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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Seventieth Meeting  
Bangkok, 1-5 July 2013

**PROJECT PROPOSAL: SIERRA LEONE**

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

Phase-out

- HCFC phase-out management plan (stage I, second tranche)

UNIDO/UNEP

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## Sierra Leone

<b>(I) PROJECT TITLE</b>	<b>AGENCY</b>
HCFC phase-out management plan (stage I)	UNEP (lead), UNIDO

<b>(II) LATEST ARTICLE 7 DATA</b>	Year: 2011	1.87 (ODP tonnes)
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<b>(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)</b>								<b>Year: 2011</b>	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123									
HCFC-124									
HCFC-141b									
HCFC-142b									
HCFC-22					1.87				1.87

<b>(IV) CONSUMPTION DATA (ODP tonnes)</b>			
2009 - 2010 baseline:	1.7	Starting point for sustained aggregate reductions:	1.67
<b>CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)</b>			
Already approved:	0.58	Remaining:	1.09

<b>(V) BUSINESS PLAN</b>		2013	2014	2015	2016	2017	2018	2019	2020	Total
UNEP	ODS phase-out (ODP tonnes)	0.06			0.06	0	0.06		0.06	0.24
	Funding (US \$)	25,990	0	0	22,600	0	23,730	0	23,730	96,050
UNIDO	ODS phase-out (ODP tonnes)	0	0	0	0.14	0	0	0	0	0.14
	Funding (US \$)	0	0	0	54,500	0	0	0	0	54,500

<b>(VI) PROJECT DATA</b>			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Montreal Protocol consumption limits			n/a	n/a	1.67	1.67	1.50	1.50	1.50	1.50	1.50	1.09	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	1.67	1.67	1.50	1.50	1.50	1.50	1.50	1.09	n/a
Agreed Funding (US\$)	UNEP	Project costs	25,000	0	23,000	0	0	20,000	0	21,000	0	21,000	110,000
		Support costs	3,250	0	2,990	0	0	2,600	0	2,730	0	2,730	14,300
	UNIDO	Project costs	50,000	0	0	0	0	50,000	0	0	0	0	100,000
		Support costs	4,500	0	0	0	0	4,500	0	0	0	0	9,000
Funds approved by ExCom (US\$)		Project Costs	75,000	0	0	0	0	0	0	0	0	0	75,000
		Support Costs	7,750	0	0	0	0	0	0	0	0	0	0
Total funds requested for approval at this meeting (US\$)		Project Costs	0	0	23,000	0	0	0	0	0	0	0	23,000
		Support Costs	0	0	2,990	0	0	0	0	0	0	0	0

<b>Secretariat's recommendation:</b>	Blanket approval
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## PROJECT DESCRIPTION

1. On behalf of the Government of Sierra Leone UNEP, as the lead implementing agency, has submitted to the 70<sup>th</sup> meeting of the Executive Committee a request for funding for the second tranche of stage I of the HCFC phase-out management plan (HPMP) at a total cost of US \$23,000, plus agency support costs of US \$2,990 for UNEP. The submission includes a progress report on the implementation of the first tranche of the HPMP together with the tranche implementation plan for 2013 to 2016.

### Background

2. The HPMP for Sierra Leone was approved by the Executive Committee at its 65<sup>th</sup> meeting, to reduce HCFC consumption by 35 per cent of the baseline by 2020, at a total funding level approved in principle of US \$233,300 (i.e., US \$110,000, plus agency support costs of US \$14,300 for UNEP, and US \$100,000, plus agency support costs of US \$9,000 for UNIDO). Also at the 65<sup>th</sup> meeting, the Executive Committee approved the first tranche of stage I of the HPMP, at the amount of US \$82,750 (i.e., US \$25,000, plus agency support costs of US \$3,250 for UNEP, and US \$50,000, plus agency support costs of US \$4,500 for UNIDO).

### Progress report on the implementation of the first tranche of the HPMP

3. Sierra Leone's ODS regulations issued in 2008, were revised in 2011 to incorporate further control measures on the phase-out of ODS including HCFCs. The regulations control imports and exports of ODS and ODS-based equipment, and provide for quota and licensing systems (coordinated by the National Ozone Unit in the Environment Protection Agency) and the registration and certification of all stakeholders including refrigeration service technicians and ODS importers. The Government of Sierra Leone has put in place strategies to achieve the complete phase-out of HCFCs through the promotion and use of natural refrigerants and other viable alternative technologies that have high-energy efficiency with low global warming potential.

4. With regard to the refrigeration servicing sector, the following activities were implemented: 40 refrigeration technicians were trained on good refrigeration practices, and in the use and safe handling of hydrocarbon-based refrigerants (mainly R-290 and R-600a), having been provided with service tools. The Refrigeration, Engineers and Technicians Association, which is now operational, developed guidelines for the code of conduct for refrigeration technicians and assisted in the implementation of training activities. Ninety customs and law enforcement officers were trained on monitoring ODS imports and other ODS regulations, and five ODS identification kits were provided. Equipment for the regional retrofitting centres (established through the terminal phase-out management plan (TPMP)) was procured and awareness campaigns were conducted among technicians for accessing the recovery and recycling machines previously supplied through the TPMP. The project management and monitoring unit is now operational.

5. As of May 2013, of the total funding of US \$75,000 approved for the first tranche, US \$49,000 had been disbursed. The balance of US \$26,000 will be disbursed in 2013.

### Annual plans for the second tranche of the HPMP

6. The following activities will be implemented during the second tranche of stage I of the HPMP:
- (a) Training of an additional 40 customs and other law enforcement officers and strengthening of customs training schools (US \$9,000);
  - (b) Training of an additional 50 servicing technicians in good refrigeration practices; strengthening the capacity of technical colleges and the association of refrigeration

technicians; procurement and distribution of additional refrigerant identifiers, basic refrigeration tools, and gas containers for the storage of HCFCs (US \$8,000); and

- (c) Monitoring and evaluation of the activities of the HPMP (US \$6,000).

### SECRETARIAT'S COMMENTS AND RECOMMENDATION

#### COMMENTS

##### Operational license system

7. In line with decision 63/17 and as required under the Agreement between the Government of Sierra Leone and the Executive Committee, confirmation has been received from the Government that an enforceable national system of licensing and quotas for HCFC imports and exports is in place and that the system is capable of ensuring compliance with the Montreal Protocol. The licensing system established by the Government includes imports of HCFC-22, which are the only HCFCs consumed in the country.

8. The 2013 quota issued by the Government of Sierra Leone is 1.65 ODP tonnes (30.0 mt) of HCFC-22. The quotas for subsequent years will be decided on a yearly basis depending on the level of imports from previous years and stockpiles or amounts which were imported illegally and were confiscated.

##### HCFC consumption

9. The HCFC baseline for compliance has been established at 1.7 ODP tonnes, based on the actual consumption reported under Article 7 of the Montreal Protocol for 2009 and 2010 as shown in Table 1. The established baseline is equal to that in the Agreement between the Government of Sierra Leone and the Executive Committee; therefore, no adjustments to the Agreement are required.

**Table.1 Consumption of HCFC-22 in Sierra Leone (2006-2011 Article 7, 2012 estimated)**

HCFC-22	2006	2007	2008	2009	2010	2011	2012*	Baseline**
Metric tonnes	25.00	28.00	26.00	28.00	32.73	34.00	47.00	30.37
ODP tonnes	1.38	1.54	1.43	1.54	1.80	1.87	2.59	1.67

(\*) Estimated.

(\*\*) The HCFC baseline for compliance is 1.7 ODP tonnes (based on one decimal digit).

10. Noting that the main aim of the training is to equip refrigeration technicians with knowledge and the necessary skills in retrofitting, and on hydrocarbon technologies and good refrigeration practices, the Secretariat requested additional information on the current use of hydrocarbon-based refrigerants in the country, including the extent of retrofitting HCFC-22-based equipment, a brief description of the four domestic refrigeration facilities that were converted to hydrocarbon and on the regulations in place for allowing the use of hydrocarbon-based refrigerants. The Secretariat also suggested that UNEP advises relevant Government authorities and key stakeholders to give due consideration to addressing barriers for the introduction of alternative technologies and refrigerants (including other aspects related to the equipment, such as energy efficiency), during implementation of the HPMP. In responding, UNEP indicated that the hydrocarbon-based technology is new as 90 per cent of the equipment is based on HCFC-22. However, it is expected that in the next few years the use of hydrocarbon refrigerants will increase as has been the case in most of the countries in the region. Sierra Leone is experiencing a high rate of economic growth, the construction industry has expanded and it is expected that the refrigeration and air-conditioning equipment that will be imported into the country will be hydrocarbon-based (e.g., domestic refrigerators, bottle coolers, display cabinets, split and window- air-conditioning units). The main aspects of the training programme conducted by UNEP were on safety issues. A practical demonstration was undertaken by the UNEP consultant for a deep freezer using R600a, a room air

conditioning unit and a split unit using R-290 and propane gas. UNEP also indicated that the Government of Sierra Leone will put in place mechanisms that will address barriers to the introduction of alternative technologies, introduce incentives to encourage the use of energy saving technologies, and ensure that hydrocarbon-based equipment is imported into the country.

11. The Secretariat notes that an import licensing and quota system is operational and will enable reductions in HCFC consumption in line with the Montreal Protocol’s phase-out schedule. The activities in the servicing sector have been developed with the participation of key stakeholders. Standards and codes for the use of refrigeration and air-conditioning systems operating with hydrocarbons are being drafted. As reported by UNEP, the Government of Sierra Leone is collaborating with the Vocational Training Centre and the Customs Department to ensure that Montreal Protocol modules are fully incorporated into the training curricula. Moreover, budget allocations from the Ministry of Finance reflect funds for sustaining training for refrigeration technicians and customs officials. The Refrigeration, Engineers and Technicians Association has also been strengthened with the aim of empowering it to undertake training and certification activities, inspection and monitoring of Montreal Protocol activities beyond HPMP implementation. A portion of the funding available from the second tranche will be used to provide additional refrigerant identifiers and basic service tools.

**RECOMMENDATION**

12. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the first tranche of stage I of the HCFC phase-out management plan (HPMP) in Sierra Leone, and further recommends blanket approval of the second tranche of stage I of the HPMP for Sierra Leone, and the corresponding tranche implementation plan with associated support costs, at the funding level shown in the table below:

	<b>Project Title</b>	<b>Project Funding (US \$)</b>	<b>Support Cost (US \$)</b>	<b>Implementing Agency</b>
(a)	HCFC phase-out management plan (stage I, second tranche)	23,000	2,990	UNEP

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