



**United Nations
Environment
Programme**



Distr.
LIMITED

UNEP/OzL.Pro/ExCom/23/26
22 October 1997

ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-third Meeting
Montreal, 12-14 November 1997

PROJECT PROPOSALS: CAMEROON

This documents includes the comments and recommendations of the Fund Secretariat on the following project proposals:

Foam

- Phasing out CFC-11 at Sonopol
- Phasing out CFC-11 at Scimpos

UNIDO
UNIDO

PROJECT EVALUATION SHEET **CAMEROON**

SECTOR: FOAM

Sub-sector cost-effectiveness thresholds: Flexible

US \$6.23/kg

Project Titles:

(a) Phasing out CFC 11 at SONOPOL

(b) Phasing out CFC 11 at SCIMPOS

Project Data	Flexible	
	SONOPOL	SCIMPOS
ODS phase-out (ODP tonnes)	130	120
Proposed project duration (months)	12	12
Incremental capital cost (US \$)	511,500	511,500
- including contingency (%)	10	10
Incremental operational cost (US \$)	110,000	110,000
Total project cost (US \$)	621,500	621,500
Local ownership (%)	100	100
Export component (%)		
Amount requested (US \$) {Original}	621,500	621,500
{Revised}		
Cost effectiveness (US \$/kg)	4.78	5.18
National Coordinating Agency	Ministry of Environment & Forestry	
Implementing Agency	UNIDO	
Technical review completed?	Yes	Yes

Secretariat's Recommendations:		
Amount recommended (US \$)		
Project impact (ODP tonnes)		
Cost effectiveness (US \$/kg)		
Implementing Agency support cost (US \$)		
Total cost to Multilateral Fund (US \$)		

PROJECT DESCRIPTION

Foam Sector Profile

Sector ODS consumption (1993) reported in country programme	15 tonnes ODP
Most recent consumption data (1996)	250 tonnes ODP
ODS to be phased out in approved projects (as at July 1997)	0 tonnes ODP
ODS phased out (as at July 1997)	0 tonnes ODP
ODS to be phased out in current proposed projects	250 tonnes ODP
Latest (1995) CFC-11 consumption reported according to Art. 7	109 tonnes ODP

(a) Phasing out CFC 11 at SONOPOL

(b) Phasing out CFC 11 at SCIMPOS

1. The companies Sonopol and Scimpos will convert from the use of CFC-11 in the manufacture of flexible slabstock foam used for the production of foam filled mattresses. Sonopol and Scimpos operate a three paper sloping conveyor slabstock machine, and a Maxfoam machine with a capacity of 270 kg/min from Beamech.
2. The chosen replacement alternative is Liquid Carbon Dioxide (LCD), a method of blowing low density foam utilizing liquid carbon dioxide as a blowing agent. The capital cost of conversion involves procurement of new equipment, retrofitting present equipment wherever technically and economically feasible, and a package of equipment, instrumentation, and engineering services required for the LCD conversion process. The capital costs amount to US \$465,000 for each of Sonopol and Scimpos. The capital cost associated with trials, technology transfer and training is US \$100,000, while the cost of contingency is US \$56,500 for each of the two companies. Incremental operating costs are to be determined.

Equipment or Components to be Destroyed or Rendered Unusable

3. A certification of the destruction of the old equipment or components to be replaced would be issued by an independent international inspection agency.

Impact of Project on 1999 Freeze

4. By the elimination of 250 tonnes and assuming that soon after its approval the projects will be implemented before the end of 1999, these two projects will contribute towards achieving the 1999 freeze obligation of the country.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The two companies for which the projects are being submitted were reported to have phased out CFC-11 in favor of methylene chloride in about 1992, when the Cameroon country programme was prepared, are said to have reverted to the use of CFC-11 with a combined CFC-11 consumption of 250 tonnes in 1995. They are, therefore, requesting approval of their projects to use liquid carbon dioxide technology based on two main justifications, namely that of: occupational safety and inadequate product quality.

2. The Cameroon Country Programme approved at the 10th Executive Committee Meeting reported that "the foams sector has modified its manufacturing processes for blowing foams by progressively replacing CFC-11 by ethylene chloride. The amount of CFC-11 consumed in the foam sector was 15 ODP tonnes in 1991".

3. UNEP, through an official communication to the Fund Secretariat of 25 September 1997, stated that "the two companies, SONOPOL and SCIMPOS, which had changed over to methylene chloride found that: (i) the quality of the foam products was not well received by the consumers, (ii) methylene chloride posed health hazard to the workers in the factory. These factors resulted in renewed use of CFC-11. This along with the increase in economic growth from 2% in 1992 to 6% in 1996 has contributed to the 1996 consumption of 252.08 tonnes ODP". The switchover from CFC-11 to methylene chloride and back to CFC-11 was not reported in the foam project proposals being submitted to the 23rd Meeting of the Executive Committee. The Secretariat requested clarification on the date when the plants actually switched from methylene chloride to CFC-11.

4. The sector background of the two proposals indicates that in 1996 more than 500 tonnes of CFCs were consumed in the production of polyurethane foam. It notes that the consumption of 500 tonnes reflects most probably only the import of pure CFC-11 and does not consider that the majority of CFC-11 was imported to Cameroon already premixed in the polyol compound of the polyurethane foam material; the actual CFC consumption in Cameroon is much higher than the figures reflected in the country programme. While this may be the case for production of foam products such as rigid or integral skin polyurethane foams, the use of preblends is not generally the practice of flexible slabstock polyurethane manufacturers, producing on the scale reported in the project documents. Information from the project documents clearly shows that foam production in the two companies is based on multi-component metering of the reacting materials including CFC-11. Note that the baseline equipment in the two projects include storage facilities (20 tonne tanks), and metering units for CFC-11. These facilities were apparently being used during the period that the companies changed over to the use of methylene chloride. This illustrates the possibility for interchanging the use of CFC-11 and methylene chloride without any change in the equipment.

5. Under the "selection of alternative technology" section, the projects state that "methylene chloride is under environmental pressure for reasons of toxicity and due to the fact that it is classified as a VOC has restricted use in industrialized and developing countries." However, the Executive Committee has already approved 77 projects for conversion to ethylene chloride technology, and it is still used in many developed countries in North-America and Europe.

6. Methylene chloride has been used as a foam blowing agent worldwide with product quality similar to CFC-based foams. It is well known that for economic reasons many companies, including several in the African region switched over to this technology on their own, some even before their countries became Parties to the Montreal Protocol. Since Article 5 countries would continue to consume CFC-11, it is possible for other companies in the latter category also to switch back to the use of CFC-11 at a much higher level of consumption in order to request funding for phase-out through a much improved future technology.

7. The two projects could set a precedent which could potentially have serious consequences for the Fund's operations in other foam sub-sectors, for example, flexible molded polyurethane foam, where some enterprises have phased out on their own to water blown production processes. There could be the tendency of encouraging companies which have converted on their own to switch back to the use of CFC-11 with the intention of getting assistance to adopt evolving and perhaps what they perceive as cutting edge technology in future.

8. The Secretariat has drawn the attention of UNIDO to the above issues and is awaiting clarification. As at the time of dispatch of documentation to the members of the Executive Committee, the Secretariat had not received any response from UNIDO.

9. Since the request for approval is based on the updated country programme, the Sub-Committee on Project Review may wish to await this clarification from UNIDO prior to consideration of the two projects.