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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
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PROJECT PROPOSAL: SRI LANKA

This document consist of the comments and recommendations of the Fund Secretariat on the following project proposal:

Refrigeration:

- Implementation of the RMP: monitoring the activities UNDP
Incentive programme for the commercial and industrial end-user UNDP
refrigeration
- Implementation of the RMP: training of the established refrigeration UNDP
technicians including train the trainers
- Implementation of the RMP: customs training programme UNEP

PROJECT EVALUATION SHEET SRI LANKA

SECTOR: Refrigeration ODS use in sector (1998): 238.4 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial US \$15.21/kg

Project Titles:

- (a) Implementation of the RMP: monitoring the activities
- (b) Incentive programme for the commercial and industrial end-user refrigeration
- (c) Implementation of the RMP: training of the established refrigeration technicians including train the trainers
- (d) Implementation of the RMP: customs training programme

Project Data	RMP	RMP	RMP	RMP
	(a)	(b)	(c)	(d)
Enterprise consumption (ODP tonnes)				
Project impact (ODP tonnes)		5.00		
Project duration (months)	24	72		
Initial amount requested (US \$)	15,455	250,000	231,000	87,000
Final project cost (US \$):				
Incremental capital cost (a)	14,050	250,000		
Contingency cost (b)	1,405			
Incremental operating cost (c)				
Total project cost (a+b+c)	15,455	250,000		
Local ownership (%)	100%	100%	100%	100%
Export component (%)	0%	0%	0%	0%
Amount requested (US \$)	15,455	250,000	231,000	87,000
Cost effectiveness (US \$/kg.)		50.00		
Counterpart funding confirmed?				
National coordinating agency		Montreal Protocol Unit		
Implementing agency	UNDP		UNEP	

Secretariat's Recommendations				
Amount recommended (US \$)	15,455	Issue	219,000	87,000
Project impact (ODP tonnes)				
Cost effectiveness (US \$/kg)				
Implementing agency support cost (US \$)	2,009		28,470	11,310
Total cost to Multilateral Fund (US \$)	17,464		247,470	98,310

PROJECT DESCRIPTION

- (a) Incentive programme for the commercial and industrial end-user refrigeration
- (b) Implementation of the RMP: monitoring the activities
- (c) Implementation of the RMP: training of the established refrigeration technicians including train the trainers
- (d) Implementation of the RMP: customs training programme

Background

1. Through a recent survey on the refrigeration sector it was found that refrigeration equipment operating in the country includes: 826,160 domestic refrigerators, 50,000 commercial refrigeration units and 2,500 industrial refrigeration units as well as cold stores. The total annual consumption of CFCs in the end-user sector (commercial and industrial equipment) was estimated at 57.5 ODP tonnes.

2. Between 1995 and 1998, total CFC consumption in the country was reduced from 569 ODP tonnes to 250.4 ODP tonnes. This reduction has been accomplished by implementation of three investment projects in the domestic refrigeration sector; a refrigerant recovery and recycling project and by the introduction of a licensing system to control imports of ODS. However, additional activities are needed to achieve the 2005 and 2007 CFC reductions stipulated in the Montreal Protocol.

Policy and legislation

3. The Government of Sri Lanka has already put into place legislative measures to control import of ODS and new ODS-based equipment (1 January 2000) for servicing applications (1 January 2005). Import license systems have been enacted for CFC, halons, HCFC and HBFC (13 November 1996); CTC, MCF and MB (24 December 1997); and used equipment containing CFCs (25 June 1996). The import license scheme authorizes import of a maximum amount of ODSs equivalent to 90 per cent of the total amount imported the previous year; and import of used CFC-based equipment is permitted only for personal use.

4. The Government has identified the need for further development of the legislation to control the amount of ODS unofficially imported into the country.

Projects already approved in the refrigeration servicing sector

5. The Executive Committee, at its 17th Meeting approved a national programme for recovery and recycling of refrigerants from commercial, industrial and domestic refrigeration equipment, excluding MAC units (US \$352,400 under UNDP's work programme). About 235 technicians have been trained through eight workshops conducted in 1998; 99 recovery machines have been distributed and 8 recycling centres have been established.

6. Through a survey conducted by UNDP in mid-2000, it was found that the total annual amount of CFC-12 recovered and recycled was 7.1 tonnes as compared to the 30.1 tonnes per year designed in the project document (there are no figures for the amount of CFCs that are recovered and re-used without being recycled). It was also found that some technicians build their own recovery machines using discarded parts from other refrigeration equipment. Moreover, some entrepreneurs are considering locally building recovery equipment for sale in the country.

Sub-projects contained in the RMP

7. The RMP includes a training programmes for customs officers and other government staff involved in the monitoring of ODS and ODS-based equipment. This project aims at training customs officers to increase their knowledge on ozone depletion issues; get acquainted with ODS import/export licensing systems and other national regulations related to the phase-out of ODS; identify ODS and ODS-based refrigeration (through CFC-detection equipment for all major customs entry points in the country); and establishment of a database on ODS imports at the Department of Customs.

8. The RMP also includes a train the trainers programme for refrigeration service technicians aimed at reducing CFC emissions in the refrigeration sector by improving the maintenance procedures and introducing good service practices. Approximately 218 tonnes of CFC-12 are used for servicing domestic, commercial and industrial refrigeration equipment by 9,400 service technicians in 2,200 workshops. Currently, many technicians vent the CFC contained in the refrigeration equipment during service practices. Often, leaks are found after the system has been charged; the new charge is then vented to repair the leak.

9. During the preparation of the RMP, it was found that replacement or retrofit of existing refrigeration equipment by each end user was not feasible or cost-effective at the present time. Therefore, the RMP includes a project to be implemented over a period of 5 years for establishing an incentive programme to encourage refrigeration end-users to replace, or permanently retrofit their existing ODS based equipment (fisheries, meat-processing plants, breweries, hospitals, hotels, restaurants, supermarkets), to zero/low-ODP refrigerants. During the period 2001-2006, any end-user (established prior to 25 July 1995) can apply to receive an incentive payment towards the cost of replacement/retrofit of their CFC-based equipment. Incentive payments (between US \$500 and US \$15,000) will be based on CFC consumption when equipment is replaced, or the cost for a permanent retrofit. The incentive project also includes a component for information dissemination and monitoring (advertisements in newspapers, information brochures for end-users and relevant industry associations, and workshops and annual meetings to report on progress of the programme). Following completion of the conversion, the end-user enterprise must provide invoices to confirm the total costs incurred during the conversion. The level of payment will be reviewed by the Ozone Office and UNDP (40 per cent of the incentive amount will be paid upon receipt of an application and the balance after conversion has been completed and a certification that the replaced equipment has been destroyed/rendered unusable has been issued).

10. The RMP project also includes a request for engaging a local consultant to collect data on CFCs recovered and recycled from the service workshops that are included in the recovery and recycling project (at US \$15,455); and a request for US \$92,900 for other projects related to the refrigeration servicing sector (possibly additional training programmes) that will be submitted at a later meeting of the Executive Committee.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The Government of Sri Lanka submitted the RMP to the Fund Secretariat with an official letter of transmittal stating its commitment, responsibilities and the financial implications associated with decision 31/48 (i.e., 50 per cent reduction of CFC baseline by 2005 and 85 per cent reduction by 2007; that all refrigeration sub-sectors have been carefully assessed; and a system for monitoring and reporting on progress for delivering the phase out targets has been established).

2. During the preparation of the RMP, the current and forecast future consumption of CFCs in relation to the 50 per cent reduction by 2005 and 85 per cent by 2007 were taken into account. The activities proposed in the RMP, including legislative measures, would reduce CFC consumption to negligible levels from the year 2006 onwards.

3. The Secretariat and UNEP also discussed cost issues related to logistical arrangements and training material for the refrigeration training programme. Subsequently, it was agreed to adjust the costs for the programme accordingly (as indicated in Table 1 above).

4. The Fund Secretariat also requested an explanation for the request for assessment and co-ordination of technical and policy issues included in the training programmes (at a total cost of US \$40,00). UNEP informed the Secretariat that the request for assistance and coordination of policy and technical issues represents UNEP's substantive management work (which is not covered under the agency's support cost), which includes: detailed definition of responsibilities of each stake-holder; definition of characteristics of the products and deliverables; guidance to local governments and experts on the work carried out at national level; review and comments on products and deliverables; preparation and delivery of targeted presentations at the workshops; follow-up and assistance on activities to be implemented after the workshop.

5. Regarding the incentive programme for commercial and industrial end-user refrigeration, the Secretariat pointed out that this activity may be premature at the present time for the following reasons:

- (a) The CFC baseline for Sri Lanka is 400.4 ODP tonnes; the 1999 CFC consumption reported to the Ozone Secretariat is 216.4 ODP tonnes. Therefore, Sri Lanka is in compliance with the freeze controls and has almost met the 50% reduction.

- (b) Refrigeration technicians have not yet been trained in good refrigeration servicing practices;
- (c) The leakage rate of installed commercial refrigeration equipment is high (ranging from 8 per cent to over 70 per cent in the equipment surveyed);
- (d) The price of CFC-12 is very low (US \$2.54/kg) compared to the price of HFC-134a (US \$6.35/kg);
- (e) The total amount of CFCs estimated to be phased out from this programme is 4 tonnes over the period 2001 – 2006 and thus could not, on its own achieve the phaseout needed for the 2005 reduction (16.2 tonnes).

6. UNDP informed the Secretariat that the project aims, through the innovative mechanism, to apply the limited funding available as widely as possible amongst end-users in the commercial and industrial refrigeration sector. UNDP also felt that most requests for an incentive would come from end-users who must change their refrigeration system (i.e., age, innovation of business), and would be willing to select a non-CFC technology. Even if the number of end-users coming forward for an incentive is low at the beginning (i.e., during the first one or two years), it will increase as CFC prices continue to evolve. The incentive programme must start now so that the direct impact of at least 5 tonnes/year can be achieved in 2003-2004.

7. UNDP also pointed out that the annual CFC used by the surveyed enterprises is a realistic figure; not all of the consumption is for topping-up the systems due to leaks. Whilst there may be potential to reduce this by improvements in servicing techniques this is no more certain than the potential to reduce overall consumption by the proposed incentive programme. In Sri Lanka, the HFC-134a/CFC-12 price ration is 2.52:1; this is typical of many Article 5 countries and lower than many other Article 5 countries.

8. UNDP considered that all requirements under decisions 28/44 and 31/48 have been met. Regarding the issue of utilizing all the funds available without meeting the phase-out objectives of the RMP, UNDP is convinced that neither service technician training nor recovery and recycling projects will give any better guarantee. The incentive programme has the potential to start the process of elimination by conversion. Remaining consumption will be decreased through legislative measures, quota systems and market forces.

9. Upon a request by the Secretariat regarding the responsibilities of the implementing agencies in the overall implementation of the RMP, UNDP indicated that, as bound by its agreement with the Committee, it will facilitate compliance with the provisos of the Montreal Protocol by Article 5 countries, through execution of the specific projects within the RMP. UNDP considered that ODS phaseout resulting from legislative measures and through implementation of activities in the RMP, are the final responsibility of the country for which the implementing agency itself could not be held responsible.

RECOMMENDATION

1. The Fund Secretariat recommends approval of monitoring the activities, training of refrigeration technicians and customs training programme components with associated support costs at the funding level shown in the table below (items (a), (c), (d)).
2. The Executive Committee may wish to consider the incentive programme for the commercial/industrial refrigeration end-user sector in light of the above comments and observations.
3. The Executive Committee may wish to consider the RMP as a whole in the light of its conclusion on the incentive programme.

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Implementation of the RMP: monitoring the activities	14,455	2,009	UNDP
(b)	Incentive programme for the commercial and industrial end-user refrigeration	Issue		UNDP
(c)	Implementation of the RMP: training of the established refrigeration technicians including train the trainers	219,000	28,470	UNDP
(d)	Implementation of the RMP: customs training programme	87,000	11,310	UNEP