



**United Nations  
Environment  
Programme**

Distr.  
GENERAL

UNEP/OzL.Pro/ExCom/52/37  
25 June 2007

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Fifty-second Meeting  
Montreal, 23-27 July 2007

**PROJECT PROPOSAL: DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA**

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

Solvent

- Plan for terminal phase-out of CTC (fifth tranche)

UNIDO

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**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS  
DEMOCRATIC PEOPLE’S REPUBLIC OF KOREA**

**PROJECT TITLE****BILATERAL/IMPLEMENTING AGENCY**

Plan for terminal phase out of CTC (fifth tranche)	UNIDO
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**NATIONAL CO-ORDINATING AGENCY:**

National Co-ordinating Committee for Environment

**LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT****A: ARTICLE-7 DATA (ODP TONNES, 2005, AS OF JUNE 2007)**

Annex B, Group II	191.4		
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**B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2005, AS OF JUNE 2007)**

ODS	Aerosol	Foam	Ref. Mfg.	Ref. Servicing	Solvents	Process agent	Fumigant
CTC					191.4		

**CFC consumption remaining eligible for funding (ODP tonnes)**

n/a

**CURRENT YEAR BUSINESS PLAN:** Total funding US \$306,000 total phase-out 86 ODP tonnes

PROJECT DATA		2003	2004	2005	2006	2007	2008	2009	Total
CTC (ODP tonnes)	Montreal Protocol limits			192.8	192.8	92.8	92.8	92.8	n/a
	Annual consumption limit	2,200	2,200	192.8	92.8	77.8	37.8	0	n/a
	Annual phase-out from ongoing projects	0	565.8	0	0	0	0	0	
	Annual phase-out newly addressed	0		1,441.4	108	15	40	37.8	
	Annual unfunded phase out	0	0	0	0	0	0	0	
TOTAL ODS CONSUMPTION TO BE PHASED OUT				2,007.2	100	15	40	37.8	
<b>Final project costs (US \$):</b>									
Funding for Lead IA: UNIDO		3,500,000	1,000,000	300,000	500,000	284,840	100,000		-5,684,840
<b>Final support costs (US \$):</b>									
Support cost for Lead IA: UNIDO		262,500	75,000	22,500	37,500	21,363	7,500		-426,363
<b>TOTAL COST TO THE MULTILATERAL FUND (US\$)</b>		3,762,500	1,075,000	322,500	537,500	306,207	107,500		-6,111,207
Final project cost effectiveness (US \$/kg)									n/a

**FUNDING REQUEST:** Approval of funding for the fifth and sixth tranches (2007 and 2008) as indicated above.**SECRETARIAT’S RECOMMENDATION**

For individual consideration

## PROJECT DESCRIPTION

1. On behalf of the Democratic People's Republic of Korea (D.P.R. Korea), UNIDO has submitted to the 52nd Meeting a funding request for the fifth and sixth tranches of the "Plan for Terminal Phase-Out of CTC" in the D.P.R. Korea, accompanied by an implementation programme for both tranches, and a performance verification report for 2006 which combines an annual report with a consumption verification report. The request for funding of the fifth tranche amounts to US \$284,840 plus support costs of US \$21,363 for UNIDO, and US \$100,000 for the sixth tranche plus support costs of US \$7,500 for UNIDO.

### Background

2. At its 41st Meeting, the Executive Committee approved in principle an agreement with the Government of D.P.R. Korea to phase-out the consumption of CTC at a total cost of US \$5,684,840 plus support costs of US \$426,363 for UNIDO. The Committee also approved funding of US \$3,500,000 plus support costs of US \$262,500 for the first tranche of the project. At the 46th Meeting, the Committee approved additional funding totalling US \$1,300,000 plus support costs of US \$97,500 for UNIDO for the second and third tranches of the project. At the 49th Meeting, the Executive Committee approved US \$500,000 plus support costs of US \$37,500 for the fourth tranche, as well as an amended agreement to reflect the submission of tranche requests to the second meeting of any year.

3. The phase-out plan includes activities in the solvent cleaning, process agent and fumigation sectors. It is supplemented by individual projects in the solvent cleaning sector that were approved prior to preparation of the plan. The plan foreshadowed the submission of additional requests for funding for the phase-out of CTC applications that were not at the time classified as process agents by the Parties. At its 49th Meeting, the Executive Committee approved a separate project for the phase-out of CTC consumption associated with two process agent applications in the pharmaceutical sub-sector, with associated cost of US \$884,399 plus US \$66,330 in support costs.

### Report on implementation

4. The major implementation activities during 2006 concerned supervision of the effective and efficient operation of a CTC bank which has proved to be the most efficient way to manage the stockpile and to keep disruptions to industrial and agricultural production to a minimum. A substantial stockpile was built in 2005 and has been administered by the CTC bank to ensure appropriate distribution of the remaining CTC to the users until they have achieved a sustainable and permanent phase-out of CTC use. The CTC bank is now effectively exhausted.

5. UNIDO has procured the equipment for the cleaning solvent sub-sector. Installations for three sub-projects have been carried out. With these activities all installations were complete at the end of 2006, except for those at Saenal Electrical Factory, where completion had been scheduled for November 2006, but concerns about bird flu in the country of origin delayed the granting of visas until early 2007. The work at this manufacturer was completed in April 2007, so finalising investment activities in this sub-sector under the plan.

6. There was some progress in 2006 on the conversion activities in the four process agent uses included in the original proposal, up to the point where excess quantities of products for the expected downtime during conversion were manufactured. All plants shut down operation in 2006 in preparation for conversion, and those installations to be replaced by new equipment were dismantled in preparation for the installation. Only in one plant using CTC as a process agent, could the equipment and associated installation services be provided in full. In two plants some parts of the equipment, i.e. glass lined reactors, were deemed to fall under the dual-use restrictions of the International Chemical Weapons Convention, to which D.P.R. Korea has not yet adhered, and have been detained in Chinese ports. Subsequently, in October 2006 the UN Security Council adopted Resolution 1718 (2006), which also contains similar trade restrictions as the International Chemical Weapons Convention. The equipment for the fourth project, also purchased in China, has arrived, but the experts from China needed for the installation did not receive the necessary permit from their Government to travel. The stocks of products manufactured before dismantling of the CTC using process agent applications have been depleted. An overview of all activities in the sub-sector is provided in Table 1.

Table 1  
Overview of status in process agent sub-sector

<b>Enterprise</b>	<b>Process agent application</b>	<b>ODP tonnes</b>	<b>Status / Issue</b>
2.8 Vinalon Factory Complex	Chlorinated and chlorosulphonated polyethylenes	172.2	Glass lined reactors not delivered
Sinuiju Chemical Fibre Complex	Chlorinated rubber	108.9	Glass lined reactors not delivered
Wonsan Chemical Company	Asbestos products	159.5	Travel restrictions for experts
Hungnam Fertiliser Complex	Anticorrosion paints	103.4	Installation ongoing at end of 2006

7. Terms of reference were prepared for the two process agent applications in the pharmaceutical sub-sector included in the separate project, approved at the 49th Meeting, in order to proceed with the implementation in 2007. In view of possible dual-use restrictions under the International Chemical Weapons Convention and Resolution 1718 (2006), the terms of reference have been reviewed with Ministry of Public Health in April 2007. UNIDO has started international biddings for equipment procurement for the both factories in May 2007. In the meantime, CTC was supplied by the CTC bank to the pharmaceutical factories.

8. The Fumigation sub-sector continued to draw down the stockpile of CTC. Temporary phase-out in this sector has been achieved by importing the proposed replacement chemicals, pending funding and implementation of permanent and sustainable solutions. The stockpile of CTC for this sub-sector was almost exhausted by the end of 2006.

9. By the end of 2006, out of total approved funds of US \$6,184,399 (including the two applications approved at the 49th Meeting), a total of US \$4,297,294 had been disbursed and used and an additional US \$400,000 was obligated.

## **Verification report**

10. A consumption verification report has been provided as part of the annual report. Imports and production are reported to be zero for the year 2006, leading to a consumption of zero ODP tonnes as compared to the 92.8 ODP tonnes allowed under the plan. The closure and dismantling of the production facilities was already reported in the previous verification report submitted to the 49<sup>th</sup> Meeting. The auditor who conducted the verification is a statistician from the D.P.R. Korea Academy of Agricultural Sciences. It is indicated that no quotas for import or export of CTC have been issued by the Government for many years and a letter to this effect was provided to UNIDO by the Government of D.P.R. Korea. The verification shows that at the end of 2006 the CTC stockpile amounted to 10.2 ODP tonnes, down from 449.9 ODP tonnes at the end of 2005. The verification report was signed by the auditor and by a representative of UNIDO.

## **Annual implementation programme for 2007**

11. UNIDO provided an annual implementation programme for 2007. In addition to activities still ongoing from earlier annual implementation programmes, it is planned to conduct one national workshop on the exchange of experiences among the factories with projects in cleaning applications, one national workshop for the fumigation sub-sector and one national workshop on problems and opportunities in implementation of the process agent projects. In addition, an international study tour for process agent enterprises and one for fumigation enterprises is planned, although the latter one only in 2008.

12. Activities for supporting the phase-out in the fumigation sector have been planned as a two-year programme, meant to phase out the CTC use of 335.3 ODP tonnes in 2002. The programme includes the installation of a chemical plant for the production of carbosulfan, hymexazol and chlorpyriphos methyl, the installation of grafting equipment and the implementation of the training scheme. The programme is due to be completed by 2008. Although UNIDO will prepare terms of reference for the above installations, bearing in mind the restrictions of Resolution 1718 (2006), the agency pointed out that because of SCR 1718 and non-ratification of the International Chemical Weapons Convention by D.P.R. Korea, new issues might arise regarding export of equipment to and its installation in the D.P.R. Korea. Therefore, the agency was hesitant to fully commit to a definitive delivery and installation schedule, and pointed out that delays might be extensive.

13. Consumption of CTC has already been reduced to zero in 2005, since there is no production and, currently, no imports. However under the approved Agreement, D.P.R. Korea is still allowed to consume up to 77.8 ODP tonnes of CTC in 2007 and up to 37.8 ODP tonnes in 2008, before having to stop imports from on 1 January 2009. In view of the past and potential future delays, a contingency plan for 2007 and 2008 has been developed. Its options include the emergency import of up to 70 ODP tonnes of CTC for 2007 and 34 ODP tonnes of CTC for 2008, to be allocated by the CTC Bank according to national priorities.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

14. According to the information provided by UNIDO, the phase-out in D.P.R. Korea is generally proceeding well. Production and imports have remained at zero for more than a year.

15. However, there are severe difficulties with the establishment of alternative technologies in the country. Such technologies are needed not only to minimize the risk of return to the consumption of CTC, but also to avoid undue hardship. The related efforts were affected by the provisions of the International Chemical Weapons Convention as well as Security Council Resolution 1718 (2006). The Secretariat had a number of exchanges with UNIDO on that matter.

16. The situation with regard to the duration of sanctions under Resolution 1718 (2006) and the exact legal framework of the export limitations imposed by the Chemical Weapons Convention can not be assessed by the Secretariat. At the present time it appears prudent to assume that the glass lined reactors for two process agent applications cannot be delivered to D.P.R. Korea.

17. On that basis, the options for UNIDO and D.P.R. Korea seem to be:

- (a) either to accept the use of equipment other than those reactors with a similar functionality, which is likely to lead to a short equipment lifetime and frequent replacement needs; or
- (b) to identify other processes which yield a similar result and can be used in the existing processing equipment, or in equipment modified within the framework established by Security Council Resolution 1718, the Chemical Weapons Convention, and the Agreement between the D.P.R. Korea and the Executive Committee.

18. The equipment that cannot presently be delivered due to the above mentioned sanctions has a value of US \$482,539; in addition, storage and insurance fees of approximately US \$800 per month are also being applied. UNIDO is assessing alternative processes for the applications and alternative equipment for the existing processes. Depending on the needs established through this ongoing activity, UNIDO will enter into negotiations with the supplier aiming at refund or replacement by a different technology. It appears very unlikely that the same equipment could be utilised under any other Multilateral Fund activity.

19. The verification conducted is very similar in its structure and activities to the previous year's verification, which was accepted as sufficient by the Executive Committee. The verification for 2006 appears acceptable, and the plan for implementation for the upcoming year seems suitable. The Secretariat noted UNIDO's reservations regarding anticipated difficulties in implementation, but is not suggesting changing the general requirements regarding implementation of projects in an expeditious manner. The Secretariat suggests that the Executive Committee could request a status report from UNIDO regarding progress in the two process agent applications where implementation is hindered by the export restrictions under the Chemical Weapons Convention and the Security Council Resolution 1718.

20. UNIDO submitted a request for simultaneous approval of the 2007 and 2008 tranches, the latter one a year ahead of the submission schedule. UNIDO pointed out that the country has already ceased production of CTC, that use of CTC has almost diminished, that a number of the CTC using applications have been dismantled and cannot be used anymore, and that the remaining uses will be converted shortly. The Secretariat pointed to the conditions of the Agreement, to its performance-based nature and the resulting characteristics of payment during the completion process, to the lack of urgency for advanced funding, and to the issues related to delays in implementation explained above. The Secretariat is therefore not in a position to recommend early approval of the 2008 tranche.

## RECOMMENDATION

21. The Executive Committee may wish to consider:

- (a) Approving the annual implementation plan for 2007, together with funding for the fifth tranche of the plan for terminal phase-out of CTC in Democratic People's Republic of Korea as indicated in the table below;
- (b) Urging UNIDO to find a solution, compliant with Security Council Resolution 1718 (2006) and the conditions of the Chemical Weapons Convention, to overcome the impediments and complete the implementation of the process agent sector activities; and
- (c) Requesting UNIDO to provide a status report on the progress achieved with the activities at 2.8 Vinalon Factory Complex and Sinuiju Chemical Fibre Complex to the 54<sup>th</sup> Meeting.

	<b>Project Title</b>	<b>Project Funding (US \$)</b>	<b>Support Cost (US \$)</b>	<b>Implementing Agency</b>
(a)	Plan for terminal phase-out of CTC (fifth tranche)	284,840	21,363	UNIDO

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