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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Sixtieth Meeting
Montreal, 12-15 April 2010

PROJECT PROPOSAL: CROATIA

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

Foam

- Phase-out of HCFC-141b from the manufacturing of polyurethane rigid (PU) and integral skin foams at POLI-MIX company — Italy

PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECT
CROATIA

PROJECT TITLE(S)	BILATERAL/IMPLEMENTING AGENCY
(a) Phase-out of HCFC-141b from the manufacturing of polyurethane rigid (PU) and integral skin foams at POLI-MIX company	Italy

NATIONAL CO-ORDINATING AGENCY	Ministry of Environment Protection, Physical Planning and Construction

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT

A: ARTICLE-7 DATA (ODP TONNES, 2008, AS OF FEBRUARY 2010)

HCFCs	7.5		

B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2008, AS OF FEBRUARY 2010)

ODS				
HCFC-141b	3.71			
HCFC-22	3.80	**Total**	**7.5**	

CFC consumption remaining eligible for funding (ODP tonnes)	0.0

CURRENT YEAR BUSINESS PLAN ALLOCATIONS		Funding US $	Phase-out ODP tonnes
	(a)	Based on decision 55/43 (b)	n/a

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PROJECT TITLE:		**Poli-Mix**
ODS use at enterprise (ODP tonnes):		1.76
ODS to be phased out (ODP tonnes):		1.76
ODS to be phased in (ODP tonnes):		0
Project duration (months):		24
Initial amount requested (US $):		251,917
Final project costs (US $):		
	Incremental Capital Cost:	210,000
	Contingency (10 %):	21,000
	Incremental Operating Cost:	20,917
	Total Project Cost:	251,917
Local ownership (%):		100
Export component (%):		40%[1]
Requested grant (US $):		251,917
Cost-effectiveness (US $/kg):		15.74
Implementing agency support cost (US $):		32,749
Total cost of project to Multilateral Fund (US $):		284,666
Status of counterpart funding (Y/N):		n/a
Project monitoring milestones included (Y/N):		Yes
SECRETARIAT'S RECOMMENDATION		For individual consideration

[1] Export to Article 5 countries only

PROJECT DESCRIPTION

1. On behalf of the Government of Croatia, the Government of Italy has submitted to the 60th Meeting of the Executive Committee a project proposal to phase out 1.76 ODP tonnes (16.0 tonnes) of HCFC-141b used in the manufacturing of rigid polyurethane (PU) and integral skin foam at Poli-Mix. The total cost of the project is US $251,917 and agency support costs of US $32,749 for Italy.

Background

2. At its 59th Meeting, the Executive Committee considered an investment project proposal for the phase-out of HCFC-141b used in the production of foams at two enterprises in Croatia, submitted by UNIDO. One company, Pavusin, selected pentane as the replacement technology, and the other, Poli-Mix, selected a blend of HFCs because the very limited space in which the company operated, the high capital costs, and the associated levels of blowing agent required made the risks linked to using hydrocarbons highly unacceptable.

3. Although the commitment of the Government of Croatia to completely phase out HCFC consumption by 2016 was indicated in the proposal submitted to the 59th Meeting, some members of the Executive Committee raised their concerns on providing funding for accelerated HCFC phase-out. Other members considered that the projects constituted a special case and should be approved on an exceptional basis pending any HCFC phase-out funding guidelines. At the end of its deliberation, the Executive Committee, *inter alia,* approved the project for Pavusin and deferred the project for Poli-Mix to a subsequent Meeting (decision 59/32).

Project description

4. The project at Poli-Mix aims to phase out 1.76 ODP tonnes (16.0 tonnes) of HCFC-141b used in the manufacturing of rigid and integral skin polyurethane foams at Poli-Mix. The company, founded in 1998, produces rigid polyurethane foam blocks for the building construction and shipyard industries, as well as flexible moulded and integral skin foams for furniture, sport equipment and rail coaches.

5. The project has been prepared based on two alternative technologies:

(a) HFC-365/227 technology (as submitted to the 59th Meeting). The company operates three 25-year or older low-pressure dispensers that were initially purchased second hand. It will replace one of the existing dispensers with a new low-pressure dispenser and continue to use the two others until the end of their useful life.

(b) Water-based technology. For the production of rigid polyurethane foams, this technology would require a new 250-300 kg/min dispenser with temperature-controlled storage tanks (the heat created inside the foam block due to the fast reaction of water with isocyanate would result in a reduced production capacity). For integral skin foams, the existing foam dispenser would be retrofitted for refrigerated thermal control and variable ratio control, and a high-volume low-pressure spray system, mold-preheating oven, a coating drying system and in-mold coating exhaust booth would be required.

6. The costs of the two alternative technologies are summarized in the table below:

Item	Water-based (US$)	HFC-365/227(US $) (*)
HFC 365/227 supply system from drums	-	5,000.0
Foam dispensing equipment	-	50,000.0
Alarm system for HFC 365/227	-	7,000.0
New LP 250 kg/min foaming machine	85,000	-

Item	Water-based (US$)	HFC-365/227(US $) (*)
Retrofit of dispenser for refrigerated thermal control	10,000	-
Retrofit of dispenser for variable ratio control	10,000	-
In-mold coating high-volume LP spray system	25,000	-
Mold preheating oven	10,000	
Infrared coating drying system	10,000	-
In-mold coating exhaust booth	10,000	-
Technology transfer and training	20,000	20,000
Training for in-mold coating	10,000	-
Trials and commissioning	20,000	20,000
Subtotal capital costs	210,000	102,000
Contingency (10 per cent)	21,000	10,200
Total capital costs	231,000	112,200
Operating costs (**)	20,917	24,277
Total project cost	251,917	136,477
Cost effectiveness (US $/kg)	15.74	8.53

(*) Costs as agreed at the 59th Meeting.
(**) Based on a one-year period.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

7. The Secretariat reviewed the project in the context of the policy paper on the revised analysis of relevant cost considerations surrounding the financing of HCFC phase-out, submitted to the 55th Meeting (UNEP/OzLPro/ExCom/55/47), relevant decisions adopted on HCFC phase-out, as well as relevant guidelines and policies relating to the approval of foam projects by the Multilateral Fund.

Relationship between the phase-out project and the HPMP for Croatia

8. The following information on the relationship between the HCFC phase-out foam projects (including the project that was approved at the 59th Meeting) and the HPMP for Croatia was included in the proposal:

(a) The Government of Croatia considered submitting its HPMP to the 60th Meeting. However, the last stakeholder meeting where the final HPMP was considered took place two days after the due date for submission of projects to the Committee. Accordingly, the HPMP will be submitted to the 61st Meeting;

(b) The total amount of HCFCs associated with the two projects, which represents over 40 per cent of the total HCFC consumption in Croatia, will be deducted from the starting point for aggregate reductions in HCFC consumption. Furthermore, early conversion of these companies will reduce the total amount of HCFC-141b contained in foams (banks), thereby reducing future emissions of HCFCs from these banks into the atmosphere;

(c) Excluding the HCFCs used by the two foam manufacturing enterprises, the remaining total consumption is in the refrigeration servicing sector. Therefore, conversion of the foam sector is independent of the phase-out plan in the refrigeration servicing sector;

(d) Furthermore, according to Croatian law, HCFCs have to be entirely phased out by 1 January 2016. Accession to the European Union before the above mentioned date may require additional measures to phase out HCFCs even earlier.

Selection of alternative technologies and costs

9. Based on the discussion held at the 59th Meeting, the project proposal for the conversion of Poli-Mix was redesigned to replace HCFC-141b with a water-blown system. In providing an explanation for not considering methyl formate as a potential replacement for HCFC-141b, the Government of Italy indicated that it had considered the technology; however, it was not acceptable to the enterprise for various reasons, including the limited space, safety-related issues for using flammable blowing agents, and the fact that methyl formate is not commercially available in the country. After consideration of the alternative technologies, Poli-Mix has selected the water-blown technology as the preferred alternative. Total costs for using this technology as a replacement amount to US $251,917.

10. All cost issues have been addressed and agreed between the Government of Italy and the Secretariat. The cost of the project for the conversion of Poli-Mix from HCFC-141b to HFC-365/227 as originally submitted to the 59th Meeting was US $287,941. After discussions on the eligibility of the request for a premixing unit that was not in the baseline, on the age of the foaming dispensers in operation, on the eligibility for technical assistance for systems houses, and on the calculation of the incremental operating costs for a one-year period, the cost of the project was adjusted at US $136,477.

Impact on the environment

11. The Secretariat attempted to make a preliminary calculation of the impact on the climate of HCFC consumption through the foam project in Croatia (considering both technologies), based only on the GWP values of the blowing agents and their level of consumption before and after conversion. According to this methodology, once the project is completed:

(a) HFC-365/227 technology: 16.0 metric tonnes of HCFC-141b will be phased out, 10.40 tonnes of HFC365/227 will be phased in, and 1,382 tonnes of CO_2 that would have been emitted into the atmosphere will have been avoided;

(b) Water blown technology: 16.0 metric tonnes of HCFC-141b will be phased out and 11,408 tonnes of CO_2 that would have been emitted into the atmosphere will have been avoided:

Substance	GWP	Tonnes/year	CO2-eq (tonnes/year)
Before conversion			
Before conversion			
HCFC-141b	713	16.0	11,408
After conversion			
Water blown			-
HFC-365/227	964	10.4(*)	10,026
Net impact			
Water blown			(11,408)
HFC-365/227			(1,382)

(*) Based on a HCFC-141b: HFC-365/227 ratio of 1.00:0.65.

RECOMMENDATIONS

12. Recalling its decision 55/43(b), by which the Executive Committee invited bilateral and implementing agencies to prepare and submit project proposals to the Secretariat for those HCFC uses addressed in paragraphs (c), (d), (e) and (f) of the decision so that it could choose those projects that best demonstrated alternative technologies and facilitated the collection of accurate data on incremental capital cost and incremental operating costs or savings, as well as other data relevant to the application of the technologies, the Executive Committee may wish to consider approving the project for the phase-out of

1.76 ODP tonnes (16.0 metric tonnes) of HCFC-141b used in the manufacturing of rigid polyurethane and integral skin foam at Poli-Mix, based on the Secretariat's comments.

13. If the Executive Committee decides to approve the project, it might wish:

(a) To request the Government of Italy and the Government of Croatia to deduct 1.76 ODP tonnes (16.0 metric tonnes) of HCFCs from the starting point for sustained aggregate reductions in eligible consumption to be established by Croatia's HCFC phase-out management plan (HPMP); and

(b) To request the Government of Italy to provide to the Secretariat, at the end of each year of the projects implementation period, progress report that addresses the issues pertaining to the collection of accurate data in line with the objectives of decision 55/43(b), and to include this report in the implementation reports of the HPMP, once it is approved.
