transition to HFC-134a will reduce the population of CFC-12 refrigerators in 2010, and hence reduce replacement costs. Average age of the CFC-12 refrigerator population in 2010 was also a factor. In the accelerated cases, the average CFC-12 refrigerator was within two or three yrs of replacement while in the delayed case CFC-12 refrigerators had eight to ten years of remaining life.

- (b) Project requirements and administrative costs were essentially the same in all cases analyzed, however, the timing of these investments had a small impact on economic costs (\$2-3M).
- (c) Operational and administrative costs ranged from \$6M to \$30M, and were primarily reflective of the net incremental costs for non-ODS domestic refrigerators. Again the timing of the introduction of these refrigerators was a factor in the magnitude of operational costs.
- (d) The incorporation of recycle/recovery into the accelerated phaseout cases had the effect of reducing ODS consumption and reducing protocol limits. Its primary benefit was assure local supplies CFC-12 at a cost approximately \$2/kg below import costs. This savings (up to \$0.7M/yr) reduced net operational costs. Additional savings (not included) should be expected from applying this technology to the conservation of HFC-134a.