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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-seventh Meeting
Montreal, 17-19 July 2002

PROJECT PROPOSAL: JORDAN

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

Solvent:

• Conversion of metal cleaning processes from TCA solvent to TCE degreasing at the Royal Jordanian Air Force	World Bank

PROJECT EVALUATION SHEET
JORDAN

SECTOR: Solvent ODS use in sector (2000): 63 ODP tonnes

Sub-sector cost-effectiveness thresholds: US $38.50/kg

Project Titles:

(a) Conversion of metal cleaning processes from TCA solvent to TCE degreasing at the Royal Jordanian Air Force

Project Data	**TCA**
	Royal Jordanian Air
Enterprise consumption (ODP tonnes)	45.00
Project impact (ODP tonnes)	45.00
Project duration (months)	24
Initial amount requested (US $)	342,757
Final project cost (US $):	
Incremental capital cost (a)	574,500
Contingency cost (b)	57,450
Incremental operating cost (c)	-289,193
Total project cost (a+b+c)	342,757
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US $)	342,757
Cost effectiveness (US $/kg.)	32.96
Counterpart funding confirmed?	Yes
National coordinating agency	General Corporation Environment Protection
Implementing agency	UNIDO

Secretariat's Recommendations	
Amount recommended (US $)	342,757
Project impact (ODP tonnes)	45.00
Cost effectiveness (US $/kg)	32.96
Implementing agency support cost (US $)	44,558
Total cost to Multilateral Fund (US $)	387,315

SECTOR BACKGROUND

1. The total consumption in the solvent sector reported by Jordan in its 2000 report on progress with implementation of its country programme is 63 ODP tonnes. Of this total, the consumption of TCA is reported as 15 ODP tonnes. One project for phase out of TCA in the solvent sector is currently being implemented, with a phase out of 6.4 ODP tonnes. The project below has a reported consumption of 10.4 ODP tonnes, giving a total current consumption of 16.8 ODP tonnes, slightly in excess of the reported consumption. The Government of Jordan has confirmed that no more funding will be requested for the phase-out of TCA in Jordan.

PROJECT DESCRIPTION

2. The objective of this project is to eliminate the use of 10.4 ODP tonnes of TCA as a solvent in metal cleaning operations at the Royal Jordanian Air Force. This is the final project in the solvent sector in Jordan.

3. The project covers the conversion of solvent cleaning machines in 8 workshops located in separate airforce facilities in Jordan.

4. The use of TCA will be phased-out by a conversion to TCE vapour degreasing technology. The technical requirements of the new process require that much of the existing equipment be replaced or modified. The main capital cost items requested are four new cleaning plants (US$ 400,000), a solvent recovery unit (US$ 35,000), modification of six ultrasonic degreasers (US$ 90,000) and safety equipment (US$ 4,000). Other costs include testing (US$ 4,000) and transportation (US$ 20,000).

5. Incremental operating savings of US$ 235,430 over the first four years of the project have been deducted from the total investment cost.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

6. In the project it is proposed to replace six US-made vapour degreasing machines used for cleaning metal aircraft parts with three new vapour degreasing machines designed to keep emissions of the replacement solvent, TCE, below acceptable levels. It is also proposed to retrofit another six vapour degreasers. The Secretariat discussed technical options with UNIDO leading to more comprehensive upgrades of the six existing machines and less technologically complex new machines. These modifications left the overall capital cost unchanged. However, since the machines being replaced were more than 20 years old, incremental costs were determined by deducting the cost of equivalent old-technology machines from the cost of the new-technology replacement machines. Minor changes were made to some other capital cost items to comply with Fund rules for calculation of incremental costs.

7. The Secretariat also discussed the levels of reduction in consumption of solvent by the new machines, since these give rise to incremental operating savings after conversion. Incremental operating savings were recalculated accordingly. With these adjustments, agreement was reached with UNIDO on the cost and eligibility of the project.

8. Because the ODP of TCA is only 0.1, the consumption levels of TCA conversion projects in ODP tonnes are low (10.4 ODP tonnes for this project), even though actual solvent use is high (104 metric tonnes). For this reason, the project, like many other TCE projects, requests funds approaching the threshold limit of US $38.5 per kg, in this case US$32.96 per kg.

9. The project will complete the phase-out of TCA in Jordan.

RECOMMENDATION

10. Blanket approval is recommended at the level of funding indicated in the table below.

	Project Title	Project Funding (US$)	Support Cost (US$)	Implementing Agency
(a)	Conversion of metal cleaning processes from TCA solvent to TCE degreasing at the Royal Jordanian Air Force	342,757	44,558	UNIDO

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