

# EP

# الأمم المتحدة

Distr.

GENERAL

UNEP/OzL.Pro/ExCom/47/25  
24 October 2005

برنامج  
الأمم المتحدة  
للبيئة



ARABIC

ORIGINAL: ENGLISH

2005 / 25-21-

مقترحات بمشروعات: الصين

:

2006

:: .

CFC

•

2006

:

•

( )

2006

CTC

:

)

•

2006

:CFC

•

2006

:

/CTC/CFC

•

( )

CFC

•

2006

:

ODS

•

ورقة تقييم المشروع - مشروعات متعددة السنوات  
جمهورية الصين الشعبية

الوكالة الثنائية/المنفذة

عنوان المشروع

	:	CFC
		2006

SEPA/FECO	الوكالة الوطنية القائمة بالتنسيق:
-----------	-----------------------------------

آخر بيانات تم تبليغها عن استهلاك الـ ODS التي يعالجها المشروع  
ألف: بيانات خاصة بالمادة 7 (طن ODP، 2004، حتى سبتمبر 2005)

	18,358.39	CFCs
--	-----------	------

باء: بيانات قطاعية من البرنامج القطري (طن ODP، 2004، حتى أكتوبر 2005)

						ODS
	( )					
	10.80	1,088.55	1,142.00	6,788.02	8,534.05	CFC
				( ODP )		CFC
	ODP	600	:	3.32		خطة أعمال السنة الجارية:

المجموع	2010	2009	2008	2007	2006	2005	2004	2003	2002	بيانات المشروع
	0	8,673	8,673	8,673	28,909	28,909	57,819	57,819	57,819	CFC-11
	0	300	3,800	4,130	7,700	10,400	13,100	15,500	17,200	( ODP )
								13,830	14,143	
6,151	0	0	0	551	600	2,500	2,500	2,500	2,000	
10,651	0	0	0	551	600	2,500	2,500	2,500	2,000	مجموع استهلاك الـ ODS- المطلوب إزالته
53,846,000	0	1,767,000	1,767,000	2,676,000	3,320,000	10,903,000	10,903,000	12,570,000	9,940,000	( )
53,846,000	0	1,767,000	1,767,000	2,676,000	3,320,000	10,903,000	10,903,000	12,570,000	9,940,000	مجموع تمويل المشروع للبنك الدولي ( )
4,766,140	0	159,030	159,030	240,840	282,800	961,270	961,270	1,115,300	886,600	مجموع تكاليف المساعدة للبنك الدولي ( )
58,612,140	0	1,926,000	1,926,000	2,917,000	3,602,800	11,864,000	11,864,000	13,685,300	10,826,000	مجموع التكلفة للصندوق المتعدد الأطراف ( )
										( )

(2005)

:

	توصية الأمانة
--	---------------

وصف المشروع

	CFC		282 800		-1
	.47		2006		3 320 000
				:	
		( ) 2005		( )	
			( ) 2006	( )	
					<b>خلفية الموضوع</b>
35		(. . )		CFC	-2
		53 846	2001		
	2002	-2001	CFC	2009	2002
	2003		38		35
.2005		44	2004		41
	3 924 440		48 240 448		
	.CFC-11	ODP	9 500		
2004				CFC	-3
	44	59/44		1	CFC-11
	CFC				
	APP)	CFC/CTC/HALON "			
	(XVII	UNEP/OzL.Pro/ExCom/44/73)	(Accelerated Phase-out Plan		
		CFC-11			
	.APP		CFC-11		1
					CFC-11

الجدول 1: أهداف رقابة استهلاك الـ CFC-11 في قطاع رغاوي البوليوريثان في الصين (طن ODP) وجدول التمويل المتصل بها (بآلاف الدولارات الأمريكية)

المجموع	2010	2009	2008	2007	2006	2005	2004	2003	2002	
	0	300	3,800	4,130	7,700	10,400	13,100	15,500	17,200	) CFC-11 (ODP
	0	0	0	0	400	9,000	10,500	13,830	14,143	* CFC-11 (ODP )
10,651				551	600	2,500	2,500	2,500	2,000	) CFC-11 (ODP
53,846		1,767	1,767	2,676	3,320	10,903	10,903	12,570	9,940	( )
4,766.14		159.03	159.03	240.84	282.8	961.27	961.27	1,115.3	886.6	( )
58,612.14		1,926.03	1,926.03	2,916.84	3,602.8	11,864.27	11,864.27	13,685.3	10,826.6	مجموع التكلفة للصندوق المتعدد الاطراف (الاف الدولارات الأمريكية)

2010-2004 . .

CFC-11

\*

:

-4

: ( )

(1)

(2)

50

CFC

(3)

100

15

CFC

15

( )

( )

7

( ) 4

-5

:

(ODP ) CFC-11

( )

(ODP ) . .

CFC-11

( )

(ODP ) . .

CFC-11

( )

1

( ) 5 42/41 -6  
 CFC-11 ( )  
 CFC-11 59/44 .2004

الأوضاع القائمة في تنفيذ البرامج السنوية للفترة 2005 – 2002

2006 -7  
 (narrative) 2005 2002

42/41 -8  
 CFC-11 CFC

-9

CFC-11 CFC

336 2005 – 2002 -10  
 .2002 ODP 8  
 .2005 2002 144  
 2005 CFC-11

CFC-11 CFC-11 CFC-11  
 .2005 CFC

-11

( 31 4 )

2005

CFC

143

.ODS

## الجدول 3: معلومات أساسية عن مشروعات التحويل حتى 30 يونيو 2005

اسم المشروع	استهلاك الـ CFC-11 (طن ODP)	عدد المنشآت	رقم العقد	مقدار المنحة (آلاف الدولارات الأمريكية)	البرنامج السنوي	تاريخ التوقيع على العقد
1. Xinxiang Xinyuan	636.7	8	Con-F-02-Iv-01	2,441.6	2002	2002 2
2. Chengdu Jinjiang	552	7	Con-F-02-Iv-02	2,166.3	2002	2002 20
3. Zhejiang Chunhui	1164.98	31	Con-F-02-Iv-03	5,125.9	2002	2002 27
4. Lanzhou Huayu	1060.08	19	Con-F-03-Iv-01	4,664.3	2003	2003 9
5. Shaoxing Weike	969.14	5	Con-F-03-Iv-02	4,264.22	2003	2003 9
6. Nantong Xinyuan	648.11	11	Con-F-03-Iv-03	2,510.93	2003	2003 9
7. Dalian Yuji	294.32	7	F/III/S/04/093	1,295	2004	2004 19
8. Fenghua Yongxing	484	9	F/III/S/04/094	1,800	2004	2004 5
9. Beijing Zhonghai	589.9	8	F/III/S/04/095	2,595.6	2004	2004 9
10. Jining Ningyu	644.3	10	F/III/S/04/254	2,577.2	2004	2004 23
11. Xinjiang Jingxin	275.78	4	F/III/S/04/314	1,164.1	2004	2004 27
12. Nanjing Hongbaoli	426.9	11	F/III/S/05/009	1,878.41	2005	2005 3
13. Kuerle Zhujiang	171.78	5	F/III/S/05/017	704.3	2005	2005 10
14. Jiangsu Luyuan	418.138	9	F/III/S/05/016		2005	2005 10
المجموع	8,336.138	144				

## البرامج السنوية عن 2004 و 2005

2004 -13

2004 2004  
 ODP 2 288 3  
 .CFC-11 60 .2007 2006 47

2005 -14  
 ODP 2500  
 .2005 4

CFC-11 28  
 ODP 1 017 CFC-11  
 ODP 1 017 CFC-11  
 CFC-11 2007  
 .CFC/HALON/CTC



## الجدول 4: موجز نتائج عملية التحقق التي قام بها البنك الدولي لأهداف ازالة الـ CFC-11

الازالة السنوية للـ CFC المستهدفة في قطاع رعاوي الـ ب.ي.		استهلاك الـ CFC-11 في قطاع رعاوي الـ ب.ي.		حدود الاستهلاك الوطني للـ CFC-11		
		<sup>2</sup>	<sup>1</sup>			
2,354	2,000	14,100	14,143	17,187	17,200	2002
2,677	2,500	11,423	13,830	13,994	15,500	2003
2,288	2,500	8,418	10,500	10,364	13,100	2004
2,500 <sup>3</sup>	2,500		9,000		10,400	2005
832 <sup>3</sup>	600		7,000		7,700	2006
0	551		400		4,130	2007
	0		0		3,800	2008
	0		0		300	2009
	0		0		0	2010
<b>10,651</b>	<b>10,651</b>					<b>المجموع</b>

CFC/Halon/CTC -1

CFC-11 -2

CFC-11

.2006 2005 -3

CFC-11 - - -21

6 5

ODP 1.018 217 ODP 732 334

5

## الجدول 5: الاستهلاك الوطني الشامل من الـ CFC-11 في 2004

بيانات الـ CFC-11 عن عام 2004 التي أبلغت الى أمانة الأوزون (طن ODP)	التحقق	بيانات الانتاج الفعلي/الاستهلاك الفعلي	انتاج الـ CFC-11/استهلاك الـ CFC-11 في الاتفاقات	عام 2004
10,649.99		10,650		CFC-11
896.77	* /	732*		CFC-11
1,182.66	/	1,018*		CFC-11
10,634.10		10,364	13,100	CFC-11

\*



الجدول 6: استهلاك الـ CFC-11 في قطاعات أخرى في عام 2004

تعليقات	استهلاك الـ CFC-11	الهدف	مستوى الاستهلاك القطاعي للـ CFC-11
.44	463	500	
	297		
	1,186		
	1,946		مجموع استهلاك الـ CFC-11 في قطاعات أخرى
CFC-11	8,418		مجموع استهلاك الـ CFC-11 في قطاع الرغاوي

برنامج التنفيذ السنوي لعام 2006

	3.32	2006	-22
		CFC-11	282 800
	ODP 600		ODP 7 700
			ODP 7 000
6		2006	-23
		CFC-11	
		CFC-11	
		ODS	CFC-11
		CFC/CTC/Halon	-24
	ODP 1 151		SEPA
1	ODP 551	ODP 600	2007 2006
		CFC-11	CFC-11
	2007	2006	.2008
			CFC-11
LCD	2004		-25
		2005	

تعليقات وتوصية من الأمانة

تعليقات

							-26
9 -7		UNEP/OzL.Pro/ExCom/44/33)	2005				
						CFC-11	
8 418	ODP	10 364	2004	CFC-11			-27
							ODP
5	) ODP	10 500	ODP	13 100	2004		(APP
			7	6- 4			
2 500				CFC			-28
	ODP	212		ODP	2 288		.ODP
	ODP	531					
					2	2004	
						.2004	
						(2004)	
							-29
						CFC	
)					3		-30
50	2004			2004		(	100
		.2005			2005		
					18		-31
		43	2005			17	
					28		-32
165							.ODP

-33

4

/

.

..

**توصية**

-34

:

..

	) (	) (		
	282,800	3,320,000	:	CFC 2006
				(a)



## خطة قطاعية لازالة الهالونات البرنامج السنوي لعام 2006

### وصف المشروع

(11/23 )	-35
(59/44 )	CFC/CTC/Halon
2006	11.4
1301-2006	1211-100
2006	100
: )	: 2006 .( <a href="http://www.multilateralfund.org">www.multilateralfund.org</a> )
1211-	6 ( )
1211-	
1301-	3.2 ( )
2006 1301-	
10-5	1.8 ( )
1301-	
	0.4 ( )
.	-36
	" "
(SEPA)	.
.	-37
	.1211-
	-38
.	-39
2006	2005
.	
تعليقات وتوصيات الأمانة	تعليقات
الهالون-1301 كمادة تغذية	الهالون-1301 كمادة تغذية
2005	-40
1301-	
.	1301-



				-48
		1211-		
				.2006
				الأنشطة التي حدثت فيها تأخيرات
				-49
			.2007	2002
		1301-	1301-	
				توصيات
				-50
000		:		(
	855 000	2006	11 400	( )
			2006	( )
	1301-			( )
ODS				

القضاء التدريجي على إنتاج واستهلاك رابع كلوريد الكربون للاستخدام  
كعامل تصنيع كيميائي واستخدامات غير محددة أخرى (المرحلة الأولى):  
برنامج عمل عام 2006

وصف المشروع

					الخلفية
	2002	/			.51
				65	
)			CFC-113		
				2	(
					( 25)
20	2005	/	2004	/	2003
			2005	2004	2003
					2
					16
			2006		.52
			16		
.2006					.2005

أهداف وآثار البرنامج السنوي لعام 2006

الاستهلاك	
25 استخداما لرابع كلوريد الكربون كعامل تصنيع كيميائي	
493	2005
493	2006
0	
CFC-113 كعامل تصنيع كيميائي	
14	2005
10.8	2006
3.2	
الإنتاج	
رابع كلوريد الكربون	
38 686	2005
32 044	2006
6 642	
65	
40	2005 /
16	



.53  
2004 2003  
.2005

موجز تنفيذ القضاء التدريجي على إنتاج رابع كلوريد الكربون (المرحلة الأولى)

الاجراءات	الخفض	الإنتاج الفعلي	الهدف في الاتفاق	عدد المنتجين	السنة
	0	64,152	64,152	14	2001
(CTC4) 4	2,638	59,859	61,514	15	2003
** (CTC14 & CTC15) CM					
(CTC3,7,10 & 17) 4 4	6,657	50,194	54,857	12	2004
** (CTC16) CM					
(CTC6) 3	16,171	N/A	38,686	11	2005*

.2005 \*  
2001 CTC14, 15 and 16 \*\*

موجز تنفيذ القضاء التدريجي على إنتاج رابع كلوريد الكربون و CFC-113 كعامل تصنيع كيميائي (المرحلة الأولى)

الاجراءات	عدد المصانع		الاستهلاك السنوي (بأطنان من قدرات استنفاد الأوزون)			الاستخدام	المواد المستنفدة للأوزون
	2004	2001	2004	2003	2001		
2004 4 2005	3	8	1,209	920	965	CR	رابع كلوريد الكربون
2005	2	2	0	231	88	Endosulfan	
	1	3	1,649.7	1,017	1,119	CSM	
2005 8 4	8	12	261.9	817	899	CP-70	
	0	1	0	11	26	Ketotifen	
			3,120	2,996	3,097	المجموع	
	4	6	13.49	21.4	53	PTFE	CFC-113

.54

2003

chloromethane

CM

/ " " .55  
2004 2003

25

2004 .56

.chloromethane

	4		2005	.57
2003		3		
			.2005	2004
1-			CFC-113	.58
			2006	5-
		.( )		
				.59
			2005	
	.2005-2003			
		2006		.60
38 686 )		6 642		
(2006		32 044	2005	
493				
14	CFC-113		.2006	
2006		10.8	2005	
				.61
	.2006	.CFC-113	CFC-113	
			CFC-113	
			3-2	3
			2006	
	.2006			
	2006		2	.62
		2006	2005	
	3			
		2006		4
.2006			16	.63
2005			5.4	

تعليقات وتوصيات الأمانة

				التعليقات
16 171		2005		.64
	4 556			
		2005		.
			85	
2005			.	
.				
		2005		.2006
				.65
			chloromethane	
				.CFC
		2006		.66
				التوصية
		:		.67
		2006		( )
		.2005		



**خطة قطاعية لازالة انتاج الـ CFC  
البرنامج السنوي لعام 2006  
وصف المشروع**

-68

2006  
2006  
2005  
2005  
CFC  
2006

	CFC				
		2006			
		7			
		4			
	ODP	18 750	2005	CFC	( ) (ODP )
	ODP	13 500	2006	CFC	( ) (ODP )
		150		CFC	
		98			2005
		78.5	)		(2005
		13		2006	

-69

( )

2005 1999

(1)

2005 1999  
2005 6 1999 37 CFC  
) 2005 ODP 18 750 1999 ODP 50 351 CFC  
(2006

CFC 2004

2006 2005 CFC-11  
CFC  
CFC-13

2005

.CFC  
 CFC  
 )  
 2005 .2005 ( )  
 .2006  
 2005 (2)

SEPA CFC  
 1999 31  
 2000 ODS  
 .1999 ODS  
 CFC CTC  
 2005 .2000  
 SEPA CFC .2001  
 CFC SEPA  
 . (3)  
 . 47 36

.CFC  
 HFC-  
 10 000  
 3 .2006 134a  
 .  
 2006 ( )

ODP 5 250  
 CFC .2006 ODP 13 500 2005 ODP 18 750  
 .  
 .

HCFC  
 3 : -70  
 2004  
 Shanghai Chlor-Alkali Chemical Co. Ltd 6  
 HCFC 16 HCFC  
 HCFC 2005 .15  
 . 17



خطة الازالة المعجلة للـ CFCs/CTC/HALON في الصين  
 برنامج العمل السنوي لعام 2006  
 وصف المشروع

5									-76
.CFCs/PCTC/Halon								2006	
									خلفية الموضوع
10								44	-77
CTC								CFCs 1301-	
									CFC
								2007	
375 000								5	
								2010	

2010	2009	2008	2007	2006	2005	2004	Baseline	(ODP )
								CFCs <sup>1</sup>
0 <sup>2</sup>	7,050.6	7,050.6	7,050.6	23,502	23,502	47,004	47,004	( )
0 <sup>2</sup>	8,673	8,673	8,673	28,910	28,910	57,819	57,819	( )
0 <sup>2</sup>	550	550	7,400 <sup>3</sup>	13,500	18,750	25,300		CFCs .1
0 <sup>2</sup>	550	550	7,400	13,500	18,750	25,300		.CFCs .2
		0	400	7,000	9,000	10,500		PU CFC-11 .3
0	50	100	200	400	NL <sup>5</sup>	NL <sup>5</sup>		<sup>4</sup> CFCs .4
								CTC
0	4,405	4,405	4,405	4,405	4,405		29,367.4	( )
0	8,385	8,385	8,385	8,385	8,385		55,903	( )
12,217 <sup>7</sup>	13,415	12,768	22,724	32,044	38,686	54,857		<sup>6</sup> CTC .5
0 <sup>9</sup>	847 <sup>8</sup>	847 <sup>8</sup>	11,396	21,276	28,446	39,306		CFC CTC .6
								الهالونات
0	20,497	20,497	20,497	20,497	20,497	40,993	40,993	( )
0	17,094	17,094	17,094	17,094	17,094	34,187	34,187	( )
0	1000	1000	1000	1000	2000	2000		1301- .7
0	1000	1000	1000	1000	1500	1500		<sup>10</sup> 1301- .8
0	100	100	200	200	NL <sup>5</sup>	NL <sup>5</sup>		1301- .9

									CFCs -1
									10 -2
									-3
									-4
									-5
									-6
									-7
									-8
									-9
									-10
2006									-78
000									
									375



2006	2005	1301-	2009	2008	.CFCs	2005	2004	
	.						2007	
2004	1301-		2004	.2005	2004			-79
	2004		1301-		CFC			2005
								CTC
CFC-113				SEPA				-80
	.2005		2006	2004		2004		CFC
								-81
	SEPA			2005	CTC			
			2006					-82
					CFC-11		1301-	
	2006	2007			CFC	1301-	CFC	
	CFC	CFC			SEPA	.2007		CFC
					CFC-11			
					CFC			
.2006	2005							-83

تعليقات وتوصيات الأمانة

تعليقات

				2004	ODS			-84
	2005							
	CFC-11							
				2004				-85
					2006			1301
				.2009				
				1301-				
2009					1301-			

1301-						.
						توصية
				:		-86
	2006	2006			( )	
000			5			
5 375 000		2005			375	
	1301-				( )	
						.

ورقة تقييم المشروعات - مشروعات متعددة السنوات  
البلد: الصين

الوكالة الثانية/المنفذة	عنوان المشروع
( )	CFC

SEPA/FECO	الوكالة الوطنية القائمة بالتنسيق:
-----------	-----------------------------------

آخر بيانات تم تبليغها عن استهلاك بالنسبة للـ ODS التي يعالجها المشروع  
ألف: بيانات خاصة بالمادة 7 (طن ODP، 2004، حتى أكتوبر 2005)

17,899.49	CFCs
-----------	------

باء: بيانات قطاعية من البرنامج القطري (طن ODP، 2004، حتى سبتمبر 2005)

	( )		ODS					ODS
0	0	0		845.0	4,565.1	720.0	116.0	CFC-12

	(ODP )	CFC
--	--------	-----

ODP 511

3 000 000

خطة أعمال السنة الجارية (اليابان):

Total	2010	2009	2008	2007	2006	2005	2004	بيانات المشروع
n.a.	0	406	406	5,805	5,637	5,713	6,934	CFC-12
n.a.	1,181	1,786	2,317	2,997	3,790	4,572	5,083	(ODP)
0	0	0	0	0	0	0	0	
3,902	605	531	680	793	782	511	0	
0	0	0	0	0	0	0	0	
3,902	605	531	680	793	782	511	0	مجموع استهلاك الـ ODS المطلوب إزالته
0	0	0	0	0	0	0	0	ODS (HCFCs)
								التكاليف النهائية للمشروع (دولار أمريكي)
2,885,000	0	725,000	620,000	620,000	100,000	270,000	550,000	
4,000,000	0	0	0	0	500,000	2,500,000	1,000,000	( )
1,000,000	0	60,000	80,000	80,000	100,000	230,000	450,000	( )
7,885,000	0	785,000	700,000	700,000	700,000	3,000,000	2,000,000	مجموع تمويل المشروع
								تكاليف المساندة النهائية (دولار أمريكي)
216,375	0	54,375	46,500	46,500	7,500	20,250	41,250	
520,000	0	0	0	0	65,000	325,000	130,000	( )
130,000	0	7,800	10,400	10,400	13,000	29,900	58,500	اتكاليف المساندة لليونيبي (الوكالة المتعاونة)
866,375	0	62,175	56,900	56,900	85,500	375,150	229,750	مجموع تكاليف المساندة
8,751,375	0	847,175	756,900	756,900	785,500	3,375,150	2,229,750	مجموع إجمالي التكاليف على عاتق الصندوق المتعدد الأطراف (بالدولار الأمريكي)
							5.48	( / )

طلب التمويل: تعديل الاتفاق، زيادة مجموع التكاليف على الصندوق المتعدد الأطراف والموافقة على تمويل الشريحة الثانية (2005) كما هو مبين أعلاه.

توصية الأمانة
---------------

وصف المشروع

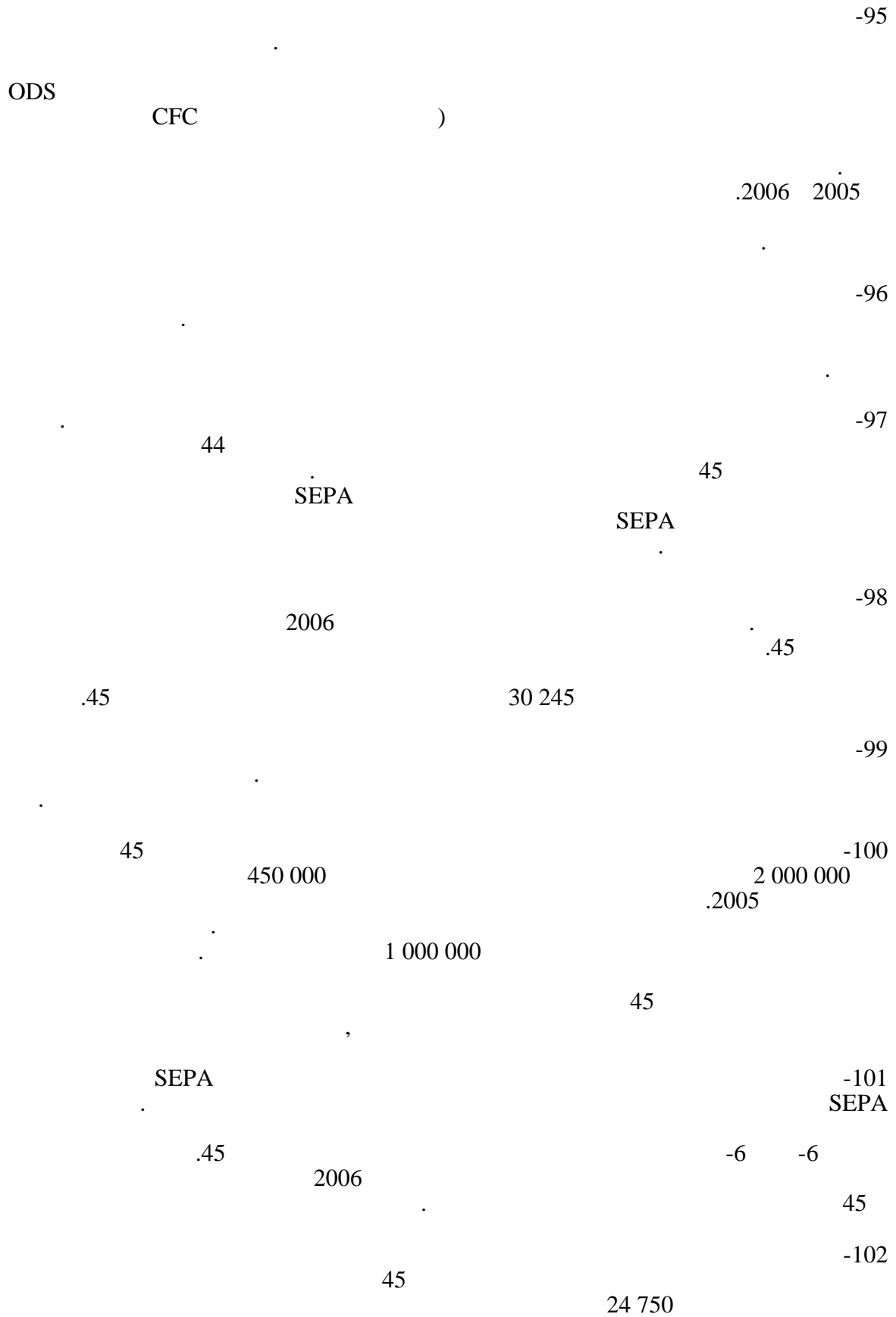
	CFC			-87
		47		
	2006			
CFC		44	2004	-88
			45	
		2004		-89

الهدف المحدد في الاتفاق، 2004 (طن ODP)		الهدف الذي تحقق في 2004 (طن ODP)	
6,934	CFC-12:	6,246	CFC-12:
5,083	CFC:	4,868	CFC

	2005			-90
ODS			.2005	
	CFC		.2005	-91
637	CFC-12	3 790	2006	-92
	.ODP		CFC	ODP 5
	CFC		2006	-93
	2006	2 300 2 000		
		( )		( )
	CFC		"	"

تعليقات وتوصيات من الأمانة

				<b>تعليقات</b>
(	) CFC			-94
	2004		2004	



[...]

"

"

-103

30 250

12

-104

-105

**توصية**

-106

:

( ) 2005

2004 CFC

( )

:

( )

46/45

(1)

:

2006

(

CFC

(

:

الوكالة المنفذة	تكاليف المساندة (دولار أمريكي)	تمويل المشروع (دولار أمريكي)	عنوان المشروع	
	0	0	CFC	: ( )
	0	0	CFC	: ( )
	390,000	3,000,000	CFC	: ( )

(2)

:

-2 ( )  
 30 250  
 2006 ( )  
 CFC ( )  
 :

الوكالة المنفذة	تكاليف المساندة (دولار أمريكي)	تمويل المشروع (دولار أمريكي)	عنوان المشروع	
	20,250	270,000	CFC	: ( )
	29,900	230,000	CFC	: ( )
	325,000	2,500,000	CFC	: ( )

ورقة تقييم المشروع- المشروعات المتعددة السنوات  
البلد:

عنوان المشروع	الوكالة الثنائية/الوكالة القائمة بالتنفيذ
ODS	2006 :
الوكالة الوطنية القائمة بالتنسيق:	SEPA

آخر البيانات عن الاستهلاك تم إبلاغها بالنسبة للـ ODS التي يعالجها المشروع  
الف: بيانات المادة 7 (طن ODP، 2003، حتى 22 أكتوبر 2004)

	ODP (TCA)	23,349.61	ODP (CFCs)
80	( )	2,109.89	ODP (CTC)

باء: بيانات قطاعية في البرنامج القطري (طن ODP، 2003، حتى 22 أكتوبر 2004)

	( )						
0	20,014.36	5.53	CTC	1,672	11,423.48	278.86	CFC-11
0	0	336.83	TCA	6,044	116.00	780.32	CFC-12
1,008			MeBr	311.69			CFC-115

استهلاك الـ CFC الذي لا يزال مؤهلاً للتمويل (طن ODP)

خطة الأعمال عن السنة الجارية: 11 540 000 : ODP 85

المجموع	2010	2009	2008	2007	2006	2005	2004-2002	
	0	0	0	0	0	550		CFC-113 (ODP tonnes)
						550		
	0	85	169	254	339	424		TCA (ODP tonnes)
	0	85	84	85	85	85		
	0	0	0	0	0	0		CTC (ODP tonnes)
	0	0	0	0	0	0		
								ODS
	0	85	84	85	85	635		CFC (ODP )
52,000,000	1,480,000	1,480,000	1,480,000	5,480,000	5,055,000	5,680,000	31,345,000	( )
4,400,875	111,000	111,000	111,000	411,000	379,125	426,000	2,851,750	
56,400,875	1,591,000	1,591,000	1,591,000	5,891,000	5,434,125	6,106,000	34,196,750	

طلب التمويل: الموافقة على تمويل الشريحة السابعة (2006) كما هو مبين أعلاه

موافقة شمولية	توصية الأمانة:
---------------	----------------







الجدول 3: الإزالة من خلال عقود تخفيض ODS ونظام القسائم، والتسديد بأثر رجعي وآليات الإزالة الذاتية للفترة  
2005-2000

		CTC (ODP )	TCA (ODP )	CFC-113 (ODP )			
\$5,000	10 – 20	0	10	372.8			2000
\$4,132	16	8.36	10.1	378.4			
		-	7.4	-			
		-	7.4	-		2000	
\$5,505	10 – 20	0	10	524			2001
\$4,361	21	0	10.6	541.6			
			-	54.1			
		8.36	9.8	340.1	2000		
		8.36	9.8	394.2		2001	
\$5,830	20 – 40	55	25	500			2002
\$4,004	32	17.94	43.2	535.8			
			41.7	291.3			
		-	0.4	38.4	2000		
			-	-	2001		
		-	42.1	329.7		2002	
\$5,255	120-140	55	78	600			2003
\$5,100	226	0	37.9	475.3			
		-	-	-			
			7.3	336.3	2001		
		-	-	-	2002		
			37.9	142.1	*2003		
		-	45.2	478.4		2003	
\$4,000		0-	78	550			2004
4,729	216		119.7	767.3			
			3.3	205.3	2001		
		16.5	18.3	108.6	+2002		
			-	-	2003		
			9.8	49.4	*2004		
		17.94	31.4	363.3		2004	
\$4,280		0	85	550			2005
\$4,200			14.88	268.89			
		1.44	24.9	427.2	2002		
		0	36.7 (37.6)	463.8 (478.3)	2003		
			0 (54)	0 (737.8)	2004		
			61.6 (116.5)	891 (1,643.3)		2005	
		110	286	3,096.8			
		110	282	3,300			
		26.3	236.38	2,967.29			
		26.3	190.1 (245)	2,456.6 (3,208.9)			

2005

:2005

\*  
+

							-119
	2005						.
ODS		3		2005			
							-120
							:
							( )
							( )
	SEPA/FECO			2004			-121
	.TCA	163.45	CFC-113		169.7		
"ODS	( )		" SEPA	2004	13		-122
1	CFC-113	"	SEPA	2004	7		-123
							."2006
	China Medical Machinery Organisation			2003			-124
ODS					SEPA		2005
			(SILICONIZATION)		CFC-113		
			CFC-113				
		2004					-125
			."ODS				"
				.2005			
)							-126
"			" SEPA				
."			"				
.	40 000		31		2906		
	2005	15					
			.2008				
	6000	.2003					-127
10 000	2004	Shanghai					51

								31
								.ODS
52								2004 Shanghai 2004 27-23 -128
								<u>2004 ODS</u>
2002	2001	2000						-129
	4		CTC	TCA	CFC-113	2004		.2003

الجدول 4: استهلاك المذيبات التي تحوي ODS في عام 2004 (طن ODP)

CTC (ODP )	TCA (ODP )	CFC-113 (ODP )	
<b>0</b>	<b>502</b>	<b>1,100</b>	هدف مراقبة الاستهلاك
-	105.6	1,099.4	
-	264.6	-	
-	-	-	
<b>0</b>	<b>370.2</b>	<b>1,099.4</b>	استهلاك المذيبات

2005 -130  
 .(CNAO)

Beijing Tian-Hua Zheng SEPA -131  
 24 Certified Public Accounts Co. Ltd.  
 12/42 ) 2004  
 (

CTC	TCA	CFC-113	TCA	
			34	21

CFC-113 CNAO -132  
 2004 ODP 1099

CFC-113			2004	CFC-113			
			.ODP	1100		2004	
2004	TCA			TCA			-133
264.60	ODS					.ODP	105.6
	ODP	370.20		TCA		ODP	
				.ODP	502		2004
Zhong Tian Hua Zheng						CTC	-134
	CTC			CTC	27.5		CPA Co
			2004		2004	CTC	2003
	CTC						
	CTC					SEPA	
ODS				18		24	-135
	.TCA	ODP	1.78	CFC-113	ODP	114.37	
							136
.2003	1			2006	1		-137
							CTC
			"				-138
	"				"	"ODS	
	FECO/SEPA				2004		
	ODS						-139
(	)						
CFC-113		CTC				CTC	-140
		CTC					SEPA
					.2006	1	

2005	10								-141
					.ODS			.2005	
									-142
							SEPA		
								<u>2006</u>	
2006	1								-143
				TCA	ODP	85	CFC-113		.2006
		2005	2004			TCA		.2006	
							2006		.2006
		2006							.2006
		:			2006				-144

أنشطة المساعدة التقنية في برنامج التنفيذ السنوي لعام 2006

الوصف		النشاط
ODS		
	ODS	
ODS		
	ODS	
	2010	
	ODS	
	ODS	
		ODS
ODS		
/	CFC	
	/	/
	CTA	
	TCA	CTA



## خطوات الحكومة في برنامج التنفيذ السنوي لعام 2006

الجدول الزمني للتنفيذ	السياسة المزمعة/النشاط المزمع
	CFC-113 CTC
2006	HEP-2
2006	
	:2005
	•
	•

2006

5 055 000 2006

-145

379 125

2006  
47

SEPA

:

.45

2005

2006

التفقات المزمعة دولار أمريكي	النشاط
3,340,000	-
	(\$100,000) -
	(\$100,000) -
	(\$60,000) -
	/ -
1,715,000	(\$1,000,000) -
	(\$225,000) -
	(\$100,000) CTA -
	(\$30,000) -
	(\$100,000) -
<b>5,055,000</b>	<b>المجموع</b>

تعليقات وتوصيات من الأمانة

التعليقات

CTC -146  
 31/44  
 CTC CFC-113  
 ODP 3886 ( )  
 ( ) CTC  
 ODP 5500  
 -147

.SEPA  
 SEPA

-148  
 .2006

		( )				
	5,424,407	18,483,450	18,483,450	13,117,143	31,600,593	37,025,000
		8,382,385 (2005)	17,114,694	11,677,303	28,791,997	
2006	TA - 834,360s	10,101,065 (2006)	1,368,756	1,439,840	2,808,596	
2007	HEP-2 - 2,000,000					
2006	- 1,295,023					
2007	- 1,295,024					
2006						
	5,055,000					5,055,000
2007	3,340,000					
/2006 2007	1,715,000					

2005 2005 2005 3 1-3 ODP 1234.3 -149  
 1643.3 2005 2005 3 ODP 1234.3  
 2003 2002 .ODP  
 2004  
 2005 .2005

		-150
2006		
SEPA		
		2007
		2006
		<b>توصيات</b>
		-151
.2005-2004	ODS	
2006		-152
:		

الوكالة المنفذة	تكاليف المساندة دولار أمريكي	تمويل المشروع دولار أمريكي	عنوان المشروع	
	379,125	5,055,000	:	ODS 2006

الملحق 1

مشروع اتفاق مقترح بين الصين واللجنة التنفيذية للصندوق  
المتعدد الأطراف لازالة الـ CFC في قطاع خدمة التبريد

-1	" "	)	-1
-2	2010	" "	"
-2		"	-2 ")
	3		
			-3
		12	-2
		-3	-3
9	-2		-4
			-5
:			
			( )
9	)	-2	( )
-5	CFC	) 2	-2 (CFC-12
			(
			.) (" "
			( )
"	-4		( )
			( "

-5

-5

.9

-7

( ) 5

.9

-8

( )

( )

-5

-9

" )

" ( "

" ( "

-6

-6

-2 11 9 7

-1

-10

CFC

ODP

-7

-11

-12

-13

التذييل 1-الف المواد

:

CFC-12	CFC-11		
--------	--------	--	--

التذييل 2-ألف الأهداف والتمويل

المجموع	2010	2009	2008	2007	2006	2005	2004	
n/a	0	8,672.8	8,672.8	8,672.8	28,909.3	28,909.3	57,818.7	(ODP )
n/a	0 <sup>(4)</sup>	550	550	7,400	13,500	18,750	25,300 <sup>(2)</sup>	<sup>(1)</sup> CFC (ODP )
n/a	0 <sup>(4)</sup>	406	406	5,805	5,637	5,713	6,934 <sup>(2)</sup>	-1 ] CFC-12 [ (ODP )
n/a	1,181 <sup>(3)</sup>	1,786	2,317	2,997	3,790	4,572	5,083 <sup>(2)</sup>	CFC (ODP ) -2
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3 (ODP )
3,902	605	531	680	793	782	511	0.0	-4 (ODP )
3,902	605	531	680	793	782	511	0.0	-5 (ODP )
2,885,000	0	725,000	620,000	620,000	100,000	270,000	550,000	-6 ( )
216,375	0	54,375	46,500	46,500	7,500	20,250	41,250	-7 ( )
4,000,000	0	0	0	0	500,000	2,500,000	1,000,000	-8 ( )
520,000	0	0	0	0	65,000	325,000	130,000	-9 ( )
1,000,000	0	60,000	80,000	80,000	100,000	680,000	0	-10 ( )
130,000	0	7,800	10,400	10,400	13,000	88,400	0	-11 ( )
7,885,000	0	785,000	700,000	700,000	700,000	3,450,000	1,550,000	-12 ) ( )
866,375	0	62,175	56,900	56,900	85,500	433,650	171,250	-13 ( )

.CFC

"

CFC

"

(1)

(2)

(3)

(4)

التذييل 3-ألف جدول الموافقات على التمويل

التذييل 4-ألف برنامج التنفيذ السنوي

-1 البيانات

ODS

ODS

-2 الأهداف

			الهدف
التخفيض	سنة الخطة 2004	السنة السابقة، 2003	المؤشرات
			ODS
			*
			المجموع (1)
			ODS
			المجموع (2)

.ODS

\*





التذييل 5-ألف المؤسسات الراصدة وأدوارها

ODS	(SEPA) SEPA	-1
		CFCs
		-2
		-3
CFC	:	-4
		( )
		( )
		( )
		( )
		( )
		.CFC
		-5
		<u>CFC</u>
)		•
	(	•
	CFC	•
	CFC	•
	CFC	•
/	CFC	•
( )	CFC	•
	CFC	•
)	CFC	•
.(	CFC	•
	(	•
	)	•
		•

.CFC

CFC

- 
- 
- 
- 
- 

-6

التذييل 6-ألف دور الوكالة المنفذة القائدة (اليونيدو)

:

-1

( )

( )

( )

( )

( )

( )

( )

( )

( )

( )

( )

التذييل 6-جاء دور الوكالتين المنفدتين المتعاونتين (اليابان واليونيب)

	:	-1
		( )
-2	10 8	( )
		( )
		( )
		( )

التذييل 7-ألف تخفيضات في التمويل لعدم الامتثال للاتفاق

10 000		10
.	CFC-12	ODP
	-----	

**Sector Plan for Phaseout of ODS in Phase One of Chemical  
Process Agent Applications and Carbon Tetrachloride  
Production in China**

**2006 ANNUAL PROGRAM**

July 19, 2005

**Data Sheet**

Country	China
Name of project	Sector Plan for Phaseout of ODS in Phase One of Chemical Process Agent Applications and Carbon Tetrachloride Production in China
Year of plan	2006
# of years completed	3
# of years remaining under the plan	4
Target ODS consumption of the preceding year	Not to exceed 493 ODP Tons (Max.) for CTC consumption in 25 PA applications and 14 ODP tons for CFC-113
Target ODS consumption of the year of plan	Not to exceed 493 ODP Tons (Max.) for CTC consumption in 25 PA applications and 10.8 ODP Tons for CFC-113.
Target ODS Production of the year of plan	Not to exceed 32,044 ODP Tons of CTC production
Total MLF funding approved in principle	US\$ 65 million
Total MLF funding released (by Oct 2004)	US\$ 40 million
Total funding disbursed from the World Bank to China by July 2005 (excluding supporting fee)	\$ 30.4 million
Level of funding requested	US\$ 16 million

National Implementing operating agency	State Environment Protection Administration
International implementing agency	The World Bank

**TABLE OF CONTENTS**

**INTRODUCTION ..... 5**

**ANNUAL PHASEOUT TARGETS AND FUNDING LEVEL ..... 5**

**Table 1: Allowable CTC Production, ODS Consumption in PA and Agreed funding.....6**

**PART A ..... 7**

**IMPLEMENTATION STATUS OF PREVIOUS YEARS' ANNUAL PROGRAMS ..... 7**

Phase-out targets .....7

Policy actions .....7

Enterprise-level activities .....8

Technical Assistance .....11

**PART B ..... 12**

**2006 ANNUAL PROGRAM..... 12**

**PROGRAMMED ACTIVITIES IN 2006..... 12**

Table 2: Targets under 2006 Annual Program .....15

Table 3: Policy Actions and Enterprise activities in 2006 .....16

Table 4: Technical Assistance Activities in 2006.....17

**Annex I.....18**

Table I-1: Production and Status of CTC producers.....18

**Annex II.....20**

Table II-1: ODS Consumption in 25 Applications (1997-2004) .....20

Table II-2: CTC Consumption and Production Status of PA consumers (CR enterprises) .21

Table II-3: CTC Consumption and Production Status of PA consumers (CP-70 enterprises)  
.....22

<b>Table II-4: CTC Consumption and Production Status of PA consumers (CSM, Ketotifen, Endo-sulphane).....</b>	<b>23</b>
<b>Table II-5: CFC-113 Consumption and Production Status of PA consumers (PTFE).....</b>	<b>24</b>
<b>Annex III .....</b>	<b>26</b>
<b>Policies implemented.....</b>	<b>26</b>
<b>Annex IV .....</b>	<b>27</b>
<b>Table IV-1: CTC production phaseout contracts and reduction in 2003 .....</b>	<b>27</b>
<b>Table IV-2: CTC production phaseout contracts and reduction in 2004 .....</b>	<b>27</b>
<b>Table IV-3: CTC production phaseout contracts and reduction in 2005 .....</b>	<b>28</b>
<b>Annex V .....</b>	<b>29</b>
<b>Contract List with PA Enterprises.....</b>	<b>29</b>
<b>Annex VI.....</b>	<b>31</b>
<b>Table VI -1: TA Activities in 2003 Annual Program .....</b>	<b>31</b>
<b>Table VI -2: TA Activities in 2004 Annual Program .....</b>	<b>32</b>
<b>Table VI -3: TA Activities in 2005 Annual Program .....</b>	<b>33</b>



## Introduction

1. At its 38<sup>th</sup> meeting, the ExCom approved the “Agreement with the People’s Republic of China to Phase-out CTC and Process Agents (Phase I)” (UNEP/Ozl.Pro/ExCom/38/70, Annex XIII), with total funding of \$65 million. The 2003 and 2004 Annual Programme for the CTC/PA sector plan of China has been effectively implemented. The 2005 Annual Programme is presently under implementation.
2. Under the 2003, 2004 and 2005 Annual Programme, China has initiated various sector phaseout activities, including the establishment of policies and regulations, enterprise-level phaseout activities and technical assistance activities ( Details see Annex III, IV, V andVI). As a result, all the ODS production and consumption in 2003 and 2004 met the targets under the Agreement (Table 1).
3. China is hereby requesting release of the fifth tranche of US\$ 16 million for the implementation of the 2006 Annual Program to meet the control targets of 2006 specified in the Agreement (Table 1).

## Annual Phaseout Targets and Funding Level

4. ***Phaseout obligations.*** As the CFC/CTC/Halon Accelerated Phaseout Plan (APP) was approved in December 2004, the agreed phaseout targets have been revised and reflected in the following table. The corresponding funding for the phase I of the PA consumption and CTC production sectors phaseout remains the same.

**Table 1: Allowable CTC Production, ODS Consumption in PA and Agreed funding**

Year	ODP tons						US\$ million
	Maximum allowable sum of production and imports of CTC (Row 1 of the Agreement)		Maximum allowable CTC consumption in PA Sector (25 applications) (Row 4 of the Agreement)		Maximum allowable CFC-113 consumption in the PA Sector (25 applications) (Row 6 of the Agreement)		Agreed funding
	Allowed	Verified	Allowed	Verified	Allowed	Verified	
Baseline <sup>/1</sup>	86,280	N/A	3,825	N/A	17.2	N/A	
2001 <sup>1</sup>	64,152	N/A	4,347	N/A	17.2	N/A	
2002 <sup>1</sup>	64,152	N/A	5,049	N/A	17.2	N/A	2
2003	61,514	59,860 <sup>2</sup>	5,049	3,507 <sup>3</sup>	17.2	17.2 <sup>3</sup>	20
2004	54,857	50,195 <sup>4</sup>	5,049	3,886	14	10.8	16
2005	38,686		493		14		2
2006	32,044		493		10.8		16
2007	22,724		493		8.4		5
2008	12,768		493		0		3
2009	13,415		493		0		1
2010	12,217 <sup>5</sup>		220		0		
Total :							65

/1: For consumption, average of 1998-2000; for CTC Production, 2000 data.

- 1: The sector plan was approved in November 2002 and the first control year is 2003.
- 2: Total CTC production in 2003 was 56,230.87 MT (61,853.957 ODP tones), of which 1,813.08 MT (1,994.388 ODP tones) was used for non-ODS feedstock applications. Therefore, the verified 2003 CTC production was 54417.79 MT (59,859.57 ODP tonnes ).
- 3: This is the purchased amount in 2003. The actual consumption is 3,080 ODP tons for CTC and 17.1 ODP tons for CFC-113.
- 4: Total CTC production in 2004 was 51,096.98 MT (56,206.678 ODP tones) , of which 5,465.47 MT (6,012.017) was used for non-ODS feedstock applications. Therefore, the verified 2004 CTC production was 45,631.51 MT (50,194.67 ODP tonnes ).
- 5: 12,217 equals 11,997 (Row 2) plus 220 (Row 4) in the original agreement for CTC/PA phaseout (Phase I).

## PART A

### IMPLEMENTATION STATUS OF PREVIOUS YEARS' ANNUAL PROGRAMS

#### Phase-out targets

5. Through production and consumption quota system established, annual CTC production, CTC and CFC-113 consumption as process agent have met the targets specified in the Agreement (Phase I) between China and the Excom (see Table 1). All the production and consumption amounts were verified by the World Bank and audited by China National Audit Office.

The phaseout targets in 2005 are as follows:

- (a) Total CTC production and imports will not exceed 38,686 ODP tons (35,169 MT). As CTC imports into China have been banned since April 1, 2000, the target will therefore be met by limiting the total CTC production in 2005 to not more than 38,686 ODP tons;
- (b) Total CTC consumption in the PA sector (25 applications) will not exceed 493 ODP tons (448 MT); and
- (c) Total CFC-113 consumption in the PA sector (25 applications) will not exceed 14 ODP tons (17.5 MT).

#### Policy actions

6. After the implementation of past annual programs, the following policies were established effectively (details see Annex III):

- (a) Constructing production and consumption facilities using ODS (in the list of 25 PA applications) have been banned since September 26, 1999, and the construction and expansion of new CTC production projects have been strictly controlled since April 7, 2003.
- (b) CTC production quota license system was established in 2003, and all CTC producers, including newly-built chloromethane plants are put into this system. Their productions are site-supervised by the supervisors dispatched by SEPA.
- (c) CTC consumption license system was established in 2003 only covered 25 applications, which is gradually extended to all CTC consumptions, such as approved PA applications by the Parties, other PA applications, non-ODS chemical feedstock applications, reagent uses and etc. The consumers can buy CTC only with CTC license.
- (d) CTC sales registering policy was issued in November 2003 and started to implement in 2004 after the CTC production and consumption quota license system put into operation. At present, all registered CTC dealers are required to make record and report CTC sales information and undertake their CTC business in accordance with this system. This system combined with CTC production and consumption license system try to control and manage the whole course of CTC consumption.

- (e) Annual verification: annual verification of CTC production, CTC and CFC-113 consumption of 25 PA applications are conducted in 2004 and 2005 on 2003 and 2004 Annual Program respectively by the independent verification team of World Bank according to the established policies operating mechanism. The results reflect that China has met the requirements of the Agreement of year 2003 and 2004 successfully.

## **Enterprise-level activities**

### **7. CTC Production Phaseout**

Under CTC Production Sector Plan, there are total 17 CTC producers. 13 CTC producers were covered by the technical audit commissioned by the ExCom (3 stopped production, 3 dedicated producers, 3 CMs producers, 1 co-producer with PCE, 1 with CMs producer and dedicated CTC production line and 2 distilling plants) and one additional stopped production enterprise identified later and three new chloroform producers were put into operation of 2 in 2003 and 1 in 2004. 11 CTC producers were remained in 2005 and the 4 stopped production plants and 2 dedicated producers dismantled their CTC production lines in 2004 and 2005 (Details see Annex I) under the monitoring of local EPBs and verified by the independent verification team of World Bank.

- (a) Under 2003 Annual Program, the first implementing annual program of the sector plan, CTC production in China was controlled under CTC production quota license system. 67,465.2 ODP tonnes (61,332 MT) CTC production of 2001 was set forth as the national baseline based on the technical audit report and only those 10 enterprises with production in 2001 have the initial CTC production quota as their 2001 production. To meet the annual control target of 61,514 ODP tonnes (55,922 MT), total 5,951 ODP tonnes (5,410 MT) production quota was reduced from the baseline year of which 5,916.9 ODP tonnes (5,379 MT) quota was reduced through 4 CTC production reduction contracts signed with 4 dedicated producers (Details see Table IV-1 of Annex IV) and 34.1 ODP tonnes (31MT) quota reduction of one distiller (Chongqing Tiansheng) without contract and funding (this distiller will be funded only when its production line is dismantled). The 4 stopped production plants were not allowed to recover their production and without quota issued. The 2 new CMs producers with “Zero” CTC production quota were allowed to get quota through quota trading and administration adjustment. The verified 2003 CTC production was 59,859.57 ODP tonnes (54,417.79 MT) and below the annual target of 61,514 ODP tons (55,922 MT).
- (b) Under 2004 Annual Program, at least 6,657 ODP tons (6,052 MT) CTC production quota must be reduced from 61,514 ODP tons (55,922 MT) as so to meet the aged annual target of 54,857 ODP tons (49,870 MT). 3 CTC production reduction contracts and 1 closure contract were signed with 4 dedicated CTC producers with total CTC quota reduction of 8,514 ODP tons (7,740 MT). Additional 40 ODP tonnes (37 MT) production quota was reduced to Chongqing tiansheng (distilling plant) as in 2003. (Details see Table IV-2 of Annex IV). 4 closure contracts were signed with 4 stopped production plants which ceased their CTC production before 2001 and the CTC production lines were fully dismantled by the end of 2004. In the end of 2004, one new CMs producer was put into operation with “Zero” CTC production quota. The 3 CMs

producers with “Zero” CTC production quota in 2004 got quota through quota trading and administration adjustment. Among the 12 CTC producers/by-producers, 10 were monitored by supervisor under site supervision system which was put into operation since 2004 except the 2 distilling plant. The verified 2004 CTC production was 50,194.67 ODP tonnes (45,631.51 MT ) and with the agreed target.

- (c) Under 2005 Annual Program, one dedicted producer was closed and there are 11 CTC production enterprises remain. Total of 16,852ODP tonnes (15,320MT) production quota were reduced from 52,960ODP tonnes (48,145MT) of 2004 to 36,108ODP tonnes (32,825MT) in 2005 to ensure the annual production of CTC below the agreed limit of 38,686ODP tonnes (35,169 MT). Total production quota of 32,825 MT were issued to 8 producers at the beginning of 2005 consisting with CTC production license system. “ Zero” quota were issued to the three new CMs producers and they could get quotas through quota trading and/or administration adjustment. There are 3 reduction contracts and 1 closure contract were signed with total 15,225 MT quota reduction and 95 MT CTC quota reduction to one distilling plant (Chongqing Tiansheng) without contract and funding as in 2003 (Details see Table IV-3 of Annex IV). All CTC producers are monitored continucely by daily site supervision except 2 distilling plants.

## 8. PA Consumption Phaseout

There are 6 different products in PA sector plan. The number of enterprises with different products, and contracts signed under different annual programs are as follows. (Details see Annex II and Annex V)

- (a) **CR enterprises:** There are totally 8 enterprises, including Fujian Wantaixing, which was identified in 2004 and is not eligible for funding. Under 2003 Annual Program, 5 enterprise signed closure contracts, of which 4 enterprises dismantled their production lines by the end of 2004 and the other one will dismantle its production line by end of 2005 after its stock CTC is used up. Under 2005 Annual Program, 2 enterprses signed CTC consumption reduction contracts and will close their plants before the end of 2009. For Fujian Wantaixing, no contract will be signed but modifications to reduce its CTC consumption level have to be done at its own costs, and the plant will be closed before the end of 2009.
- (b) **CP-70 enterprises:** there are totally 12 enterprises in PA I sector plan. However, during the implementation, only 10 were funded because: 1 enterprise was found ineligible for funding and its production line was dismantled by itself, another shut down early and was no longer existing when the sector plan began to be implemented. Under 2003 Annual Program, 8 closure contracts were signed and all plants were dismantled before July 2005. Under 2004 Annual Program, 2 contracts were signed, 1 was closure contract and its plant was dismantled before the end of 2004, another was retroactive contract for its technical conversion to non-ODS in the end of 2003.
- (c) **CSM enterprises:** there were 3 enterprises in PA I sector plan, but only Jilin is now under implementation. Other 2 enterprises shut down early and were no longer in existence when the sector plan began to be implemented. Under 2004 Annual Program,

Jilin signed emission control contract after failed to find substitute technology of CTC process. The characteristic of the project is a drying screw, which is specially designed and imported, to release CTC packed in the product. The renovated production line was put into operation in the end of 2004 as planned. After half year's test operation, it was found that the performance of the screwer could not reach the design requirements. Modifications are being made continually in 2005. Meantime, the enterprise entrusted several universities and/or research institutes to seek substitute technologies to replace CTC application. If all efforts fail, the CSM production level will have to be lowered to fulfil CTC consumption target set by the contract so as to ensure the CTC national consumption level of to meet the requirement of the Agreement.

- (d) **Ketotifen enterprise:** There is only one Ketotifen producer under the sector plan. The enterprise converted its CTC process to ODS free technology successfully with support of one research institute in 2004 after one and half year tests and trails. Under 2005 Annual Program, a retroactive contract was signed with the enterprise to compensate its own conversion cost.
- (e) **Endosulphan enterprises:** There were 2 Endosulphon producers newly found after the sector plan approved by the ExCom. 2 closure contracts were signed with the two producers under 2004 Annual Program and both production lines were dismantled in early of 2005.
- (f) **PTFE enterprises:** There were 6 enterprises in PA I sector plan and now only 5 remained because one of them, Shanghai Tianyuan, was merged by Shanghai 3F in 2002. One producer, Jiangsu Meilan, had converted to ODS free technology in 2002 and there are 4 users remained to be phaseout its CFC-113 application. In the period of PA I sector plan was compiled and approved, PTFE market and production increased very rapidly. In result, actual CFC-113 consumption level was much more than the baseline of the average of year 1998-2000. In order to meet CFC-113 consumption target set by the Agreement for 2003-2005, 3 renovation contracts were signed with 3 PTFE producers under 2003 Annual Program so as to reduce their CFC-113 consumption level through improvement of their recycling system because it was impossible to convert CFC-113 consumption process to ODS free technology in the limited period. The other plant, Liaoning Fuxin, due to its very consumption level and its production was not in normal condition for its ownership transformation, no contract was signed for its CFC-113 consumption reduction. Consumption quotas of CFC-113 were also issued to the 4 users in both 2003 and 2004. The CFC-113 PA consumption in 2003 and 2004 were verified by the Bank's independent verification team and met the agreed annual target for each year. In 2005, total of 12 ODP tonnes (15MT) CFC-113 consumption quota have issued to 4 users. Liaoning Fuxin is renovating and converting its process of CFC-113 to ODS free technique and one retroactive contract will be signed under 2005 Annual Program after the commissioning of the conversion.

## Technical Assistance

9. There are total 14 TA activities under 2003 and 2004 Annual Programs, of which 9 were completed, 2 are on going and 3 were cancelled because of integration with other TA or situation changes (Details please refer to Annex VI).
10. The status of 2005 TA activities are as follows:
  - (a) *Training of personnel involved in implementation of phaseout activities.* In order to implement the sector plan effectively, it is necessary to train the personnel in CTC production enterprises, PA enterprises, CTC dealers and audit agencies. 3 training workshops respectively for CTC producers, CTC dealers and PA enterprises were held in October 2004 and April, August 2005. TOR for auditor training is under preparation and will be conducted in early of 2006.
  - (b) *Daily site supervision for CTC producers:* The daily site supervision on CTC producer was implemented in 2004 and proved that it is effective on control of CTC production. This activity is continually carried out in this year for the purpose of strengthening the supervision of CTC production. Total 18 site supervisor were trained and dispatched to 9 CTC producers (except 2 distilling plants) in the latest week of 2004 to supervise the enterprises' CTC production in 2005. Experience exchanging meeting in the midyear was held in July 2005 to provide further training to the supervisors and one summing-up meeting will be held at the end of this year accordingly.
  - (c) *Performance audit for 2004 Annual Program:* As required in Schedule 3, Section A, Paragraph 6 (b) of the ODS IV Grant Agreement between China and the World Bank, an audit has been undertaken in May to June 2005 to audit the implementation status of 2004 Annual Program under the CTC/PA sector plan as well as on going activities under 2003 Annual Program. The auditors visited all CTC producers and PA enterprises mainly focused on CTC production and CTC, CFC-113 consumption of related enterprises respectively. This activity has been completed by end of June 2005 and the Audit Report was submitted to World Bank in July.
  - (d) *CTC non-ODS feedstock and CTC dealers verification:* It is an additional TA activity to 2005 Annual Program and aimed to verify the non-ODS feedstock applications of 2004 in China and implementation status of CTC sales registration policy of CTC dealers. The TOR was prepared and under review and clearance of World Bank.

**PART B**  
**2006 ANNUAL PROGRAM**

11. **The targets for the 2006 Annual Program**, according to Table 1, are as follows:
- (a) Total CTC production and imports will not exceed 32,044 ODP Tonnes (29,131 MT);
  - (b) Total CTC consumption in the PA sector (25 applications) will not exceed 493 ODP Tonnes (448 MT); and
  - (c) Total CFC-113 consumption in the PA sector (25 applications) will not exceed 10.8 ODP Tonnes (13.5 MT).
12. Funding for the 2006 Annual program will be allocated for CTC production reduction in CTC producers, ODS phaseout in PA enterprises by closing plants or conversion to substitute technologies, CTC emission control, and for technical assistance activities, which are described in detail below.

**Programmed Activities In 2006**

13. **Policy actions.** In 2006, the following policies and measures will be implemented to ensure a successful ODS consumption and CTC production reduction targets in China.

- (a) Management of established CTC production and consumption quota-license system, and sales registering system: These systems will be implemented continuously in 2006. Under these systems, CTC production and consumption will only be permitted with a licence issued by SEPA, and only the dealers which have registered in SEPA can sell CTC. Under the series of production, consumption and sales management, CTC production and PA sector plan will be effectively implemented. These systems will be further enforced by coordinating with local EPBs and local industry administrative department.
- (b) Annual reporting and verification: All CTC production, consumption and sales data will be reported quarterly by CTC producers, consumers and dealers for tracing and controlling. Annual verification of production, consumption and sales will be conducted to monitor and supervise the implementation of the annual program activities.<sup>1</sup>
- (c) Ban on CFC-113 consumption (include of process agent applications) will be issued by the Government as CFC-113 production will be completely stopped in 2006 and import of CFC-113 has been banned since 2000.

14. **Enterprise-level activities.** There will be four activities at the enterprise level: production reduction and closure for CTC producers, CFC-113 consumption phaseout for technical

---

<sup>1</sup> CTC consumption as the feedstock of non-ODS chemicals will also be reported quarterly by CTC producers, dealers and consumers respectively.



conversion of PTFE producers, CTC production quota issued to CTC producers and CTC consumption quota issued to PA enterprises respectively. .

- (a) *CTC production quota licenses for CTC producers:* CTC production Quotas will be assigned to each CTC producer to ensure that the maximum allowable CTC production limit of 32,044 ODP Tons in 2006 is not exceeded.
- (b) *Signing three closure contracts and 2-3 production reduction contracts with CTC producers:* closure contracts will be with last two producers having dedicated CTC production lines, Sichuan Honghe and Luzhou Xinfu, and with one distiller, Chongqing Tiansheng, with total CTC production reduction of 3,912 ODP tonnes (3,556 MT). There will have 2-3 production reduction contracts with co-producers to ensure the Agreement targets.
- (c) *Four contracts with PTFE producers for CFC-113 consumption phaseout:* Three conversion phaseout contracts will be signed with three enterprises which still consume CFC-113 in 2005 to ODS free technologies, and one retroactive contract will be signed with Jiangsu Meilan which completed its conversion of CFC-113 consumption to non-ODS process in 2002 for retroactive compensation. No CFC-113 consumption quota will be issued in 2006 and afterwards.
- (d) *CTC consumption quota licenses for PA enterprises:* Quotas will be assigned to 4 remaining CTC consumers in PA I to ensure that the maximum allowable consumption limits in 25 applications are not exceeded the Agreement targets.

15. **Technical assistance activities.** Following 4 TAs will be carried out in 2006 AP:

- (a) *Training of personnel involved in implementation of phaseout activities.* To implement the phaseout plan effectively, it is necessary to provide training to CTC producers, ODS consumers in the PA Sector, CTC dealers and auditors respectively. Training is also needed for enterprises to understand the closure procedures.
- (b) *Daily site supervision to CTC producers.* This TA is implemented successfully in last APs. It will continue in 2006 and the following years. Its purpose is to strengthen the management of CTC production. The CTC producers will be put under daily site supervision by technical professionals who will be selected from CTC producers and dispatched by SEPA according to the "Circular on Implementing Site Supervision to Carbon Tetrachloride Production Enterprises" promulgated on July 10, 2003. Daily production records will be made by the supervisors and monthly report will be prepared and submitted to SEPA.
- (c) *Performance audit.* A performance audit is required under the CTC sector plan and PA sector plan. A TOR for the 2005 performance audit will be agreed between the World Bank and SEPA by December 2005, and the audit is expected to be completed by June 30, 2006.

(d) *New feedstock and dealers verification.* The aim of the TA is to verify CTC consumption as feedstock of non-ODS chemicals, and CTC sales data provided by dealers. The verification will be done by consultants recruited and management officials.

(e) *Other activities.* Other TA activities that are identified in the course of the year may be taken up as necessary.

**16.** The above targets, policy initiatives, enterprise-level and technical assistance activities in 2006 are summarized in Tables 3 -5 below.

**Table 2: Targets under 2006 Annual Program**

<b>Target I: Maximum Allowable sum of production and Imports of CTC</b>							
Indicators	Sub-sector	2005	2006	Reduction	Funding	Key actions required	Key dates
		(Preceding Year)	(year of Program)				
Supply of CTC	Import	0	0			None; imports banned on April 1, 2000	N/A
	CTC Producers	38,686	32,044	6,642	14.2 *	1. Sign CTC closure /production reduction contracts with 5-6 CTC producers 2. Issue CTC production quota-licenses.	1. By Dec. 31, 2005 2. By March 31, 2006
	Subtotal	38,686	32,044	6,642	14.2		
<b>Target II: Maximum Allowable CTC Consumption in the PA Sector (25 Applications)</b>							
CTC Consumption	Related PA enterprises	493	493	0	0	1. Issue CTC consumption quota-licenses.	1. By March. 31, 2006
<b>Target III: Maximum Allowable CFC-113 Consumption in the PA Sector</b>							
CFC-113 Consumption	Related PTFE Manufacturers	14	10.8	3.2	1.0	1. Sign 3 conversion contracts and one retroactive contract.	1. By December 31, 2005

\*: Around 5.4 millions funding will be used for CTC production reduction contracts under 2005 AP because of its funding shortage.

**Table 3: Policy Actions and Enterprise activities in 2006**

<b>Initiatives</b>	<b>Funding (US\$ Million)</b>	<b>Actions Required</b>	<b>Key Dates</b>
1. Management of CTC Production	14.2	<ol style="list-style-type: none"> <li>1. Train CTC producers</li> <li>2. Sign CTC production reduction/closure contracts with 5-6 CTC producers</li> <li>3. Issue CTC production quota-licenses</li> <li>4. Implement CTC production reduction contracts, including production reporting and verification</li> </ol>	<ol style="list-style-type: none"> <li>1. By Nov. 30, 2005</li> <li>2. By Dec. 31, 2005</li> <li>3. By March 31, 2006</li> <li>4. Through 2006</li> </ol>
2. Management of CTC and CFC-113 consumption (25 applications)	1.0	<ol style="list-style-type: none"> <li>1. Train PA enterprises</li> <li>2. Sign 3 conversion contracts with 3 PTFE enterprises</li> <li>3. Issue CTC and CFC-113 quota-licenses</li> <li>4. Implement the contracts, including collection and verification of contracts' progress situations.</li> </ol>	<ol style="list-style-type: none"> <li>1. By Dec. 31, 2005</li> <li>2. By Dec. 31, 2005</li> <li>3. By March 31, 2006</li> <li>4. Through 2006</li> </ol>
3. Management of CTC sales	0	<ol style="list-style-type: none"> <li>1. Train CTC dealer.</li> <li>2. Issue CTC sales registering certification</li> <li>3. Collect CTC sales data and verify CTC sales situations</li> </ol>	<ol style="list-style-type: none"> <li>1. By Dec. 31, 2005</li> <li>2. By March. 31, 2006</li> <li>3. Through 2006</li> </ol>
Subtotal	15.2		

**Table 4: Technical Assistance Activities in 2006**

	<b>Initiatives</b>	<b>Funding (US\$ Million)</b>	<b>Actions Required</b>	<b>Key Dates</b>
CTC-2006-TA-01	1. Training of personnel involved in implementation of phaseout activities	0.05	1. TORs to be agreed with the World Bank 2. Training all CTC producers, PA enterprises and CTC dealers on CTC production reduction, ODS consumption phaseout approaches in PA sector, quota-license system, supervision and verification system, project implementation manual, and funding contracts.	1. By Nov. 30, 2005 2. By Dec. 31, 2005. Specific schedules to be detailed in TORs
CTC-2006-TA-02	2. Daily site supervision to CTC producers	0.35	1. TOR to be agreed with the World Bank 2. Implementation of site supervision	1. By Nov. 30, 2005 2. Through 2006
CTC-2006-TA-03	3. Performance audit for 2005	0.1	1. TOR to be agreed with the World Bank 2. Audit implementation 3. Audit completion	1. By Jan. 31, 2006 2. By April 30, 2006 3. By June 30, 2006
CTC-2006-TA-04	4. New feedstock and dealers verification	0.1	1. TOR to be agreed with the World Bank 2. Site verification	1. By Dec. 31, 2005 2. Before June 2006
	5. Other activities	0.2		
	Subtotal	0.8		

**Annex I**  
**Table I-1: Production and Status of CTC producers**

No.	Enterprise Name	Type of CTC production facility	Capacity in 2001 <sup>1</sup> (MT/year)	CTC Production Recorded				Status
				2001	2002	2003	2004	
CTC-1	Luzhou North Chemical Industrial Co., Ltd.	Co-production	3,000	2,106	2,318	2,105	2093.8	Producing
CTC-2	Zhejiang Quhua Fluorochemical Co. Ltd.	Co-production	20,000 (22,250)	16,204	17,217	16,204	15986.01	Producing
CTC-3	Liaoning Panjin No. 3 Chemical Plant	Dedicated	3,000	0	0	0	0	Dismantled in May 2004
CTC-4	Chongqing Tianxuan Chemical Co., Ltd.	Dedicated	4,400	2,100	3,067	870	0	Dismantled in Dec 2003
CTC-5	Chongqing Tiansheng Chemical Co. Ltd	Distilling	500	245	195	130	31.14	Producing
CTC-6	Chongqing Tianyuan Chemical General Plant	Dedicated	9,000	8,009	8,198	6,114	1429.27	Dismantled in Dec 2004
CTC-7	Taiyuan Chemical Industrial Co., Ltd.	Dedicated	4,000	0	0	0	0	Dismantled in Nov 2004
CTC-8	Luzhou Xinfu Chemical Industry Co. Ltd.	Dedicated	8,000	6,903	7,754	5,203	4488.6	Producing
CTC-9	Jiangsu Meilan Chemical Co., Ltd.	Co-production	3,500 (10,000)	703	2,929	3,396	3450.46	Producing
CTC-10	Guangzhou Hoton Chemical (Group) Co., Ltd.	co-production	5,000	0	0	0	0	Closed and Dismantled in 1997
CTC-11	Sichuan Honghe Fine Chemical Co., Ltd.	Co-production	4000	3,451	21,018	13,763	11935.78	Producing
		Dedicated	16,000 (17,750)	13,806				Producing
CTC-12	Shanghai Chlor-Alkali Chemical Co., Ltd.	Co-production with PCE	10,000	7,209	9,192	7,209	7909	Producing

## Annex I

Table I-1: CTC production and Status of CTC producers (Continued)

No.	Enterprise Name	Type of CTC production facility	Capacity in 2001 <sup>1</sup> (MT/year)	CTC Production Recorded				Status
				2001	2002	2003	2004	
CTC-13	Quzhou Jiuzhou Chemical Co., Ltd.	Distilling	1,000	596	477	594	602.5	Producing
CTC-14	Wuxi Greenapple Chemical Co., Ltd.	Co-production	0 (2,000)	/	/	495	1139.28	Start production in 2003
CTC-15	Shandong Jinling Chemical Co., Ltd.	Co-production	0 (2,000)	/	/	148	1721.34	Start production in 2003
CTC-16	Shandong Dongyue Chemical Co., Ltd.	Co-production	0 (2,500)	/	/	/	309.8	Start production 2004
CTC-17	Jinan 3F Fluorochemical Co., Ltd.	Dedicated	4000	0	0	0	0	Dismantled in July 2004
Total (ODS tons)			95,400 (112,400)	61,332	72,365	56,231	51096.98	
Total (ODP tons)				67,465	79,602	59,860 <sup>2</sup>	56206.68 <sup>3</sup>	

1: The data in parentheses is the CTC capacity in 2004.

2: There are 1,994.3 ODP tonnes (1,813 MT) CTC were verified as feedstock for non-ODS chemicals in 2003.

3: There are 6,012.017 ODP tonnes (5465.47 MT) CTC were verified as feedstock for non-ODS chemicals in 2004.

## Annex II

### Table II-1: ODS Consumption in 25 Applications (2001-2004)

ODS	Application No.	Products	Annual consumption of ODS, t/a					
			2001	2002	2003		2004	
					Purchased	Consumed	Purchased	Consumed
CTC	C3	CR	965	933	985	920	1963.52	1209.21
	C4	Endosulfan	88	72	359	231	0	0
	C7	CSM	1119	967	1338	1017	1343.57	1649.73
	C12	CP-70	899	961	694	817	225.42	261.99
	C17	Ketotifen	26	25	6	11	0	0
	Total			3097	2958	3382	2996	3532.51
CFC-113	C9	PTFE	53.0	59.8	21.5	21.39	13.5	13.49



**Table II-2: CTC Consumption and Production Status of PA consumers (CR enterprises)**

Sub-Sector No.	No	Enterprises Name	Capacity (MT/year)	CTC Consumption (MT/year)						Production (MT/year)				
				2001	2002	2003		2004		2001	2002	2003	2004	Status
						Pur	con	Pur	con					
1	CR1	Shanghai Chlor-Alkali Chem. Co Ltd	450	143	178	223	205	236.77	160.69	239	329	423	425.1	Producing
2	CR2	Haotian Chem Co Ltd.	500	174	196	200	168	240.00	265.33	141	168	190	289.04	Dismantled in Dec 2004
3	CR3	Wuxi Chem Group Co Ltd	1000	123	89	128	133	0.00	10.19	194	172	265	42.45	Dismantled in July 2004
4	CR4	Zhejiang Xin-an Chem. Group Co Ltd	500	96	129	221	221	338.25	230.64	299	360	465	477.22	Producing
5	CR5	Jiangyin Fasten Co Ltd	1000	150	162	213	193	760.50	213.75	478	523	703	704.74	Producing
6	CR6	He-nan Puyang oilfield CR Factory	500	135	33	0	0	0	0	167	91	0	0	Dismantled in Jan 2004
170	CR7	Shangyu Qimin Chemical Co., Ltd	500	144	146	0	0	0	0	427	439	0	0	Dismantled in Jan 2004
	CR8	Fujian Wantaixing Chem. Development Co. Ltd						388.00	328.61				800.25	Producing (Found in 2004 and not eligible for funds)
		Sub-total	4450	965	933	985	920	1963.52	1209.21	1945	2082	2046	2738.8	

**Table II-3: CTC Consumption and Production Status of PA consumers (CP-70 enterprises)**

Sub-Sector No.	No	Enterprises Name	Capacity (MT/year)	CTC Consumption (MT/year)						Production (MT/year)				Status
				2001	2002	2003		2004		2001	2002	2003	2004	
						Pur	Con	Pur	Con					
171	CP1	Huanghua City Jinghua Chem. Co., Ltd.	3000	250	200	90	106	12	29.25	1000	800	546	237.8	Dismantled in Nov 2004.
4	CP2	Zhejiang Xin-an Chem. Group Co Ltd	500	94	99	Included in its CR consumption		Included in its CR consumption		490	544	554	535.78	Dismantled in July 2005.
5	CP3	Jiangyin Fasten Co Ltd	800	Converted into water method						Substitute technology was put into operation in 2003.				
18	CP4	Shenyang Chem. Co Ltd.	1500	76	56	44	60	1.25	8.49	546	569	683	124.74	Dismantled in Oct 2004.
19		Luzhou Longmatanqu Hongyuan Chemical Co., Ltd.	Not eligible, and dismantled in 2002.						-					
20	CP5	Longchang Shouchang Chem Co Ltd	500	53	64	141	146	0	0	198	257	560	0	Dismantled in Feb 2004
21	CP6	Longchang Shenghua Chem Factory	1000	105	89	98	102	15.01	19.22	546	510	788	314.16	Dismantled in May 2004
22	CP7	Chongqing Tianyuan Chemical General Factory	500	0	0	0	0	0	0	0	0	0	0	Dismantled in Dec 2003
23	CP8	Longyou Lude Pesticide Chem Co Ltd	300	9	0	0	0	0	0	61	0	0	0	Dismantled in 2002
24	CP9	Dalian city Jiangxi Chem Ind Head Co.	3000	246	423	260	341	197.16	205.03	1866	2103	2149	2234.79	Dismantled in Nov 2004.
25	CP10	Harbin Yibin Chem Ind. Co Ltd	1000	66	30	61	62	0	0	481	803	1035	0	Dismantled in Jan 2004
45		Shanxi Fenyang Catalyst Factory	500	No longer in existence						-				
		Sub-total	12600	899	961	694	817	225.42	261.99	5732	5586	6315	3447.27	

**Table II-4: CTC Consumption and Production Status of PA consumers (CSM, Ketotifen, Endo-sulphane)**

Sub-sector No.	No.	Enterprise Name	Product name	Capacity (t/y)	CTC consumption (Mt/y)						Production (MT/year)				Status
					2001	2002	2003		2004		2001	2002	2003	2004	
							Pur	Con	Pur	Con					
51	CSR1	Jilin Chem. Ind. Co Ltd	CSM	3000	1119	967	1338	1017	1343.57	1649.73	2995	2727	2774	2173.6	Emission control project commissioned in 2004 and producing.
54	CSR2	Hongjiang Chem Co Ltd	CSM	300	Stopped and plant was no longer in existence						-				
55	CSR3	Jiaohe Organic Chem Factory	CSM	1000	Stopped and plant was no longer in existence						-				
59	KET1	Zhejiang Huahai Pharm Group Co Ltd	Ketotifen	3	26	25	6	11	0	0	0.13	1.25	1.4	-	Converted in 2003.
	ES1	Jiangsu Anbang Electro-Chemical Co., Ltd.	Endo-sulphan	1000	88	72	165	37.4	0	0	500	411	423	-	Dismantled in May 2005
	ES2	Jiansu Liyang Guanghua Chemical Co., Ltd.	Endo-sulphan	300	80	95	194	194	0	0	160	190	388	-	Dismantled in Jan 2005

**Table II-5: CFC-113 Consumption and Production Status of PA consumers (PTFE)**

Sub- sect or No.	No.	Enterprise Name	Capaci ty (t/y)	CFC-113 consumption (Mt/y)						Production (MT/year)				Status
				2001	2002	2003		2004		2001	2002	2003	2004	
						Pur	Con	Pur	Con					
56	PTFE1a	Shanghai 3F New Materials Share Co Ltd (Plant No 2)	6500 (Includ e non- eligible capaci ty from No. 166.)	15.8	16.5					1402	1436			Producing
	PTFE1b	Shanghai 3F New Materials Share Co Ltd (Fluoro Plant)		9.4	8.7	10	10	7	7	2086	2507	3202	7024.42	
57	PTFE2	Chenguang Chem Research Institute	3000	8.0	8.1	3.5	3.39	0	0.49	1846	2239	3389	1390	producing
166		Shanghai Tianyuan Group Fluor-Chem	The plant was merged into Shanghai 3F as No. 56 PTFE1b											
167	PTFE3	Jinan 3F Chemical Co Ltd	1500	6.1	6.5	5	5	4	4.5	1474	1454	2270	2595.61	Producing
168	PTFE4	Jiangsu Meilan Chemical Co Ltd	3000	11	17	0	0	0	0	1500	1643	2268	-	Converted and producing
169	PTFE5	Fuxin Fluor-chemical Co Ltd	2000	2.7	2.9	3	3	2.5	1.5	1300	2000	1498	866.94	Under conversion

		Total		53.0	59.8	21.5	21.39	13.5	13.49	9608	11279	12627	11876.97	
--	--	-------	--	------	------	------	-------	------	-------	------	-------	-------	----------	--

### Annex III

#### Policies implemented

No	Policy Instruments	Date of promulgation	Ministries in charge	Effective Date	Implementation Status
1	Supplementary Circular on ban of constructing production and consumption facilities using ODS (for 25 PA)	1999-9-26	SEPA	1999-9-26	Implemented effectively
2	Circular on Strictly Controlling the construction and expansion of new CTC production projects	2003-4-7	SEPA	2003-4-7	Implemented effectively
3	Circular on Implementing Carbon Tetrachloride Consumption Quota-License System	2003-5-30	SEPA	2003-5-30	Implemented effectively
4	Management Procedures on Site Supervision to CTC enterprises	2003-7-10	SEPA	2003-7-10	Implemented effectively
5	Circular on Implementing Carbon Tetrachloride Production Quota-License System	2003-11-3	FECO of SEPA	2003-11-3	Implemented effectively
6	Circular on Implementing Carbon Tetrachloride Sale-Registering System	2003-11-20	FECO of SEPA	2003-11-20	Implemented effectively

## Annex IV

**Talbe IV-1: CTC production phaseout contracts and reduction in 2003**

Sector Plan number	Enterprise	Contract type	Production reduced (MT)	Plant status
CTC-11	Sichuan Honghe	Production reduction	2189	Producing
CTC-8	Luzhou Xinfu	Production reduction	1095	Producing
CTC-6	Chongqing Tianyuan	Production reduction	1270	Producing
CTC-4	Chongqing Tianxuan	Production reduction and closed	825	Producing
CTC-5	Chongqing Tiangsheng	No contract	31	Producing
	Total		5410	

**Talbe IV-2: CTC production phaseout contracts and reduction in 2004**

Sector Plan number	Enterprise	Contract type	Production reduced (MT)	Plant status
CTC-11	Sichuan Honghe	Production reduction	3,627	Producing
CTC-8	Luzhou Xinfu	Production reduction	1,314	Producing
CTC-6	Chongqing Tianyuan	Production reduction	1,524	Its production was stopped because of chlorine leakage accident on April 16, 2004.
CTC-4	Chongqing Tianxuan	Production reduction and closed	1,275	All production was phased out and Stopped in Dec 2003 and all CTC lines were dismantled in the end of 2003
CTC-5	Chongqing Tiangsheng	No contract	37	Producing
CTC-07	Taiyuan Chemical	Plant dismantling	0	Stopped since 1999 and dismantled in Nov 2004
CTC-10	Guangzhou Hoton	Plant dismantled	0	This plant had closed in 1997 and all CTC facilities had been dismantled in 2003
CTC-03	Panjiin No 3 Chemical Plant	Plant dismantling	0	Stopped since 1999 and dismantled in May 2004
CTC-17	Jinan 3F	Plant dismantling	0	Stopped since 1994 and dismantled in July 2004
	Total		7,777	

**Talbe IV-3: CTC production phaseout contracts and reduction in 2005**

Sector Plan number	Enterprise	Contract type	Production reduced (MT)	Plant status
CTC-11	Sichuan Honghe	Production reduction	5673	Producing
CTC-8	Luzhou Xinfu	Production reduction	3337	Producing
CTC-6	Chongqing Tianyuan	Production reduction and closed	5215	Its production was stopped because of chlorine leakage accident on April 16, 2004. All production was phased out and the plant was dismantled in the end of 2004
CTC-2	Zhejiang Quhua	Production reduction	1000	Producing
CTC-5	Chongqing Tiangsheng	No contract	95	Producing
	Total		15320	



## Annex V

### Contract List with PA Enterprises

Sector Plan number	Enterprise	Baseline (Ave. 1998-2000)		Nature of Contract	Year of Contract (Annual Program)			Plant Status
		ODS	MT		2003	2004	2005	
<b>C R</b>								
1	Shanghai Chlor Alkali	CTC	109	Reduction and closure				Producing
2	Haotian	CTC	218	Closure				Dismantled in Dec 2004
3	Jiangsu Wuxi	CTC	313	Closure				Dismantled in July 2004.
4	Zhejiang Xin'an	CTC	142	Closure				be dismantled before the end of 2005
5	Jiangyin Fasten	CTC	178	Reduction and closure				.Producing
6	Henan Puyang	CTC	43	Closure				Dismantled in Jan 2004.
170	Zhejiang Shangyu Qiming	CTC	119	Closure				Dismantled in Jan 2004
	Fujian Wantaixing	CTC		No contract				producing
	Subtotal		1122		5		2	
<b>CP-70</b>								
4	Zhejiang Xin'an	CTC	82	Closure				dismantled in July 2005
5	Jiangsu Jiangyin Fasten	CTC	161	Converted Retroactive Contract				Substitute plant was put into operation in Dec 2003.
18	Shengyang Chem.	CTC	48	Closure				Dismantled in Oct 2004.
19	Sichuan Luzhou Hongyuan	CTC		Not eligible for funding				Dismantled in 2002
20	Sichuan Longchang Shouchang	CTC	62	Closure				Dismantled in Feb 2004
21	Sichuan Longchang Shenghua	CTC	73	Closure				Dismantled in May 2004.
22	Chongqing Tianyuan	CTC	45	Closure				Dismantled in Dec 2003.
23	Zhejiang Longyou Lude	CTC	48	Closure				Dismantled in 2002.
24	Dalian Jiangxi	CTC	233	Closure				Dismantled in Nov 2004.
25	Harbin Yibin	CTC	38	Closure				Dismantled in Jan 2004.
45	Shangxi Fenyang	CTC	0	No longer in existence				
71	Hebei Huanghua	CTC	N/a	Closure				Dismantled in Nov 2004.

Sector Plan number	Enterprise	Baseline (Ave. 1998-2000)		Nature of Contract	Year of Contract (Annual Program)			Plant Status
		ODS	MT		2003	2004	2005	
	Subtotal				8	2		
<b>CSM</b>								
51	Jilin	CTC	878	Emission control				Project was commissioned and is being under improvement
54	Hunan Hongjiang	CTC	0	No longer in existence				
55	Jilin Jiaohe	CTC	0	No longer in existence				
<b>Ketotifen</b>								
59	Zhejiang Huahai	CTC	13	Conversion				Substitute technology was put into operation in 2004.
<b>Endo-sulphan</b>								
	Jiangyin Anbang	CTC	24	Closure				Dismantled in May 2005.
	Jiansu Liyan Chemical	CTC		Closure				Dismantled in Jan 2005.
<b>PTFE</b>								
56	Shanghai 3F	CFC 113	11	Reduction/conversion				Project finished and plant in production
57	Sichuan Chengguan	CFC 113	5	Reduction/conversion				Project finished and plant in production
166	Shanghai Tianyuan	CFC 113			The plant had been merged into Shanghai 3F (56)			
167	Shandong Jinan 3F	CFC 113	4	Reduction/conversion				Project finished and plant in production
168	Jiangsu Meilan	CFC 113	2	Conversion				Converted and plant in production
169	Liaoning Fuxin	CFC 113	1	Conversion				Under conversion and retroactive contract will be signed
	Subtotal				3		1	
<b>Total</b>								
	Total				16	5	4	

## Annex VI

**Table VI -1: TA Activities in 2003 Annual Program**

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CTC-2003-TA-01	Extension of the MIS to include ODS Phaseout in PA and CTC Production	Asia B2B Online , Inc.	2004-9-15	2005-6-30	<b>On going</b> The system has been developed and put into test operation.
CTC-2003-TA-02	Investigation of substitute technologies for PA enterprises				<b>Cancelled</b> Because most enterprises decided just closed their production lines. Fewer enterprises investigated the substitute technologies by their own.
CTC-2003-TA-03	Investigation of Conversion of CTC to other (non-ODS) Products				<b>Cancelled</b> This was integrated with TAs in 2004.
CTC-2003-TA-04	Training of personnel involved in implementation of phaseout activities	SEPA		2003-9-30	<b>Completed.</b> Training was organized for CTC producers, consumers, dealers and auditors.
CTC-2003-TA-05	Site supervision at CTC production enterprises in 2003	SEPA		2003-6-30	<b>Completed.</b> Only the supervisor were selected and trained. The site supervision was cancelled in 2003 because of the late issuance of CTC production quota.
CTC-2003-TA-06	Study of Market Prospects for CTC Producing Enterprises	8 CTC producers: They are 1) Zhejiang Quhua 2) Shanghai Chlor-Alkali 3) Jiangsu Meilan 4) Luzhou Xinfu 5) Sichuan Honghe 6) Luzhou North 7) Chongqing Tianxuan 8) Chongqing Tianyuan	2003-12-26	2004-6-30	<b>Completed</b> All these 8 CTC producers studied the market and technology of their selected one or two products. Some producing line are under construction or to be constructed. The completed reports were submitted. It's proved to be a successful TA.
CTC-2003-TA-07	Consulting Services on CFC-113 and CTC Emission control	Three individual consultants	2003-10-23	2004-3-31	<b>Completed</b> The related 3 PTFE enterprises prepared the technical proposals on CFC-113 consumption reduction. The consultants reviewed these proposals and commented the technology feasibility and costs estimation. Three projects were successfully commissioned.

**Table VI -2: TA Activities in 2004 Annual Program**

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CTC-2004-TA-01	Training of personnel involved in implementation of phaseout activities	SEPA		2004-12-31	<b>Completed</b> Training for CTC producers, consumers, dealers and auditors is finished respectively.
CTC-2004-TA-02	Domestic Investigation and verification of new feedstock applications of CTC	4 individual consultants were recruited	2004-8 <sup>1</sup>	2004-6-30	<b>Completed</b> The report was submitted and the CTC applications and amount as the feedstock of non-ODS chemicals were collected.
CTC-2004-TA-03	International Investigation on new feedstock applications of CTC				<b>Cancelled</b> Because no foreign companies related accepted the investigation in consideration of confidentiality.
CTC-2004-TA-04	Study on CTC incineration technologies and management	Hualu Engineering and Technology Co., Ltd	2005-6-6	2005-11-30	<b>On going</b> The service contract has been signed with bidding selected consulting firm and the investigation on domestic and international incinerating technologies is being carried out.
CTC-2004-TA-05	2004 International workshop of CTC conversion and incineration technologies	FECO/SEPA	2004-9-10	2004-9-31	<b>Completed</b>
CTC-2004-TA-06	Daily Site supervision for CTC producers	9 CTC Producers	2003-12-5	2004-12-31	<b>Completed.</b>
CTC-2004-TA-07	Performance audit for 2003 Annual Program	CNAO	2004	2004-6-30	<b>Completed</b>

<sup>1</sup> The contracts with consultants were signed after the project has been completed due to time limited before the survey started.

**Table VI -3: TA Activities in 2005 Annual Program**

<b>Ref. No.</b>	<b>Name of TA Project</b>		<b>Implementing Agency</b>	<b>Contract Date</b>	<b>Completion Date Planned</b>	<b>Implementation status/Remarks</b>
CTC-2005-TA-01	Training of personnel involved in implementation of phaseout activities	CTC producers	SEPA		2004-10-20	<b>Completed</b>
		CTC dealer	SEPA		2004-10-25	<b>Completed</b>
		PA enterprises	SEPA		2005-7-31	<b>TOR Completed</b>
CTC-2005-TA-02	Daily site supervision to CTC producers	Supervisor dispatch	9 CTC producers	2004-12-24	2005-12-31	<b>Ongoing</b>
		Experience exchanging meeting	SEPA will organize the meeting		2005-7-31	<b>Completed</b>
		Summing-up meeting	SEPA will organize the meeting		2005-12-31	<b>TOR cleared</b>
CTC-2005-TA-03	Performance audit for 2004 annual program		CNAO	2005-4-30	2005-6-30	<b>Completed</b>
CTC-2005-TA-04	New feedstock and dealers verification ( <b>newly added</b> )		SEPA and consultants		2005-7-31	TOR is under clearance of World bank

# THE CFC PRODUCTION SECTOR

## CHINA

2006 ANNUAL PROGRAM

**August, 2005**

## Data Sheet

Country	People's Republic of China
Project title:	Sector Plan for CFC production phase-out in China
Year of plan	2006
# of years completed	7
# of years remaining under the plan	4
Ceiling for 2005 CFC production (in ODP tonnes), 2005 Annual Plan	18,750 ODP tonnes
Ceiling for 2006 CFC Production (in ODP tonnes), 2006 Annual Plan	13,500 ODP tonnes
Total funding approved in principle for the CFC sector plan	\$150 million
Total MLF funding released to the Bank by September 2005	\$ 98 million
Total funding disbursed from the World Bank to China by September 2005 (excluding supporting fee)	\$ 78.5 million
Level of funding requested for 2006 Annual Plan	\$13 million

National Implementing operating agency	State Environment Protection Administration
International implementing agency	The World Bank

## **TABLE OF CONTENTS**

### **INTRODUCTION**

#### **PART A: IMPLEMENTATION STATUS OF PREVIOUS YEARS' ANNUAL PROGRAMS**

PHASEOUT TARGET

ENTERPRISE PHASEOUT ACTIVITIES

IMPLEMENTATION OF POLICY INSTRUMENTS

TECHNICAL ASSISTANCE ACTIVITIES

OTHER ACTIVITIES

#### **PART B: 2006 ANNUAL PROGRAM**

PHASEOUT OBJECTIVES

PROGRAM ACTIVITIES DURING THE YEAR

Policy actions

Enterprise phaseout activities

Technical assistance activities

Other activities

Table B.1: 2006 ANNUAL PROGRAM

### **ANNEXES**

ANNEX 1: STATUS OF CFC PRODUCING PLANTS IN THE 1999-2005 ANNUAL PROGRAMS

ANNEX .2: UPDATED LIST OF HCFC-22 PRODUCING PLANTS IN CHINA

ANNEX 3: TECHNICAL ASSISTANCE ACTIVITIES 1999-2005

ANNEX 4: OTHER ACTIVITIES 1999-2005

ANNEX 5: STATUS OF CFC PRODUCING PLANTS UNDER THE CFC SECTOR PLAN AS OF AUGUST 2005



## Introduction

1. According to the Executive Committee's approval of the "Agreement for the China Production Sector" (UNEP/OzL.Pro/ExCom/27/48, Decision 27/82 and Annex IV), in order to implement the 2006 Annual Program, China is hereby requesting a release of the eight tranche of funding in the amount of US\$13 million. With this funding, China's CFC production will be reduced to a maximum of 13,500 ODP tonnes by the end of 2006. The production quotas issued and together with CFC-11 import and export control system will ensure that the ceiling for the overall national CFC-11 consumption of 7,700 MT for 2006, required in the "Agreement for CFC Phase-out in the Polyurethane Foam Sector in China" (UNEP/OzL.Pro/ExCom/35/19, Annex VIII), will be met. The details of the 2006 Annual Program are provided in Section B.

2. Following the approval of the China CFC Production Sector Plan at the 27<sup>th</sup> Meeting of the ExCom in March 1999, China has been implementing the phaseout project according to the agreed phaseout plan. Through this period, China has also developed supporting policies and regulations. While there were 37 CFC production plants in China in 1999, their number has been reduced to 6 producers in 2005. CFC production has correspondingly been reduced from 50,351 ODP tonnes in 1997 to 25,284.80 ODP tonnes in 2004, and will not exceed 18,750 ODP tonnes in 2005. (See table A. 1)

3. In accordance with the phaseout schedule in Montreal Protocol about CFC-13, an ODS in Group I of Annex B, the control baseline of CFC-13 production is 26.7 ODP tonnes (average of 1998-2000). China had reduced its production from 26.7 ODP tonnes to 20.78 ODP tonnes in 2004. (See table A. 2)

4. ***China's CFC phaseout obligations.*** In Accordance with the approved "CFC Production Plan in China" in 1999 and the "CFC/CTC/Halon Accelerated Phaseout Plan in China (APP) " in 2004, China agreed to the following phaseout schedule for CFCs in Group I of Annex A and Group I of Annex B to the Montreal Protocol.:

- a. The production of CFCs (included CFC - 11 , 12 , 113 , 114 , 115 , 13) in Group I of Annex A and B to the Montreal Protocol will be reduced to 18,750 ODP tonnes in 2005, 7400 ODP tonnes in 2007, 550 ODP tonnes in 2008 and 2009 and "zero"<sup>1</sup> in 2010 from the baseline production of 44,931 ODP tonnes. Starting from July 1, 2007, CFC production will be banned except 550 ODP tonnes CFC production mainly for MDI uses allowed in 2008-2009<sup>2</sup> and only one producer of CFC-11 and CFC-12 will be reserved;
- b. Production of CFC-113 in Group I of Annex A to the Montreal Protocol will be fully phased out since January 1, 2006 in accordance with total consumption of CFC-113 phaseout under the Agreement for ODS Phaseout in China's Solvent Sector.

In 2010, the CFCs production will be brought to zero, except for the essential uses approved by the Parties. (See Table A.1)

---

<sup>1</sup> Except for essential uses as agreed by the Parties.

<sup>2</sup> The production of MDI for treating asthma is growing. It is estimated the CFC consumption for this and other MDI uses will increase from 391 ODP tonnes in 2003 to 550 ODP tonnes in 2007.

Table A.1: CFC Production Phaseout Schedule<sup>1/</sup> and Annual Grant

Year	Annual Grant Funding	Agreed maximum production	Maximum allowed production (based on quotas issued to producers)	Actual Production (confirmed by World Bank verification team)
	(ExCom Decision 27/82, Annex IV)			
	US\$ (million)	(ODP tonnes)		
1999	20	44,931	44,853	44,793
2000	13	40,000	39,998	39,991
2001	13	36,200	36,198	36,196
2002	13	32,900	32,898	32,896
2003	13	30,000	29,998	29,986
2004	13	25,300	25,298	25,284.80
2005	13	18,750	18,748	N/A <sup>3/</sup>
2006	13	13,500		
2007	13	7400 <sup>4/</sup>		
2008	13	550		
2009	13	550		
2010	0 <sup>2/</sup>	0		

1/ The baseline year using for the CFC production sector plan is 1997. Baseline year production of CFCs (comprising CFC-11, CFC-12, CFC-113, CFC-114, CFC-115, and CFC-13) was 50,351 ODP tonnes.

2/ Savings from earlier years would be used for funding the 2010 phaseout.

3/ N/A = information not yet available

4/ Within the period from January 01 2007 to June 30 2007.

5. As can be seen from Table A.1, the CFC production was successfully maintained below the annual targets in each of the years of the program. The annual production by CFC is shown in the table A.2 below.

Table A. 2: CFC Production broken down by CFC (ODP tonnes)

Annual Program	CFC-11	CFC-12	CFC-113	CFC-114	CFC-115	CFC-13
1999	22,684	18,521	3,379	0	163	46
2000	16,113	20,411	3,300	7	132	27
2001	14,099	19,257	2,700	7	106	27
2002	15,771	14,755	2,200	29	114	27
2003	13,828	14,249	1,700	0	187	21.28
2004	10,650	13,324	1,099	0	191	20.78
2005 (Jan-June, reported)	4670	5387	549	4.8	108	10

6. Forty seven technical assistance activities have been planned, including activities to strengthen the implementation capacity and conversion capacity of closure enterprises, preparation of standards to ensure quality and reliability of CFC substitutes, CFC production monitoring, and

the international workshop on ODS substitutes, etc. Among the 47 activities, 28 have been completed, 8 are under implementation and 11 were cancelled. Details are in Annex 3.

7. Three other activities have been taken up. The first, Government is supporting the construction of a facility to produce HFC-134a. The second, the screening of alternatives to Methyl Bromide in soil fumigation was taken up to screen out effective alternatives for tested crops, and to provide references for policy-makers. The third is China Convention Compliance Center activities.

8. The detailed implementation status of the 1999 – 2005 Annual Programs is provided in Part A.

## PART A

### IMPLEMENTATION STATUS OF PREVIOUS YEARS' ANNUAL PROGRAMS

As of August 2005

#### Phaseout Target

1. Starting with a baseline production of 50,351 ODP tonnes in 1997, since 1999 China has been issuing production quotas each year that have enabled its producers to successfully meet the annual production targets specified in the agreement between China and the ExCom. The annual production in each year has been confirmed by an independent verification of production administered by the World Bank. The annual phaseout targets, production quotas issued to meet those targets, and the verified actual production for the first six years' annual programs are summarized in Table A.1 and A.2 in the previous section. In 2005, there were six remaining CFC producers, and quotas for production of 18,748 ODP tonnes have been issued to them to meet the production control target of 18,750 ODP tonnes.

#### Enterprise Phaseout Activities

2. Details regarding the enterprise phaseout and production activities in the 1999-2005 Annual Programs are summarized in Annex 1. Starting with the 37 identified enterprises in 1999 (36 enterprises covered under the technical audit commissioned by the ExCom and one additional enterprise identified later), The production lines of 31 enterprises have completely closed and dismantled their facilities of CFC-11, 12 and 113 under the Sector Plan, accounting for closure of 79,430 MT of CFCs production capacity. All reduction in 1999 was through closure of enterprises. Starting in 2000, the required reduction in production has been achieved through a combination of closures and quota reduction through quota buy-back. A total of six CFC producers remain in operation in 2005. Three of these enterprises are producing CFC-11 and/or CFC-12, one enterprise is producing CFC-11, CFC-12, CFC-113 and CFC-115, one enterprise is the only producer of CFC-13 in China and the last enterprise is producing CFC-114 and CFC-115.

3. The 1999 Annual Program comprised three sets of closures. *First*, China committed to close and dismantle production facilities at 14 enterprises (listed in the agreement between China and the ExCom) that were not in production in 1997 (though one of these lines did produce some CFCs in the early part of 1999, prior to the agreement). SEPA signed closure contracts with these 14 enterprises, resulting in a reduction of production capacity of 22,630 MT (Annex 1, Table 1.1). *Second*, closure contracts were signed with 3 other enterprises to close production lines that had no production in 1997, resulting in a further reduction of production capacity of 4,000 MT (Annex 1, Table 1.2). *Third*, after quota regulation and bidding for 1999 quotas, closure contracts were signed with 7 enterprises to phase out additional production capacity of 23,800 MT (Annex 1, Table 1.3). Through these closure activities, the 1999 phaseout target was achieved with 44,793 ODP tonnes actual production which was within the agreed limit of 44,931 ODP tonnes.◦

4. Under the 2000 Annual Program, closure contracts were signed with 5 enterprises to enable a phase out of production capacity totaling 15,500 MT in 2000 (Annex 1, Table 1.4) and one

enterprise accepted a reduction in quota. Through this approach, 4,931 ODP tonnes phaseout target in 2000 was achieved. The actual production was 39,991 ODP tonnes, which was within the agreed limit of 40,000 ODP tonnes.

**5.** Under the 2001 Annual Program, the actual production of CFCs was to be reduced from 40,000 ODP tonnes to 36,200 ODP tonnes. To achieve this target, three producers were closed based on three contracts for complete closure signed in November 2000. The closures brought a total reduction in production capacity of 7,500 MT (Annex 1, Table 1.5). The actual CFC production in 2001 was 36,196 ODP tonnes, which was within the agreed limit of 36,200 ODP tonnes.

**6.** Under the 2002 Annual Program, the phaseout target of CFC production was 3,300 ODP tonnes and the production of CFCs was to be reduced from 36,200 ODP tonnes to 32,900 ODP tonnes. As no CFC producers bid to close their production lines, CFC production quotas were reduced by administrative measures, and quota reduction contracts were signed with 6 of the 7 CFC producers, with one enterprise's quota being retained at the previous level. The actual production in 2002 was 32,896 ODP tonnes, which was within the agreed limit of 32,900 ODP tonnes (Annex 1, Table 1.6).

**7.** Under the 2003 Annual Program, the production target of CFCs was reduced from 32,900 ODP tonnes to 30,000 ODP tonnes. Two kinds of contracts were signed in December 2002 to achieve the reduction. Two producers signed closure contracts with SEPA (including one who closed down two CFC-12 production lines; the enterprise continued operation of its CFC-13 production line with an adjusted production quota consistent with the CFC-13 phaseout requirements), enabling a total reduction in production capacity of 6,000 MT (Annex1, Table 1.7). Four producers signed quota reduction contracts, while one retained its production level (Annex 1, Table 1.8). Overall, six producers remained in operation in 2003. The actual CFC production in 2003 was 29,986 ODP tonnes, which was within the agreed limit of 30,000 ODP tonnes.

**8.** Under the 2004 Annual Program, the phaseout target of CFCs in China was 4,700 ODP tonnes, reducing production from 30,000 to 25,300 ODP tonnes. Because no producer was willing to close production, the target was realized by administrative measure of quota reduction according to the "Circular on Implementing the Quota System for CFC Production" issued by SEPA and the former State Administration of Petroleum and Chemical Industry (SAPCI). The quota for the 5 remaining producers was reduced by administrative measures based on their 2003 CFC-11\12\13\113 production quotas, and quota for CFC-114 and 115 unchanged for the one producer. (Annex1, Table 1.9). The actual CFC production in 2004 was 25,285 ODP tonnes, which was within the agreed limit of 25,300 ODP tonnes.

**9.** Under the 2005 Annual Program, the phaseout target of CFCs in China was 6,550 ODP tonnes, reducing production from 25,300 to 18,750 ODP tonnes. Similarly to 2004, the phaseout target is carried out through administrative measure. To assist meeting CFC-11 and CFC-12 consumption control target set in the Agreement of APP for 2005, annual production quotas for CFCs were issued in two batches. At the beginning of 2005, the first batch of total 14,238 ODP tones (75 percent of CFC-11\12, 100 percent of CFC-113\114\115 and 20 ODP tones of CFC-13) was issued to six producers. The remaining annual CFCs production quota (second batch) will be issued in the second half year based on the actual import and export of CFC-11\12 in the first half year and import and export applications in the second half year.

**10.** All closed production lines for all the years (1999 to 2004) have also been visited by a World Bank verification team as part of the verification of the annual programs, confirming that they are no longer capable of producing CFCs and their key production equipment has been fully dismantled and destroyed. The World Bank verification team has also analyzed and verified the production data recorded at each enterprise. The verification team has confirmed that the production in 2004 was within the ceiling established under the Agreement.

**11.** To verify the production reduction achieved in 2005, the World Bank verification of the 2005 CFC production under the 2005 annual Program (plant visit) will be conducted in February of 2006 and findings reported to the first ExCom meeting in 2006.

### **Implementation of Policy Instruments**

**12.** *Key instruments.* The key policy instrument of the program is the regulation promulgated for the introduction and implementation of an annual tradable quota system, entitled “Circular on Implementing the Quota System for CFC Production”, by the State Environmental Protection Administration (SEPA) and State Administration of Petroleum and chemical Industry (SAPCI) on May 31, 1999. A bidding system, was also introduced together with the promulgation of the tradable production quota system and - and administrative measures. Under this regulation, some CFC producers were awarded grants through bidding in 1999 and 2000 to close their production, while a national CFC production quota within the annual target was issued to the remaining CFC producers in order to ensure that the demand for CFC was met and the national production for the year did not exceed the agreed target. Administrative measures have been used to meet the agreed target in 2002 and 2003. CFC production quotas with the remaining 7 producers were reduced in 2002. In 2003, CFC production quotas totaling 29,998 ODP tonnes were provided to 6 CFC producers, while two CFC producers dismantled their CFC-12 production lines, one of this two being closed completely, the other operating one CFC-13 line. Under the 2004 annual program, 25,298 ODP tonnes CFC production quotas were issued to enterprises on Feb. 26, 2004, the phaseout target of 4,700 ODP tonnes realized by administrative measure.

**13.** Notice on the Ban on the Establishment, Innovation and Expansion of ODS Facilities was issued in November 1997, which is an important control measure that minimizes the possible new ODS production capacity in the following years.

**14.** Due to the remaining demand for CFC in China and the potential risk of illegal production, China introduced on-site supervision arrangements on December 17, 2001 through a “Regulation on Implementing Site Supervision to CFCs Production Enterprises” with the aim of strengthen the monitoring of CFC production. From January 1, 2002, the remaining CFC-11 and CFC-12 producers have been placed under year-round site supervision by supervisors designated by SEPA. These supervisors are technical professionals located on site at production plants, and are from other CFC-11 and CFC-12 producing plants. This effectively enables the CFCs industry to help to monitor itself. The experience so far proves that it is an effective method to strictly control that CFC-11 and CFC-12 production does not exceed the CFC production quotas issued by SEPA. In 2003, 2004 and 2005, this system is adopted permanently with the aim to continue implementing it in the following years. Most of supervisors are those who have been engaged in this work for the past years.

**15.** *Related actions to prevent illegal CFC production in China.* CFC production has been listed in the phaseout category and published by China National Development and Reform Commission (NDRC) in 2004. As one of the most important national industry policy, it prevents any bank loans and approval of local administrative bureau to CFC production project. Production, sales and consumption management system on CTC, the main feedstock of CFC, was put into operation in 2004 under CTC/PA sector plan, strictly controlled CTC flow to the illegal consumers, especially to CFC production. Mean while, SEPA has strengthened environment supervision at both central and local level, and taken CFC illegal production as one of the most serious issue to monitor and punishment. A public reporting system is being established by environmental supervision agency to expand the monitoring on illegal ODS production to common people.

**16.** *Other instruments related to trade in CFCs.* A study on options for export/import management for Halons and CFCs, which would help China to monitor and control export/import in CFCs and prevent illegal CFC trade, was completed in July 1999. A “Circular on Control Mechanism of Import and Export of ODS” and a “Circular on Strengthening Management of ODS Import and Export” were promulgated on December 3, 1999 and in April 2000. The mechanism is implemented by the Management Office of ODS Import-Export Control jointly administered by SEPA, the General Administration of Customs (GAC), and, Ministry of Commerce of the PRC (MOC) and helps China to monitor trade in ODS and eliminate illegal ODS trade. Two batches of *Export/Import Control List of ODS in China* have been promulgated in January 2000 and January 2001 respectively. Imports of Carbon Tetrachloride, a key feedstock for CFC production and also a controlled substance under the Protocol, were banned on April 1, 2000, imports and exports CFC-113 used as solvent were banned on Feb.1, 2001, and imports and exports of other CFCs are regulated by a permit system administered by MOC (Ministry of Commerce). On July 8, 2003, in order to control the consumption of CFC-113, SEPA issued “Circular on issuing consumption license of CFC-113, TCA and CTC”.

### **Technical Assistance Activities**

**17.** Technical assistance (TA) activities are essential for successful implementation of the CFC production phase-out. Forty seven technical assistance activities have so far been planned under the annual programs, of which twenty-eight TAs have been completed, eight are still under implementation and eleven TAs were canceled. There are four TAs (one in each annual program from 1999 to 2002) for the recruitment of international consultants were not utilized and cancelled as they were found to duplicate other activities, or were not considered feasible at that point of time. Details are provided in Annex 3. The status of the 2005 technical assistance activities is as follows:

- (a) *Training of Personnel Involved in Implementation of Phaseout Activities.* In order to implement the phaseout plan effectively, it is necessary to train staff in CFC production enterprises and audit agencies. The training workshop for CFC producers is planned in Dec. 2005 and the training for auditors will be held by end of April 2006. The TOR is under preparation.
- (b) *Site Supervision for CFCs Production Enterprises.* Since the implementation of the Site Supervision in 2002 proved that it is effective, this activity is continually carried out this year for the purpose of strengthening the supervision of CFC production. From Jan. 1, 2005, main 4 of the 6 remaining CFCs producers have been placed under year-round site

supervision by supervisors designated by SEPA. The TOR was submitted to the World Bank for clearance and was cleared by Bank in end of 2004.

- (c) *Performance Audit for 2004.* As required in Schedule 3, Section A, Paragraph 6 (b) of the ODS IV Grant Agreement between China and the World Bank, an audit has been undertaken in June 2005 to audit the implementation status of 2004 Annual Program under the CFC production Sector. Total funding available in year 2004 was US\$13 million. The audit aimed to verify all Annual Program activities, with particular emphasis on the actual CFC production in China for the year 2004. The auditors have visited all CFC plants that were in production in 2004, regardless of their production volume and all Consultants who carried out the TA projects in 2004 and previous years annual programs under which the contracts have been signed.
- (d) *Legislation study of China ODS phase-out management.* This TA will focus to recommend legislation on China ODS phase-out management . The service contract has been signed with Center for Legal Assistance to Pollution Victims, China University of Political science and Law in May 2005. The project is implemented smoothly as scheduled.
- (e) *Study Tour on Methods of Controlling Smuggling of ODS.* A study tour to some developed countries is being planned with the aim of exchanging information and experiences on efficient management of ODS import and export, and measures to control illegal trade in ODS. The TOR was prepared and under review by World Bank.
- (f) *Development Strategy on ODS Substitutes (Phase II).* The purpose of the project is to develop the strategy and promote ODS, in particular HCFCs, substitutes technologies and production development in China until 2040 on the basis of national investigation. The project will initiate the activities to assure HCFCs production and consumption phaseout in China in compliance with the commitments under Copenhagen Amendment of the Montreal Protocol. The service contract has been signed in March 2005 with the selected consultant firm. Site investigation to enterprises has been completed.

#### **Other activities (former Special initiatives)**

**18.** Under the provisions of the flexibility in section (d) of the Agreement for the China Production Sector, China has undertaken the following other activities (See Annex 4).

**19. *Establishment of HFC-134a Production facility.*** As the phaseout of CFC production is proceeding, the demand for substitutes in the consumption sector is increasing rapidly. The impact of the first three years of implementation of the CFC sector plan equals a phaseout of more than 14,155 ODP tonnes of CFCs. The phaseout of CFC-11, which is the major foaming agent, has had an impact in the foam sector, and there is an urgent need to move into production of substitutes such as Cyclopentane and HCFC-141b. The use of CFC-12 as refrigerant in air-conditioners installed in all newly produced cars has been banned from January 1, 2002. It is estimated that the demand for HFC-134a, presently the only substitute of CFC-12 in the MAC sector in China, will exceed 7,500 tonnes in 2005 in this sector alone, and could reach 19,000 tonnes by 2010. China therefore envisages an urgent need to initiate other activities to produce such substitutes to ensure that there is no shortfall in their supply. Xi'an Jinzhu Jindai Chemical Industry Co., Ltd. was selected as the beneficiary for this project in December 2000. A two phase approach was selected with a final annual capacity of 10,000 tonnes and a first stage annual capacity of 5,000 tonnes.



**20.** The first stage of the project has physically been completed by the end of 2003 and total 3,400 MT of HFC-134a were produced in 2004, 3,000 MT were produced from January to August 2005. On June 5, 2004, SEPA organized an expert group, including relevant officials from state administrative departments and experts from industry associations, to review the implementation of the project and commission it. Based on the analysis on the status of domestic HFC-134a production and the market demands, SEPA decided to finance the second phase increasing the production capacity from 5,000 tonnes to 10,000 tonnes of HFC-134a using the funds of CFC Production Sector Plan. The second phase construction contract was signed on May 16, 2005 and will be completed by end of 2006.

**21. *Screening of alternatives to Methyl Bromide in soil fumigation in China.*** The Institute of Plant Protection, Chinese Academy of Agricultural Sciences, was selected as the beneficiary for this project in April 2002. The purpose of this project is to screen out one or two economical, effective and simple alternatives for each crop tested, to confirm their acceptance by Chinese farmers and to provide references for policy-makers. Five sites were defined for testing of tobacco, strawberry, tomato, cucumber and hot pepper. This project has been completed, the final report has been submitted to WB during its April mission in 2004.

**22. *China Convention Compliance Center Activities.*** A new program is being introduced by China in 2003 with implementation to begin as soon as the legal arrangements can be made operational. As China approaches the second major obligation milestone under the Montreal Protocol in 2005, it is foreseen that the drastic required reductions in production and consumption of ODS will require rigorous compliance and enforcement measures, especially to prevent illegal activity in this regard. China therefore proposes to establish the China Convention Compliance Center (CCCC) in 2003. The CCCC will be the central management unit for the ODS program when it is established, and will be responsible for all management and enforcement activities on ODS phaseout actions under the Program. The main purpose of CCCC is aim to strengthening China compliance capacity with the support from some unallocated balances of previous annual program of CFC Production Sector Plan and bilateral contributions to China, to enforce: (a) the project development and management capacity on ODS phaseout activities; (b) training capacity on personnel of local EPBs, line ministries, enterprises and related parties so as to reach and maintain the achievements of ODS phaseout; (c) establishment of policies and regulations on ODS phaseout actions and put forward to legislation and national law; (d) capacity building on monitoring and enforcement of policy implementation; (e) public awareness and encouragement of common participation; and etc..

### **Plants producing HCFC-22 in China**

**23.** As required by the agreement on the production sector, China has provided an updated list of the plants producing HCFC-22 in China, attached in Annex 2. China confirms that none of these produce CFCs.

**PART B**  
**2006 ANNUAL PROGRAM**

1. *Phaseout Objectives* The phaseout objective of the 2006 Annual Program is to ensure that CFC production in the year does not exceed 13,500 ODP tonnes. China is requesting the release of the eighth annual tranche in the amount of US\$13 million as agreed in the overall CFC Production Sector Phaseout Plan to achieve this objective. It is envisaged that the US\$13 million will be allocated for (i) policy and enterprise activities aimed at closing CFC production lines and/or reducing production levels in some CFC enterprises that received production quota in 2005, (ii) Technical Assistance activities, and (iii) other activities.

**Program Activities during the Year**

2. *Policy actions.* In 2006, the following policies and measures will continue to be implemented by the Government. These policies are considered necessary for the success of total CFC production phaseout in China.

- (a) *Tradable production quota system.* The regulation has been under implementation since 1999, and will continue. Six years implementation experience of this system confirmed that this is the most important measure to effectively and successfully realize annual phaseout target.
- (b) *Export and import control mechanism.* The Management Regulation on Export/Import Control of ODS, promulgated in December 1999 by SEPA in collaboration with Ministry of Foreign Trade and Economic Cooperation (MFTEC) (now Ministry of Commerce of the PRC – MOC) and General Administration of Customs (GAC), covers all ODS as well as related equipment and facilities that produce or consume ODS. The ODS export/import quota and permit systems have been adopted, and all enterprises wishing to export or import ODS must hold both a quota issued by SEPA and MOC, as well as specific export/import permits. GAC supervises exports and imports of ODS. China has also promulgated the Export/Import Control List of ODS in China, with the First Group (including CTC import, CFCs and Halon) promulgated in January 2000, and the Second Group (including CTC export and TCA) in January 2001, and the Third Group (including HCFC) in 2004. Under this regulation, China has banned import of CTC, import and export of CFC-113 used as solvent and introduced quota and permit requirements export of CTC, import and export of CFCs, Halon, TCA and HCFC. The list will be updated to include all CFC containing blends as refrigerants in 2006. Beside, at a World Bank Regional ODS program workshop held in September 2005 on implementation of national phase-out plans, a mechanism for export/import cooperation helping the countries controlling import was agreed.
- (c) *Sales permit system.* To prevent illegal transaction of CFCs, the Management Regulation on Sales Control of CFC-113 has been implemented for 2 years. Under this system, all producers and sellers of CFC-113 must hold CFC-113 selling permit license. Those violating the regulation are subject to penalties.

3. *Enterprise activities.* Through a combination of bidding, allocation of production quota and administrative measures, plant would be granted funds for full or partial closure. All CFC reduction

or closure contracts are expected to be signed by the end of November, but in any case will be signed no later than the end of 2005. Closure projects are expected to take effect from January 1, 2006 and are to be completed by the end of June 2006. Key equipment should be dismantled and destroyed by the end of January 2006. The reduction contracts will be implemented from January 1, 2006 to December 31, 2006 through the production quota system.

4. *Technical assistance (TA) activities.* The following TA activities are proposed for 2006:
  - (a) *Training of personnel involved in implementation of phaseout activities.* To implement the phaseout plan effectively, it is necessary to train staff of the CFC production enterprises and audit agencies. Training is also needed for enterprises to understand the closure regulations. Training in 2006 will consist of two workshops: one for CFC production enterprises and the other one for auditors.
  - (b) *Daily Site Supervision of CFCs Production Enterprises.* This TA will continue in 2006. This activity was added to the program in 2002 for the purpose of strengthening the supervision of CFC production. From January 1, 2002 up to now the main remaining CFCs producers had been placed under year-round site supervision by supervisors designated by SEPA. These supervisors are technical professionals located on site at production plants, and come from other CFCs producing plants. This arrangement effectively enables the CFCs industry to help to monitor itself.
  - (c) *Performance Audit.* A performance audit is required under the CFC sector plan. A TOR for the 2005 performance audit will be agreed between the Bank and SEPA for this purpose by November 2005, and the audit is expected to be completed by June 30, 2006.
  
5. Other TA activities that are necessary for effective phaseout may be developed during the year. The above policy initiatives, enterprise-level and technical assistance activities are summarized in Table B.1 below.

**Table B.1: 2006 Annual Program**

<b>CFC production phaseout targets</b>						
	Funding (US\$ mill.)	2005 Production Limit <sup>3</sup>	Phaseout in 2006	Allowed Production in 2006 <sup>4</sup>	Performance Indicators	Key Dates
CFC (ODP tonnes)	13	18,750	5,250	13,500	<ol style="list-style-type: none"> <li>1. Closures of some current producers and reduction in production in remaining producers</li> <li>2. Implementation of TA activities to help phaseout.</li> <li>3. Production level not to exceed 13,500 ODP tonnes</li> </ol>	<ol style="list-style-type: none"> <li>1. Dec. 2005-June 2006</li> <li>2. Jan. 2006-Dec. 2006</li> <li>3. Dec.31, 2005</li> </ol>
<b>Policy Initiatives</b>						
Initiatives	Funding	Performance Indicators			Key Dates	
1. Administrative measures	Incl .in TA n.a. incl. in TA	<ol style="list-style-type: none"> <li>1. Training remaining enterprises for closing in 2005 and sign closure or partial closure contracts with CFC production enterprises</li> <li>2. Implement closure or partial closure contracts in 2006</li> <li>3. Train enterprises for closing preparation for 2007 reduction target</li> </ol>			<ol style="list-style-type: none"> <li>1. Dec. 2005</li> <li>2. Dec. 2005-June 2006</li> <li>3. Sep. 2006</li> </ol>	
2.To issue tradable Production quota to CFC producers	n.a.	<ol style="list-style-type: none"> <li>1. Establish 2006 annual CFC production quota</li> <li>2. Issue annual production quota to CFC producers for 2006</li> </ol>			<ol style="list-style-type: none"> <li>1. Dec. 2005</li> <li>2. Mar. 2006</li> </ol>	
3. Import/export trade management	n.a.	1. Implement the import/export trade management mechanism.			1. January 2006-December 2006	
<b>Enterprise activities</b>						
	Funding (US\$ million)	Existing enterprises	Enterprises at end of 2006	Performance Indicators	Key Dates	
Closure or partial closure of CFC11/12 production lines	12.00	6	5 or 6	<ol style="list-style-type: none"> <li>1. Training enterprises, selecting closing plants (if any) and signing contracts.</li> <li>2. Facilities' dismantling completed of closure contracts</li> </ol>	<ol style="list-style-type: none"> <li>1. Sept. – Dec. 2005</li> <li>2. No later than June 2006</li> </ol>	

<sup>3</sup> Per Agreement

<sup>4</sup> Maximum production quota that can be allocated for calendar 2006.

**Table B.1: 2006 Annual Program (continued)**

(Amount in US\$ million)

<b>Technical assistance activities</b>			
Activities	Funding <sup>1/</sup> (US\$ Million)	Performance Indicators	Key Dates (please change the following date for the 2006 AP)
CFC-06-TA-01 Training of personnel involved in implementation of phaseout activities.	0.1	1. TOR to be agreed with the Bank 2. Training on supervision and evaluation of CFC production, management of CFC production quota system, and CFC Project Implementation Manual 3. Signing 2007 phaseout contracts	1. June, 2006 2. Completed December 2006. Specific schedules to be detailed in TORs
CFC-06-TA-02 Implementing Site Supervision to CFCs Production Enterprise	0.3	1. TOR to be agreed with World Bank 2. Implementation.	1. November, 2005 2. January 1-December 31, 2006.
CFC-06-TA-03 2005 Performance audit	0.2	1. TOR to be agreed with the Bank 2. Audit implementation. 3. Audit is completed.	1. November, 2005 2. April, 2006 3. By June 30, 2006
Others activities to be identified	0.4		
Subtotal	1.0		
<b>TOTAL for phaseout activities</b>	<b>13.00</b>		

<sup>1/</sup> These are estimated costs. After bidding for TA contractors, these costs will be adjusted to reflect contractual amounts for each TA. All TA activities are expected to be completed on schedule.

**Annex 1**  
**Status of Plants Producing CFC in the 1999-2005 Annual Programs**

**Table 1.1: CFC plants closed as part of ExCom approval conditions - April and May 1999**

Sl.	SRI No.	Enterprise Name	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)	Status
					1999	
1	A3	Shangdong Dongyue Chemical Co. Ltd.	5,000	CFC-12	1042	Closure verified August 1999
2	C2	Hunan Yiyang Chlor-Alkali Chemical Co. Ltd.	1,000	CFC-12	0	Closure verified August 1999
3	C5	Inner Mongolia Baotou Chemical Plant #1.	700	CFC-12	0	Closure verified August 1999
4	C1	Jiansu Jianhu Phosphate Fertilizer Plant	500	CFC-12	0	Closure verified August 1999
5	B4	Sichuan Zigong Fujiang Chemical Plant	1,500	CFC-11	0	Closure verified August 1999
			1,000	CFC-12	0	
6	B9	Zhejiang Linhai Jianxin Chemical Plant	800	CFC-12	0	Closure verified August 1999
7	A14	Guangdong Huiyang Chemical Plant	1,000	CFC-11	0	Closure verified August 1999
			3,000	CFC-12	0	
8	A1	Henan Hebi Chemical Plant #1	1,500	CFC-12	0	Closure verified August 1999
9	C3	Hebei Longwei Fluorochemical Plant #1	1,080	CFC-12	0	Closure verified August 1999
10	C4	Guizhou Wuling Chemical Plant	1,500	CFC-12	0	Closure verified August 1999
			50	CFC-13	19	
11	A15	Guangdong Zhaoqing Chemical Plant	500	CFC-12	0	Closure verified August 1999
12	C6	Shanxi Shangzhou Chemical Plant	2,000	CFC-12	0	Closure verified August 1999
13	B10	Zhejiang Linhai Shuiyang Chemical Plant	500	CFC-12	0	Closure verified August 1999
14	A12	Shanghai Shuguang Chem. Plant	1,000	CFC-113	0	Closure verified August 1999
Subtotal			22,630		1061	

**Table 1.2: Additional CFC plant closures in 1999 -contracts of April and May 1999**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)	Status
					1999	
15*	A2	Shangdong Jinan 3F Chemical Co. Ltd.	1,500	CFC-11	0	Closure verified August 1999
16	No SRI audit	Liaohu Chemical Group Chlor-Alkali Plant	1,000	CFC-12	0	Closure verified March 2000
17**	B15	Fujian Shaowu Floro-chem. Plant	1,500	CFC-11	0	Closure verified March 2000
Subtotal			4,000		0	

**Table 1.3: CFC plants closed as part of 1999 Annual Program - contracts of June 1999**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)		Status
					1999	2000	
18	B2	Chongqing Tianyuan Chemical Plant.	500	CFC11/12	14	0	Closure verified January 2000
19	B5	Hubei Wuhan Changjiang Chemical Plant	1,500	CFC-11	0	0	Closure verified January 2000
			4,500	CFC-12	0	0	
20	A5	Jiangsu Wuxian Juxing Chemical Plant	2,000	CFC-11	0	0	Closure verified January 2000
21	A6	Jiangsu Wuxian Union (City Link) Chemical Plant	1,800	CFC-11	0	0	Closure verified January 2000
22	B1	Jiangxi De'an Refrigeration Plant	3,000	CFC-12	0	0	Closure verified January 2000
15*	A2	Shandong Jinan 3F Chemical Co. Ltd.	3,500	CFC-12	0	0	Closure verified January 2000
23	B6	Shanghai Chlor-Alkali Chemical Plant Co. Ltd.	7,000	CFC-12	687	0	Closure verified January 2000
Subtotal			23,800		701	0	

**Table 1.4: CFC plant closed as part of 2000 Annual Program - contracts of December 1999**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)		Status
					1999	2000	
24	A9	Jiangsu Wuxi Hushan Refrigeration Plant	4,000	CFC-11	560	0	Closure verified September 2000
25	B3	Sichuan Zigong Refrigerant Plant	1,500	CFC-11	198	0	Closure verified September 2000
			1,500	CFC-12		0	
26	B13	Zhejiang Lanxi Refrigeration Plant	2,500	CFC-11	785	0	Closure verified September 2000
27	B7	Zhejiang Rui'an Haitian Chem. Co. Ltd.	5,000	CFC-11	617	0	Closure verified September 2000
28	A4	Shandong Xuecheng Xinxing Chemical Plant	1,000	CFC-12	0	0	Closure verified September 2000
Subtotal			15,500		2160	0	

**Table 1.5: CFC plants closed as part of 2001 Annual Program – contracts of November 2000**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)			Status
					1999	2000	2001	
17**	B15	Fujian Shaowu Floro-chem. Plant	3,500	CFC-12	979	1,159	0	Closure verified June 2001
29	A7	Suzhou Xinye Chemical Co. Ltd.	3,000	CFC-11	7408	2,532	0	Closure verified June 2001
30	A11	Jiangsu Changsu Yudong Chem. Plant	1,000	CFC-113	545	545	0	Closure verified June 2001
Subtotal			7,500		8932	4236	0	

**Table 1.6: CFC plants reducing production as part of 2002 Annual Program – contracts of December 2001**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)				Status
					1999	2000	2001	2002	
31	A8	Jiangsu Meilan Electric Chem. Plant	3,000	CFC-11	1766	1,050	1,050	1,050	Data verified in February 2003
			3,000	CFC-12	1866	1,793	1,793	1,315	
32	B14	Zhejiang Juhua Florochem. Com. Ltd.	4,000	CFC-11	3376	4,339	4,827	4,489	Data verified in February 2003
			8,000	CFC-12	6325	7,759	7,706	7,157	
33	A10	Jiangsu Changsu Refrig. Plant (Changsu 3F)	10,000	CFC-11	7960	8,192	8,222	10,232	Data verified in February 2003
			5,000	CFC-12	2780	5,019	5,075	3,035	
			4,000	CFC-113	2834	2,756	2,700	2,200	
			400	CFC-115	90	60	30	60	
34**	B8	Zhejiang Linhai Limin Chem. Plant	50	CFC-13	27	27	27	27	Data verified in February 2003
			3,000	CFC-12	1188	1365	1365	887	
35	B12	Zhejiang Dongyang Chem. Plant	5,000	CFC-12	2053	2,219	2,219	1,741	Data verified in February 2003
36	A13	Guangdong Xiangsheng Chem. Co. Ltd.	3,000	CFC-12	1,601	1,098	1,099	621	Data verified in February 2003
Subtotal			45,450		31866	35677	36113	32814	



**Table 1.7: CFC plants closed as part of 2003 Annual Program – contracts of December 2002**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)					Status
					1999	2000	2001	2002	2003	
34	B8	Zhejiang Linhai Limin Chem. Plant	3,000	CFC-12	1,188	1,365	1,365	887	0	Closure verified January 2003
36	A13	Guangdong Xiangsheng Chem. Co. Ltd.	3,000	CFC-12	1,601	1,098	1,099	621	0	Closure verified January 2003
Subtotal			6,000		2789	2463	2464	1508	0	

**Table 1.8: CFC plants reducing production as part of 2003 Annual Program – contracts of December 2002**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)					Status
					1999	2000	2001	2002	2003	
31	A8	Jiangsu Meilan Electric Chem. Plant	3,000	CFC-11	1766	1,050	1,050	1,050	997	Data verified in February 2004
			3,000	CFC-12	1866	1,793	1,793	1,315	1,066	
32	B14	Zhejiang Juhua Florochem. Com. Ltd.	4,000	CFC-11	3376	4,339	4,827	4,489	3947	Data verified in February 2004
			8,000	CFC-12	6325	7,759	7,706	7,157	7,406	
33	A10	Jiangsu Changsu Refrig. Plant (Changsu 3F)	10,000	CFC-11	7960	8,192	8,222	10,232	8884	Data verified in February 2004
			5,000	CFC-12	2780	5,019	5,075	3,035	4335	
			4,000	CFC-113	2834	2,756	2,700	2,200	1700	
			400	CFC-115	90	60	30	60	108	
35	B12	Zhejiang Dongyang Chem. Plant	5,000	CFC-12	2053	2,219	2,219	1,741	1,442	Data verified in February 2004
Subtotal			42,400		29050	33187	33622	31279	29885	

**Table 1.9: CFC plants reducing production as part of 2004 Annual Program– contracts of December 2003**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)						Status
					1999	2000	2001	2002	2003	2004	
31	A8	Jiangsu Meilan Electric Chem. Plant	3,000	CFC-11	1,766	1,050	1,050	1,050	997	643	Data verified in February 2005
			3,000	CFC-12	1,866	1,793	1,793	1,315	1,066	1,239	
32	B14	Zhejiang Juhua Florochem. Com. Ltd.	4,000	CFC-11	3,376	4,339	4,827	4,489	3,947	3,325	Data verified in February 2005
			8,000	CFC-12	6,325	7,759	7,706	7,157	7,406	6,233	
33	A10	Jiangsu Changsu Refrig. Plant (Changsu 3F)	10,000	CFC-11	7,960	8,192	8,222	10,232	8,884	6,682	Data verified in February 2005
			5,000	CFC-12	2,780	5,019	5,075	3,035	4,335	4,639	
			4,000	CFC-113	2,834	2,756	2,700	2,200	1,700	1,099	
			400	CFC-115	90	60	30	60	108	108	
34* **	B8	Zhejiang Linhai Limin Chem. Plant	50	CFC-13	27	27	27	27	21	21	Data verified in February 2005 (Production quota is 27 MT in 2003 and reduced to 21 MT in 2004)
35	B12	Zhejiang Dongyang Chem. Plant	5,000	CFC-12	2,053	2,219	2,219	1,741	1,442	1,213	Data verified in February 2005
Subtotal			<b>42,650</b>		<b>44,793</b>	<b>39,991</b>	<b>36,196</b>	<b>32,896</b>	<b>29,986</b>	<b>25,285</b>	Data verified in February 2005

**Table 2.0: Remaining CFC producers by January 2005**

SI	SRI	Name of enterprise	Capacity (MT/year)	CFC type	CFC Production (ODP tonnes)							Status
					1999	2000	2001	2002	2003	2004	2005	
31	A8	Jiangsu Meilan Electric Chem. Plant	3,000	CFC-11	1,766	1,050	1,050	1,050	997	643	429	First half year of 2005 reported
			3,000	CFC-12	1,866	1,793	1,793	1,315	1,066	1,239	213	
32	B14	Zhejiang Juhua Florochem. Com. Ltd.	4,000	CFC-11	3,376	4,339	4,827	4,489	3,947	3,325	1,257	First half year of 2005 reported
			8,000	CFC-12	6,325	7,759	7,706	7,157	7,406	6,233	2,264	
33	A10	Jiangsu Changsu Refrig. Plant (Changsu 3F)	10,000	CFC-11	7,960	8,192	8,222	10,232	8,884	6,826	2,985	First half year of 2005 reported
			5,000	CFC-12	2,780	5,019	5,075	3,035	4,335	4,639	2,336	
			4,000	CFC-113	2,834	2,756	2,700	2,200	1,700	1,099	550	
			400	CFC-115	90	60	30	60	108	108	60	
34*	B8	Zhejiang Linhai Limin Chem. Plant	50	CFC-13	27	27	27	27	21	21	10	First half year of 2005 reported
35	B12	Zhejiang Dongyang Chem. Plant	5,000	CFC-12	2,053	2,219	2,219	1,741	1,442	1,213	575	First half year of 2005 reported
37	B11	Zhejiang Chemical Research Institute	100	CFC-114	0	7	7	29	0	0	5	First half year of 2005 reported
			100	CFC-115	72	72	76	54	79	83	48	
Subtotal			<b>42,650</b>		<b>44,793</b>	<b>39,991</b>	<b>36,196</b>	<b>32,896</b>	<b>29,986</b>	<b>25,285</b>		

\*: Separate lines closed at different times at this enterprise; it therefore appears twice in this table.

\*\* : Separate lines closed at different times at this enterprise; it therefore appears twice in this table.

\*\*\*: Separate lines closed at different times at this enterprise; it therefore appears twice in this table.

## Annex 2

### Updated List of HCFC-22 producing plants in China

Sl.	Name of Company
1.	Hunan Zhuzhou Chemical Corporation (Group) (Hunan Zhuzhou Chemical Group Co., Ltd.)
2.	Zhonghao New Chemical Materials Co., Ltd.
3.	Jiangsu Changshu Elf Atochem 3F Co., Ltd. (ATOFINA (China) Investment CO., Ltd.
4.	Jiangsu Meilan Electric Chemical Plant (Jiangsu Meilan Chemical Co., Ltd.)
5.	Liaoning Fuxin Fluoro-chemical Plant )
6.	Sichuan Chenguang Chemical Research Institute Plant No.2 (Zhonghao Chenguang Research Institute of Chemical Industry)
7.	Shandong Jinan 3F Chemical Co., Ltd. (Jinan 3F Fluoro-Chemical Co., Ltd.)
8.	Shandong Dongyue Chemical Co., Ltd.
9.	Sichuan Zigong Fujiang Chemical Plant
10.	Zhejiang Juhua Fluoro-chemical Co., Ltd.
11.	Zhejiang Dongyang Chemical Plant (Zhejiang Fluorescence Chemical Co., Ltd.)
12.	Zhejiang Linhai Limin Chemical Plant (Zhejiang Linhai Limin Chemical Co., Ltd.)
13.	Zhejiang Yingpeng Chemical Co., Ltd. (China Yingpeng Chemical Co., Ltd.)
14.	Wuhan Changjiang Chemical Plant
15.	Zhejiang San Mei Chemical Co., Ltd.
16.	Zhejiang Jusheng Fluoro Chemical Co.,Ltd
17.	Sichuan Honghe Fine Chemical Co.,ltd
18.	Zhejiang Pengyou Chemical Co Plant

#### Notes:

1. The enterprise names in the brackets are the current name of the enterprise (as established by CFC-01-TA-06, the 2001 TA on Verification of HCFC-22 Producers).

2. Three HCFC-22 plants have been deleted from the 2003 Annual Program list. The production line of Guangdong Huiyang Chemical Plant (Sl. No.1) has closed down and the facilities had been dismantled on June 16th, 2003; Shandong Fire Extinguishing Agent Plant Shouguang Division (The Fire Extinguishing Agent Factory Under Shandong Haihua Group Co., Ltd.) (Sl. No.12) completely dismantled its production line on Nov. 30, 2002, and (Sl. No.8) Sichuan Zigong Refrigeration Plant has closed down and had dismantled its production facilities in February 2003.
3. In 2004, the above table has three changes: (a) SI 3, name changed; (b) SI 6, Shanghai Chlor-Alkali Chemical Co. Ltd., its HCFC-22 production unit has been closed and dismantled. So, SI 6 was deleted from the table; (c) SI 16 is added into the table, a new HCFC-22 production facility has been built and has begun operation in June, 2004.
4. In 2005, three new HCFC-22 producers are added to the above table as Sl. 16, 17 and 18. (a) Sl. 16- Zhejiang Jusheng Fluoro Chemical Co., Ltd: All its HCFC-22 is used itself and not sold on the market. The enterprise was not included in previous list and newly added; (b) Sl. 17- Sichuan Honghe Fine Chemical Co Ltd: Started HCFC-22 production in April 2005. (c) Sl. 18- Zhejiang Pengyou Chemical Co Plant: Will start its HCFC-22 production in November 2005.

## Technical Assistance Activities, 1999-2005

**Table 3.1: Implementation of Technical Assistance Activities in the 1999 Annual Program**

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CFC-99-TA-01	Production of an ODS Phaseout Video	Promulgation and Education Center for Environmental Protection	July 12, 1999	December 1999.	<b>Completed.</b> An ODS Phaseout video was prepared and broadcast for public information during the 11th meeting of the Parties in Beijing in November 1999. The video, as well as six TV advertisements prepared under the activity, were broadcast on national TV to raise awareness of the general public and authorities in China concerning the necessity for ODS phaseout and the urgency of phaseout activities.
CFC-99-TA-02	Development of a Management Information System	Haitong Chuangye Company and Beifang Silu Information Tech. Company of Tsinghua University	September 13, 1999	December 1, 2000	<b>Completed.</b> An MIS was established to monitor and generate final production data and program progress reports
CFC-99-TA-03	Development of Substitute Strategy	Center of Environmental Science, Peking University and Zhejiang Chemical Research Institute	June 26, 2000	June 30, 2002	<b>Completed.</b> A report was finalized by the end of June 2002. The strategy provides very useful guidelines for developing and investing in ODS substitutes Copies of the strategy document will be distributed to relevant administrations and associations for reference and guidance.
CFC-99-TA-04	Formulation of Standards for Cyclopentane, HCFC 141b, and HFC 134a	Shanghai Institute of Organic Fluorine Materials	April 28, 2000	March 23, 2001	<b>Completed.</b> After preliminary sampling of HCFC-141b and HFC-134a, the preliminary content and standards parameters were confirmed with the Government's administrative unit for standards. The draft standards report was completed in June, 2001..The standards were issued by the Standardization Committee of the State Bureau of Quality Supervision, Quarantine and Inspection on Sep. 6, 2002 and have gone into force on Apr.1, 2003.

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CFC-99-TA-05	Training of Personnel involved in Phaseout Implementation Activities	SEPA		May 16, 2000	<b>Completed.</b> Training was organized for local officials, CFC producers and auditors.
CFC-99-TA-06	Supervision and Management of Export/Import of ODS				<b>Cancelled.</b> Objective covered through a similar TA project in the Halon Sector
CFC-99-TA-07	Studies on Market Prospects for Closure Enterprises	SEPA		October 9, 2000	<b>Completed.</b> Eight enterprises were funded for exploring alternative economic options to CFC production.
CFC-99-TA-08	National Workshop	SEPA		June 5, 2000	<b>Completed.</b> This workshop included introductions by domestic research institutes of research topics relating to nine categories of CFC substitutes, fine fluorine chemicals, electrical fluorinated chemicals, electronic pure chemical reagents, special fluorine-containing drugs and agrochemicals (herbicide, insecticide etc.), production of these chemicals, and their potential market prospects. Many sector plan enterprises attended.
CFC-99-TA-09	Bidding Evaluation for HFC-134a Feasibility Study	CNCCC	January 28, 2000	January 14, 2001	<b>Completed.</b> Four proposals for undertaking a feasibility study for the construction of a HFC 134a production facility were evaluated, and a contract was signed with the winner.
CFC-99-TA-10	Survey on the ODS Application as Chemical Process Agents in China	Beijing University of Chemical Technology	December 10, 1999	January 12, 2000	<b>Completed.</b> This project provided a Report of Preliminary Survey on the ODS Application as Chemical Process Agents in China, and was used as the basis for further preparations on the proposed preparation of the Process Agent Sector Phaseout Plan in China.
CFC-99-TA-11	Recruitment of international technical consultants				<b>Cancelled.</b> No technical consultants were recruited internationally for TA activities in the year.

**Table 3.2: Implementation of Technical Assistance Activities in the 2000 Annual Program**

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CFC-00-TA-01	Formulation of Standards for HFC-152a, and Isobutane	Zhejiang Chemical Research Institute	June 15, 2001	July 2002	<b>Completed.</b> The project completion report, summary report and the final standards report were submitted in April 2003. The acceptance meeting was held on July 10, 2003. The standards report was submitted to the Standardization Committee of the State Bureau of Quality Supervision, Quarantine and Inspection in January 2003 waiting for approval.
CFC-00-TA-02	Studies of Market Prospects for Closure Enterprises	SEPA	March 3, 2001	December 31, 2001	<b>Completed.</b> Six enterprises were supported to find production alternatives under this program.
CFC-00-TA-03	Training of Personnel Involved in Implementation of Phaseout Activities	SEPA	N/A	March 11, 2001	<b>Completed.</b> Training was organized for Audit staff, CFC producers and auditors.
CFC-00-TA-04	Performance Audit for 1999	China National Accounts Office	May 10, 2000	June 30, 2000	<b>Completed.</b>
CFC-00-TA-05	Verification of HCFC-22 Producers	Chinese Industrial Association of Organo-Fluorine Silicone Materials	June 4, 2002	September 20, 2002	<b>Completed.</b> This project was commenced in 2001 AP, The final report has been submitted to SEPA in March, 2003. In Nov. 2003, the consultant submitted the revised final report to SEPA.
CFC-00-TA-06	Recruitment of international technical consultants				<b>Cancelled.</b> No technical consultants were recruited internationally for TA activities in the year.



**Table 3.3: Implementation of Technical Assistance Activities in the 2001 Annual Program**

<b>Ref. No.</b>	<b>Name of TA Project</b>	<b>Implementing Agency</b>	<b>Contract Date</b>	<b>Completion Date Planned</b>	<b>Implementation status/Remarks</b>
CFC-01-TA-01	Feasibility study of industrialized technology for CTC conversion to chloro-hydrocarbons other than CTC				<b>Cancelled:</b> The CFC team concluded after field visits and a workshop that the technology was still under development.
CFC-01-TA-02	Training of Personnel involved in Phaseout Impl. Activities	SEPA	N/A	March 19, 2002	<b>Completed.</b> Training was organized for Customs staff, CFC producers and auditors.
CFC-01-TA-03	Assessment and Risk Analysis of Implementing Montreal in china	Institute of Environmental Economics Renmin University of China	August 15, 2001	October 15, 2002	<b>Under implementation:</b> The report consists of 6 sub-reports and a general report. The final report is reviewing by SEPA.??
CFC-01-TA-04	Studies of Market Prospects for Closure Enterprises				<b>Cancelled.</b> As two of the three enterprises being closed in the year had already been covered under the 2000 Annual program, the third enterprise reduced its production quota only and did therefore not require any support. None of the remaining plants were to close in 2002.
CFC-01-TA-05	Recruitment of international technical consultants				<b>Cancelled.</b> No technical consultants were recruited internationally for TA activities in the year.
CFC-01-TA-06	Significant New Alternative Processes (SNAP)				<b>Cancelled.</b> As it was found that more preparatory work was necessary, including identification of key experts, before taking it up. It will be brought up in a later annual program.

**Table 3.4: Implementation of Technical Assistance Activities in the 2002 Annual Program**

<b>Ref. No.</b>	<b>Name of TA Project</b>	<b>Implementing Agency</b>	<b>Contract Date</b>	<b>Completion Date Planned</b>	<b>Implementation status/Remarks</b>
CFC-02-TA-01	Training of Personnel involved in Phaseout Impl. Activities	SEPA	N/A	March 19, 2002	<b>Completed.</b> Training was organized for Customs staff, CFC producers and auditors.
CFC-02-TA-02	Performance Audit for 2001	China National Accounts Office	March 2002	June 30, 2002	<b>Completed.</b>
CFC-02-TA-03	Study Tour on Methods of Controlling Smuggling of ODS	SEPA			<b>Cancelled.</b> (Transferred to the 2005 AP)
CFC-02-TA-04	Integration of ODS MIS into electric monitoring system at the border	SEPA	April 20, 2004	May 31, 2005	<b>Ongoing.</b> Through bidding procedure, the consultant has been selected in April 2004. It is under implementation now.
CFC-02-TA-05	Recruitment of international technical consultants				<b>Cancelled.</b> No technical consultants were recruited internationally for TA activities in the year.
CFC-02-TA-06	Site supervision for ODS Producing Enterprises	SEPA	Nov. 5, 2002	December 31, 2002	<b>Completed.</b> Submitted production data from Jan. to Dec. 2002 of enterprises. The communication meeting was held on Nov. 11 to 12, 2002.
CFC-02-TA-07	Investigation of CTC/TCA production status in China	SEPA	Sept. 15, 2002	October 15, 2002	<b>Completed.</b> Submitted Report on CTC/TCA Production Survey.
CFC-02-TA-08	Study Tour of Performance Audit	The China National Accounting Office			<b>Completed.</b> The overseas training has been finished on July 24, 2003. The study report was submitted to SEPA at the end of October 2003.

**Table 3.5: Implementation of Technical Assistance Activities in the 2003 Annual Program**

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CFC-03-TA-01	Training of Personnel involved in Phaseout Implementation Activities	SEPA			<b>Completed.</b> The Enterprises Workshop has been held in Dec. 2003 and the Auditors Workshop in April 2004.
CFC-03-TA-02	Site supervision for ODS Producing Enterprises	SEPA	Oct. 24, 2003	Dec. 31, 2003	<b>Completed.</b> Supervisors submitted CFCs production data of enterprises from Jan. to Dec. 2003. The workshop was held in Sep. 2003..
CFC-03-TA-03	Policy training managed by UNEP.	UNEP		Early in 2006	<b>Ongoing.</b> 10 workshops have been held in 2004, totally 864 people from local EPBs and customs attended the workshops. 9 workshops are planed in 2005.
CFC-03-TA-04	China Country Compliance Plan (CCCP)	SEPA			<b>Canceled.</b>
CFC-03-TA-05	Performance Audit for 2002	China National Audit Office	March 2003	June 30, 2003	<b>Completed.</b>

**Table 3.6: Implementation of Technical Assistance Activities in the 2004 Annual Program**

Ref. No.	Name of TA Project	Implementing Agency	Contract Date	Completion Date Planned	Implementation status/Remarks
CFC-04-TA-01	Training of Personnel involved in Phaseout Implementation Activities	SEPA		March 31, 2005	<b>Completed.</b> TOR was cleared by the Bank on June 19, 2004. One workshop was held in October 2004, and the other in April 2005.
CFC-04-TA-02	Site supervision for ODS Producing Enterprises	SEPA	August, 2004	Dec. 31, 2004	<b>Completed.</b> TOR was cleared by the Bank on June 19, 2004. Contracts have been signed in August 2004. Final supervision reports have been reported to SEPA by supervisors.
CFC-04-TA-03	Performance Audit for 2003	China National Accounts Office		June 30, 2004	<b>Completed.</b> The audit report has been submitted to World Bank in July 2004 reviewed and accepted by the Bank.
CFC-04-TA-04	2004 International Symposium of ODS substitute	SEPA		September, 2004	<b>Completed.</b> The symposium has held in Xi'an during the Ozone Day of 2004.

	technologies				
--	--------------	--	--	--	--

**Table 3.7: Implementation of Technical Assistance Activities in the 2005 Annual Program**

<b>Ref. No.</b>	<b>Name of TA Project</b>	<b>Implementing Agency</b>	<b>Contract Date</b>	<b>Completion Date Planned</b>	<b>Implementation status/Remarks</b>
CFC-05-TA-01	Training of Personnel involved in Phaseout Implementation Activities	SEPA		March 31, 2006	TOR is under preparation.
CFC-05-TA-02	Site supervision for ODS Producing Enterprises	SEPA	August, 2005	Dec. 31, 2005	<b>Ongoing.</b> Continuously implemented based on the successful experiences of previous year since Jan. 1, 2005
CFC-05-TA-03	Performance Audit for 2004	China National Accounts Office		June 30, 2005	<b>Completed</b>
CFC-05-TA-04	Verification of CFC-113a feedstock uses				<b>Canceled.</b>
CFC-05-TA-05	Study tour on methods of controlling smuggling of ODS		May, 2005		TOR is under preparation.
CFC-05-TA-06	The legislation study of China ODS phase-out management				<b>Ongoing.</b> The consultant firm was selected through bidding process and contract signed in May 2005
CFC-05-TA-07	The Development Strategy on ODS Substitutes (Phase II) in China				<b>Ongoing.</b> The consultant firm was selected through bidding process and contract signed in March 2005

## Annex 4

### Other Activities, 1999-2005

Other Activities	Name of the manufacturer	Project starting date	Implementation status	Planned completion date	Remarks
Establishment of HFC-134a Production facility	Xi'an Jinzhu Jindai Chemical Industry Co., Ltd.	January 2001	The first phase of the project was commissioned by SEPA on June 5, 2004. The second phase construction contract was signed with SEPA on May 16, 2005 and ongoing.	First phase: July 2003 Second phase: end of 2006	Ongoing
Screening of alternatives to Methyl Bromide in soil fumigation in China	Chinese Academy of Agricultural Sciences	April 2002	Commissioned in November 2003.	July 2003	Completed.
China Convention Compliance Center Activities (CCCC)					Under preparation.

**Annex 5**  
**Status of CFC producing plants under the CFC Sector Plan as of August 2005**

SI	SRI	Name of enterprise	Status
8	A1	Henan Hebei Chemical Plant #1. 1 CFC-12 production line.	Closed and dismantled
15	A2	Shangdong Jinan 3F Chemical Co. Ltd. 1 CFC-11 production line and 1 CFC-12 production line	Closed and dismantled
1	A3	Shangdong Dongyue Chemical Co. Ltd. 1 CFC-12 line	Closed and dismantled
28	A4	Shandong Xuecheng Xinxing Chemical Plant 1 CFC-12 production line	Closed and dismantled
20	A5	Jiangsu Wuxian Juxing Chemical Plant 1 CFC-11 production line	Closed and dismantled
21	A6	Jiangsu Wuxian Union (City Link) Chemical Plant. 1 CFC-11 production line	Closed and dismantled
29	A7	Suzhou Xinye Chemical Co. Ltd. 2 CFC-11 production lines	Closed and dismantled
31	A8	Jiangsu Meilan Electric Chem. Plant 1 CFC-11 line and 1 CFC-12 line	<b>In production</b>
24	A9	Jiangsu Wuxi Hushan Refrigeration Plant 1 CFC-11 production line	Closed and dismantled
33	A10	Jiangsu Changshu Ref. Plant (Changshu 3F) 1 CFC-11 production line, 1 CFC-12 production line, 1 CFC-113 production line and 1 CFC-115 production line	<b>In production</b>
30	A11	Jiangsu Changsu Yudong Chem. Plant 2 CFC-113 production lines	Closed and dismantled
14	A12	Shanghai Shuguang Chem. Plant 2 CFC-113 production lines.	Closed and dismantled
26	A13	Guangdong Xiangsheng Chem. Co. Ltd. 1 CFC-12 production line	Closed and dismantled
7	A14	Guangdong Huiyang Chemical Plant 1 CFC-11 production line and 1 CFC-12 production line.	Closed and dismantled
11	A15	Guangdong Zhaoqing Chemical Plant. 1 CFC-12 production line.	Closed and dismantled
22	B1	Jiangxi De'an Refrigeration Plant 1 CFC-12 production line	Closed and dismantled
18	B2	Chongqing Tianyuan Chemical Plant. 1 CFC-11 production line, 1 CFC-12 production line	Closed and dismantled
25	B3	Sichuan Zigong Refrigerant Plant 1 CFC-11 production line, 1 CFC-12 production line	Closed and dismantled
5	B4	Sichuan Zigong Fujiang Chemical Plant 1 CFC-11 production line and 1 CFC-12 production line.	Closed and dismantled
19	B5	Hubei Wuhan Changjiang Chemical Plant 1 CFC-11 production line, 1 CFC-12 production line	Closed and dismantled

SI	SRI	Name of enterprise	Status
23	B6	Shanghai Chlor-Alkali Chemical Plant Co. Ltd. 1 CFC-12 production line	Closed and dismantled
27	B7	Zhejiang Rui'an Haitian Chem. Co. Ltd. 1 CFC-11 production line	Closed and dismantled
34	B8	Zhejiang Linhai Limin Chem. Plant 1 CFC-13 production line	<b>In production</b>
		Zhejiang Linhai Limin Chem Plant 2 CFC-12 production lines	Closed and dismantled
6	B9	Zhejiang Linhai Jianxin Chemical Plant 1 CFC-12 production line.	Closed and dismantled
13	B10	Zhejiang Linhai Shuiyang Chemical Plant 1 CFC-12 production line.	Closed and dismantled
37	B11	Zhejiang Chemical Research Institute 1 production line to produce CFC-114 and CFC-115	<b>In production</b>
35	B12	Zhejiang Dongyang Chem. Plant 1 CFC-12 production line	<b>In production</b>
26	B13	Zhejiang Lanxi Refrigeration Plant 1 CFC-11 production line	Closed and dismantled
32	B14	Zhejiang Juhua Florochem. Com. Ltd. Produce CFC-11 and CFC-12 in 1 production line	<b>In production</b>
17	B15	Fujian Shaowu Flouro-Chemical Plant 1 CFC-11 production line and 1 CFC-12 production line	Closed and dismantled
4	C1	Jiansu Jianhu Phosphate Fertilizer Plant 1 CFC-12 production line.	Closed and dismantled
2	C2	Hunan Yiyang Chlor-Alkali Chemical Co. Ltd. 1 CFC 12 production line.	Closed and dismantled
9	C3	Hebei Longwei Fluorochemical Plant #1 2 CFC-12 production lines.	Closed and dismantled
10	C4	Guizhou Wuling Chemical Plant. 1 CFC-12 production line and 1 CFC-13 production line.	Closed and dismantled
3	C5	Inner Mongolia Baotou Chemical Plant #1. 1 CFC-12 production line.	Closed and dismantled
12	C6	Shanxi Shangzhou Chemical Plant 1 CFC-12 production line	Closed and dismantled
16	Not SRI	Liaohu Chemical Group Chlor-Alkali Plant. 1 CFC-12 production line.	Closed and dismantled.

**2004-2005 PROGRESS REPORT**  
**FOR THE ACCELERATION**  
**OF PHASEOUT OF CFCs AND HALONS IN CHINA**

**Submitted by US EPA**

**Prepared by SEPA**

**In cooperation with the World Bank**

**September 2005**



## Table of Content

1. Introduction .....	3
2. Overview on the Implementation Progress of the APP in 2004 and 2005 .....	5
CFC Production Sector .....	5
PU Foam Sector .....	5
Halon 1301 Production and Consumption .....	6
CTC Production .....	7
New Initiative under the APP .....	8
Policy Framework .....	9
3. Work Program of the APP in 2006 .....	13
4. ODS Production and Consumption by the End of 2004 .....	15
5. Implementation Summary of Ongoing Sectors .....	19
CFCs Production Sector .....	19
CFCs Consumption Sectors .....	19
PU Foam Sector .....	19
Solvent Sector .....	21
Tobacco Sector .....	23
Refrigeration Servicing Sector .....	23
CTC and Process Agent Sector Plan (phase I) .....	25
Halon Production and Consumption .....	27
TCA Production Sector .....	28

## 1. INTRODUCTION

1. At its 44th meeting in November 2004, the Executive Committee of the Multilateral Fund approved the United States and China bilateral project for accelerating the phase-out of CFC and halon production and consumption. The “Agreement for the CFCS/CTC/HALON Accelerated Phase-out Plan in China (APP)” (UNEP/OzL.Pro/ExCom/44/73, Decision 44/59, Annex XVII) provide the detailed agreement and revised phaseout schedule to be achieved with the additional funding of USD 10 million from United States. The World Bank has been appointed by China and US as the international implementing agency.

2. While the APP is a six years program from 2004 to 2009, the main phase-out impact will be in 2006 for halon 1301 and 2007 for CFCs. Accordingly the funding is front loaded. The first tranche of US\$ 5 million was released for the 2004 and 2005 activities. The second tranche of US\$ 5 million is requested for implementation of the APP in 2006 ~2007 and continued monitoring in 2008 and 2009.

3. The Progress Report provides (1) an overview on the implementation progress of APP in 2004 and 2005; (2) 2006 annual program of APP; (3) ODS production and consumption for 2004, and (4) an implementation summary of all sector plans involved. The ODS production and consumption is from the verification results conducted by cooperating implementing agencies who implement sector plans and includes the verified import and export data on CFCs. Detailed implementation status of previous annual programs and planned activities in 2006 are provided in the 2006 annual programs for each individual sector plan.

4. Within the APP, China agreed to the control targets listed in Table 1 below for (1) total CFC production and consumption, (2) CFC-11 consumption limit in the PU foam sector, (3) net CFC exports, (4) total CTC production, (5) CTC as CFC feedstock, (6) Halon 1301 production, and (7) Halon 1301 consumption and export. In addition, the Table 2 lists all the sector plans involved with verification obligations in the APP.

**Table 1: ODS Phase-out Targets within the APP Agreement (ODP tons)**

	2004	2005	2006	2007	2008	2009	2010
1. Max allowable CFCs production	25300	18750	13500	7400	550	550	0
2. Max allowable CFCs total consumption	25300	18750	13500	7400	550	550	0
3. Max allowable CFC-11 consumption limit in PU Foam	10500	9000	7000	400	0		

Sector							
4. Max allowable net CFC exports	NL*	NL*	400	200	100	50	0
5. Max allowable sum of production and imports of CTC	54857	38686	32044	22724	12768	13415	12217
6. Max allowable CTC as CFC feedstock	39306	28446	21276	11396	847	847	0
7. Max allowable halon 1301 production	2000	2000	1000	1000	1000	1000	0
8. Max allowable halon 1301 consumption and export	1500	1500	1000	1000	1000	1000	0
9. Max. allowable net halon 1301 export	NL*	NL*	200	200	100	100	0

\*Not Limited

**Table 2: Ongoing Sector Plans with Verification Obligations**

<b>Sector Plans in China</b>	<b>Implementing Agency</b>
1. CFC Production Sector Plan	World Bank
2. Halon Sector Plan	World Bank
3. Foam Sector Plan (CFC-11)	World Bank
4. CTC and PA Sector Plan (Phase I)	World Bank
5. TCA Production Sector Plan	World Bank
6. Tobacco Sector Plan (CFC-11)	UNIDO
7. Refrigeration Servicing Sector Plan(CFC)	UNIDO
8. Solvent Sector Plan (CFC-11)	UNDP
9. CTC and PA Sector Plan(Phase II) (under preparation)	World Bank
10. Pharmaceutical Aerosol Sector Plan (under preparation)	World Bank
11. MDI Sector Plan(under preparation)	UNIDO

## 2. OVERVIEW ON THE IMPLEMENTATION PROGRESS OF THE APP IN 2004 AND 2005

### CFC PRODUCTION SECTOR

5. In accordance with the APP agreement, CFC production will be reduced to 550 tons by July 1, 2007 and five of the remaining six CFC production facilities will be closed down. The additional ODP phase out impact of the APP is 11,700 ODP tons (see table 3 below). Only one producer will remain in production, with a production limit of 550 ODP tons for MDI use only.

**Table 3: CFC Production Phase-out Targets (ODP tons)**

	2004	2005	2006	2007	2008	2009	2010	Total
Montreal Protocol Reduction Schedule(Production)	47004	23502	23502	7050.6	7050.6	7050.6	0	
Max allowable CFCs production in original agreement	25300	18750	13500	9600	7400	3200	0	
Max allowable CFCs production in APP agreement	25300	18750	13500	7400	550	550	0	
Additional phase-out by the APP				2200	6850	2650	0	11700

6. By 2004, only six of the original 36 CFC producers remain in production. Of the six producers, one produces only CFC-114 and CFC-115 and another only produces CFC-13. The remaining four produces mainly CFC-11, CFC-12, CFC-113 and CFC-115. The CFC production in 2004 was 25,285 ODP tons and the allowed production in 2005 is limited to 18,750 ODP tons, which, based on reported production in the first 6 month of 2005 and the quota system in place, most likely will be met. For further details, please see the 2005 Annual Plan for the CFC Production Sector Plan.

### PU FOAM SECTOR

Because of the APP, the implementation of the PU foam sector has to be accelerated with an additional aggregate consumption reduction of 9,052 ODP tons (CFC-11) compared to the original CFC-11 consumption in the agreement for the PU foam sector (see table 4 below).

**Table 4: CFC-11 Consumption Target in PU foam sector (ODP tons)**

	2004	2005	2006	2007	2008	2009	2010	Total
Max allowable CFC-11 consumption limit in PU foam sector in original agreement	11666	9646	7164	3821	3553	102	0	
Max allowable CFC-11 consumption limit in PU foam sector in APP	10500	9000	7000	400	0	0	0	
Additional phase-out in APP	1166	646	164	3421	3553	102	0	9052

7. The CFC production quota system and the import quota system are the main tools for control the consumption of CFC-11 in PU foam sector. Considering CFC-11 will be consumed not only in PU foam Sector, but also in Aerosol, Refrigeration, Tobacco sectors, SEPA will adjust the quota of the current year according to the actual situation before the end of year. The total production quotas of CFC-11 issued to the producers at the beginning of 2004 was 12,200 ODP tons. The actual consumption of CFC-11 in PU foam sector in 2004 was 8,418 ODP tons which was below the control limit of 10,500 tons required by the APP agreement. The production quotas of 8,300 ODP tons of CFC-11 has been issued in 2005. The net import of CFC-11 will be controlled through the import/export license system to a maximum of 600 ODP tons. Therefore, the actual consumption of CFC-11 in PU foam sector in 2005 is expected to be within the limits of 9,000 ODP tons as required by the APP agreement.

8. Under the PU Foam Sector Plan, contracts have been signed with a total of 14 group companies covering a total of about 150 smaller PU foam companies with CFC-11 phaseout contracts capturing a total 8,340 ODP tons. Five of the 14 contracts were signed with group companies in 2004 and three of the 14 have been signed so far in 2005. The other six contracts were signed in 2002 and 2003. The independent verification carried by the Bank confirmed that the 2004 obligation in the agreement have been met. For more detail, please see the 2006 Annual Program for the PU Foam Sector.

#### **HALON 1301 PRODUCTION AND CONSUMPTION**

9. The APP will reduce the halon1301 production with an additional 10,000 ODP tons halon1301 and consumption by 4,000 ODP tons compared to original agreed phase out schedule (see table 5 below). In addition, the allowed halon 1301 export will be

limited to 200 ODP tons of halon 1301.

**Table 5: Halon 1301 production Phase-out target (ODP tons)**

	2004	2005	2006	2007	2008	2009	2010	Total
Montreal Protocol Reduction Schedule	40993	20497	20497	20497	20497	20497	0	
Max allowable halon 1301 production in original agreement	6000	6000	1500	1500	1500	1500	0	
Max allowable halon 1301 production in APP	2000	2000	1000	1000	1000	1000	0	
Additional phase-out tons in APP	4000	4000	500	500	500	500	0	10000

10. The quota system continued to be the main tool for the implementing the halon phase-out and is supported fully by the Ministry of Public Security. The quotas issued in 2004 and 2005 are 1,500 ODP tons each year, which is below the control target of 2,000 ODP tons required by the APP agreement. The quotas are issued to the only halon 1301 producer in China. The halon 1301 production and consumption for 2004 have been below what is allowed under the agreement for the Halon Sector Plan for both production and consumption. It should be noted that the export of halon 1301 remains very low and mainly from stock built up during the past years.

11. The 2004 halon production and consumption has been independently verified by the Bank and confirmed that the 2004 target has been met. For more details, see the Halon 2006 Annual Program.

### **CTC PRODUCTION**

12. The impact of the APP on the allowed CTC production as feedstock for CFC production will result in an additional 18,725 ODP tons reduction of allowed CTC production (see Table 6 below). As the CTC is used as feedstock for CFC production, it will not have any direct ODP impact, however, as CTC is unavoidably co-produced with chloroform, it has a significant cost impact to either reconverted back to a non-ODS chemical or incinerate it. Based on the WB verification, the 2004 target has been met. For further details, see the CTC/PA (I) 2006 annual program.

**Table 6: CTC Production Phase-out Target (ODP tones)**

	2004	2005	2006	2007	2008	2009	2010	Total
Montreal Protocol Reduction Schedule(Production)		4405	4405	4405	4405	4405	0	
Max allowable sum of production and imports of CTC in original agreement	54857	38686	32044	26457	23583	17592		
Max allowable sum of production and imports of CTC in APP agreement	54857	38686	32044	22724	12768	13415		
Additional phase-out in APP	0	0	0	3733	10815	4177		18725
Max allowable CTC as CFC feedstock in APP agreement	39306	28446	21276	11396	847	847	0	

#### NEW INITIATIVE UNDER THE APP

13. **Acceleration of CFCs and Halon Phaseout in a Number of Provinces and Cities.** SEPA initiated accelerating phase-out activities of CFCs and Halon in cities in 2005. Shenzhen, a city of China famous with its higher economic level, raised a proposal to phase out CFCs and Halon before June 30, 2006 in Shenzhen, one year earlier than the APP schedule. By promoting to Shenzhen's proposal, a number of provinces and cities decided to participate in this accelerating phase-out action. By September 2005, the provinces and the cities who are voluntary to earlier phase out CFCs and Halon include two municipalities-Beijing and Tianjin; three provinces-Jilin, Shandong, and Haina; and eight cities-Wuhan, Xi'an, Shenzhen, Suzhou, Taizhou, Nantong, Changzhou and Langfang.

14. SEPA co-organized with the implementing agencies propogandized the accelerating phase-out action taken by the local government of China in the Ozone Day Celebration Ceremony held in Shenzhen in September 16-17, 2005. The main theme of 2005 International Ozone Day celebration activities was "Accelerating Phase-out of ODS". Representatives of the local governments who will phase-out CFC and halon before June 30, 2006 announced their action declaration in the ceremony and advocated other local governments to join in this acceleration activities. An international workshop on establishing Ozone Layer Friendly City had been conducted during the celebration. The participants of the Ozone Day Celebration of China are from Ozone Secretariat, Multilateral Fund Secretariat, members of Ex.Com, parties of MP, UNEP, UNDP, UNIDO, World Bank, the members of China' country leader team of Ozone Layer

protection, local governments, related associations, experts and about twenty medias.

15. The actions adopted by the local governments will include:
  - a. to promulgate the bans on ODS production, trade, and consumption (with the exception of servicing and essential use);
  - b. to establish the execution and supervision system, to severely punish activities of illegal ODS production, illegal ODS trade, and illegal ODS consumption;
  - c. to actively encourage the supervision of stake holders and set up hot lines for reporting;
  - d. to prohibit the use of ODS products and products containing ODS in the construction project;
  - e. to deny products containing ODS and products produced with ODS in government procurement;
  - f. to establish a system of registration for the in-use ODS equipments and their servicing at workshops with the quantification and CFC recycle equipments; and
  - g. to consider providing favorable policies to ODS substitute production enterprises within the jurisdiction.
  
16. SEPA would like to take this action to demonstrate the overall implementation of the APP in the country by 2007. Some unallocated balance of Solvent Sector Plan implemented by UNDP will be used for supporting the accelerating phase-out activities in above provinces and the cities.

## **POLICY FRAMEWORK**

17. **Policies Issued before 2003.** The provisions regarding the ODS phaseout was added into the Air Pollution Prevention and Control Law when it was modified in 2000, which is the basis for the ODS regulatory system in China. China has issued a number of national and sector policies for ODS phaseout based on the ODS phaseout progress during the past ten years. The key policies issued before 2003 include:
  - a. Circular on the ban of new facilities producing or consuming ODSs;
  - b. Circular on the CFC, CTC, TCA, Halon and MeBr production quota license system;
  - c. Management measures on import and export of ODSs;
  - d. Circular on the CFCs, CTC, TCA consumption quota license system in the Solvent, Tobacco, CTC consumption Sectors;
  - e. Circular on the CTC sale registration system; and



- f. **Bans.** China has issued bans on ODS production, import & export, and consumption in different sectors with the progress of phase-out projects. The bans issued before 2004 were as follows:
  - i. Circular on the ban of CFCs in Aerosol sector excepting pharmaceutical consumptions (issued in June 5, 1997 and effective in December 31, 1997);
  - ii. Circular on the ban of CFC-12 automobile air conditioners in newly-produced Cars in China's automobile industry (issued in November 26, 1999 and effective in January 1, 2002)
  - iii. Public notice on the ban of the use of CTC as solvent.(issued in Mar, 2003 and effective in June 1, 2003)

## **18. New Policies Issued in 2004 and 2005.**

- a. **Bans.** Two bans were issued by SEPA in 2004 and 2005.
  - i. Public notice on the ban of the use of CFC-113 as solvent .(issued in December, 2004 and effective in January 1, 2006);
  - ii. Public notice on the ban of the production and selling of compressors and related products using CFCs as the refrigerant in the industrial and commercial refrigeration sector(issued in December 8, 2004 and effective in July 1, 2005);
- b. **New national regulation.** A new national regulation on ODS phase-out aimed at upgrading the force effect of the existing ODS policies and to strengthen the penalty provisions for the illegal activities is under development. A penalty system will be set up, which constitutes a significant penalty, e.g. confiscation of any sales value in any illegal ODS production activity and a penalty several times of its sales value. The new regulation is expected to be issued by the State Council in 2006 or 2007.
- c. **Economic policies.** China National Development and Reform Commission (NDRC) issued an industrial catalog approved by the State Council, which groups industries into three categories: encouraged industry, restricted industry, and phase-out industry. The ODS production technology and the technology using ODS in the production will be listed into the restricted catalog and phase-out catalog with the phase-out progress of ODS. The substitute production of ODS will be listed into the encouraged catalog. The government enforces different policies to the industries in these three categories.
  - i. Encouraged industry: It includes the industries that are accordant with

the sustainable development policy of China, friendly to the environment and resource. The government supplies favorable policies to the encouraged industry, such as reducing tax, providing loans. The technology converting CTC to non-ODS substance was listed into the encouraged group in 2005.

- ii. Restricted industry: It includes the industries using behindhand technology, damaging environment, wasting resource and energy. There are some limited policies to this type of industries. Commercial banks are not allowed to provide loans to them. Local EPB will not approve the environmental impact assessment reports of the new project belong to this type. Commercial and industrial department, quality control department of local government will not commission such projects. The electric price will be charged higher than the normal industry. For restricting the expansion of CMs industry, the CMs production facilities with capacity less than 80,000 tons per year was added into the restricted catalog. To the projects with capacity over 80,000 tons per year, the enterprises have to establish the disposal facility according to the circular of SEPA on it.
- iii. Phase-out industry: It includes the industries harming people's health and polluting environment seriously. Exports and sales of the products using the phase-out technical are forbidden. The production should be closed on schedule and the equipments were forbidden to move to other regions. The electric price will be charged higher than the normal industry.

19. **Capacity Building and Policy Enforcement.** A number of actions was initiated in 2004 and will continue the implementation until 2009 under the APP to improve the capacity of the government for implementing the polices of ODS phase-out and compliance of the Montreal Protocol. The actions include:

- a. **Establishment of China Convention Compliance Center (CCCC).** As China approaches the second major obligation milestone under the Montreal Protocol in 2005, it is foreseen that the drastic required reductions in production and consumption of ODS will require rigorous compliance and enforcement measures, especially to prevent illegal activity in this regard. China therefore proposes to establish the China Convention Compliance Center (CCCC) in 2003. The CCCC will be the central management unit for the ODS program when it is established, and will be responsible for all management and enforcement activities under the Program. The CCCC will be located in a new building that will be procured for the purpose. In addition to the APP, the CCCC project is also supported by other bilateral contribution.
- b. **ODS Policy Training for the Local Government.** SEPA has been organizing

ODS policy training workshops for local officials especially for local EPBs and Customs every year to improve their capacities. From the beginning of 2005 to August, five training workshops to local EPB with total 790 local officers including directors and inspectors have been conducted. Another five workshops will be organized by the end of 2005 including two for directors of local EPB, two for inspectors of local EPB especially focusing on executive practice on site, and one for the staffs of National Ozone Unit. The training contents include the scientific knowledge of Ozone layer, Vienna Convention and Montreal Protocol, ODS phase-out strategy and management organization of China, ODS phase-out policies, phase-out schedule of each sector, substitute technology and substitutions of ODS, characteristic of illegal activities, procedure of deal with the illegal activities and so on. The new phase-out schedule required in APP agreement had been added into the training course.

- c. **Prevention and Control of Illegal ODS Activities.** Measures have been taken for control of ODS illegal activities and will be continued. These measures include the following:
- i. Establishment of quick response system to illegal behaviors. SEPA has publicized a hot line for reporting the illegal activities and appointed responsible persons in each provinces.
  - ii. Strengthening supervision to ODS producers. The Environmental Supervision Bureau (ESB) of SEPA has added ODS producers into the list of national serious polluting enterprises that will be inspected as the key object. Local ESB supervises and inspects the ODS producers regularly and randomly. In May of 2005, after getting prosecution that an illegal CTC production line was being built in Sichuan provinces, SEPA sent out the inspectors and destroyed the production line in time.
  - iii. For preventing the illegal trade of CFCs, the ODS import & export management office of China is making efforts to strengthen the exchange of information with other parties before they issue the license of export. For example, the import and export office will check the importer's eligibility provided by the import countries when they receive the export request from the exporters. In additional, the smuggling department of China Custom is strengthening the supervision to the illegal trade of ODS.
- d. **Site Supervision of CFCs/CTC Production.** The site supervision mechanism was established in 2002. It has been proved to be effective during the last three

years. This activity will be lasted to 2010. And the supervision will be strengthened so as to implementing APP for CFCs and CTC production.

### **3. WORK PROGRAM OF THE APP IN 2006**

20. **Accelerated Reduction of Halon 1301 Production.** The quota system continued to be the main tool for the implementing the Halon phase-out in 2006 and is supported fully by the Ministry of Public Security. The production quotas issued at the beginning of 2006 will not exceed 1,000 ODP according to the requirement of APP agreement.

21. **Accelerated Reduction of CFC Consumption in PU foam sector.** The consumption of CFC-11 in PU foam sector in 2006 will be controlled below the limit of 7,000 ODP tons required in the APP agreement by controlling the production and import quotas. All the remaining conversion contracts in PU foam sector will be signed in 2006. China and the World Bank are considering to simply the implementation method of the last batch projects.

22. **Control of the Import and Export of CFCs and Halon.** In accordance with the agreement of APP, the net export of CFCs and Halon 1301 in 2006 will be controlled below 400 ODP tons and 200 ODP tons by import and export quotas license.

23. **Storage of CFCs.** About 1,000 ODP tons CFCs will be stockpiled in 2006 to cover future demand in the servicing sector after the CFC production closure in 2007 as per the APP agreement.

24. **Preparation of the Close Contracts with the Producers of CFCs.** All the contracts closing the production of CFCs before July 1, 2007 with the producers will be prepared in 2006 and signed before the end of the 2006.

25. **Establishment of the Conversion Facilities of CTC.** In order to deal with excessive and unavoidable CTC production and the huge reduction of CTC uses of CTC as feedstock for CFC in 2007, all CMs enterprises might be required to establish conversion facilities for disposal of CTC co-production before July 1, 2007.

26. **Accelerated Phase-out Action Taken by the Local Government.** The accelerated phase-out activities in some provinces and cities initiated in 2005 will continue. The policy on ODS accelerated phase-out will be formulated and enforced by the local governments. Training to the officers from different departments of local government related to the policy enforcement will be carried out. The market will be

monitored to prevent the products from using CFC and Halon by the commercial and industrial bureau of local government. The public awareness will be improved by the propaganda activities. For assistance, SEPA will send the experts and staffs of PMO to help the local government in the formulation of policies, work plans and training, as well as organizing workshops for experience and information exchange between regions. After June 30, 2006, SEPA will carry out the assessment of the activities conducted by the local governments. The outstanding governments will be awarded on the Ozone Day Celebration in 2006. The successful experience will be promoted to the national scope.

27. **Policy Issuance.** A number of bans will be issued in 2006, which includes:

- a. The ban on the consumption of CFCs in the production of new domestic refrigerators (effective in January 1,2007);
- b. The ban on the consumption of CFC-11 in Tobacco Sector (effective in January 1,2007);
- c. The ban on the production of CFCs except the MDIs (effective in July 1,2007); and
- d. The ban on the consumption of CFCs in Foam Sector (effective in January 1,2008).

28. **Continuation of the Development the National ODS Regulation.** The draft of the national regulation will be discussed and revised through several workshops with related departments, authorities of legal system and hearing witnesses meeting. SEPA will request the State Council to issue the regulation if the draft is accepted by all sides.

29. **Policy Enforcement and Capacity Building.** SEPA will continue to strengthen the policy enforcement by improving the capacity of central and local government.

- a. China Convention Compliance Center (CCCC). The detailed design of the CCCC building will be completed in early 2007; then the developer will begin the construction of the building.
- b. ODS policy training for the local government. Training to the officers of local government will be continued. Except for the training carried out in the demonstration provinces and cities, about 10 workshops will be conducted by SEPA under the assistance of UNEP. The training course will be updated by adding new policies. The deadline of production and consumption of ODS in different sectors will be emphasized in the training. The on-line training system will launch at the website by the end of 2005 and will be used for the training

from 2006.

- c. Capacity building for local governments. Part of the APP funds will be used for strengthening the capacity of ODS phaseout for the local governments. The highest priority will be given to the province, which has the producer of CTC, CFC and Halon. This will help them in enforcing ODS policies, carrying out the training to related officers of the local government, supervising the production within the quotas; supervising the producers to dismantle the facilities according to the schedule of APP; and monitoring the market to identify the illegal behavior.

30. **Public Awareness.** SEPA will improve the public awareness by website, periodical of Ozone Action, and all kinds of media. Local governments are encouraged to carry out public awareness activities. SEPA will continue to organize the Ozone Day Celebration in 2006 to promote the progress of ODS phase-out activities.

#### 4. ODS PRODUCTION AND CONSUMPTION BY THE END OF 2004

31. The annual production of CFCs/CTC/Halon/TCA, annual consumption of CTC/CFC-113 as the 25 PA applications, and import & export of CFCs in 2004 was verified by the Bank. It concludes that CFCs/CTC/Halon/TCA production and consumption in China for the previous years and 2004 were controlled within the limits set forth in the individual Agreements for each sector and the newly approved APP Agreement. The Table 7 to 10 below provides an overall summary. The sources of information are also provided in the verification reports that are submitted separately for each sector plan.

**Table 7: CFC Production/Consumption and Import & Export Overview (ODP)**

Year	Agreed Max Allowable CFCs production	Agreed Max Allowable CFCs Consumption	Verified CFCs Production	Verified CFCs Import	Verified CFCs Export	Actual CFCs Consumption <sup>1</sup>
1999	44,931		44,793	3,892	5,652	
2000	40,000		39,991	2,596	3,449	
2001	36,200		36,196	1,534	3,785	
2002	32,900		32,896	1,798.11	3,649.26	
2003	30,000		29,986	686.48	7,850.96	
2004	25,300	25,300	25,284.80	732.33	8,096.92	17,920.21
2005	18,750	18,750	N/A			
2006	13,500	13,500				

2007	7400	7400				
2008	550	550				
2009	550	550				
2010	0 <sup>2</sup>	0				

Note:

1. Using the definition of the Montreal Protocol on production and consumption, the actual consumption = production + imports – exports;
2. Except for essential uses as agreed by the Parties;
3. Import & export data from 1999 to 2003 were not verified.

**Table 8: CTC Production/Consumption Overview (ODP)**

Year	Max allowable sum of production and imports of CTC		Max allowable CTC consumption in PA Sector (25 applications)		Max allowable CFC-113 consumption in the PA Sector (25 applications)		Max allowable CTC as CFC feedstock	
	Allowed	Verified	Allowed	Verified	Allowed	Verified	Allowed	Verified
Baseline <sup>1</sup>	86,280	N/A	3,825	N/A	17.2	N/A	N/A	
2001 <sup>2</sup>	64,152	N/A	4,347	N/A	17.2	N/A	55,319	
2002 <sup>2</sup>	64,152	N/A	5,049	N/A	17.2	N/A	45,400	
2003	61,514	59,860 <sup>3</sup>	5,049	3,507 <sup>4</sup>	17.2	17.2 <sup>4</sup>	45,333	39,839.31
2004	54,857	50,195 <sup>5</sup>	5,049	3,886	14	10.8	39,306	34,167.89
2005	38,686		493		14		28,446	
2006	32,044		493		10.8		21,276	
2007	22,724		493		8.4		11,396	
2008	12,768		493		0		847 <sup>7</sup>	
2009	13,415		493		0		847 <sup>7</sup>	
2010	12,217 <sup>6</sup>		220		0		0 <sup>8</sup>	

Notes:

1. For consumption, average of 1998-2000; for CTC Production, 2000 data.
2. The sector plan was approved in November 2002 and the first control year is 2003.
3. Total CTC production in 2003 was 56,230.87 MT, of which 1,813.08 MT was used for non-ODS feedstock applications. Therefore, the verified 2003 CTC production was 54417.79 MT (59,859.57 ODP tons).
4. This is the purchased amount in 2003. The actual consumption is 3,080 ODP tons for CTC and 17.1 ODP tons for CFC-113.
5. Total CTC production in 2004 was 51,096.98 MT, of which 5,465.47 MT was used for non-ODS feedstock applications. Therefore, the verified 2004 CTC production was 45,631.51 MT (50,194.67 ODP tons).
6. 12,217 equals 11,997 (Row 2) plus 220 (Row 4) in the original agreement for CTC/PA phaseout (Phase I).
7. Estimated CTC production (770MT) used as CFC production (550MT CFCs) to meet MDI consumption. In case of import of MDI quality CFC, the national production of CFC and CTC will reduce accordingly to ensure that the national consumption for CFC and CTC stay within the agreed consumption levels.
8. Not including CTC as CFC feedstock for CFC production for essential use.



**Table 9: Halon Production/Consumption Overview (ODS)**

Year	Halon 1211				Halon 1301			
	Production		Consumption		Production		Consumption	
	Allowed	Verified	Allowed	Verified	Allowed	Verified	Allowed	Verified
1997 Baseline year)	9,950	11,644	NA	10,849	618	618	NA	NA
1998	7,960	7,842	7,160	7218	618	450	300	-152 <sup>1</sup>
1999	5,970	5,965	5,370	5280	618	484	300	304
2000	3,980	3,978	3,580	3650 <sup>2</sup>	618	428	300	377 <sup>2/</sup>
2001	3,317	3,117	3,117	2,832	618	213	300	180
2002	2,654	2,469	2,654	2,284	600	0	150	-36
2003	1,990	1,884	1,890	1,692	600	0	150	-26
2004	1,990	1,068	1,890	895	600	21.987	150	-26.013
2005	1,990		1,890		200		150	
2006	0	0	0		100		100	
2007	0	0	0		100		100	
2008	0	0	0		100		100	
2009	0	0	0		100		100	
2010	0	0	0		0			

Notes:

1. The negative consumption of Halon 1301 in 1998 (-152 MT) reflects the export of 602 MT, which included part of the stock (328MT) from the previous year's production. Therefore, the total consumption in 1998 (Consumption=Production +Import - Export) is negative.
2. Remedial action for the excess consumption in 2000 was taken by appropriately reducing consumption quota in 2001.

**Table 10: TCA Production Overview (ODP)**

Year	2004	2005	2006	2007	2008	2009	2010- 2014
Max allowable total production of TCA	113	79	79	79	79	79	0
Verified TCA production	105.6						

## **5. IMPLEMENTATION SUMMARY OF ONGOING SECTORS**

### **CFCs PRODUCTION SECTOR**

32. In accordance with the Executive Committee's approval of "The Sector Plan for CFC Production Phase-out"(UNEP/OzL.Pro/ExCom/27/45/Corr.2), at the 27th meeting of the Ex.Com in March 1999, China's production has been reduced from 44,793 ODP tons in 1999 to 25,284.8 ODP tons in 2004 and will not exceed 18,750 ODP tons in 2005. The number of the CFC producers has been reduced from 37 to six (6). The verification report confirming the 2005 performance target will be submitted to the first meeting in 2006.

33. An overview on the status of implementation of the 2005 annual program includes: a) the production quotas of 2005 will be issued by two batches. The first batch of 75% was issued in April 2005. The second batch will be issued in the latter half of the year matching with the import and export of CFCs, so as to ensure that the total CFCs consumption of 18,750 ODP tons; b) quota reduction contracts were signed with all producers based on a prorated reductions of the quota for each of the CFC producers; c) the CFC-113 production lines will be destroyed by the end of this year; and d) the contrasts for TA activities have been signed and initiated. Two additional TA activities were added.

### **CFCs CONSUMPTION SECTORS**

34. CFC consumption in China has also been reduced from 51,056 ODP tons in 1999 to 17,772.293 ODP tons in 2004 through implementing the seven sector plans, including Foam, Domestic Refrigeration, Industry and Commercial Refrigeration, MAC, Solvent, Tobacco sectors, and Refrigeration Servicing Sectors. The refrigeration servicing sector plan was approved by the Ex.Com at its 45th meeting in November 2004. The CFC phase-out plan in the MAC sector had been completed in 2002. In addition, the CFC phase-out plans in the Pharmaceutical Aerosol Sector and the MDI sector are under preparation.

### **PU Foam Sector**

35. In accordance with the Executive Committee's approval of "Agreement for CFC Phase-out in the Polyurethane Foam Sector in China" (UNEP/OzL.Pro/ExCom/35/19/Annex VIII), at the 35th Meeting of the Ex.Com in

December 2001, and the Agreement of CFCs/CTC/Halon APP (UNEP/OzL.Pro/ExCom/44/73/Annex XVII), at the 44th Meeting of the Excom in December 2004, China's CFC consumption in the polyurethane foam sector has been reduced from 14,143 ODP tons in 2002 to 8,418 ODP tons in 2004 and will not exceed 9000 tons in 2005. The World Bank will also submit the verification report confirming the 2005 performance target to this meeting separately.

36. The 2006 annual program covering details on status of the previous years activities and the planned activities in 2006 has been submitted for this meeting for approval. The main activities of the 2006 program will include a) implementation of the conversion projects signed in 2005, b) continued promulgation and execution of the existing policies on ODS phaseout, and c) five TA activities. The TA activities cover the following items i) training of personnel in implementation of phase-out activities; ii) PU foam products standard formulation and revision (Phase IV); iii) the 2005 performance audit; iv) public awareness of the outcomes of TA projects conducted in the previous year; and v) consultant services.

37. An overview on the status of implementation of the 2005 annual program include a) the total of 6 phase-out contracts will be signed in 2005 to meet the phaseout target of 2500 ODP tons (three of the 6 contracts have been signed with CFC-11 phase-out amount of 1,016.8 ODP tons); and b) five TA activities have been planned (of which one is completed, one is ongoing, the other three are under the consultant selection procedure).

38. Based on Decision 41/42, the Bank has reviewed the options to put in place a system that could constitute a reasonable verification of the targets set in the agreement for the CFC-11 phase-out in the PU foam sector in China. The table 11 below provides an overall summary. The national CFC-11 consumption was verified through verified CFC-11 production, import and export, and the CFC-11 consumption in the foam sector through verified CFC-11 consumption in the solvent and tobacco sectors, and not-verified CFC-11 consumption in servicing sector and aerosol sector. Detailed data resources are provided in the submitted 2006 annual program of the foam sector with verification results of CFCs import and export.

**Table 11: Actual CFC-11 Consumption at the National and the PU Foam Sector level (ODP tons)**

	National CFC-11 consumption limits		CFC-11 consumption in the PU foam sector*		Annual CFC Phase-out target in the PU foam sector	
	Agreement	Actual	Agreement	Actual	Agreement	Actual

2002	17,200	17,187	14,143	14,100	2,000	2,354
2003	15,500	13,994	13,830	11,423	2,500	2,677
2004	13,100	10,364	11,666	8,418	2,500	2,288
2005	10,400		9,000		2,500	2,500 <sup>1</sup>
2006	7,700		7,000		600	832 <sup>1</sup>
2007	4,130		400		551	
2008	3,800		0		0	
2009	300				0	
2010	0				0	

Note:

The actual phaseout targets will be updated based on the actual contracts to be signed in 2005 and 2006.

### Solvent Sector

39. In accordance with the Executive Committee's approval of "Agreement for CFC Phase-out in China's solvent sector"(UNEP/OzL.Pro/ExCom/30,Annex III), at the 30th Meeting of the Ex.Com in March 2000, China's consumption of CFC-113, TCA and CTC used as solvents have been reduced to 960, 370 and 0 ODP tons respectively in 2004. The verification report confirming the performance target was submitted to this ExCom meeting by UNDP.

40. **CTC consumption.** In accordance with the Agreement, the consumption of CTC used as solvent should be reduced from 110 ODP tons in 2000 to zero in 2004. By implementing the annual programs for five years since 2000, CTC phaseout contracts with total 26.828 MT (29.5 ODP tons) were signed and completed. The rest CTC consumption as solvent were phased out by the enterprise's own cost. The Ban for CTC import was issued in 2000 jointly by SEPA, The General Custom and the Ministry of Commerce. The ban for CTC as solvent production and consumption was issued by SEPA on June of 2003 and was effective on January 1, 2004.

41. **CFC-113 consumption.** According to the Agreement, the consumption of CFC-113 as solvent agent should be zero in 2006. By the end of 2005, a total of 3,796 MT (3037 ODP tons) CFC-113 will have been phased out by the phase-out contracts, voucher system and the reimbursement system. The ban for CFC-113 import and export as solvent was issued jointly by SEPA, the General Custom and the Ministry of Commerce in January 2001 and effective on Feb 1, 2002. The ban for CFC-113 production and consumption was issued by SEPA in December 2004 and will become effective on January 1, 2006. As indicated in the part of CFC production sector, the only left CFC-113 production line in China will be dismantled by the end of 2005.

42. **TCA consumption.** As of June 2005, a total of 1519.3 MT (151.93 ODP tons) TCA have been phased out by the phase-out contracts, voucher system and reimbursement system.

43. The 2006 annual program covering details on status of the previous year's activities and the planned activities in 2006 has been submitted for this meeting for approval. The main activities of 2006 annual program would focus on phaseout of TCA. Most of the remaining enterprises are SMEs. The phase-out activities will be carried out mostly through voucher system.

44. An overview on phaseout targets signed for the three ODSs under the previous annual program is summarized in Table 12:

**Table 12: The Phaseout target signed under the previous annual programs (MT)**

	2000	2001	2002	2003	2004	2005	Total
CFC-113	473.169	676.978	669.776	522.0988	922.1975	531.91	3796.1293
TCA	101.6	105.973	431.895	191.285	539.68	148.77	1519.203
CTC	7.6		16.308		2.92		26.828

45. **Verification of CFC-113, TCA and CTC consumption.** The CFC-113, TCA and CTC consumption in enterprise level was verified by an independent account office each year. The data of country level is verified by the production sector since almost CFC-113 and all TCA are used for solvent sector only.

**Table 13: Verified Consumption of CFC-113, TCA and CTC in the Solvent Sector (ODP)**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Max Allowable CFC-113 consumption	3300	2700	2200	1700	1100	550	0				
Verified Consumption of CFC-113	3245.6	2674.4	2115.6	1659.6	1088						
Max Allowable consumption of TCA	621	613	605	580	502	424	339	254	169	85	0
Verified Consumption of TCA	571.3	399.1	380.68	336.83	370						
Max Allowable consumption of CTC	110	110	110	55	0						
Verified consumption of	90.9	90.9	0	4.57	0						

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CTC											

### **Tobacco Sector**

46. The ExCom approved a total of US \$11 million for the implementation of the tobacco sector plan for CFC-11 phase out in China at its 30 meeting in March 2000. By this approval, China commits that the consumption of CFC-11 in the tobacco industry will be completely phased out by January 1, 2007. The consumption of CFC-11 in this sector had been reduced from 1,000 ODP tons in 2001 to 463 ODP tons in 2004 by the implementation of five annual programs. The annual program of 2006 will be submitted to the first meeting of 2006 of the Ex.Com by UNIDO.

47. The consumption quotas of CFC-11 are issued to the enterprises in the tobacco sector each year by SEPA and the State Tobacco Monopoly Administration to ensure that the CFC-11 consumption limits in this sector is not exceeded. The enterprises listed in the concerned annual program dismantled their tobacco expansion equipments under the supervision of the provincial Tobacco Administration, the local Environmental Protection Bureau, as well as people from the local notary office. As of July 2005, 52 of the total 73 sets of expansion equipments in China have been dismantled, and 8 more sets will be destroyed by the end of 2005. Under the 206 annual program, CFC-11 consumption will be limited to the maximum 150 ODP tons, and all the remaining 13 sets of expansion equipments will be dismantled by the end of 2006. The ban for CFC-11 consumption in the Tobacco sector will be issued in 2006 and become effective on January 1, 2007.

48. The Table 14 shows the consumption targets and verified CFC-11 consumption in previous years in the tobacco sector.

**Table 14: The Control Targets and Verified Consumption of CFC-11 in Tobacco Sector**

	2001	2002	2003	2004	2005	2006	2007
Consumption limit of CFC-11	1000	880	700	500	300	150	0
Verified consumption of CFC-11	1000	711	620	463			

### **Refrigeration Servicing Sector**

49. In accordance with the Executive Committee's approval of "the agreement for

phase-out CFCs in the refrigeration servicing sector”, at the 44th meeting of the Ex.Com in December 2004, the total CFC consumption in the refrigeration-servicing sector will be reduced gradually from 5,083 ODP tonnes in 2004 to 1,181 ODP tonnes in 2010. Service tail requirement will be covered from stockpile. The max allowable total national consumption of CFC-12 was also set as the performance indicator of this sector plan in the agreement. The max allowable total National consumption of CFC-12 and total consumption of CFCs in Refrigeration Sector is 5713 and 4572 ODP tons in 2005.

50. At the beginning of 2005, SEPA issued the first batch of CFC-12 production quota (75%), and will issued the second batch in the latter half of 2005 depending on the amount of net exports of CFC-12. This is to limit CFC-12 consumption within the control targets set up in the Agreement.

51. The 2006 annual program has been submitted for this meeting for approval. The main activities in the 2006 annual programs will include a) development of a new policy for storage, management and sale of CFC-12 recovered from retired vehicles; b) procurement of servicing equipment; c) training activities on the servicing enterprises and automobile dismantle enterprise; d) launching on-line training course regarding to the servicing policies and technology on the website; and e) four TA activities. These TA activities will cover the following items: (1) distribution of the practice codes; (2) selection of regional training centers; (3) collection and report of CFC-12 recovery data; and (4) public awareness activities. Besides, the relative policies on encouraging the enterprises in the Industrial and Commercial Refrigeration Sector and the Chiller Sector to replace or reclaim the CFC-based refrigeration equipment are under development and will be tried out in several provinces in the second half of 2005.

52. An overview of the implementation of the 2005 annual programs included a) the development of relevant policies such as the vehicle dismantling specifications and management measures for vehicle disposal; b) the survey on the vehicle disposal stations; c) selection of the MIS maintenance station; d) public awareness activities; e) preparation of the training materials and the practice codes of recycle procedure; and f) recycle equipment procurement.

53. The national production, import and export data of CFC-12 has been verified by the Bank. The verified national consumption of CFC-12 is calculated by the MP definition (see table 15 below).

**Table 15: Verified Consumption of CFCs in the Servicing Sector (ODP)**

	2004	2005	2006	2007	2008	2009	2010

Max allowable total national consumption of CFC-12	6934	5713	5637	5805	406	406	0
Verified national Consumption of CFC-12	6246						
Max allowable consumption of CFCs in the refrigeration servicing sector (ODP tons)	5083	4572	3790	2997	2317	1786	1181
Actual consumption of CFCs in refrigeration servicing sector (not verified)	5079						

### **CTC AND PROCESS AGENT SECTOR PLAN (PHASE I)**

54. In accordance with the “Agreement with the People’s Republic of China to Phase-out CTC and Process Agents (Phase I)” (UNEP/Ozl.Pro/ExCom/38/70, Annex XIII) at the 38th Executive Committee Meeting in November 2002, China’s CTC production has been reduced to 50,194 ODP tons in 2004 and will be limit to the maximum of 38,686 ODP tons in 2005. The verification reports on CTC production submitted to the 47th meeting of the Ex.Com by the World Bank confirmed that the performance target of 2004 have been met.

55. **CTC Production.** The limit target for CTC Production Sector, set up in the Agreement for Phase-out CTC and Process Agents (Phase I), was modified in the Agreement of the CFC/CTC/Halon APP due to the accelerated phaseout of CFC production, and will be modified further in the Agreement for CTC and Process Agents (Phase II) Sector Plan. The sector plan (phase II) has been submitted to this meeting for approval by the World Bank.

56. There are 13 CTC producers identified in 2001 as the baseline for the sector plan (phase I) and one identified during the implementation of the Sector Plan. Three of them with idling equipment dismantled their CTC production lines in 2004. Two dedicated CTC producers dismantled their production lines in 2004 and 2005 respectively, and the other two will destroy their equipment by the end of 2006. There are two distillers of CTC, whose production will be reduced with the reduction of CTC residue supply. The remaining five are methylene chloride and chloroform (MC/CF) producers with CTC as by-products. They will reduce their CTC production gradually by adjusting the by-products output rate and improving the technology.

57. **CTC Consumption.**



- a. **CTC as feedstock for CFC production.** CTC is mainly produced as feedstock for CFC production in China. Therefore, with CFC production phase-out, CTC production as CFC feedstock is being decreased year by year. The Agreement of the APP set up the target of max allowable CTC as CFC feedstock due to the acceleration phase-out of CFCs. Since 2003, SEPA has issued the CTC consumption quotas to CFC producers. CTC used as CFC feedstock was reduced from 65,000 MT in 1997 to 31,061 MT in 2004 and will not exceed 28,446 ODP tons in 2005. CTC used as CFC feedstock in 2004 was verified by the experts of the World Bank and China National Audit Office (see data in Table 8).
  - b. **CTC as process agent (25 applications).** Since Ex.Com approved the Process Agent Sector Plan (Phase I) (UNEP/Ozl.Pro/ExCom/38/70, Annex XIII) at its 38th Executive Committee Meeting in November 2002, CTC consumption for the 25 process agent applications has been reduced to ODP tons in 2004 and will not exceed 493 ODP tons in 2005. The verification reports on CTC production and Process Agent Sector Plan submitted to the 47th meeting of the Ex.Com by the World Bank confirmed that the performance target of Process Agent of 2004 has been met (see data in Table 8).
  - c. There are total 25 enterprises using CTC as Process Agent (25 applications) in China in 2002. By implementing the annual programs of the CTC and Process Agent Sector Plan, only 11 enterprises still consumes CTC by June 2005, and others have dismantled their equipment or transferred to use other chemicals as process agent. A total of 443 ODP tons CTC consumption quotas will be issued to the 11 enterprises in 2005 to ensure the max allowable target of 493 ODP tons in 2005 to be met.
  - d. **CTC as new process agent.** The CTC and Process Agent Sector Plan (Phase II) has been submitted to this meeting for approval. The new process agent defined in the decision of 15th MOP would be phased out by 2010 according to this sector plan.
  - e. **CTC as feedstock for non-ODS.** CTC used as feedstock for non-ODS will not be phased out. SEPA has issued the consumption quotas to these enterprises. The CTC purchased by these enterprises are not allowed to resell or to be used as other usage.
58. The 2006 annual program of CTC and Process Agent Sector Plan (phase I) has been submitted to this meeting for approval. The activities for CTC production reduction under the 2006 annual program will include a) reduction of CTC production by 6,642

ODP tons to a maximum of 32,044 ODP tons, b) CTC and CFC-113 consumption in PA sector (25 applications) will not exceed 493 ODP tons and 10.8 ODP tons respectively, c) revision of policies on CTC sales management and consumption, and new policy on CFC-113 consumed as process agent. Four TA activities cover the following items (1) training of personnel involved in implementation of phaseout activities, (2) daily site supervision to CTC production, (3) performance audit on CTC production and CTC/CFC-113 consumption in PA sector, (4) verification on non-ODS feedstock applications of CTC and CTC dealers.

59. An overview over the status of implementation of the 2005 Annual Program is as follows: a) quotas limiting the total production to 37,207 ODP tons were issued in the beginning of the year and 3 quota reduction contracts were signed with 3 dedicated CTC producers, b) total of 12 ODP tons of CFC-113 procurement quotas were issued to 3 PTFE producers and one conversion contract will be signed with one enterprise, c) 443 MT of CTC procurement quotas will be issued to 4 enterprises and 1 conversion contract and 2 consumption reduction contracts will be signed with 3 plants, and d) the 3 planned TA activities has been initiated and contracts signed. One additional TA activity was added and initiated.

#### **HALON PRODUCTION AND CONSUMPTION**

60. Since the Executive Committee approved “The Sector Plan for Halon Phase-out in China” (UNEP/OzL.Pro/ExCom/23/68), at the 23rd Meeting of the Ex.Com in November 1997, Halon production and consumption has been phased out successfully according to the agreement between China and the Ex.Com.

61. The number of the Halon producers has been reduced from 14 to 3 in 2005 and the total Halon production from 45,196 ODP tonnes in 1997 to 5,652 ODP tonnes in 2004. The production and consumption of halon 1211 will not exceed 5970 and 5,670 ODP tons respectively in 2005. The production and consumption of Halon 1301 had been reduced to 219.87 and 0 ODP tons in 2004, and will not exceed 2000 and 1500 ODP tons respectively in 2005 according to the agreement of APP.

62. The quotas limiting the total production of Halon 1211 and 1301 to the maximum target of this year were issued to the producers in the beginning of 2005. By June 2005, three contracts for expansion of production of CO2 extinguisher were signed. The production and consumption of Halon 1211 will be reduced to zero and the production line will be dismantled by the end of 2005. The conversion of 5~10 Halon 1301 manufacturers will be carried out in 2006. For further details on status of previous

years' activities and the planned activities for 2006 are provide in the 2006 Annual Program for Halon Sector Plan submitted to this meeting. The verified Halon production and consumption data are provided in Section 4.

### **TCA PRODUCTION SECTOR**

63. In accordance with the Executive Committee's approval of "The Sector Plan for Phase-out TCA Production in China", (UNEP/OzI.Pro/ExCom/43/61), at the 43rd Meeting of the Ex.Com in July, 2004, China's TCA production should be reduced to a maximum of 790 MT in 2005 and kept at the same level from 2005 to 2009. The First-stage Implementation Program covering all the activities from 2004 to 2008 was also approved at the same meeting of Ex.Com. The verification report confirming the performance target will be submitted to the first meeting in 2006.

64. Quota limiting the total production to 780 ODP tons was issued to the three TCA producers in the beginning of 2005. Two of the three TCA producers have signed the closure contracts with SEPA in December 2004 and completed the dismantling with the supervision of SEPA and local EPBs by the end of 2004. The remaining one producer has signed the TCA production reduction contract with SEPA.

65. The main activities in 2006 will include a) control of TCA production at a maximum of 79 ODP tons and b) enforcement of the policies and monitoring mechanisms.