EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty-fifth Meeting
Montreal, 4-8 April 2005

Phase-out in Consumption and Production of CTC in India

Submitted by the World Bank

PROJECT COVER SHEET – MULTI-YEAR PROJECTS

PROJECT TITLE	BILATERAL/IMPLEMENTING AGENCY
Phase-out in Consumption and Production of CTC	World Bank, France, Germany, Japan, and UNIDO.
SUB-PROJECT TITLES	
(a) (b) (c)	

NATIONAL CO-ORDINATING AGENCY: Ministry of Environment and Forests

LATEST REPORTED PRODUCTION DATA FOR ODS ADDRESSED IN PROJECT

A: ARTICLE-7 DATA (ODP TONNES 2002 REPORTED ON 4 NOVEMBER 2003)

Annex A Group I	Annex A Group II	Annex B Group II	
	10,461	0	

B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES 2002 AS REPORTED ON 4/11/02)

ODS	Foam	Ref.	Aerosol	ODS	Fire Protection	Solvent	Fumigant
CFC – 11				Halon - 1301			
CFC – 12				Halon –2402			
CFC – 115				CTC		10,461	

CFC consumption remaining eligible for funding (ODP tonnes)	N/A

CURRENT YEAR BUSINESS PLAN: Total funding $ 52 million: total phase-out 23,058 ODP tonnes.

PROJECT DATA		2004	2005	2006	2007	2008	2009	2010	Total
Annex B Group II (ODP tonnes)	Montreal Protocol limits	N/A	1,733	1,733	1,733	1,733	1,733	0	11,553
	Annual production limit	N/A	1,726	1,147	708	268	48	0	11,553
	Annual phase-out from ongoing projects								
	Annual phase-out newly addressed		9,827	579	439	440	220	48	11,553
	Annual unfunded phase-out								
	Montreal Protocol limit	N/A	1,726	1,726	1,726	1,726	1,726	0	11,505
	Annual consumption limit	N/A	1,726	1,147	708	268	48	0	11,505
	Annual phase-out from ongoing projects		0	0	0	0	0	0	0

(ODP tonnes)	Annual phase-out newly addressed	N/A	779	579	439	440	220	48	1,505
	Annual unfunded phase-out								
TOTAL ODS PRODUCTION TO BE PHASED OUT		N/A	827	579	439	440	220	48	1,553
TOTAL ODS CONSUMPTION TO BE PHASED OUT		N/A	779	579	439	440	220	48	1,505
ODS consumption to be phased-in (HCFCs)									
Project costs (US $):									
Funding for World Bank*		9,180,112	399,045	9,556,267	4,020,938	3,211,875	3,211,874	0	38,100,954
Funding for France		1,000,000	1,000,000	500,000	500,000				3,000,000
Funding for Germany		700,000	700,000	300,000	300,000				2,000,000
Funding for Japan		2,500,000	2,500,000						5,000,000
Funding for UNIDO			3,500,000	399,046					3,899,046
Total project funding*		13,380,112	8,099,045	10,755,313	4,820,938	3,211,875	3,211,874		52,000,000
Support costs (US $))									
Support cost for World Bank*		688,508	29,928	716,720	301,570	240,891	240,891		2,857,573
Support cost for France		85,000	85,000	85,000	85,000				340,000
Support cost for Germany		57,500	57,500	57,500	57,500				230,000
Support cost for Japan		280,000	280,000						560,000
Support cost for UNIDO			262,500	29,928					292,427
Total support costs*		1,111,008	714,928	889,148	444,070	240,891	240,891		4,280,000
TOTAL COST TO MULTILATERAL FUND (US $)*		14,491,120	8,813,973	11,644,461	5,265,008	3,452,766	3,452,765		56,280,000
Project cost effectiveness (US $/kg)									2.25

*Additional funds of US$ 9,159,906 covering US$8,520,843 of project costs and US$639,063 of support costs were disbursed to the Bank in 2003.

FUNDING REQUEST: The funding request of US$ 8,813,974 is being submitted for the consideration of the ExCom at its 45th Meeting.

Prepared by: The Government of India and the World Bank **Date:** 4.6.2005

INDIA - PHASE-OUT IN CONSUMPTION AND PRODUCTION OF CTC

DRAFT

2005 ANNUAL IMPLEMENTATION PLAN

OZONE CELL
MINISTRY OF ENVIRONMENT AND FORESTS
STATE GOVERNMENT OF INDIA

AND

THE WORLD BANK

6 April 2005

India CTC Phase-out in Consumption and Production
2005 Annual Implementation Plan
Submitted to the 45th Executive Committee Meeting

DATA SHEET

COUNTRY:	**INDIA**
PROJECT TITLE:	Phase-out in Consumption and Production of CTC
YEAR OF PLAN:	2005
NO. OF YEARS COMPLETED:	1 (2004)
NO. OF YEARS REMAINIG UNDER THE PLAN:	5 (2005 – 2009)
TARGET CTC CONSUMPTION IN 2004:	N.A.
TARGET CTC PRODUCTION IN 2004:	N.A.
TARGET CTC CONSUMPTION IN 2005:	1,726 ODP tons
TARGET CTC PRODUCTION IN 2005:	1,726 ODP tons
TOTAL FUNDING APPROVED IN PRINCIPLE FOR THE CTC PHASEOUT PLAN	US$ 52,000,000
TOTAL FUNDING RELEASED AS OF DEC.2004	US$ 21,900,955
LEVEL OF FUNDING REQUESTED FOR 2005 ANNUAL PLAN;	US$ 8,813,973 (US$ 428,973 for World Bank; US$ 1,085,000 for France; US$ 757,500 for Germany; US$ 2,780,000 for Japan; and US$ 3,762,500 for UNIDO)
NATIONAL IMPLEMENTING AGENCY:	Ozone Cell Ministry of Environment and Forests
LEAD IMPLEMENTING AGENCY:	The World Bank
CO-IMPLEMENTING AGENCIES:	France, Germany, Japan and UNIDO

PROJECT SUMMARY

The CTC Sector Plan will completely phase out CTC consumption and production as defined by the Montreal Protocol, starting from the baseline levels of 11,505 and 11,553 ODP tons respectively, during the period 2004 – 2010. To achieve these targets, a series of investment, non-investment, technical assistance, and capacity building activities will be implemented by the World Bank, UNIDO and bilateral donors: France, Germany, and Japan.

(a) IMPACT OF PROJECT ON COUNTRY'S MONTREAL PROTOCOL OBLIGATIONS **The project will enable the Government of India to meet its Montreal Protocol obligations.**

Part I

2004 Annual Program Accomplishments

A. Targets Met

1. There were no targets or limits for CTC consumption and production for 2003 and 2004.

B. Industry Action

2. The CTC Phase-out Plan consists of investment and non-investment activities in both the consumption and production sectors. Activities in the consumption sector entail CTC phase-out in the process agents sector, and the solvent sector. The process agents sector consists of chlorinated rubber, chlorinated paraffin, pharmaceutical, and agro-industry sub-sectors. The solvent sector covers the textile and garment industry, metal cleaning industry, and chemical solvents sub-sectors.

3. In addition to the CTC phase-out in the production sector, activities under the process agents sector and chemical solvents will be implemented through the World Bank and UNIDO. Japan, through UNDP, is assigned to assist India to phase out CTC consumption at four enterprises in the metal cleaning sub-sector. France and Germany are assigned to assist India phasing out CTC consumption at small enterprises in the textile and metal cleaning sub-sectors.

4. The Project Agreement between India and the Bank and the Grant Agreement with the financial intermediary, Industrial Development Bank of India Limited (IDBI) were signed in New Delhi on December 10, 2004. The project launch mission was carried out from September 27 – October 1, 2004. For other co-implementing agencies, implementation arrangements are already in place as well, except for UNIDO, who will start its activities after approval of this AIP.

5. A 'quick-start' project implementation strategy was adopted by the Ozone Cell during project preparation. The objective of this strategy is to enable actual project implementation to proceed immediately after the signing of the Grant Agreement. Based on this strategy, two consumption sector workshops were held in 2004. Enterprises were informed of the eligibility criteria, procedures, and other requirements for accessing grant resources provided by the Multilateral Fund. In addition, the enterprises were informed of activities being undertaken by other co-implementing agencies. Enterprises are allowed to participate in this project through different agencies.

6. Two separate missions were undertaken jointly by UNDP staff, solvent sector experts and a Japanese technical expert nominated by Japan's Ministry of Economic, Trade and Industry (METI) in April and October 2004 to visit plant sites of the four large CTC-consuming enterprises (Steel Authority of India Limited, Western Engineering, Nissan Copper, and Hindustan Metal and Tube) in the metal cleaning sub-sector. Ten plants owned by these four enterprises were visited by the missions. These included six of the nine plants (Bhilai Steel Plant, Bokaro Steel Limited, Durgapur Steel Plant, Indian Iron & Steel

Company, Rourkela Steel Plant, and Salem Steel Plant) of the Steel Authority of India Limited (SAIL), two plants (New Delhi and Srinagar) of Western Engineering Co., one plant each of Nissan Copper Pvt. Ltd, and Hindustan Metal and Tube. The remaining three plants (Alloy Steels Plant, Maharashtra Elektrosmelt Limited, and Visvesvaraya Iron and Steel Limited) of SAIL had no longer consumed CTC as a solvent and were, therefore, not visited.

7. During the two missions, administrative, management and technical issues were discussed between mission members and the technical and managerial personnel of these plants on the implementation of replacement activities to eliminate the consumption of CTC in their cleaning applications with non-ODS solvents. Data on CTC consumption was verified, information on current production and cleaning applications was gathered and the requirements for cleanliness standards and equipment specifications were discussed. Draft equipment specifications were prepared, discussed and verified in October 2004. Based on comments and clarifications of the four enterprises, equipment specifications were revised for the bidding process.

8. International competitive bidding for 4 packages of different equipment, ancillary equipment, accessories and consumables required by the enterprises were sent out to short-listed bidders on 22 November 2004. Bid evaluation is currently underway for the vapor/spray degreasers and it is expected that the necessary internal procurement procedures will be completed by end of January 2005 to enable the issuance of purchase orders for the degreasers.

9. Due to the non-response to some bids for ancillary equipment, accessories and consumables, a re-bidding, with the addition of new potential bidders to be identified, will be re-issued in mid-January 2005 for the three packages.

10. As of the end of 2004, a total of $34,216 was disbursed for technical assistance provided to the project. Since procurement of the cleaning equipment, which accounts for the bulk of project expenditures, will take place in 2005.

11. GTZ was assigned to undertake activities on behalf of Germany and France for CTC phase-out in small-scale enterprises in the textile and garment, and metal cleaning sub-sectors,. In 2004, awareness activities were conducted to inform the concerned industries of the availability of funds provided by the Multilateral Fund to support the introduction of CTC alternative in these sectors. The focus of GTZ's efforts in 2004 was in the textile and garment sub-sector. As part of the awareness activities, an awareness pamphlet to inform the concerned industries of the CTC Phase-out Plan and relevant information on CTC was produced in Tamil and English languages. These pamphlets were distributed through the Textiles Committee in 18 major textile industry locations throughout India.

12. For the production sector, two meetings with the three active CTC producers were held in 2004. The three producers informed that they had informally reached an agreement regarding the production quota and the sharing of the grant funds from the Multilateral Fund. This agreement could be formalized as soon as the funding level to be allocated to the CTC production sector is determined by the Government of India.

13. The Ozone Cell informed the CTC producers of the need to stockpile some CTC in 2004 in order to meet the residual demand in 2005 and 2006 before conversion processes in the manufacturing sectors are completed. In addition, the Ozone Cell officially informed the

CTC producers and CTC feedstock users of the Government's plan to undertake verification of end of year inventories.

C. Technical Assistance

Project Management Unit (PMU)

14. Terms of reference for the PMU and its organization and management framework have been finalized. However, due to the delay in the signing of the Grant Agreement and the replacement of the Director of the Ozone Cell, establishment and appointment of PMU staff was not completed in 2004 as planned.

15. To facilitate implementation of the quick-start strategy and other preparation work, the Director of the Ozone Cell with the assistance of the PMU Coordinator of the CFC Production Phase-out Project, undertook the role of the CTC PMU Coordinator on an interim basis. A number of workshops and policy related activities were carried out in 2004. The draft project implementation manual describing detailed operation procedures for the CTC Phase-out Plan was prepared. The procedures related to activities in the consumption sector have been completed. The procedures related to the production sector will be completed in 2005 when the verification system is finalized.

16. The appointment of a consulting firm to assist the PMU to verify CTC consumption of beneficiaries in the consumption sector was completed in 2004. This consulting firm will undertake technical verification of sub-project proposals submitted by participating enterprises in early 2005.

17. In addition, a new project manager responsible for the implementation of the German bilateral ozone protection activities in India was appointed. He will take up his responsibility in January 2005. A PMU Coordinator for the GTZ-Proklima implemented project components was also selected in 2004. The PMU Coordinator will take up his assignment in January 2005. The PMU Coordinator will report directly to the GTZ Project Manager.

Development and Implementation of a Public Outreach Program

18. A CTC Users Registration Drive was conducted in 2004. The period of registration of ODS users as required by the Ozone Rules (2000) was reopened in 2004. This registration drive ended on 31 December 2004. The objectives of this public outreach activity were to identify CTC users in India, to inform CTC users of the phase-out requirements as per the Montreal Protocol and as per the phase-out targets stipulated in the agreement of this project, to inform CTC users and producers of the availability of grant funds from the Multilateral Fund to support CTC phase-out activities.

19. As part of this campaign, a series of announcements were made in the local newspapers throughout India from October until 20 December 2004. The local government offices were responsible for issuing registration certificates to CTC users during this period. While the Ozone Rules require all CTC users to register their consumption with the Government, this registration drive, however, aimed at larger users.

20. For smaller CTC users, the outreach program was done through awareness pamphlets prepared by GTZ. The awareness pamphlets were prepared in Tamil and English languages

and were distributed through the Textiles Committee in 18 major textile industry locations throughout India as mentioned previously.

21. An in-depth industry survey was also conducted in 2004. This survey focused on the textile industry in the Southern India. Activities covered under this survey included:

(a) Exploration of textile and garment industry in selected sectors and understanding of industry needs as regards CTC usage.

(b) Dissemination of information on awareness of the problems resulting from the use of CTC.

(c) Dissemination of information on implications of CTC-related regulations

(d) Industry survey to gather information on CTC usage in the garment industry

(e) Identification of suitable alternatives to CTC already used by industry or available on the market

(f) Laboratory testing of potential alternatives to CTC as stain removers

(g) Conducting industry seminars to assist the industry in managing the change-over

(h) Capacity building through training and process improvements on de-staining processes using CTC alternatives

(i) Development of more cost effective de-staining stations

(j) Promoting good industrial practices.

22. To accomplish these tasks at the level of the small and medium industries (SMIs), GTZ has entered into collaboration with the Textiles Committee of the Ministry of Textiles – an autonomous body working closely with the textile industry for both quality compliance certification and up-gradation. This collaboration has enabled the project to establish technical and logistic support to achieve the tasks listed as 1, 2 and 4.

23. In close collaboration with the Textiles Committee tasks 5, 6 and 7 are in progress. The first series of testing of about 30 alternatives has been completed. The first seminar to announce the results and gather additional information took place on 28 December 2004. At least two more seminars will be held in that segment. The experience shall then be adapted and replicated for other sub-sectors of textile industry across the country. Preliminary information gathered through the cluster development agents of Textiles Committee shall be use to define further steps.

24. Objectives 8, 9 and 10 are in the planning phase. The experience gathered till the end of 2004 will pave the way for its formalization.

Development of a Management Information System

25. Given the importance of monitoring and verification in the context of the performance-based nature of the project, the development and deployment of a management information system (MIS) based on both periodic and event-triggered data input from project beneficiaries, as well as from the Ozone Cell/PMU, IDBI, the Bank and other relevant parties, is critical to the successful implementation of the project. The MIS would support regular implementation progress reporting and ad-hoc analysis, as and when required. A more detailed Technical Note on data management aspects of the project was developed in 2004.

26. Discussions with CTC consumers, producers and Ozone Cell/PMU held in 2004, covered a wide range of issues pertaining to project implementation, including issues specific to the design and implementation of the MIS. Project participants that met in Mumbai at a meeting arranged by the Indian Chemical Manufacturers Association (ICMA) expressed a strong desire for a web-enabled MIS, both to facilitate data entry and forms submission, and to facilitate timely feedback from the center, on the status of their subproject, specifically with respect to approvals, allocations, and the status of disbursement requests. Accordingly, it is proposed to design the MIS and its supporting database for web-based data entry and reporting, supplemented as necessary with paper forms.

27. The initial analysis suggests that the database can be implemented using a conventional relational database management system (RDBMS). Such an approach requires a more specialist skill set for design and implementation, but has the advantage of easier maintenance, and is by design better oriented toward the making of ad-hoc relational queries, and to sorting the data in interesting ways. RDBMS solutions are also well oriented to web-based implementation and access. Therefore, as the fundamental system design decision, it is proposed to use an RDBMS.

28. Regarding the hardware/software platform, initial analysis suggests that, for a small database such as is contemplated, MySQL, a free open source RDBMS, appears to be the one of choice. For web-based access, there is a range of choices for the middle-ware software scripting languages for generating the web forms and web reports, but the emerging software of choice for this purpose appears to be PHP, a general-purpose scripting language suitable for web development that allows for server-side access to a database such as MySQL. To use the current term of art, the solution proposed is LAMP, for Linux operating system, Apache web server, MySQL database, and PHP web scripting middle-ware.

29. The draft version of this database system will be ready in the first quarter of 2004. The final version of this database system will be launched by the Ozone Cell/PMU by April 30, 2005.A dry run verification of CTC consumption and production for 2004 will be carried out by third quarter of 2005.

30. In parallel, GTZ also developed an MIS system focusing on the small scale users of CTC. The effort is being made to ensure that the MIS being developed by the Ozone Cell/PMU, with the assistance from the Bank, would be able to link to the system developed by GTZ.

31. Status of technical assistance activities initiated and carried out by GTZ in 2004 is summarized below.

Summary of Technical Assistance Activities Carried Out in CY04

No.	Accomplished Activity	Objective	Target Group	Impact	Status
1	Preliminary survey in Tirupur / Coimbatore				
2	Identification of industry / association partner	Direct access and action at grass root level and support testing of alternatives Awareness creation Facilitate information exchange with concerned industry	Garment and Textile industries and finishing houses across the country if possible All textiles industry in the south and across the country All textile industries	Direct access to the industries Preliminary sensitization to problems with CTC Accessibility to information	The Textiles Committee was identified as the most suitable partner having the needed technical expertise and enjoying the trust and confidence of the textile industry as a reliable partner.
3	Information dissemination				5000 handouts in Tamil and 5000 handouts in English disseminated through the offices of Textiles Committee in Tamil Nadu and across the country, respectively.
4	Setting up of information centre through communication link and website				Telephone, e-mail and website address disseminated through the awareness handout.
5	Setting up of web-site	For information dissemination on current status and the progress	All interested parties	Easy access to information	The web site was established and is being updated periodically
6	Survey on use of alternatives				

7	Testing of alternatives	Identifying most suitable alternatives Consolidate survey data	All industries surveyed	Identification of suitable CTC alternative for industry Awareness of availability of CTC alternatives	29 alternatives have been tested in collaboration with the Textiles Committee. Two types of tests have been carried out : 1. Assessment of chemical contents to ensure that the solvent is free of any ODS, 2. Assessment of stain removing efficacy and determination of cost effectiveness. The concluding results were presented to the industry during the first consultative seminar and published on the web-site.
8	**Development of MIS**				MIS was set up and an initial survey of more than 50 industries is being consolidated. Additional data collection expected during the forthcoming seminars will also be included. MIS was also designed to consolidate results of the CTC alternatives efficacy testing.
9	**(1) Gathering preliminary information on textile segments across the country**				
10	Consultative workshop	Share information about test results and gather further data on usage of CTC or alternatives.	All textiles industries	Awareness of availability of CTC alternatives	First workshop was held on 28 December 2004. Presentation of test results for CTC alternatives along with demonstration of the use of selected alternatives by the industry were part of the agenda. Additional data were collected from the participants. At least two additional workshops are planned for the beginning of 2005.
11	**(2) Preparation of seminar package**				

12	Preparation of training package to conduct de-staining without CTC through good industrial practices	Disseminate know-how on the use of CTC alternatives Increase cost effectiveness of de-staining process **Objective**	All concerned industries All concerned industries **Target Group**	Phase out of CTC through adoption of suitable alternatives Phase out of CTC through adoption of suitable technologies **Impact**	Currently at planning stage: Determination of suitable routes to disseminate information and know-how to concerned industries, e.g. through training programs, various media, etc.
13	Further development and adaptation of currently used de-staining equipment				Currently at planning stage: simple equipments have been identified and will be further developed that enable industries to conduct their de-staining activities in a more rational and economical way.
No.	Accomplished Activity				**Status**
3	**Information dissemination**				5000 handouts in Tamil and 5000 handouts in English disseminated through the offices of Textiles Committee in Tamil Nadu and across the country, respectively.
4	**(3) Setting up of information centre through communication link and website**				
5	Setting up of web-site	For information dissemination on current status and the progress	All interested parties	Easy access to information	The web site was established and is being updated periodically

D. Summary of Government Actions Taken in 2004

32. Agreements between the Government of India and Bilateral Agencies – Arrangements between the Government of India and bilateral agencies were finalized in 2004. The final draft tripartite agreement for the Government of India, AFD and GTZ is awaiting for the signature of the Government of India. Implementation by bilateral agencies (in case of Japan implementation is carried out by UNDP) started in 2004.

33. Grant Agreement between the Government of India and the World Bank – The Project Agreement for the CTC Phase-out Plan was signed on December 10, 2004. The grant agreement was signed between Industrial Development Bank of India (IDBI) and the World Bank on the same day. In addition, an associated project agreement between Ministry of Environment and Forests and the Bank was also signed on the same date.

34. Verification Framework – The framework prepared by India and the World Bank was submitted for the consideration of the Executive Committee in 2004. The Executive Committee took note of the verification framework as submitted by India and the World Bank and requested that the final verification framework be submitted to the Executive Committee when it is completed.

35. Registration of CTC Producers, Importers, and Exporters – Registration of ODS users was reopened until December 31, 2004. Only registered users and producers of CTC will be eligible for assistance under the project and for issuance of production and/or consumption quotas. This registration drive aimed at large and medium scale enterprises consuming or producing CTC. The registration drive completed in 2004. The Ozone Cell/PMU is in the process of compiling registration information coming from local government authorities.

36. Import Quota System for CTC – In 2004, the current import control system for CTC was reviewed. While import of CTC for feedstock applications will continue, any imports for applications controlled by the Montreal Protocol will be prohibited. As an import control system has direct linkage to the monitoring and verification system, the measures for restricting imports of CTC for non-feedstock applications would have to fit in with the monitoring and verification system, which is under development. This activity will be completed in 2005.

37. CTC Production Quota System – The Ozone Cell/PMU worked with CTC producers and the Association of Chloromethane Manufacturers (ACM) in 2004 to develop a production quota system for CTC production for non-feedstock applications. The production quotas for 2005 will be given to CTC producers during the first quarter of 2005. In 2004, the Ozone Cell/PMU also worked closely with CTC producers in order to build up a stockpile of CTC for non-feedstock applications in 2005 and 2006. The Ozone Cell/PMU informed CTC producers and enterprises consuming CTC in feedstock applications of the Government's plan to verify end of year inventories of CTC. Instructions were provided to relevant parties to prepare for the proposed verification.

Key activities for the Government actions in 2004 are summarized in table below.

NO.	POLICY/ACTIVITY PLANNED	SCHEDULE OF IMPLEMENTATION	STATUS
1.	Agreements between the Government	August 2003 – March	Pending signature from the

	of India and bilateral agencies	2004	Government of India.
2.	Grant Agreement between India and the World Bank	August 2003 – March 2004	Completed in December 2004
3.	Registration of CTC producers, Importers, and Exporters	January – December 2004	Registration closed on 31 December 2004. Compilation of registration information is underway.
4.	Promotion of non-ODS alternatives	January – December 2004	Over 30 alternatives are currently in use, many of detergent types were identified. Testing was done on 29 alternatives. Results were presented at the industry workshop on 28 December 2004. At least two additional workshops are planned for 2005.
5.	Import Quota System for CTC	January – December 2004	Investigations were initiated in 2004. While imports of CTC will continue for feedstock applications, a system to restrict imports of CTC for non-feedstock applications is being considered. The system is being designed in close coordination with development of monitoring and verification system. This activity will be completed in 2005.
6.	CTC Production Quota System	June – December 2004	It was decided that the quota will be imposed on CTC produced and sold for non-feedstock applications. Production quota as described will be allocated to CTC producers in first quarter of 2005.
7.	Announcement of the CTC Consumption Phase-out Requirement in the Chlorinated Rubber and Chlorinated Paraffin Sub-Sectors	January-June 2004	Prohibition of the use of CTC in these applications will be administered to CTC user registration certificates. No renewal of registration certificates will be approved after 2006.

E. 2004 Budget and Financial Performance

	Description	Funding Approved by ExCom ($US)			Funding Disbursed ($US)			Obligated Expenditure in CY 2004($US)
		Cumulative Funding Approved as of December 2003	Funding Approved in CY 2004	Total Funding Approved as of December 2004	Cumulative Actual Expenditure Disbursed as of December 2003	Actual Expenditure Disbursed in CY 2004	Total Actual Expenditure Disbursed as of December 2004	
1	CTC Phase-out in the Chlorinated Rubber Industry	4,330,000		4,330,000	0	0	0	0
2	CTC Phase-out in the Chlorinated Paraffin Industry	1,140,843		1,140,843	0	0	0	0
3	CTC Phase-out in the Process Agents Applications in the Pharmaceutical Sub-sector	2,000,000	2,763,002	4,763002	0	0	0	0
4	CTC Phase-out in the Agro-Chemical Industry		393,082	393,082	0	0	0	0
5	CTC Phase-out in the Chemical Solvent	1,000,000	2,158,215	3,158,215	0	0	0	0
6	CTC Phase-out in the metal cleaning		4,778,000	4,778,000	0	34,216	34,216	0
7	CTC Phase-out in the Textile Industry		609,063	609,063	0	92,000	92,000	34,000
8	CTC Phase-out in the Production Sector		2,000,000	2,000,000	0	0	0	2,000,000
9	PMU	50,000	678,750	728,750	0	0	0	0
	TOTAL	**8,520,843**	**13,380,112**	**21,900,955**	**0**	**126,216**	**126,216**	**2,034,000**

Remark: Funding allocation for each category is subject to change when the final agreement on the sharing of the grant funds between the consumption and production sectors is reached by the Government of India and the industry.

Part II

2005 Annual Program

F. Target consumption in 2005

Indicators		Preceding Year (2004)	Year of Plan (2005)[1]	Reduction[2]
Supply of CTC	Import	N.A.	-	
	Production	N.A.	1,726	9,827
	Total	N.A.	1,726	9,827
Demand of CTC	Process Agents	N.A.	860	
	Solvent	N.A.	866	
	Total	N.A.	1,726	9,779

(1) Targets for both production and consumption are in ODP tons. The targets for production and consumption are based on the definitions of production and consumption as defined by the Montreal Protocol (excluding production for feedstock and excluding consumption of CTC produced in the previous years).
(2) Reduction for both consumption and production is the difference between the baseline levels and the targets for 2005. These figures are in ODP tons.

G. Industry Action

38. The Ozone Cell/PMU will continue its outreach program to create awareness of the available financial assistance for eligible enterprises, and more importantly, the Government's policy to restrict the production and supply of CTC for non-feedstock applications. PMU will increase its effort to ensure that remaining enterprises, if any, will come forward in 2005 to participate in the CTC Phase-out Plan in the consumption sector in particular.

39. Technical audit of the sub-project proposals already submitted to the Ozone Cell/PMU in 2004 will be undertaken by the independent consulting firm that has already been appointed by the Ozone Cell/PMU.

40. Conversions of metal cleaning processes at four major CTC users (SAIL, Western Engineering, Nissan Copper, and Hindustan Metal and Tube) will be completed in 2005. This will result in a permanent phase-out of 533 ODP tons.

41. GTZ, on behalf of Germany and France, will intensify its outreach program among small scale users of CTC in the textile and metal cleaning industry, to create awareness of available CTC alternatives that have already been tested successfully in 2004. More importantly, GTZ will provide direct assistance to the industry to replace the use of CTC to non-CTC alternatives.

Sector	Consumption in 2001 (1)	Consumption Year of Plan (2)	Reduction within Year of Plan (1)-(2)	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-out (ODP tons)
Process Agents	1,916	860	1,056			1,056[4]
Solvent	4,745	866	3,879	4[3]		3,879
Total	6,661	1,726	4,935	4[3]		4,935

i.

(1) Consumption in 2001 as reported in the project document.
(2) Targeted consumption in 2005 is defined in accordance with the definition of consumption as defined by the Montreal Protocol (excluding the use of CTC in the inventories at the end of 2004).
(3) The number of projects completed in 2005 does not include phase-out in small CTC users.
(4) Actual reduction of CTC consumption in the process agent sub-sector is expected from partial phase-out from a number of enterprises that have already started or will start in 2005 their conversion processes, and by using CTC from the existing inventories at the end of 2004.

H. echnical Assistance

Project Management Unit (PMU)

42. A Project Management Unit will be fully staffed in the first quarter of 2005. The PMU will oversee the technical verification to be carried out by the independent consulting firm that has been appointed at the end of 2004. Technical verification will be conducted at those enterprises that have already expressed interest in 2004. The objective of this verification is to verify eligibility of the enterprises, the level of CTC consumption, and viability of the proposed alternate technologies. In addition, the consulting team will evaluate the proposals of the enterprises to determine whether necessary measures to preempt adverse impact on environment and workers' safety are incorporated in the design of the conversion process.

43. A series of small project preparation workshops will be organized in 2005 to inform the industry of the CTC phase-out plan of the Government, and to assist interested parties to prepare and submit their proposal for funding consideration of MoEF. The focus will be on enterprises in the process agent and chemical solvent sectors. For small scale users of CTC in the textile and metal cleaning sectors, GTZ have already held similar workshops to assist this target group in 2004. An information brochure highlighting availability of funds for phase-out of CTC including key steps to access funds from this project will be prepared and distributed to potential beneficiaries in 2005.

44. PMU will assist the Ozone Cell to strengthen the licensing system to cover CTC solvent and process agent users, feedstock users, and CTC producers. In this regard, PMU will work in close cooperation with the PMU of the CFC Production Phase-out Project and GTZ to identify CTC users and have them register their consumption with the Government.

Technical Assistance for CTC Consuming Enterprises

45. In addition to PMU's assistance to prepare project proposals that meets minimum information requirements by the project as mentioned above, technical assistance to assist CTC consuming enterprises to identify non-CTC alternative technology will be rendered by national experts to be contracted by PMU whenever needs arise.

46. For small scale CTC users in the textile and metal cleaning industry, technical assistance will be provided to enterprises by GTZ. The first consultative workshop was organized on 28 December 2004 in Tirupur. The workshop was attended by representatives from the Government of India and concerned industries. The workshop included demonstrations of CTC alternatives currently used by some industries as well as good industrial practices for de-staining technology. Two more consultative workshops will be organized in 2005 to complete the process of collecting direct feedback concerning acceptability of CTC alternatives to the textile and garment industries.

47. To enable the textile and garment industries to implement good industrial practices including the use of fume hoods for worker safety, the project will provide eligible enterprises with basic tools for stain removing. Specifications of the required equipment items are being developed. Procurement of materials, equipment, and training materials, will be done in 2005.

No.	Planned Activity	**Objective**	**Target Group**	**Impact**
1	Awareness activities including publication of articles in local languages	Create an understanding for the imminent change in CTC and alternatives availability	CTC users in all sectors; and state government officials	Increasing participation of CTC users in the CTC Sector Plan
2	Information dissemination, e.g. via printed media, videos, etc.	Inform industry about available alternatives and how to access the know-how and financial support	PMU will be responsible for large and medium scale enterprises while GTZ will take the lead in the textile industry	Reduction of CTC consumption
3	Project preparation workshops	Assist enterprises to formulate project proposals that contain relevant information regarding eligibility and level of consumption and meet the requirements of the project	All CTC users in the country	Pipeline of eligible projects to be financed by the Plan

No.	Planned Activity	Objective	Target Group	Impact
4	Technical services to be provided by national experts	Assist enterprises to determine alternatives that are safe and environmentally sound	Process agents and chemical solvent sectors	Increasing participation from the industry and timely phase-out of CTC in these sectors.
5	Continue search for available alternatives for the textile industry	Identification of potential alternatives	Selected enterprises	Conversion processes that are safe and environmentally friendly and sustainable phase-out of CTC
6	Testing of new alternatives for the textile industry	Identifying most suitable alternatives		Identification of additional CTC alternatives
7	Conduct 2 more consultative workshops	Share information about test results and gather feedback on acceptability of CTC alternatives	Selected textile industries	Ensure availability of suitable CTC alternatives
8	Conduct technology transfer seminars including distribution of samples of CTC alternatives to participants	Assure spread of technology to industries	All textiles industries	Spread of CTC alternatives and reduction of CTC use
9	Conduct on-location training on de-staining without CTC through good industrial practices, including improvements to the work place	Disseminate know-how on the use of CTC alternatives	All concerned industries	Phase out of CTC through adoption of suitable alternatives
10	Further development and adaptation of currently used de-staining equipment	Increased cost effectiveness of de-staining process	All concerned industries	Availability of an economic incentive to phase out CTC
11	Establish and operate PMUs	Coordination between project and State Governments, other agencies, etc.	Federal States of India, cooperation partners	Effective enforcement of Ozone Rules to ensure sustainable

No.	Planned Activity	Objective	Target Group	Impact
				phase-out of CTC

In the process agent sector UNIDO plans to implement the following subprojects and activities:

1. *Phase-out of CTC in the production of chlorinated paraffins (70% chloride content, power grade)*
   Name of the enterprise: Kedia Organic Chemical
   Consumption of CTC: 181 metric tonnes, 199 ODP tonnes
   Estimated project cost: US$ 1,141,000

2. *Phase-out of CTC in the production of chlorophenecin (4 – Chlorophenol)*
   Name of the enterprise: UNILAB Chemicals
   Consumption of CTC: 40.1 tonnes, 44.1 ODP tonnes
   Estimated project cost: US$ 196,000

3. *Phase-out of CTC in the production of Dexamethasone Phosphate, Betamethasone Phosphate, etc.*
   Name of the enterprise: Kemix Chemichals
   Consumption of CTC: 9 tonnes, 9.9 ODP tonnes
   Estimated project cost: US$ 96,000

4. *Phase-out of CTC in the production of Dexamethasone Phosphate, Betamethasone Phosphate, etc. (Intermediate: Pyrophosporil Chloride)*
   Name of the enterprise: Nicawa Chemicals
   Consumption of CTC: 37.6 tonnes, 41.4 ODP tonnes
   Estimated project cost: US$ 224,000

5. *Phase-out of CTC in the production of Carbimazole (Intermediate: Bromoacetaldehyde)*
   Name of the enterprise: Innova Laboratories
   Consumption of CTC: 7 tonnes, 7.7 ODP tonnes
   Estimated project cost: US$ 113,000

6. *Phase-out of CTC in the production of Para Nitro Benzyl Bromide*
   Name of the enterprise: Leeds Kem
   Consumption of CTC: 24.3 tonnes, 26.7 ODP tonnes
   Estimated project cost: US$ 361,000

7. *Phase-out of CTC in the production of Para Nitro Benzyl Bromide*
   Name of the enterprise: Panchsheel Organics
   Consumption of CTC: 22 tonnes, 24.2 ODP tonnes
   Estimated project cost: US$ 295,000

8. *Phase-out of CTC in the production of Para Nitro Benzyl Bromide*
   Name of the enterprise: Rajesh Chemicals

Consumption of CTC: 33.4 tonnes, 36.7 ODP tonnes
Estimated project cost: US$ 304,000

9. Phase-out of CTC in the production of Para Nitro Benzyl Bromide

Name of the enterprise: Saurav Chemicals
Consumption of CTC: 30.9 tonnes, 34 ODP tonnes
Estimated project cost: US$ 233,000

10. Phase-out of CTC in the production of Endozolphan

Name of the enterprise: E. I. D. Parry Ltd.
Consumption of CTC: 125 tonnes, 137.5 ODP tonnes
Estimated project cost: US$ 135,000

11. Phase-out of CTC in the production of Dicophol

Name of the enterprise: Hindustan Insecticides Ltd.
Consumption of CTC: 69.2 tonnes, 76.1 ODP tonnes
Estimated project cost: US$ 75,000

12. Phase-out of CTC in the production of Ethyl 4 – Chloro Aceto Acetate

Name of the enterprise: Avon Organics Ltd.
Consumption of CTC: 72 tonnes, 79.2 ODP tonnes
Estimated project cost: US$ 352,000

13. Phase-out of CTC in the production of Benzophenone

Name of the enterprise: Dharamasi Morarji Chemicals
Consumption of CTC: 41 tonnes, 45.1 ODP tonnes
Estimated project cost: US$ 219,000

14. Phase-out of CTC in the production of Ibuprofen

Name of the enterprise: Dr. Reddy's Laboratory
Consumption of CTC: 26 tonnes, 28.6 ODP tonnes
Estimated project cost: US$ 141,000

15. Phase-out of CTC in the production of Various Pharmaceuticals

Name of the enterprise: Balarji Pharma
Consumption of CTC: 24 tonnes, 26.4 ODP tonnes
Estimated project cost: US$ 117,000

48. The total phase-out of these sub-projects is expected to reach 742.4 metric tonnes of CTC, which amounts to 816.6 ODP tonnes.

49. The fund requirement is US$ 3,899,000.

50. In case any of the enterprises declare difficulties with the implementation of the project, another enterprise will be selected from the following reserve list:

- Fischer Inorganics and Aromatics
- Flame Pharmaceuticals
- Laxmi Agrochemicals
- Kairav
- Divis Lab

On each of the above sub-projects the following activities are to be undertaken upon approval of the funding:

(i) Visit the enterprises by UNIDO Consultant with the aim to review the current status of the company, its manufacturing process, CTC consumption;

(ii) Agree on the most appropriate environmental sustainable conversion technology for the replacement of CTC;

(iii) Report to the Ozone Cell on the findings and clear the project for implementation;

(iv) Sign agreement with the recipient Company and the Ozone Cell on the implementation of the sub-project;

(v) Comply list of equipment and services required and get it approved by the company;

(vi) Carry out international bidding for the equipment and services. The bids will be evaluated in consultation with the recipient company;

(vii) Purchase the equipment and services required and deliver it to the site;

(viii) The equipment supplier and the recipient company installs and commissions the equipment;

(ix) Trial runs, adjustments of product quality and technological process are carried out by the suppliers and the recipient company;

(x) Start-up of regular production, disposal CTC related equipment replaced by the project;

(xi) Monitoring of project result and preparation of completion report.

B. Implementation Timeframe

51. Items i through vii are planned to be implemented within 8 months after approval of funds.

52. The above schedule is very tight and requires good cooperation between the Government of India, the counterpart enterprises and the cooperating and leading agencies.

53. UNIDO will regularly inform the Government of India and the lead implementing agency on the progress of the programme. In case of difficulties, corrective measures will be taken by UNIDO and/or the Government of India as required.

I. Planned Government Actions in 2005

Inter-agency Coordination Meeting

54. To ensure effective coordination of CTC phase-out activities being undertaken by the lead and co-implementing agencies, PMU will assist the Ozone Cell to organize an inter-agency coordination meeting. It is proposed that this meeting be organized as part of the ODS summit to be held in the first quarter of 2005. This ODS summit will be organized by the Ozone Cell to ensure full coordination of activities carried out under various sector plans in India.

Development of a Management Information System

55. The development of a management information system (MIS) was initiated in 2004. This MIS will be designed and used as a major tool for PMU to monitor CTC phase-out activities undertaken by various enterprises including CTC producers, CTC feedstock users, and beneficiaries of this project. This MIS will also be used as a tracking tool for monitoring the production and sales of CTC to feedstock and non-feedstock users. The structure of the MIS will be designed to meet the needs for CTC production and consumption verification protocols being developed jointly by PMU and the World Bank. Substantial progress was made in 2004 in determining the scope and the structure of the database system. The MIS is expected to be completed and launched by PMU by April 30, 2005.

CTC Consumption and Production Verification

56. PMU will facilitate the development of the MIS system for this activity. In addition, PMU will facilitate the dry run verification of 2004 CTC consumption and production including end of year inventories, which is being proposed to be done by the third quarter of 2005. Based on feedback from this dry run verification exercise, PMU will provide recommendations to the Ozone Cell to strengthen its monitoring system.

57. PMU will take the lead in the preparation of the 2006 Annual Implementation Plan and facilitate the first official verification of 2005 CTC consumption and production in early 2006.

Key activities for the Government actions to be executed in 2005 are summarized in table below.

NO.	POLICY/ACTIVITY PLANNED	EXPECTED SCHEDULE OF IMPLEMENTATION	Key Actions
1.	Production and Sales Quota Licenses	January 2005	Quota for CTC production for non-feedstock applications in

			2005 will be issued by the Ozone Cell with assistance from PMU
2.	Administrative Orders to restrict the use of CTC; resale and or transfer of CTC; and, to impose reporting requirements on CTC users.	January – March 2005	Review the Ozone Rules and other relevant regulations on environment and health
3.	Registration of CTC Users	January – December 2005	Follow up on the registration drive undertook in 2004 through cooperation from state governments.
4.	Standard Protocol for Verification of CTC Production and Consumption	July – September 2005	Dry run verification of CTC production and consumption in 2004 and end of year inventories of CTC will be carried out.
5.	Restriction of CTC Imports for Non-Feedstock Applications	January-December 2005	Cooperation between MoEF and Customs Office will be formalized. The objective is to strengthen the control of CTC imports.

J. 2005 Budget and Planned Disbursement

	Description	Funding Approved by ExCom (US$)*			Funding Disbursed/Obligated (US$)	
		Cumulative Funding Approved as of December 2004	Funding Approved in CY 2005	Total Funding Approved (including CY 2005)	Cumulative Actual Expenditure Disbursed as of December 2004	Planned Expenditure in CY 2005
1	CTC Phase-out in the Chlorinated Rubber Industry	4,330,000		4,330,000		866,000
2	CTC Phase-out in the Chlorinated Paraffin	1,140,843		1,140,843		228,169
3	CTC Phase-out in the Process Agent Applications in the Pharmaceutical Industry	4,763,002		4,763,002		952,600
4	CTC Phase-out in the Agro-Chemical Industry	393,082		393,082		78,616
5	CTC Phase-out in the Chemical Solvent	3,158,215		3,158,215		631,643
6	CTC Phase-out in the Metal Cleaning Applications	4,778,000	4,000,000	8,778,000	34,216	4,965,784
7	CTC Phase-out in the Textile Industry	609,063	609,063	1,218,126	92,000	734,000
8	CTC Phase-out in the Production Sector	2,000,000	3,066,223	5,066,223		5,066,223
9	PMU	728,750	423,750	1,152,500		400,000
	TOTAL	21,900,955	8,099,036	29,999,991	126,216	13,923,035

*Remark: Funding allocation for each category is subject to change when the final agreement on sharing of the grant funds between the consumption and production sectors is reached by the Government of India and the industry.

K. Sources of Funds

	Total	Funds Approved as of December 2004	Funds To Be Approved in 2005
Lead Implementing Agency			
World Bank			
Project Cost	38,100,954	18,551,798	339,046
Support Cost	2,857,573	1,327,571	29,928
Sub-Total	40,958,527	19,879,369	368,974
Co-Implementing Agencies			
France			
Project Cost	3,000,000	1,000,000	1,000,000
Support Cost	340,000	85,000	85,000
Sub-Total	3,340,000	1,085,000	1,085,000
Germany			
Project Cost	2,000,000	700,000	700,000
Support Cost	230,000	57,500	57,500
Sub-Total	2,230,000	757,500	757,500
Japan			
Project Cost	5,000,000	2,500,000	2,500,000
Support Cost	560,000	280,000	280,000
Sub-Total	5,560,000	2,780,000	2,780,000
UNIDO			
Project Cost	3,899,046	-	3,500,000
Support Cost	292,427	-	262,500
Sub-Total	4,191,473	-	3,762,500
TOTAL			
Project Cost	52,000,000	22,751,798	8,099,045
Support Cost	4,280,000	1,750,071	714,928