



**Programa de las  
Naciones Unidas  
para el Medio Ambiente**

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ESPAÑOL  
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COMITÉ EJECUTIVO DEL FONDO MULTILATERAL  
PARA LA APLICACIÓN DEL  
PROTOCOLO DE MONTREAL  
Cuadragésima Novena Reunión  
Montreal, 10 al 14 de julio de 2006

**PROPUESTA DE PROYECTO: MALASIA**

Este documento consta de los comentarios y las recomendaciones de la Secretaría del Fondo sobre la siguiente propuesta de proyecto:

Eliminación

- Plan nacional de eliminación de CFC: programa de trabajo anual para 2006

Banco Mundial

Los documentos previos al período de sesiones del Comité Ejecutivo del Fondo Multilateral para la Aplicación del Protocolo de Montreal no van en perjuicio de cualquier decisión que el Comité Ejecutivo pudiera adoptar después de la emisión de los mismos.

Para economizar recursos, sólo se ha impreso un número limitado de ejemplares del presente documento. Se ruega a los delegados que lleven sus propios ejemplares a la reunión y eviten solicitar otros.

**HOJA DE EVALUACIÓN DE PROYECTO –PROYECTOS PLURIANUALES  
MALASIA**

**TÍTULO DEL PROYECTO** **ORGANISMO BILATERAL/ORGANISMO DE EJECUCIÓN**

Plan nacional de eliminación de CFC: programa de trabajo anual para 2006	Banco Mundial
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<b>ORGANISMO DE COORDINACIÓN NACIONAL:</b>	Departamento de Medio Ambiente
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**DATOS DE CONSUMO MÁS RECIENTE PARA SAO OBJETO DEL PROYECTO**

**A: DATOS DEL ARTÍCULO 7 (TONELADAS PAO, DATOS DE 2005, A MAYO DE 2006)**

CFC: 661,8	1,1,1 TCA: 6,2	CTC: 0
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**B: DATOS SECTORIALES DEL PROGRAMA DE PAÍS (TONELADAS PAO, 2005, A MAYO DE 2006)**

SAO	Espumas	Ref.	Aerosoles	SAO	Solventes		
CFC	55,9	609,4	0	1,1,1 TCA	2,7	CTC	0

<b>Consumo de CFC remanente admisible para la financiación (toneladas PAO)</b>	No corresponde
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**PLAN ADMINISTRATIVO DEL AÑO EN CURSO:**

Financiación total: 1 013 300 \$EUA

Eliminación total: 126,85 ton. PAO.

<b>DATOS DEL PROYECTO</b>		<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total**</b>
<b>CFC</b> (toneladas PAO)	Límites del Protocolo de Montreal	<b>1 635,6</b>	490,7	490,7	490,7	0	3 271,1
	Límite de consumo anual	<b>579</b>	490	401	332	0	1 855
	Eliminación anual con proyectos en curso						
	Eliminación anual nueva abordada						
	Eliminación anual no financiada						
<b>1,1,1 TCA</b> (toneladas PAO)	Límite del Protocolo de Montreal	<b>35,7</b>	35,7	35,7	35,7	0	51
	Límite de consumo anual	<b>18</b>	18	18	18	0	51
	Eliminación anual con proyectos en curso						
	Eliminación anual nueva abordada						
	Eliminación anual no financiada						
<b>CTC</b> (toneladas PAO)	Límite del Protocolo de Montreal	<b>0,68</b>	0,68	0,68	0,68	0	4,51
	Límite de consumo anual	<b>0,68</b>	0,68	0,68	0,68	0	4,51
	Eliminación anual con proyectos en curso						
	Eliminación anual nueva abordada						
	Eliminación anual no financiada						
<b>CONSUMO TOTAL DE SAO A ELIMINAR</b>		<b>597,68</b>	<b>508,68</b>	<b>419,68</b>	<b>350,68</b>	<b>0</b>	<b>1910,51</b>
Consumo total de SAO a agregar (HCFC)							
<b>Costos del proyecto (\$EUA):</b>							
Financiación para el organismo principal: Banco Mundial		<b>1 013 300</b>	275 000	275 000	275 000	0	11 517 005
<b>Financiación total del proyecto</b>		<b>1 013 300</b>	<b>275 000</b>	<b>275 000</b>	<b>275 000</b>	<b>0</b>	<b>11 517 005</b>
<b>Costos de apoyo (\$EUA)</b>							
Costos de apoyo para el organismo principal: Banco Mundial		<b>83 197</b>	24 750	24 750	24 750	0	974 930
<b>Total de costos de apoyo</b>		<b>83 197</b>	<b>24 750</b>	<b>24 750</b>	<b>24 750</b>	<b>0</b>	<b>974 930</b>
<b>COSTO TOTAL AL FONDO MULTILATERAL (\$EUA)</b>		<b>1 096 497</b>					
Relación de costo a eficacia del proyecto (\$EUA/kg)		No corresponde					

**(\*\*)** Los totales incluyen cifras de consumo, eliminación y costo desde la aprobación en 2001 (aprobación del proyecto) hasta 2010.

**SOLICITUD DE FINANCIACIÓN:** Aprobación de la financiación para el programa de trabajo de 2006 del plan nacional de eliminación de CFC de Malasia, según lo indicado anteriormente.

<b>RECOMENDACIÓN DE LA SECRETARÍA</b>	Aprobación general con los costos indicados anteriormente.
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## Descripción del proyecto

1. El Banco Mundial, en nombre del Gobierno de Malasia, presenta el programa de trabajo anual para 2006 y solicita la liberación de la partida de financiación de 2006, por valor de 1 013 300 \$EUA más los costos de apoyo relacionados de 83 197 \$EUA. La presentación consiste en un informe sobre los logros del programa de trabajo de 2005 y el programa de trabajo propuesto para 2006 (se adjuntan ambos).

## Antecedentes

2. En su 35ª Reunión, el Comité Ejecutivo aprobó el plan nacional de eliminación de CFC de Malasia y acordó, en principio, una financiación total de 11 517 005 \$EUA que se desembolsarían entre 2002 y 2010 para eliminar el consumo remanente de 2 092 toneladas PAO de CFC del Anexo A del Grupo I, 33 toneladas PAO de 1,1,1 TCA y 4 toneladas PAO de tetracloruro de carbono. Desde la aprobación del plan, se han liberado al Banco Mundial las partidas para 2003, 2004 y 2005, con un desembolso total de 9 678 705 \$EUA. Ahora se solicita la partida para 2006, conforme a los términos del Acuerdo.

3. La auditoría de las importaciones de SAO en Malasia para el año 2004, que se estableció como obligatoria en el Acuerdo con el Comité Ejecutivo para la partida de financiación de 2006 ya había sido presentada por el Banco Mundial con anterioridad a la 47ª Reunión junto con el programa de trabajo anual para 2005 y fue aprobada por el Comité Ejecutivo.

4. En la Tabla 1 siguiente se presenta un resumen de los datos clave del plan nacional de eliminación y el programa de trabajo anual para 2006:

Tabla 1

País	<b>MALASIA</b>
Año del plan	2006
Cantidad de años terminados	4
Cantidad de años restantes conforme al plan	4
Objetivo de consumo de SAO del año anterior (2005)	<ul style="list-style-type: none"> <li>• 699 toneladas PAO de sustancias químicas del Anexo A, Grupo I (CFC)</li> <li>• 18 toneladas PAO de TCA</li> <li>• 0,68 toneladas PAO de CTC</li> </ul>
<b>Total</b>	<b>717,68 toneladas PAO</b>
Objetivo de consumo de SAO del año del plan (2006)	<ul style="list-style-type: none"> <li>• 579 toneladas PAO de sustancias químicas del Anexo A, Grupo I (CFC)</li> <li>• 18 toneladas PAO de TCA</li> <li>• 0,68 toneladas PAO de CTC</li> </ul>
<b>Total de SAO</b>	<b>597,68 toneladas PAO</b>
Total de financiación aprobada en principio por el Fondo Multilateral	11 517 005 \$EUA
Financiación total del Fondo liberada hasta noviembre de 2005	9 678 705 \$EUA
Nivel de financiación solicitada	Inversiones: 813 300 \$EUA Costos de unidad de gestión de proyecto: 200 000 \$EUA <b>Total: 1 013 300 \$EUA</b>
Costo de apoyo del organismo de ejecución	Actividades de inversión (9%): 73 197 \$EUA Unidad de gestión de proyecto (5%): 10 000 \$EUA <b>Total: 83 197 \$EUA</b>

## Logros del plan en 2004 y 2005

5. La auditoría de las importaciones de SAO en Malasia para 2004 confirmó que el consumo real fue de 1 128,5 toneladas PAO de CFC, 11,4 toneladas PAO de TCA y nulo para el CTC, lo que asciende a un total de 1 139,9 toneladas PAO para las tres sustancias. Éstas se encontraron por debajo de los límites de consumo permisible máximo estipulados en el Acuerdo para 2004: 1 188,51 toneladas PAO para las tres sustancias, con 1 136 toneladas PAO de CFC, 48 toneladas PAO de TCA y 4,5 toneladas PAO de CTC.

6. Para el año 2005, la presentación incluyó un informe no auditado sobre la situación de la ejecución. El Departamento Nacional de Auditoría está preparando el informe de verificación del consumo de 2005 sobre la base de los datos recopilados por organismos del gobierno, incluido el Departamento Nacional de Estadísticas. El consumo de SAO hasta diciembre de 2005, según lo notificado por el Gobierno de Malasia a la Secretaría del Ozono, asciende a 668 toneladas PAO, según el resumen que se presenta en la Tabla 2 a continuación. Las importaciones de SAO de 2005 verificadas se presentarán al Comité Ejecutivo junto con el programa de trabajo anual para 2007, conforme a lo estipulado en el acuerdo.

Tabla 2

### Consumo de SAO en 2005, según lo notificado a la Secretaría del Ozono

Todos los datos en toneladas PAO	CFC	1,1,1 TCA	CTC
Consumo máximo permisible en 2005	699	18	0,68
Importaciones en 2005 <sup>1</sup>	661,8	6,2	0

(<sup>1</sup>): Refleja las importaciones desde enero hasta diciembre de 2005 recopiladas por el Departamento Nacional de Estadísticas.

7. Se informó que esta reducción del consumo se logró por medio de una combinación de aplicación de las políticas de control del Gobierno, terminación de proyectos aprobados antes del plan nacional de eliminación, la identificación y financiación del consumo remanente de estas SAO en industrias pequeñas y medianas en los sectores de solventes y espumas y actividades de asistencia técnica en el sector de servicio y mantenimiento de refrigeración. En 2005, se hicieron mayores esfuerzos para divulgar la estrategia de transición para los inhaladores de dosis medidas a base de CFC. Funcionaron a pleno 28 centros de inspección de equipos de aire acondicionado de vehículos, equipados con identificadores de refrigerantes. Continuó la capacitación de oficiales de aduanas y se impartió capacitación a un total de 80 oficiales en todo el país. De los 3 000 talleres de servicio del país, se habían registrado y certificado 2 529 talleres y 2 511 habían cumplido con las condiciones para recibir un subsidio para las herramientas básicas de mantenimiento de equipos de aire acondicionado de vehículos. De estos talleres, 424 tenían un nivel de consumo de SAO suficiente para cumplir las condiciones para recibir un subsidio para la compra de unidades de recuperación y reciclaje.

8. En 2005, se completaron más de 20 proyectos autónomos y un proyecto grupal en el sector de espumas, con los que se eliminaron 140 toneladas PAO de CFC-11. Mientras tanto, se identificaron y financiaron los últimos 4 proyectos de espumas y un proyecto de solventes, que se completarían en 2006.

9. El plan de eliminación continuó beneficiándose gracias a una variedad de nuevas políticas que el Gobierno había aplicado desde el año 2000. En una declaración del Ministro del Medio Ambiente en la reunión de noviembre de 2004 de las Partes en el Protocolo de Montreal en Praga se anunció inicialmente una prohibición del uso de CFC en el sector de refrigeración para fines de 2005. Este anuncio constituyó un compromiso normativo en nombre del Gobierno de Malasia conforme al Acuerdo del plan nacional de eliminación de CFC.

10. El Gabinete aprobó una enmienda a la Ley de Gestión de Refrigerantes de Malasia, que entró en vigencia el 1 de diciembre de 2004. La enmienda incluye, entre otros, los siguientes nuevos requisitos: a) se requiere que todos los talleres de servicio y mantenimiento de refrigeración (incluidos los talleres de equipos de aire acondicionado de vehículos) estén equipados con unidades de recuperación y reciclaje; y b) todos los técnicos de servicio que manipulan refrigerantes deben estar capacitados y certificados.

11. La inspección obligatoria de los sistemas de aire acondicionado de los vehículos comerciales entró en vigencia a partir de diciembre de 2004. El nuevo requisito es exigido por el Departamento del Medio Ambiente.

12. La descripción de los logros del programa de trabajo de 2005 se complementó con la presentación de una tabla con los progresos de cada actividad, que cubre la meta, el grupo objetivo, el impacto y la situación de ejecución. El informe financiero para 2005 se presentó con un nuevo formato, e incluyó datos sobre desembolsos en 2004, desembolsos acumulados a diciembre de 2004 y desembolsos en 2005, así como desembolsos acumulados a diciembre de 2005. También se incluyeron datos de desembolsos por partida de financiación aprobado. A diciembre de 2005, se habían desembolsado 5 615 123 \$EUA, o alrededor de 60%, de los fondos totales aprobados de 9 678 705 \$EUA.

### **Programa de trabajo anual para 2006**

13. El programa de trabajo anual para 2006 propone un límite máximo de consumo de 597,7 toneladas PAO, desglosado en 579 toneladas PAO de CFC, 18 toneladas PAO de TCA y 0,68 toneladas PAO de CTC. Estas cantidades guardan conformidad con los objetivos estipulados en el Acuerdo. El programa contiene una descripción de las actividades que llevará a cabo el Gobierno, tales como la verificación del nivel de consumo de SAO y la aplicación de las políticas que se han elaborado. El programa tiene como objetivo completar la conversión de las restantes industrias en el año y eliminar alrededor de 56 toneladas PAO de CFC. En 2006, continuarán muchas de las actividades en curso, tales como: se completará la capacitación de técnicos en los 3 000 talleres; se distribuirán otros 489 juegos de herramientas básicas de servicio de equipos de aire acondicionado de vehículos, de manera que la totalidad de los 3 000 talleres estén adecuadamente equipados; y se emitirán 376 comprobantes para unidades de recuperación y reciclaje para equipos de aire acondicionado de vehículos para los talleres admisibles. El Gobierno tiene intención de prorrogar el funcionamiento de la unidad de gestión de proyecto después de 2006,

durante el período de 2008 a 2009, ya que continúa necesitando la unidad para brindar asistencia en la ejecución del programa en curso.

14. La presentación original incluye, en la Tabla 12, una presentación en forma de tabla de la meta, el grupo objetivo, el impacto y la situación de cada actividad por industria. La Tabla 13 presenta las medidas a ser adoptadas por el Gobierno en 2006 con información sobre las políticas previstas, el calendario de realización y la situación. El presupuesto propuesto para el programa de trabajo anual de 2006 incluye un desglose de los gastos previstos en más de 16 rubros de actividades y el desembolso total previsto de 3 323 447 \$EUA. Parte de los fondos provendrían del saldo no gastado de los años anteriores.

## **COMENTARIOS Y RECOMENDACIONES DE LA SECRETARÍA**

### **COMENTARIOS**

15. El informe sobre el programa de trabajo para 2006 fue preparado de acuerdo con las directrices para la preparación, ejecución y gestión de planes nacionales y sectoriales de eliminación de SAO basados en el desempeño aprobados en la 38ª Reunión (decisión 38/65). El informe sobre el programa de trabajo para 2005 incluyó información sobre las diversas actividades que eran parte del plan nacional de eliminación y su impacto en el cumplimiento del objetivo de eliminación para ese año. El Gobierno estaba aplicando e haciendo cumplir diversas políticas que se habían elaborado en los años anteriores. Estas políticas, tales como la inspección anual obligatoria de los sistemas de equipos de aire acondicionado de vehículos vigente desde 2005 y la prohibición de los CFC en el sector de fabricación en 2006, tendrán un importante efecto en la ejecución exitosa de la eliminación en el sector de servicio y mantenimiento de refrigeración en los próximos años.

16. Conforme a los datos recopilados hasta ahora por el Gobierno sobre el consumo de CFC y CTC en 2005, Malasia no parece tener ningún problema para cumplir con el objetivo de reducir su consumo de CFC en 50% respecto de su consumo básico y su consumo de CTC en 85% respecto de su consumo básico.

17. El programa anual de 2006 presenta objetivos de eliminación claros, conforme a lo estipulado en el Acuerdo, e incluye una serie de medidas que se aplicarán en la industria, tales como la capacitación y certificación de técnicos de servicio y la provisión de los equipos necesarios a los talleres de servicio. Estas medidas se han estado aplicando en los últimos años y están preparando el terreno para abordar la eliminación en el sector de servicio y mantenimiento.

18. El Banco Mundial ha cumplido con la decisión del Comité Ejecutivo y proporcionó más detalles acerca de su presupuesto y desempeño financiero para 2005, con información sobre desembolsos tanto anuales como acumulados.

**RECOMENDACIONES**

19. La Secretaría recomienda que el Comité Ejecutivo apruebe el plan de trabajo para 2006 del plan nacional de eliminación de CFC de Malasia con el nivel de financiación requerido de 1 013 300 \$EUA, más los costos de apoyo relacionados de 83 197 \$EUA para el Banco Mundial.

	<b>Título del proyecto</b>	<b>Financiación del proyecto (\$EUA)</b>	<b>Costo de apoyo (\$EUA)</b>	<b>Organismo de ejecución</b>
a)	Plan nacional de eliminación de CFC: programa de trabajo anual para 2006	1 013 300	83 197	Banco Mundial

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MALAYSIA  
National CFC Phase-out Plan (NCFCP)  
2002-2010

**Annual Work Program  
(AWP 2006)**  
Prepared by:

**Ozone Protection Section  
Air Division**  
Department of Environment (DOE)  
Ministry of Natural Resources  
And Environment

MALAYSIA

May 2006

**To be submitted to the  
Executive Committee of the Multilateral Fund for the  
Implementation of the Montreal Protocol at its 49<sup>th</sup>  
Meeting**

**1.0 DATA**

Country	<b>MALAYSIA</b>
Year of plan	2006
No. of years completed	4
No. of years remaining under the plan	4
Target ODS Consumption of the preceding year <b>(2005)</b>	<ul style="list-style-type: none"> <li>• 699 ODP tonnes of Annex A, Group I Chemicals (CFCs)</li> <li>• 18 ODP tonnes of TCA</li> <li>• 0.68 ODP tonnes of CTC</li> </ul>
<b><u>Total</u></b>	<b>717.68 ODP tonnes</b>
Target ODS Consumption of the year of plan <b>(2006)</b>	<ul style="list-style-type: none"> <li>• 579 ODP tonnes of Annex A, Group I Chemicals (CFCs)</li> <li>• 18 ODP tonnes of TCA</li> <li>• 0.68 ODP tonnes of CTC</li> </ul>
<b><u>Total ODS</u></b>	<b>597.68 ODP tonnes</b>
Level of funding requested	Investments:                   USD 813,300 PMU costs:                    USD 200,000 <b>Total:                        USD 1,013,300</b>
IA Support Costs	Investments activities (9%): USD 73,197 PMU (5%):                    USD 10,000 <b>Total:                        USD 83,197</b>
Lead implementing agency	The World Bank
Co-operating agencies	Nil

## 2.0 Introduction

1. In accordance with the Executive Committee's approval of the "Malaysia National CFC Phaseout Plan" (Decision 35/53), Malaysia is hereby requesting the release of the sixth tranche of US\$1,013,300 for the implementation of its 2006 Annual Program. After implementing this program, Malaysia's CFC consumption will be reduced to a maximum of 579 ODP tonnes by the end of 2006. Similarly, the country's consumption of 1,1,1 TCA and CTC will be reduced to a maximum of 18 ODP tonnes and 0.68 ODP tonnes, respectively.
2. The Executive Committee (ExCom) of the Multilateral Fund for the Implementation of the Montreal Protocol has approved a total grant of US \$11,517,005 in funding for the phased reduction and complete phase-out of consumption of Annex A, Group I chemicals, 1,1,1 TCA and CTC in Malaysia. The approved funding and agreed annual targets are summarized in Table 1 below.
3. Following the approval of the National CFC Phaseout Plan (NCFCP) at the 35<sup>th</sup> Meeting of the ExCom in December 2001, Malaysia has taken important steps towards the implementation of the Plan. Details of 2005 activities and developments to date are found in Part I of this report, while details of the 2006 annual program are provided in Part II.

**Table 1: Approved MLF Funding and ODP Reduction Schedule**

Year	Annual Grant Funding US\$ (million)	Maximum Consumption allowed under NCFPP (ODP tonnes)			
		CFC	1,1,1 TCA	CTC	Total ODS
2001	1,799,940				
2002	2,969,065	1,855	51	4.51	1910.51
2003	2,013,100	1,566	48	4.51	1618.51
2004	1,688,300	1,136	48	4.51	1188.51
2005	1,208,300	699	18	0.68	717.68
2006	1,013,300	579	18	0.68	597.68
2007	275,000	490	18	0.68	508.68
2008	275,000	401	18	0.68	419.68
2009	275,000	332	18	0.68	350.68
2010	0	0	0	0	0

## PART I - 2005 ANNUAL PROGRAM ACCOMPLISHMENTS

### 1. TARGETS MET

1. The 2004 Malaysian consumption verification report was submitted for consideration of the Excom at its 47<sup>th</sup> Meeting, one year ahead of the required deadline, along with the country's 2005 AWP. The report showed that a total of 1,128.5 ODP tonnes of CFC-11 and CFC-12, 11.4 ODP tonnes of 1,1,1 TCA and 0 tonnes of CTC were imported to Malaysia within the 2004 calendar year (January 1 to December 31, 2004). These amounts were well below the maximum allowable consumption for 2004, as indicated in Table 1.
2. The 2005 consumption verification report is being prepared by the National Audit Department (NAD) on the basis of data compiled by government agencies, among which, the National Statistics Department (NSD). ODS consumption up to December 2005, as reported by the Government of Malaysia to the Ozone Secretariat, amounts to 668 ODP tonnes, as summarized in Table 2. The verified report of 2005 consumption will be submitted to the Excom along with the 2007 AWP, as required by the Excom Agreement.
3. With a consumption of 661.8 ODP tonnes of CFC and 6.2 ODP tonnes 1,1,1 TCA, respectively, Malaysia has once again met and exceeded its 2005 consumption reduction commitments to the Montreal Protocol. The country is committed to the timely and effective implementation of its National CFC Phase-out Plan and is well in target to meeting its 2007 phase-out obligations (*i.e* 85% reduction of its CFC baseline).

**Table 2: ODS Consumption in 2005, as reported to Ozone Secretariat**

All data in ODP Tonnes	CFCs	1,1,1 TCA	CTC
Maximum allowable consumption in 2005	699	18	0.68
Imports in 2005 <sup>1</sup>	661.8	6.2	0

(<sup>1</sup>): Reflects imports from January to December 2005 gathered by the National Statistic Department (NSD).

### 2. SUMMARY OF TECHNICAL ASSISTANCE ACTIVITIES

4. Under the directive of the National Steering Committee for Ozone Protection (NSC), the Department of Environment (DOE) and other relevant Government agencies have carried out the implementation of the various sector policies as outlined in the approved NCFCP. A brief description of the technical assistance activities undertaken in 2005 is provided below.

#### 2.1 MDI Program

5. The National Pharmaceutical Control Bureau (NPCB) was retained as consultants for the development of a National Transition Strategy to Phase out CFCs in MDI. The first 'Working Group Meeting' on CFC-MDIs Phase-out Plan was held on January 10, 2005 at NPCB, Petaling Jaya.

6. The announcement on Malaysia Transition Strategy for the CFC Phase-out in Metered Dosage Inhalers (MDIs) was published in local newspapers on February 8, 2005. The National Strategy document and the MDI pamphlets were reprinted on March 21, 2005 and distributed by NPCB to hospitals, clinics, universities and private pharmacies.

7. The second 'Working Group Meeting' was held on July 12, 2005. A conference entitled "National Regulatory Conference" was organized by NPCB on September 6-7, 2005 at Sheraton Hotel, Subang Jaya as part of the road-shows on Malaysian strategy for CFC free MDIs.

## **2.2 MAC Inspection Program (PUSPAKOM)**

8. The development of the manual for Mobile Air Conditioning (MAC) Inspection and the associated the training program from PUSPAKOM officers was completed in 2004. A total of 28 units of Refrigerant Identifiers (RI) were distributed to the 28 PUSPAKOM inspection centres around the country. PUSPAKOM officers have been conducting surveys of MAC systems of vehicles that undergo inspection, and have periodically sent data reports to DOE. These data are being used by DOE for monitoring.

## **2.3 Customs-ODS Training Program (COTP)**

9. A total of 52 RI were distributed to the Customs Department. A session of hands-on training for customs officers was held in AKMAL, Melaka on September 12-15, 2005. Eighty (80) customs officers have been trained throughout the country.

## **2.4 ODS Awareness Program**

10. The Ozone Protection Section organized an Awareness Campaign on the Ozone Protection at the TV3 Carnival Sure Heboh on September 2-4, 2005 in Bukit Jalil Stadium, Kuala Lumpur in conjunction with the World Ozone Day Celebration. The purpose of the campaign was to create awareness and disseminate information on the ozone protection, particularly on NCFCP to the general public. Activities held included: drawing competition, ozone quiz, exhibition, distribution of ozone publication and Ozone VCD Session. Announcement on the World Ozone Day was also held in major television and radio for three days.

11. DOE organized and participated in the following meetings and workshops: a) Series of Chiller/Commercial Refrigerant Training Management; b) Certification of Service Technicians Program; and d) five series of ODS Regulation Seminars for DOE officers, industry association, government agencies and NGOs.

12. DOE participated in meetings or workshops such as 7<sup>th</sup> Conference of the Parties to the Vienna Convention & 17<sup>th</sup> Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (Senegal), Chiller Conversion: Converting Obligations To Opportunities (Washington D.C.), SEAP ODS Networks Meetings (Beijing and Thailand), and the 9<sup>th</sup> Annual Meeting of the Financial Agents at the World Bank (Washington DC). Table 3 presents a summary of Technical Assistance activities carried out under the NCFCP.

**Table 3: Technical Assistance activities carried out in 2005**

NO	YEAR 2005	OBJECTIVES	Prevention of R134a MAC system to be retrofitted with R12 (CFC-12) (reverse retrofitting)
	MAC Inspection	TARGET GROUP	PUSPAKOM, RTD and DOE State Offices, Commercial and Private car owners
		IMPACT	Reduction of CFC-12 consumption in MAC service sector and increase awareness of vehicle's owners
	DESCRIPTION	STATUS/REMARKS	
1	Project completed	<ul style="list-style-type: none"> <li>• Project completed on April 24, 2004.</li> <li>• 28 units of RI distributed to PUSPAKOM.</li> <li>• Data survey on the usage of RI sent to DOE by PUSPAKOM, for record and monitoring.</li> </ul>	

NO	YEAR 2005	OBJECTIVES	To increase awareness on CFC MDI transition plan
	CFC in MDI Sector	TARGET GROUP	Pharmaceutical Association, Doctors, MDI Importers, and Patients
		IMPACT	To promote the use of non-CFC MDI
	DESCRIPTION	STATUS/REMARKS	
1	Program development and status	<ul style="list-style-type: none"> <li>• First 'Working Group Meeting' on CFC-MDIs Phase-out Plan held on January 10, 2005 at NPCB, Petaling Jaya.</li> <li>• Announcement on Malaysia Transition Strategy for the CFC Phase-out in Metered Dosage Inhalers (MDIs) was published in a local newspaper on February 8, 2005.</li> <li>• The National Strategy document and the MDI pamphlets were reprinted on March 21, 2005 and distributed by NPCB to hospitals, clinics, universities and private pharmacies.</li> <li>• Second 'Working Group Meeting' held on July 12, 2005.</li> <li>• A conference entitled "National Regulatory Conference" was organized by NPCB on September 6-7, 2005 at Sheraton Hotel, Subang Jaya.</li> </ul>	

NO	YEAR 2005	OBJECTIVES	Build technical capacity of custom officials to inspect the import of ODS
	Custom ODS Training Program	TARGET GROUP	Custom officials and DOE State Officers
		IMPACT	Strengthen effectiveness of import control system of CFC
	DESCRIPTION	STATUS/REMARKS	
1	Program development and status	<ul style="list-style-type: none"> <li>• First COTP was held on April 28-29, 2004.</li> <li>• The second COTP was held on September 19-23, 2004 in AKMAL Langkawi and the third COTP was held in Melaka on September 12-15, 2005. A total of 80 customs officer have been trained.</li> </ul> <p>A total of 52 units of RI were distributed to the Customs Department.</p>	

### **3. INDUSTRY ACTION (SUB PROJECTS)**

#### **3.1 MAC Servicing Sector**

##### Certification of ATC – Train the Trainer Program (TTP)

13. This component of the NCFCP has been fully completed. A total of thirty (30) Authorized Training Centres (ATC) were established around the country to train technicians from MAC servicing shops. The program provided training to two (2) participants from each ATC and 15 officers from DOE. Training provided information on the NCFCP, hands-on technical training of the R&R Machines, MAC Tools, RIs, and a theory and practical test. A total of 60 ATC staff were trained, and each centre received two sets of basic MAC tools and two sets of R&R units.

##### Certification of Service Technicians Program (CSTP) and Distribution of Vouchers for Procurement of Basic MAC Tools

14. As of December 2005, 2,529 workshops out of an estimated 3,000 have been registered and certified as part of the CSTP. Out of these, 2,511 workshops have qualified to receive subsidies for kits of basic MAC maintenance tools that are being distributed through a voucher scheme. The value of vouchers that have been given to each workshop is US\$1,100, which covers the cost of a pressure gauge, a leak detector, a charging cylinder and a vacuum pump. To date, an estimated 80% of the 2,511 vouchers distributed have been exercised and the equipment has been ordered through the qualified suppliers.

##### Verification and Vouchers for R&R Units

15. Based on the information submitted by the MAC service workshops during the CSTP phase of the program, DOE verifies the eligibility of workshops interested in receiving R&R units (in addition to the basic MAC tools). During field visits, DOE verifies the level of consumption of the interested workshops and determines those that are eligible to receive additional subsidies. As of December 2005, 694 visits to workshops had been conducted by DOE. Of those, only 424 workshops will receive vouchers for R&R units. Qualifying workshops will receive vouchers for USD 2,000 as subsidy for their R&R units.

#### **3.2 Solvent Sector**

16. Based on a final survey on the remaining users of CFC 113, 111-TCA and CTC amongst Small and Medium Enterprises (SME), and in consultation with two of the main CFC-based solvent suppliers, DOE determined that only one SME remained to be converted in the solvent sector. A project proposal for Seasonair Sdn Bhd was prepared by the Project Management Unit (PMU). The project sub-grant agreement (SGA) was signed by Seasonair Sdn Bhd and the project is scheduled to be financially complete by early 2006.

#### **3.3 Foam Sector**

##### Group Sub-Project – Phase I Foam Group Project

17. The group sub-project consisting of fourteen (14) small-medium scale enterprise (14SMEs) was completed in July 2004 with a phase-out of 10.25 ODP tonnes of CFCs. A total amount of US\$105,000.00 was disbursed through the voucher scheme.

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#### Individual Sub-Projects – Phase II and III

18. As of December 2005, twenty two (22) individual foam conversion subprojects had been completed with an associated phase out of 129.95 ODP tonnes of CFCs. A total amount of USD 1,022,800 was disbursed.

#### New Individual Sub-Projects – Four (4) new and last project

19. Four (4) individual project proposals were prepared in 2005 and sub-grant Agreements were signed by December 2005. These four proposals represent the last projects that will be conducted under the foam sector of the NCFCP, consistent with the implementation milestones under the Excom Agreement. The total expected phaseout from these projects is 55.9 ODP tonnes of CFCs at an estimated cost of US\$ 240,608.

### **3.4 Refrigerant Service Sector (RSS)**

20. In accordance to the approved NCFCP document, a proposal for the Sector Implementation Plan (SIP) of the Refrigeration Service Sector (RSS) and the Terms of Reference (TOR) for the project's Group Coordinator (GC) were prepared by DOE in late 2004. TOR for the appointment of GC were published in local newspapers on March 15, 2005. A total of three (3) bidders submitted proposals and the selection was completed. The firm Aksijasa Supply & Services Sdn Bhd was selected as GC and a contract was signed in February 14, 2006. Throughout 2005, DOE worked on the development of an Action Plan for the implementation of the RSS component.

21. Full implementation of the RSS will begin by mid 2006, starting with the Train-the-trainer program



22. A summary of Industry Actions carried out during 2005 is summarized in Table 4:

**Table 4: Industry Actions (Sub Projects) carried out in 2005**

NO	YEAR 2005	OBJECTIVES	Increase technical capacity of the MAC service workshops
	Mobile Air-Conditioning (MAC) Sector	TARGET GROUP	Authorized Training Centres (ATC) and MAC service workshops
		IMPACT	Reduction of CFC-12 consumption in MAC service and proper handling and good workshop practice
	DESCRIPTION	STATUS/REMARKS	
1	Certification of ATC Train-the-Trainer Program (TTP)	<ul style="list-style-type: none"> <li>Group coordinator (GC) was appointed as consultant for the period of 2003-2006 to carry out activities under MAC Servicing Sector.</li> <li>30 MAC service workshops were appointed as Authorized Training Centres (ATC) and undergone 4 days training in January 2004.</li> <li>All ATC received 2 sets of MAC basic tools and R&amp;R Machines via voucher subsidy scheme in April 2004.</li> <li>As stated in the Letter of Intent (LOI), ATCs are required to train another 3,000 MAC service workshop (until 2006) under the CSTP.</li> </ul>	
2	Certification of Service Technician Program (CSTP)	<ul style="list-style-type: none"> <li>As of December 2005, 2,529 workshops out of an estimated 3,000 have registered as part of CSTP.</li> <li>Out of these, 2,511 workshops have been qualified to receive subsidy for <b>MAC basic service tools kit</b> via the voucher scheme.</li> <li>For <b>R&amp;R machine</b> voucher scheme, 694 workshops were visited by DOE as of December 2005. Out of these, only 424 workshops will receive the vouchers.</li> </ul>	

NO	YEAR 2005	OBJECTIVES	To reduce amount of ODS used in manufacturing Industry process
	Phasing out CFC via Conversion to non-CFC in the solvent industry (solvent sector)	TARGET GROUP	SME (Manufacturing Industries)
		IMPACT	Phase out the use of 1,1,1 – TCA in SMEs
	DESCRIPTION	STATUS/REMARKS	
1	Sector status/ progress	<ul style="list-style-type: none"> <li>Based on final survey for remaining CFC users in SME (Manufacturing), only one project considered qualified to receive financial assistant. The beneficiary is Seasonair Sdn Bhd.</li> <li>Seasonair Sdn Bhd project underway and expected to be completed in early 2006.</li> </ul>	

	YEAR 2005	OBJECTIVES	To phase-out the use of CFC 11 in the manufacturing of polyurethane foam and conversion to non-CFC process
	Conversion to non-CFC In the Foam Manufacturing Industries.	TARGET GROUP	SMEs manufacturing foam, cold rooms, bonded trucks, boats, cushions, refrigeration systems, etc.
		IMPACT	Reduction of CFC 11 in manufacturing process
NO	DESCRIPTION	STATUS/REMARKS	
1	Status of Group Sub-Project (Phase I)	<ul style="list-style-type: none"> <li>• Consultant/GC was appointed in January 2003</li> <li>• A group project including 14 SMEs has been completed in July 2004. Total phase-out amounted to 10.25 ODP tonnes of CFCs and a total of USD 105,000 disbursed.</li> </ul>	
2	Status of Individual Sub-Projects (Phase II and III)	<ul style="list-style-type: none"> <li>• As of December 2005, all 22 individual sub-projects have been completed with a total phase-out of 129.95 ODP tonnes and all 22 Project Completion Reports (PCR) submitted to DOE.</li> <li>• A total of USD 1, 022,800.50 was disbursed for these Individual Sub-Projects.</li> </ul>	
3	Status of four (4) last Individual Sub-Projects	<ul style="list-style-type: none"> <li>• Project proposals submitted to DOE on April 8, 2005 by GC.</li> <li>• Total amount of CFCs planned to be phased out by these four subprojects is 55.91MT with an estimated cost of USD 240,608.00.</li> </ul>	

NO	YEAR 2005	OBJECTIVES	Increase technical capacity of the refrigeration service workshops
	Refrigeration Service Sector (RSS)	TARGET GROUP	Commercial and domestic refrigeration service workshops
		IMPACT	Reduction of CFC-12 consumption in commercial and domestic refrigeration service and maintenance workshops; and proper handling and good workshop practice
NO	DESCRIPTION	STATUS/REMARKS	
1	Sector progress	<ul style="list-style-type: none"> <li>A proposal for the Sector Implementation Plan (SIP) of the Refrigeration Service Sector (RSS) and the Terms of Reference (TOR) for the project's GC, were prepared by DOE in November 2004.</li> <li>TOR for the appointment of GC has been published in the local newspapers on March 15, 2005. A total of three (3) bidders submitted their quotation and proposal by April 4, 2005 and a presentation by the bidders was held on April 11, 2005.</li> <li>The firm Aksijasa Supply &amp; Services Sdn Bhd was selected as GC and a contract was signed in February 14, 2006.</li> </ul>	

#### 4. GOVERNMENT ACTION

##### 4.1 Project Management Unit (PMU)

23. The PMU started operations in January 2004. A summary of their activities is included in Table 5.

**Table 5: Activities carried out by PMU in 2005**

NO	YEAR 2005	OBJECTIVES	To provide Government with necessary support to carry out all activities proposed under this plan
	Project Management Unit	TARGET GROUP	Department of Environment
		IMPACT	Strengthen capacity of Government to carry out the NCFCP to ensure timely and effective preparation and execution of the project activities
NO	DESCRIPTION	STATUS/REMARKS	
1	Set up of PMU	4 staff members: Technical Officers (2), Public Outreach Officer, and Project Accountant started of work in January 2004. They are put under supervisor of the Ozone Protection Section in Air Division.	

**4.2 PMU – Public Awareness Activities**

No	Activities	Schedule of Implementation	Status
<b>A</b>	<b><u>Training/ Meeting/ Seminar</u></b>		
1	NOU 2005 Program Meeting	2 – 4 February 2005	Palm Garden Hotel, Putrajaya. Attended by 55 DOE State Officers.
2	NCFCP & Refrigeration Identifier (RI) Training	2 January 2005	Putra Palace, Kuala Kangsar. Attended by 75 officers from DOE/RTD/PUSPAKOM.
3	Hands on Training for RI and ODS Regulations	18 April 2005	Completed
4	Dialogue session on refrigeration service sector (RSS) & NCFCP.	12 May 2005	Completed
5	Final announcement and List of Authorized Training Centre	15 and 17 January 2005	In local newspapers (Utusan Malaysia, NST, Nanyang Siang Pau, Sin Chew Jit Poh, Borneo Post and Sarawak Tribune).
6	Metered Dosage Inhaler advertisement	8 February 2005	In local newspapers
7	Announcement on appointment of GC and RSS Program	15 March 2005	Completed
8	Awareness Campaign on the Ozone Protection and Pollution Control on Motor Vehicle. (TV3 Carnival Sure Heboh.)	2 – 4 September 2005	At Bukit Jalil, Kuala Lumpur
9	Ozone Awareness seminar	20 September 2005	Held at DOE's Terengganu State office.

No	Activities	Schedule of Implementation	Status
<b>B</b>	<b><u>Printing and Publication</u></b>		
10	Reprint of the National Strategy CFC MDI and Awareness Pamphlets	March 2005	Completed
11	Ozone Bulletin (April-Dec. 2004)	March 2005	Completed
12	Ozone Mouse Pad	March 2005	Completed
13	Ozone sun shade	April 2005	Completed
14	Ozone envelope	June 2005	Completed
15	Reprinting of MAC Service sector posters	June 2005	Completed
16	Reprinting of MAC working procedure brochure	June 2005	Completed
17	Reprinting of MAC Training Manual	June 2005	Completed
18	2005 ODS Calendar	January 2005	Completed
19	Ozone Bulletin (Jan – June)	September 2005	Completed
20	Ozone Paper Bag	August 2005	Completed
21	Ozone Poster's Lamination	August 2005	Completed

### 4.3 Regulatory Actions

24. A summary of regulatory actions that have been implemented by the Government of Malaysia as part of the NCFCP is presented in Table 6. These include regulations that have been put in place since the year 2000.

25. Announcement of a ban on the use of CFCs in the manufacturing sector by the end of 2005 was initially made in a statement by the Minister of Environment at the November 2004 Meeting of the Parties to the Protocol in Prague. This announcement was a regulatory commitment of the Malaysian Government under the NCFCP Agreement.

26. An amendment of the Malaysian Refrigerant Management Law was approved by Cabinet and became operational on December 1, 2004. The amendment includes, among others, the following new requirements: a) all refrigeration service shops (including MAC) are required to be equipped with R&R units; and b) all service technicians who handle refrigerant must be trained and certified.

27. Mandatory inspection of MAC systems of commercial vehicles has been implemented, effective December 2004. The new requirement will be enforced by PUSPAKOM and DOE.

**Table 6: Regulatory activities carried out by Government**

No	POLICY / ACTIVITY PLANNED	SCHEDULE OF IMPLEMENTATION	STATUS
1.	Control of import quota through AP system <sup>1</sup>	January -December 2005	Import control policy in place and in operation since 2000
2.	Announcement of Import Quotas for CFCs from 2002-2010 <sup>2</sup>	Since December 2001	Announcement of import quota for 2005 was done in December 2004
3.	Criteria and procedures for financial support for investment projects <sup>2</sup>	January-December 2005	Completed for foam sector (Group Sub-Project and 22 Individual Sub-Projects). Remaining four last Individual Sub-Projects.  One project beneficiary approved under solvent sector.
4.	Announcement of Mandatory MAC Inspection Requirement	Since December 2004	On-going
5.	Amendment of Refrigerant Management of 1999	Since December 2004	Cabinet approved the Refrigerant Management amendment, which became effective on December 1st 2004.
6.	World Ozone Day	16 September 2005	Announcements through local mass media.
7.	Exhibition for the Consumer Day (by DOE HQ / State Offices)	September 2005	Completed
8.	Publication and printing for NCFCP, pamphlets, poster, sunshade, ODS Folder, CFC-free MDIs for awareness program.	January-December 2005	Completed
9.	Update DOE webpage	August-December 2005	On-going

<sup>1</sup> 2002 Performance Target<sup>2</sup> 2003 Performance Target

## 5. BUDGET AND FINANCIAL PERFORMANCE IN 2005

**Table 7: Financial performance 2005**

	Description	Total funding approved (US\$)	Disbursements in 2004 (US\$)	Cumulative disbursements by Dec. 2004 (US\$)	Disbursements in 2005 (US\$)	Cumulative disbursements by Dec. 2005 (US\$)
1	TA for MDIs	57,200	50,331	50,331	-	50,331
2	Investment Projects - CFC-113	49,720	-	-	-	-
3	Investment Projects - 1,1,1-TCA	769,929	-	-	156,526	156,526
4	Investment Projects - Foam	1,329,486	556,500	571,500	641,300	1,212,800
5	Investment Projects - Commercial. Refrigeration	137,330	-	-	-	-
6	Investment Projects - MAC	1,259,940	305,320	856,211	-	856,211
7	Train-the-Trainer - Refrigeration	319,000	-	-	-	-
8	Certification of Ref. Technicians		-	-	-	-
9	Financial Subsidy for Purchasing Refrigeration Servicing Equipment	825,000	-	-	-	-
10	MAC Inspection Requirement	259,600	146,225	146,225	-	146,225
11	Train-the-Trainer – MAC	319,000	271,545	271,545	5,000	276,545
12	Certification of MAC Technicians		-	-	-	-
13	Financial Subsidy for Purchasing MAC Servicing Equipment	4,026,000	200,434	200,434	1,272,700	1,473,134
14	Financial Subsidy for Purchasing MAC R&R Machines	453,200	-	-	476,000	476,000
15	Project Monitoring Unit	1,540,000	334,169	378,194	478,456	856,650
16	Custom Training	171,600	106,490	110,701	-	110,701
	<b>Sub-total</b>	<b>11,517,005</b>	<b>1,971,014</b>	<b>2,585,141</b>	<b>3,029,982</b>	<b>5,615,123</b>

**Table 8- Cumulative disbursement by approved tranches (as per Progress Report)**

Year of AWP	Amount approved (US\$)	Disbursement up to December 2005 (US\$)
2001	1,799,940	1,396,211
2002	2,969,065	2,342,766
2003	2,013,100	1,409,346
2004	1,688,300	466,800
2005	1,208,300	-
<b>Total</b>	<b>9,678,705</b>	<b>5,615,123</b>

## PART II - 2006 ANNUAL PLAN

### 1. TARGETS

Table 9: National Targets

Target (ODP Tonnes)				
Indicators		Preceding Year (2005)	Year of Plan (2006)	Reduction from previous year
Supply of ODS	Max. allowable import	717.7	597.7	120.0
	Actual imports (2005) or planned imports (2006)	668.0	579.0	89.0
Demand of ODS projected in NCFCP	Manufacturing	58.6	0	58.6
	Servicing	609.4	579.0	30.4
	<b>Total</b>	<b>668.0</b>	<b>579.0</b>	<b>89.0</b>

### 2. INDUSTRY ACTION

Table 10: Industry Targets

Sector	Consumption Preceding Year 2005 (ODP tonnes)	Target Consumption Year of Plan 2006 (ODP tonnes)	Reduction Within Year of Plan	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-out (ODP tonnes)
<b>Manufacturing</b>						
Aerosol	----	----	----	----		----
Foam	55.9	0	55.91	4		55.91
Refrigeration	----	----	----	----		----
Solvents	2.7	0	2.7	1		2.7
Other	----	----	----	----		----
<b>Subtotal</b>	<b>58.6</b>	<b>0</b>	<b>58.61</b>	<b>5</b>		<b>58.6</b>
<b>Servicing</b>						
Refrigeration and air conditioning	609.4	579.0	30.4	-	8	30.4
<b>Subtotal</b>	<b>609.4</b>	<b>579.0</b>	<b>30.4</b>	<b>-</b>	<b>8</b>	<b>30.4</b>
<b>GRAND TOTAL</b>	<b>668.0</b>	<b>579.0</b>	<b>89.0</b>	<b>5</b>	<b>8<sup>3</sup></b>	<b>89.0</b>

<sup>3</sup> Eight activities are (i) Operation of MASHRAE Project, (ii) Chiller Replacement/Retirement, (iii) Retirement of CFC-12 Domestic Refrigerators, (iv) Retirement of CFC-12 Refrigerator Containers, (v) New Vehicle Inspection Requirement Upgrading Capacity of Inspection Stations, (vi) Train-the-Trainer Program and Certification of MAC Service Technicians, (vii) Financial Subsidy for R&R Machines; and (viii) Customs ODS Training Program.



### 3 TECHNICAL ASSISTANCE ACTIVITIES PLANNED

#### 3.1 MDI Program

28. For 2006, DOE is planning to conduct series of road shows, seminars and awareness program to promote the CFC-free MDI Strategy.

#### 3.2 MAC Inspection Program (PUSPAKOM)

29. Activities under this component, as per the approved NCFCP project document, have been completed. No additional activities are planned.

#### 3.3 Custom-ODS Training Program (COTP)

30. The final session of hands-on COTP will be organized during calendar year 2006.

31. A summary of Technical Assistance activities planned as part of the NCFCP in 2006 are summarized in Table 11.

**Table 11: Planned technical assistance activities for 2006**

NO	(2006) PROPOSED ACTIVITY	OBJECTIVES	To increase awareness on CFC MDI transition plan
	CFC in MDI Sector	TARGET GROUP	Pharmaceutical Association, Doctors, MDI Importers, and Patients
		IMPACT	To promote the use of non-CFC MDI
	DESCRIPTION	STATUS/REMARKS	
1	Planned activity for sector	<ul style="list-style-type: none"> <li>Conducting series of road shows, seminars and awareness program.</li> </ul>	

NO	(2006) PROPOSED ACTIVITY	OBJECTIVES	Build technical capacity of custom officials to monitor the import of ODS
	Customs Training Program	TARGET GROUP	Custom officials and DOE State Officers
		IMPACT	Strengthen effectiveness of import control system of CFC
	DESCRIPTION	STATUS/REMARKS	
1	Custom-ODS Training Program	<ul style="list-style-type: none"> <li>DOE and the Custom Training Centre (AKMAL) plans to organize a final hands-on COTP in 2006.</li> </ul>	

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## **4 INDUSTRY ACTION (SUB PROJECTS)**

### **4.1 MAC Servicing Sector**

#### Certification of Service Technician Program (CSTP)

32. It is estimated that additional 134 MAC service workshop technicians will participate in the Certification of Service Technician Program (CSTP) in 2006. With this final series of training workshops, the target of training technicians from 3,000 workshops (as per the NCFCP) will have been met.

#### Procurement of Equipment (R&R machines and MAC Tools)

33. The distribution of vouchers for procurement of MAC Basic Tool kits is ongoing. It is estimated that by the end of 2006, the remaining 489 basic MAC service tool kits, out of the 3,000 initially targeted for distribution, will be supplied to certified technicians.

34. Verification and supply of the remaining 376 vouchers for MAC R&R machines to certified beneficiaries is forecasted to be completed by the end of 2006.

### **4.2 ODS Solvent Study**

35. The Seasonair project is in its final phase of implementation and the project will be financially completed in the first quarter of 2006.

### **4.3 Foam Phase-Out Project**

36. Total amount of CFCs expected to be phased out by the final four subprojects approved in 2005 is 55.9 ODP tonnes, at an estimated cost of USD 240,608.00. Projects expected to be completed by mid 2006.

### **4.4 Refrigeration Servicing Sector (RSS)**

#### Certification of ATC – Train-the-Trainer Program (TTP)

37. It is expected that the Train-the-Trainer Program for the RSS component of the NCFCP will begin by mid 2006. DOE intends to select a maximum of twenty (20) centres throughout Malaysia to be 'Authorized Training Centres' (ATC). Each qualified applicant for ATC will have to attend training under the Train-the-Trainer Program. After undergoing accreditation, each ATC will be required to conduct training programs for other refrigeration service workshops within their region (Certification of Service Technician Program). Each qualified ATC will receive a set of basic tools for refrigeration service and a set of Recycle and Recovery (R&R) Machines.

#### Certification of Service Technician Program (CSTP)

38. This program shall commence after the completion of RSS TTP. This program shall focus on workshops whose nature of business is providing servicing and maintenance for the commercial and domestic refrigeration sector. 625 workshops are targeted to be certified by the end of this program, out of which, 500 workshops shall receive financial subsidy for basic maintenance tool kits using a voucher scheme. 88 certified and selected workshops are expected to receive financial subsidy for R&R machines, implemented through the voucher scheme as well.

39. A summary of industry actions planned for 2006 is included in Table 12.

**Table 12: Industry Actions (Sub Projects) planned for 2006**

NO	(2006) PROPOSED ACTIVITY	OBJECTIVES	Increase technical capacity of the MAC service workshops
	DESCRIPTION	TARGET GROUP	Authorized Training Centres (ATC) and MAC service Workshops
			IMPACT
		STATUS/REMARKS	
1	Procurement of Equipment (R&R and MAC Service tool)	<ul style="list-style-type: none"> <li>It is estimated that by the end of 2006, the remaining 489 basic MAC service tools shall be supplied to certified technicians.</li> <li>Verification and supply of the remaining 376 MAC R&amp;R machines to certified beneficiaries is forecasted to be completed by the end of 2006</li> </ul>	
2	Certification of Service Technician Program (CSTP)	<ul style="list-style-type: none"> <li>It is estimated that an additional 134 MAC service workshop technicians will participate in the Certification of Service Technician Program (CSTP) in 2006. The CSTP is part of the new requirements under the Refrigerant Management Amendment Regulation of 2004, which was announced and published in December 2004.</li> </ul>	

NO	(2006) PROPOSED ACTIVITY	OBJECTIVES	To reduce amount of ODS used in manufacturing Industry process
	DESCRIPTION	TARGET GROUP	SME (Manufacturing Industries)
			IMPACT
		STATUS/REMARKS	
1	Identification of remaining users of CFC 113, 1,1,1TCA and CTC	<ul style="list-style-type: none"> <li>Seasonair project will be completed in first quarter of 2006</li> </ul>	

NO	(2006) PROPOSED ACTIVITY	OBJECTIVES	To phase-out the use of CFC 11 in the manufacturing of polyurethane foam and conversion to non CFC Process
	DESCRIPTION	TARGET GROUP	SME in manufacturing of foam, cold rooms, Bonded trucks, boats, cushions, refrigeration systems etc.
			IMPACT
		STATUS/REMARKS	
1	Status of program	<ul style="list-style-type: none"> <li>Total amount of CFCs planned to be phased out by last approved subprojects is 55.91MT with an estimated cost of USD 240,608.00. Projects expected to be completed by mid 2006.</li> </ul>	

	(2006) PROPOSED ACTIVITY	OBJECTIVES	Increase technical capacity of the refrigeration service (commercial and domestic) workshops
	Refrigeration Service Sector (RSS)	TARGET GROUP	Authorized Training Centres (ATC) and refrigeration service workshops
		IMPACT	Reduction of CFC-12 consumption in refrigeration servicing and proper handling and good workshop practice
NO	DESCRIPTION	STATUS/REMARKS	
1	Certification of ATC Train-the-Trainer Program (TTP)	<ul style="list-style-type: none"> <li>The Train-the-Trainer Program will begin by mid-2006. DOE intends to select a maximum of twenty (20) centres throughout Malaysia to be 'Authorized Training Centres' (ATC). Each qualified applicant for ATC will have to attend training under the Train-the-Trainer Program. After undergoing accreditation, each ATC will be required to conduct training programs for other refrigeration service workshops within their region (Certification of Service Technician Program). Each qualified ATC will receive a set of basic tools for refrigeration service and a set or Recycle and Recovery (R&amp;R) Machines.</li> </ul>	
2	Certification of Service Technician Program (CSTP)	<ul style="list-style-type: none"> <li>Shall commence after the completion of TTP. This program shall focus on workshops whose nature of business is providing servicing and maintenance for the commercial and domestic refrigeration sector. 625 workshops are targeted to be certified by the end of this program, out of which, 500 workshops shall receive financial subsidy for basic service or maintenance tools using a voucher scheme. 88 certified and selected workshops are expected to receive financial subsidy for R&amp;R machine, implementing the voucher scheme as well.</li> </ul>	

#### 4.5 Project Management Unit (PMU)

40. The government plans to extend the PMU services beyond 2006, as the PMU was expected to be in place for four years (2002-2006) but has only functional for two (2004-2006). Moreover, the MAC and RSS components of the NCFCP are under full implementation and will require the expertise and the dedicated attention of the PMU. It is expected that the PMU will function until 2008-2009.

41. Several public awareness events have been planned for 2006. These include: a) National Strategy and Action Plan Workshop on ODS Awareness Program; b) media advertisement; and c) distribution of posters and other printed materials. It is estimated that USD 150,000 will be disbursed in PR-related activities by the end of 2006.

42. The output of the Workshop shall be analyzed by DOE and assessed by Co-ordinator and finally will be documented as the "National Strategy and Action Plan on the ODS Awareness Program".

43. A summary of planned PMU activities for 2006 is included in the following table:

#### 4.6 PMU – Proposed Awareness Activities (2006)

No	Activities	Schedule of Implementation	Remarks
<b>A</b>	<b><u>Publication/Advertisement/Announcement/ Multimedia/Souvenir</u></b>		
1	Publication of Ozone Bulletin	Jan – June 2006 July – Dec 2006	To be distributed to related industries, government agencies, universities, colleges, etc.
2	Publication/advertisement on Refrigeration Service Sector Project (RSS)  Invitation on ATC Invitation on qualified supplier Announcement on List of ATC. Poster on Code of Practice Brochure on List of ATC Poster on Standard Working Procedure Brochure on Registration Form for CSTP	Jan 2006 Mar – Apr 2006 Mar – Apr 2006 June – Sept 2006 Mar – Apr 2006 June – Sept 2006  June – Dec 2006	Brochures and posters will be distributed to the service technician.
3	Multimedia/Reproduction of VCD Ozzy Ozone	Apr – May 2006	Approximately 1000 pieces of VCD will be reproduced and distributed to selected schools throughout Malaysia.

No	Activities	Schedule of Implementation	Remarks
4	Publication/Reproduction of 'Montreal Protocol And You' (Malay version)	Mar – Apr 2006	2000 pieces will be reproduced and distributed to selected schools throughout Malaysia.
5	Souvenir for ODS Exhibition/DOE Consumer Day	Feb – Dec 2006	Reproduce: memo pad, mug and umbrella and distributed to public.
6	Advertisement on NCFCP	Jan – Mar 2006	Announcement on the NCFCP in three different newspapers.
7	DOE Website on the progress of the NCFCP.	Jan – Dec 2006	Updates on the progress of the NCFCP.
<b>B</b>	<b><u>Publication/Advertisement/Announcement/ Multimedia/Souvenir</u></b>		
8	Dialogue Government with CFC Importers	Jan – June 2006	To create awareness on the NCFCP and the Environmental Quality Act 1974.
9	Dialogue On MAC: DOE, GC, Automobile Association, Air-Conditioning Manufacturers & CFC Importer.	Jan – June 2006	To create awareness on the NCFCP and to have a dialog on the problems and suggestions for MAC project.
<b>C</b>	<b><u>World Ozone Day Celebration</u></b>		
10	Announcement through media for 3 days.	14-16 Sept 2006	Create awareness to the public on the World Ozone Day.
11	Highway Digital Board Display for 3 days in three different locations.	Sept 2006	Create awareness to the public on the World Ozone Day.
12	In-train Panel Advertisement on Ozone Protection	Jan – Dec 2006	To be advertised on 20 in-train panel for 12 months

No	Activities	Schedule of Implementation	Remarks
13	Bus Advertisement On Ozone Protection and World Ozone Day.	Jan – Dec 2006	To be advertised on three or four buses for duration of 3 months (Aug, Sept, Oct)
15	Advertisement on the overhead bridge at major highway.	Jan – Dec 2006	To be advertised on two overhead bridge for 12 months.
16	Air Pollution and Ozone Layer Protection VCD.	Jan – Sept 2006	To be edited and shown on TV during the World Ozone Day.
<b>D</b>	<b><u>Post Review On National Awareness Program Under NCFCP 2002-2010</u></b>		
17	ODS Exhibition at Public Areas (twice a year)	May & Sept 2006	Exhibition will be on ozone protection and held at for example Malls/ galleries/ National Library/ Schools/ Universities/ College, etc.
18	Trailer or Documentary On Ozone Protection		Will be shown in major TV station: RTM, NTV7 & TV3 to create awareness to public on the ozone protection
19	National Strategy and Action Plan Seminar on ODS Awareness Program	June – Dec 2006	Will be organized by the Evaluation Co-ordinator and DOE.
20	Printing of the National Strategy and Action Plan on ODS Awareness Program Document	July – Dec 2006	Will be distributed to related industries, government agencies & public

## 6. GOVERNMENT ACTION

### Verification of the ODS Consumption Level and Financial Audit.

44. The Government commissioned its 2005 consumption verification report. All 2005 ODS import data, as well as the 2005 financial report was sent to the National Audit Department (NAD), as has been done in previous years. The audit is expected to be completed by mid-2006.

### ODS Awareness Activities

45. DOE plans to carry out public awareness activities to increase knowledge and awareness of the enterprises and the public of the government policies pertaining to completed phase out of CFC, TCA, and CTC.

46. Key awareness activities for Government actions under NCFCP are summarized in Table 13 below.

**Table 13: Key Government actions under NCFCP**

NO.	POLICY/ACTIVITY PLANNED	SCHEDULE OF IMPLEMENTATION	STATUS
1.	Control import quota for 2005 through AP system <sup>1</sup>	Since 2002	On going. Import control policy in place and in operation
2.	Verification of import quota for 2005 Verification of Financial for 2005	July 2006 April 2006	On going On going.
3.	Announcement of Import Quotas for CFCs from 2002-2010 <sup>2</sup>	Since December 2002	On-going.
4.	Criteria and procedures for financial support for investment projects <sup>2</sup>	Established since 2000	On-going for the final solvent and 4 final foam Individual Sub-Projects.
5.	Announcement of Mandatory MAC Inspection Requirement	Since December 2004	
6.	Government announced the ban of CFCs in the manufacturing sector to be implemented by the end of 2005 <sup>3</sup>	From January 2005	Announcement in statement by the Minister of Environment in November 2004, later published in local newspapers
7.	Final batch of phaseout activities in the manufacturing sector approved and scheduled for completion <sup>4</sup>	December 2005	Projects will be fully completed by mid 2006
8.	Amendment of Refrigerant Management Law of 1999	From December 2004	Cabinet approved the Refrigerant Management amendment, which became effective on December 1st 2004.
9.	Update Yearly National Survey Uses of Methyl Bromide in QPS and non QPS activities	June-July 2006	On going. Survey will be carried out by the Dept. of Agriculture.
10.	Hands-on Training for Customs Officers and DOE Officers under Custom-ODS/COTP program.	April 2006	Will be attended by Customs Officers and DOE Officers.
11.	Continue dialog on initiative to promote the use of ODS-free products in all new Government Contracts	December 2006	Meeting with Ministry of Finance/MITI/Ministry of Domestic Trade/NGO/Suppliers- on-going discussion
12.	Project Management Unit (PMU)	January – December 2006	Services for 4 PMU staffs recruited as expert are extended in 2006.

<sup>1</sup> 2002 Performance Target<sup>2</sup> 2003 Performance Target<sup>3</sup> 2004 Performance Target<sup>4</sup> 2005 Performance Target



NO.	POLICY/ACTIVITY PLANNED	SCHEDULE OF IMPLEMENTATION	STATUS
13.	Enforcement/Audit/Verification	January -November 2006	On going activities. Identification potential project and monitoring projects approved by MLF
14.	Develop Strategy – NO new CFC-MAC and Refrigeration System	Since December 2005	Identification on options in any new vehicles/On-going discussion
15.	Develop Strategy – Ban the Import/Sale and Use CFC in the MAC and Refrigeration Sector.	Since December 2005	Identification of potential guideline/on-going discussion
16.	Finalize PMU database of trained MAC servicing technicians and workshops having received equipment <sup>5</sup>	December 2006	In progress. Database is updated after the end of each training session.
17.	Certification of Service Technician Program (CSTP)/Theory and Hands-on Practical Training for R&R / MAC Program  Train the Trainer program (TTP) under RSS Program  Certification of Service Technician Program (CSTP) for RSS	January -November 2006  March 2006  June 2006	On-going.
18.	Printing and Publication:  *Reprint of the NCFCP booklet.  *Reprint of the Pamphlet for Ozone Protection Section  *Reprint NCFCP pamphlet  *Poster for Code of Good Work Practice for RSS  * Reprint of the Code of Good Work Practice for MAC  *National MB Phase-Out Strategy  *National Strategy and Action Plan for ODS Public Awareness  *Reprint of the Pamphlet for MAC Inspection Requirement  *Reprint of the Pamphlet for List of MAC-ATC	February - March 2006  May 2006  July 2006  March 2006  May 2006  July 2005  March 2006  May 2006  May 2006	On going  On going  On going  On going  On going  On going. Document will be published by the consultant appointed by UNDP/DOA.  On going. Document being prepared as guidance for long term strategy to meet the national commitment for free CFC before 2010.  On going  On going

<sup>5</sup> 2006 Performance Target

NO.	POLICY/ACTIVITY PLANNED	SCHEDULE OF IMPLEMENTATION	STATUS
	*Reprint of the Pamphlet for Ozone-MP for School Children/Public *Reprint of the Pamphlet for Standard Operating Procedure for MAC *Ozone “exhibition/office display”	June 2006 March 2006 February – December 2006	On going On going On going. Updated information will be displayed by Ozone Protection Section (OPS).
19.	ODS Web site	February-December 2006	On going. Information will be updated by OPS every 2 months.

## 7. BUDGET FOR 2006

**Table 14 – Budget and planned disbursement in 2006**

	Description	Total funding (US\$)	Funding approved as of Dec. 2005 (US\$)	Cumulative disbursements by Dec. 2005 (US\$)	Expected approvals in 2006 (US\$)	Expected disbursement in 2006 (US\$)
1	TA for MDIs	57,200	57,200	50,331	-	3,000
2	Investment Projects - CFC-113	49,720	49,720	-	-	
3	Investment Projects - 1,1,1-TCA	769,929	769,929	156,526	-	242,158
4	Investment Projects - Foam	1,329,486	1,329,486	1,212,800	-	240,608
5	Investment Projects - Commercial Refrigeration	137,330	137,330	-	-	-
6	Investment Projects - MAC	1,259,940	1,259,940	856,211	-	-
7	Train-the-Trainer - Refrigeration	319,000	180,000	-	184,000	184,000
8	Certification of Ref. Technicians	-	-	-	-	-
9	Financial Subsidy for Purchasing Refrigeration Servicing Equipment	825,000	-	-	-	40,000
10	MAC Inspection Requirement	259,600	259,600	146,225	-	-
11	Train-the-Trainer - MAC	319,000	319,000	276,545	-	14,000
12	Certification of MAC Technicians	-	-	-	-	-
13	Financial Subsidy for Purchasing MAC Servicing Equipment	4,026,000	3,465,100	1,473,134	561,000	1,467,881
14	Financial Subsidy for Purchasing MAC R&R Machines	453,200	339,900	476,000	113,300	786,800
15	Project Monitoring Unit	1,540,000	1,340,000	856,650	200,000	337,000
16	Custom Training	171,600	171,600	110,701		8,000
	<b>Sub-total</b>	<b>11,517,005</b>	<b>9,678,805</b>	<b>5,615,123</b>	<b>1,058,300</b>	<b>3,323,447</b>

*Note: Funding from earlier tranches will be used to cover activities proposed in the 2006 Annual Plan, since costs will exceed the 2006 allocation.*