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EXECUTIVE COMMITTEE OF
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PROJECT PROPOSAL: ROMANIA

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

Production

- Sector plan for production sector (third tranche)

UNIDO

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SECTOR PLAN FOR ROMANIA PRODUCTION SECTOR (THIRD TRANCHE)

Introduction

1. UNIDO is submitting to the 52nd Meeting of the Executive Committee the request, on behalf of the Government of Romania, for the approval of US \$1,000,000 plus US \$75,000 as support cost for the implementation of the 2007 annual work programme of the Agreement for the Romanian ODS production sector. The submission from UNIDO includes the 2007 annual work programme, the verification report on the permanent closure and dismantling of the methyl bromide (MB) production plant at Sinteza Oradea, the 2006 production of CTC and of Diethylperoxycarbonate (DEHPC) (a CTC process agent application) at Plant Oltchim, and the 2006 CTC production at Plant Chimcomplex. The work programme and the verification reports are not attached for reasons of economy but could be made available upon request.

Background

2. At its 47th Meeting in 2005, the Executive Committee approved the Agreement for the Romanian ODS production sector at an approved-in-principle funding level of US \$6.3 million. This would provide for the total permanent closure of all the production capacity and, where applicable, the co-production of the controlled substances in Group I Annex A and Group I Annex B (CFCs), Group II (carbon tetrachloride) and Group I Annex E (methyl bromide), dismantling of MB and CFC production facilities and/or development of capacity to produce alternatives to these ODSs.

3. The agreed level of funding would be paid according to the following schedule upon the submission by UNIDO and the approval by the Executive Committee of the independent verification report on the completion of agreed production decreases for the preceding year.

Table 1

Production reduction targets and schedule of disbursement

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Max. annual allowable production of CTC for controlled uses* (ODP tonnes)	170.0	170.0	170.0	0.0	0.0	0.0						
Max. annual allowable production of methyl bromide (ODP tonnes)	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Max. annual allowable production of TCA (ODP tonnes)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL MLF Grant (US \$'000)	3,440	968	1,075	1,290	0	0	0	0	0	0	0	6,773
Project cost (US \$'000)	3,200	900	1,000	1,200	0	0	0	0	0	0	0	6,300
Agency fees (US \$'000)	240	67.5	75	90	0	0	0	0	0	0	0	472.5

* - except for the uses exempted by a Decision of the Parties to Montreal Protocol

4. At its 50th Meeting, the Executive Committee in its decision 50/37 approved the terminal phase-out management plan for CTC production and consumption for process agent uses in Romania and requested UNIDO to include, in its verification reports on the production sector to be submitted to the second meeting of the Executive Committee in 2007, 2008 and 2009, information on the levels of production and consumption of CTC for process agent applications in Romania. This should include independently audited confirmation of their consistency with the limits provided for in the project.

ODS producing plants and production in Romania

5. There were four plants producing CFCs, CTC, TCA and MB in Romania. The following table provides a profile of these producers as at the end of 2006.

Table 2

Name	ODS product	Nominal annual capacity	Plant history	Status
BICAPA TARNAVENI S.A.	CFC-11 CFC-12	4,750 mt (total) (CFC-12: 3,900 mt CFC-11: 850 mt)	Commissioned in 1989	Dismantled in 2005
OLTCHIM S.A.	CTC	26,000 mt	Commissioned in 1974, revamped in 1992	Active
	TCA	2,800 mt	TCA Plant dismantled	Dismantled
CHIMCOMPLEX BORZESTI S.A.	CTC mixture	300–320 mt as mixture with chloroform	Commissioned in 1960	Active
SINTEZA S.A.	Methyl bromide	150 mt	Fist line commissioned in 1973, second line commissioned in 1997	Dismantled in 2006

PROJECT DESCRIPTION

Verification of the dismantling of the methyl bromide plant and 2006 production of CTC

6. The verification was carried out in April 2007 by an Indian consulting firm, Ess Jay Consultants, the same company which had been contracted by UNIDO to carry out the same exercise last year. The team, which consisted of a technical consultant and an accountant, followed the same methodology in auditing the three plants, as described below:

- (a) The plants completed the Questionnaire prepared by Ess Jay Consultants for data collection and returned it to the auditors prior to the site inspection;
- (b) During the site visit, the enterprise made available to the team of auditors the services of required managers and experts who answered all queries in an open and professional way. Access was provided to all premises of the Plant and to all documents, daily production logs, sales and financial records requested by the auditors for the purpose of the audit and validation of the data provided in the completed Questionnaire;

- (c) A tour of the Plant was done to clearly understand the operations and record keeping. The system of measurement for raw material receipts and issues, production, sales and closing stock was reviewed; and
- (d) The following operational and statutory records for the year 2006 were examined:
 - (i) Raw material purchase and issue records;
 - (ii) Daily production logs and production records;
 - (iii) Inventory level records;
 - (iv) Process parameters records;
 - (v) Stock register in value as per books of accounts for the year 2006 to check the closing stock;
 - (vi) Stock transfer documents;
 - (vii) Laboratory analysis reports; and
 - (viii) Monthly value added tax (VAT) returns filed with revenue authority for claim of VAT, which gives the monthly purchase of raw materials and sales of finished goods.

Findings and conclusions at Chimcomplex, the CTC plant

7. Chimcomplex is a diversified company which produces a variety of chemicals including caustic soda, chlorine and agrochemicals. The chloromethane plant was started in 1965 under license from the former USSR, and was primarily producing methylene chloride in a continuous process by reacting chlorine and methane gas. However the residue from the process was a mixture of chloroform and CTC which had to be separated in a batch operation. The residue contained about 30-40 per cent of CTC and the balance was a mixture of chloroform and chlorinated hydrocarbons. CTC was not an intended product and was difficult to find a market for it because of its impurity. The mixture has been stored by the plant in wagons to be disposed of.

8. To verify CTC production, the team determined that there was a production of 117 mt of mixture containing CTC during 2006 which was stored in three wagons. Samples from the three wagons were collected and analysed and determined that the approximate content of CTC in the mixture was 30 per cent, which was consistent with the report provided by the plant. The total quantity of CTC produced in 2006 was 38.14 mt in the 117 mt mixture containing CTC.

9. There was no sale of CTC in 2006 and the total closing stock of CTC/chloroform mixtures at the end of 2006 was 439.7 mt. There was a plan to install an incinerator to destroy the stock of mixtures, and with the feasibility and design work on the incinerator being done the commissioning of the facility was planned for September 2007.

Findings and conclusions at Oltchim, the CTC plant

10. Oltchim produces CTC by reacting dichloropropane (DCP) and chlorine to form CTC and per-chloroethylene (PCE). The reaction is initiated with propylene, then removed and substituted with DCP. Oltchim produces both DCP and chlorine in-house. The company has significantly reduced the production of CTC from an average of 8,900 tonnes in 1998-2000, to 160 tonnes in 2004, and has shifted to the production of PCE. The company also produces diethylhexylperoxycarbonate (DEHPC) in which CTC is used as a process agent.

11. Since no external sales of CTC had been made and CTC was transferred as a process reagent, the auditors verified the CTC stock transfer for DEHPC production as per stock transfer records maintained by the company. The auditors had a rather detailed check on the DEHPC plant which used CTC as a process agent. They examined the DEHPC plant operation log book; CTC transfer data to DEHPC plant; DEHPC account stock record; DEHPC yearly production record; and the quality log book. Because of the age of the plant, the CTC consumption was found to be higher than the traditional norm.

12. The auditor concluded that the Oltchim plant in Romania produced no CTC in 2006 and used 139.39 mt from its 2005 inventory for the manufacture of DEHPC. The production log and transfer record at the DEHPC plant confirmed the internal CTC transfer and its use in the production of the DEHPC. There was a closing stock of 74.3 mt of CTC at the end of 2006.

13. Although the company had completed its process modification to eliminate the production of CTC, the plant had not removed the distillation columns dedicated for purifying CTC but planned to do so by September 2007. That would permanently remove the possibility to produce pure CTC.

Findings and conclusions at Sinteza, the methyl bromide plant

14. Sinteza started to produce MB in 1973, reacting methanol and sodium bromide in the presence of sulphuric acid at 45°C to produce MB. It had two reactors, each with an annual capacity of 75 mt for a batch process. All raw materials were procured from outside. The plant had not been in operation since January 2005 and was dismantled in July 2006.

15. The dismantling was approved by the local environment agency and a photographic record was made. The auditors were shown the list of equipment being destroyed and the reduction of the value of the financial assets of the company before and after the dismantling. It was noted there was still about 0.55 mt of raw material of sodium bromide to be disposed of.

Proposed 2007 annual work programme

16. The proposed 2007 annual work programme consists of two parts: part one on the progress achieved in the implementation of the 2006 annual work programme, and part two on the plan of action in 2007.

17. With regard to the targets in 2006, UNIDO reports that there was a total production of 38.14 mt (41.95 ODP tonnes) of CTC, well below the target of 170 ODP tonnes as set in the Agreement. 139.39 mt of CTC was used from 2005 stock for the production of DEHPC in 2006 as verified by the auditors.

18. On policy measures undertaken, UNIDO has advised of the introduction by the Government of a production quota system in 2005-2006 and on-going work on finalization and enactment of regulations for control and ban of production and import of ODS as of 1 January 2007. On phase-out measures undertaken by the industry in 2006, UNIDO's submission reports the following:

- (a) The CTC plant Oltchim has modified the process of CTC/PCE production in 2005 to produce only PCE, but has not removed the distillation columns for CTC purification.
- (b) Chimcomplex has completed the feasibility study and design for a facility for incinerating CTC and plans to commission the unit in September 2007. In the meantime the plant has collected a CTC mixture in wagons exceeding 400 mt.
- (c) Sinteza, the MB plant has been dismantled.

19. With regard to the work programme of 2007, UNIDO's submission proposes the annual targets as shown in the following table.

Table 3

ODS	2007 Target (ODP tonnes)
CFC	0
CTC	170
Methyl bromide	0
TCA	0
CTC production for PA use	187
CTC consumption for PA use	187

20. In terms of activities to be implemented by the industries, the following are proposed:

- (a) Oltchim to reduce CTC production, including that for process agent uses in line with the country's CTC emission reduction scheme from process agent uses;
- (b) Chimcomplex to start destruction of CTC mixtures and commence preparation to modify the process of chloromethane production for a lower level of CTC co-production.

21. The Ministry of Environment and Water Management continues to be responsible for monitoring and managing the phase-out programme. The National Ozone Unit is to conduct the supervision of enterprises and verification of ODS production and phase-out activities. UNIDO advised that the regulation for the control and ban of production and import of ODS was enacted on 1 January 2007 in line with the regulations of the European Union on ODS. A technical assistance programme will continue in 2007 which includes a number of activities, covering public awareness, training, market survey of remaining demand of ODS, and an information system on ODS production, consumption and exports.

22. UNIDO indicates that it plans to submit in advance to the 53rd Meeting in November 2007 the request for releasing the 2008, and the last, tranche of funding and intends to accomplish the tasks of the 2007 work programme and have them verified by the time of the 53rd Meeting.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

The verification report of 2006 production

23. The verification report submitted by UNIDO follows the guidelines and standard format for verification of ODS production phase-out approved at the 32nd Meeting of the Executive Committee. The team which carried out the verification has demonstrated their competence in earlier exercises of a similar nature for UNIDO. The report and the evidence presented by the auditors on the dismantling and demolition of the MB plant at Sinteza indicate that the unit will disappear completely and will not have any chance of resuming production.

24. The auditors concluded that the Romania produced 38.14 mt (or 41.95 ODP tonnes) of CTC in 2006, which was below the target of 170 ODP tonnes as set in the Agreement. The country used 139.39 mt of CTC from its 2005 inventory for the manufacture of DEHPC. The consumption of CTC for the DEHPC production was confirmed by the auditors.

The 2007 annual work programme

25. The proposed targets for 2006 are consistent with those in the Agreement and the plan of action is commensurate with accomplishing these targets. It is particularly important to note that the country has put in force the regulation for the control and ban of production and imports of ODS by 1 January 2007. It would also be worth monitoring the results of the upgrade of technologies by the two CTC producers in order to comply with the goal of the country to meet the targets in the Agreement and the control measures of the Montreal Protocol.

RECOMMENDATION

26. The Secretariat recommends that the Executive Committee:

- (a) Takes note of the verification report submitted by UNIDO; and
- (b) Releases the third tranche of funding of US \$1,000,000 for the implementation of the 2007 annual programme of the Agreement of Romania ODS production sector and US \$75,000 as support cost to UNIDO, since the verification confirms that Romania met the targets of the Agreement in 2006.
