



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



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COMITÉ EJECUTIVO DEL FONDO MULTILATERAL  
PARA LA APLICACIÓN DEL  
PROTOCOLO DE MONTREAL  
Sexagésima primera Reunión  
Montreal, 5 al 9 de julio de 2010

**ENMIENDAS AL PROGRAMA DE TRABAJO DEL BANCO MUNDIAL  
PARA EL AÑO 2010**

## OBSERVACIONES Y RECOMENDACIONES DE LA SECRETARÍA DEL FONDO

1. El Banco Mundial solicita del Comité Ejecutivo la aprobación de una suma de 765 453 \$EUA a título de enmienda de su programa de trabajo para el año 2010, más costos de apoyo al organismo por un monto de 57 409 \$EUA. El programa de trabajo se adjunta al presente documento.

2. En el Cuadro 1 que se indica *infra* se recogen las actividades propuestas en las enmiendas del programa de trabajo del Banco Mundial:

Cuadro 1: enmiendas del programa de trabajo del Banco Mundial

País	Actividad/Proyecto	Suma solicitada (\$EUA)	Suma recomendada (\$EUA)
<b>SECCIÓN A: ACTIVIDADES RECOMENDADAS PARA APROBACIÓN GENERAL</b>			
<b>A1. Renovación de proyectos de fortalecimiento institucional:</b>			
Túnez	Renovación de proyecto de fortalecimiento institucional (Fase VI)	185 453	185 453
Total parcial para A1:		185 453	185 453
<b>A2. Preparación de proyecto del Plan de gestión de eliminación de HCFC (componente de inversión)</b>			
Jordania	Preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC en el sector de equipos de refrigeración (comercial)	30 000	30 000
Tailandia	Preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC en el sector de espumas	100 000	100 000
Tailandia	Preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC en el sector de equipos de refrigeración	100 000	100 000
Tailandia	Preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC en el sector de aire acondicionado	100 000	100 000
Total parcial para A2:		330 000	330 000
<b>SECCIÓN B: ACTIVIDADES RECOMENDADAS PARA CONSIDERACIÓN INDIVIDUAL</b>			
<b>B1. Asistencia técnica:</b>			
Mundial	Movilización de recursos para estudiar los beneficios climáticos de la eliminación del consumo de HCFC	250 000	*
Total parcial para B1:		250 000	*
Total para las secciones A y B		765 453	515 453
Costos de apoyo al organismo (7,5 por ciento para la preparación del proyecto y el fortalecimiento institucional, así como para otras actividades de más de 250 000 \$EUA, y 9 por ciento para otras actividades de menos de 250 000 \$EUA):		57 409	38 659
Total:		822 862	554 112

\*Proyecto para consideración individual o pendiente.

## SECCIÓN A: ACTIVIDADES RECOMENDADAS PARA APROBACIÓN GENERAL

### A1. Renovación de proyectos de fortalecimiento institucional

- a) Túnez (Fase VI): 185 453 \$EUA

#### Descripción del proyecto

3. El Banco Mundial solicitó la renovación del proyecto de fortalecimiento institucional para Túnez. La descripción de esta solicitud se recoge en el Anexo I que se adjunta al presente documento.

#### Observaciones de la Secretaría

4. La Secretaría del Fondo examinó el informe del fortalecimiento institucional atinente a la eliminación definitiva y el plan de acción presentados por el Banco Mundial en nombre de Túnez con miras a respaldar la solicitud de renovación, tras lo que concluyó que los informes eran aceptables y en estaban armonía con las prescripciones de tales renovaciones. La Secretaría tuvo en cuenta las decisiones 57/36 b), 58/16, 59/47 y 60/10, y, especialmente, la decisión 59/47, en la que el Comité Ejecutivo decidió “Prorrogar el apoyo financiero para fortalecimiento institucional para los países que operan al amparo del Artículo 5 después de 2010 y hasta diciembre de 2011”.

#### Recomendaciones de la Secretaría

5. La Secretaría del Fondo recomienda la aprobación general de la solicitud de renovación del proyecto de fortalecimiento institucional para Túnez con un nivel de financiación prorrateado hasta diciembre de 2011, como se recoge en el Cuadro 1 del documento UNEP/OzL.Pro/ExCom/61/26. Puede que el Comité Ejecutivo estime oportuno señalar a la atención del Gobierno de Túnez las observaciones que figuran en el Anexo II del presente documento.

### A2. Preparación de proyecto del Plan de gestión de eliminación de HCFC (componente de inversión)

Jordania: preparación de proyecto adicional de actividades de inversión del Plan de gestión de eliminación de HCFC (sector de equipos de refrigeración): 30 000 \$EUA

Tailandia: preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC (sector de espumas): 100 000 \$EUA

Tailandia: preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC (sector de equipos de refrigeración): 100 000 \$EUA

Tailandia: preparación de proyecto de actividades de inversión del Plan de gestión de eliminación de HCFC (sector de aire acondicionado): 100 000 \$EUA

#### Descripción del proyecto

6. El Banco Mundial solicitó financiación para la preparación de las actividades de inversión en los dos países indicados *supra*, para los que ya se aprobó la financiación destinada a la preparación del Plan de gestión de eliminación de HCFC. La presentación del Banco Mundial recogió la información básica sobre el consumo de HCFC en los dos países y sobre los sectores en los que acaece dicho consumo, e indicó cómo se vincularán estos planes sectoriales a un Plan general de gestión de eliminación de HCFC. En el caso de Jordania, la solicitud que se presenta corresponde a una financiación adicional destinada al

sector de equipos de refrigeración, para el que ya se aprobó una financiación de 30 000 \$EUA en la 60ª Reunión. El Banco Mundial justificó esta solicitud explicando que en esta preparación de proyecto se cubrirá más de una empresa. La información de apoyo a tales solicitudes se presenta en las enmiendas al programa de trabajo presentadas y que se adjuntan al presente documento.

### **Observaciones de la Secretaría**

7. La Secretaría examinó detenidamente las presentaciones del Banco Mundial y pidió aclaraciones donde lo consideró conveniente. La Secretaría concluyó que la información presentada para cada uno de los países indicados *supra*, así como la financiación solicitada a su respecto, está en consonancia con la decisión 56/16.

### **Recomendaciones de la Secretaría**

8. La Secretaría recomendó la aprobación general de las solicitudes de financiación para la preparación de las actividades de inversión destinadas al Plan de gestión de eliminación de HCFC en Jordania y en Tailandia, a los niveles de financiación que se recogen en el Cuadro 1 del documento UNEP/OzL.Pro/ExCom/61/26.

## **SECCIÓN B: ACTIVIDADES RECOMENDADAS PARA CONSIDERACIÓN INDIVIDUAL**

### **B1. Asistencia técnica**

Mundial: movilización de recursos para estudiar los beneficios climáticos de la eliminación del consumo de HCFC: 250 000 \$EUA

#### **Descripción del proyecto**

9. El Banco Mundial solicitó a las Reuniones 57ª, 58ª, 59ª y 60ª financiación por un monto de 250 000 \$EUA para un proyecto de asistencia técnica destinado a la movilización de recursos a fin de potenciar al máximo el beneficio climático de la eliminación de los HCFC. El Banco Mundial presenta de nuevo dicha solicitud a la consideración del Comité Ejecutivo en la presente reunión. La propuesta incluye una nota conceptual por la que se describen los objetivos, las actividades y, además, los resultados que se prevén obtener de este proyecto. Dado que el proyecto no se examinó detenidamente en reuniones anteriores, el Banco Mundial vuelve a presentarlo a la 60ª Reunión sin cambio alguno.

10. El cuadro que se indica *infra* facilita un desglose de los 250 000 \$EUA conforme a la solicitud efectuada por el Banco Mundial:

<b>Elemento</b>	<b>Descripción</b>	<b>SEUA</b>
Volumen potencial de reducción equivalente de emisiones de dióxido de carbono	Examen de las aplicaciones HCFC actuales y de las alternativas disponibles sin HCFC; análisis de mercado sobre la penetración de diversas alternativas (de alto y bajo potencial de calentamiento mundial) y cálculo de los beneficios basado en el mayor rendimiento energético (habida cuenta de la labor en curso del Grupo de evaluación técnica y económica y del Grupo de Recursos para operaciones conexas al Ozono (OORG))	35 000
Obstáculos conexos a la conversión de la tecnología HCFC de consumo energético y recursos de eficacia básica a tecnologías alternativas de bajo potencial de calentamiento mundial que presentan un mayor grado de eficacia en el consumo energético y en los recursos	Encuesta del sector en una selección de países que operan al amparo del Artículo 5 y del Artículo 2 que son los principales proveedores de tecnología para cada aplicación de HCFC	50 000
Consumo y producción de HCFC	Encuesta del sector centrada en los productores de agentes químicos tanto en los países que operan al amparo del Artículo 5 como en los que no; análisis del mercado para prever las tendencias	10 000
Posibles fuentes de financiación	Examen de las actividades o proyectos en curso financiados por diversos mecanismos; examen de las metodologías actuales de los Mecanismos de desarrollo no contaminante y de otras diferentes; entrevistas con los beneficiarios previstos en los países que operan al amparo del Artículo 5; identificación de las posibles fuentes de financiación; desarrollo de métodos y modelos de proyectos para garantizar tales recursos	55 000
Creación de criterios, normas y metodologías de financiación	Desarrollo de herramientas para obtener recursos de financiación conjunta externos al Fondo Multilateral	70 000
Reuniones de consulta con las partes interesadas	3 reuniones de consulta	30 000
<b>Total</b>		<b>250 000</b>

### Observaciones de la Secretaría

11. En el párrafo 11 b) de la Decisión XIX/6 de la Decimonovena Reunión de las Partes se dan pautas orientativas al Comité Ejecutivo para que al examinar los proyectos de eliminación de HCFC conceda prioridad, entre otras cosas, a los “sustitutos y alternativas que limitan a un mínimo otras repercusiones en el medio ambiente, incluido el clima, teniendo en cuenta el potencial de calentamiento de la atmósfera, el uso energético y otros factores de importancia”. Hasta la fecha, el Comité Ejecutivo ha aprobado la financiación para la preparación de Planes de gestión de eliminación de HCFC para más de 160 países. Existe la expectativa de que tales planes que así se presenten a la aprobación del Comité Ejecutivo, examinarán e incluirán los incentivos financieros y las oportunidades de financiación conjunta, de conformidad con la decisión 54/39. Estos elementos de financiación conjunta podrían ser pertinentes para asegurar que la eliminación de los HCFC aporta beneficios de conformidad con el párrafo 11 b) de la decisión XIX/6 indicada *supra*.

12. La Secretaría toma nota de que puesto que los resultados del estudio propuesto por el Banco Mundial no estarán listos hasta 2010 o fechas posteriores, sólo servirán de asistencia a los países al facilitar orientaciones a los organismos en la ejecución de la 1ª etapa del Plan de gestión de eliminación

de los HCFC, y a la hora de examinar sus opciones de financiación conjunta para la preparación de la 2ª etapa, según sea el caso. La Secretaría toma nota, además, de que, hasta la fecha, el Comité Ejecutivo no ha presentado orientaciones sobre cómo sufragar los beneficios climáticos de la eliminación de los HCFC, y de si tales costos podrían considerarse como costos adicionales en lo que al Fondo Multilateral respecta.

**Recomendaciones de la Secretaría**

13. El Comité Ejecutivo puede estimar oportuno examinar la solicitud de asistencia técnica para la movilización de recursos destinados a potenciar al máximo los beneficios climáticos de la eliminación de los HCFC, basándose en la propuesta presentada y en las deliberaciones que en la 30ª Reunión del grupo de trabajo pudieran haberse celebrado al respecto del mecanismo de financiación especial.

**Anexo I**

**PROPUESTAS DE PROYECTO DE FORTALECIMIENTO INSTITUCIONAL**

**Túnez: renovación de proyecto de fortalecimiento institucional**

<b>Resumen del proyecto y perfil del país</b>		
Organismo de ejecución:		Banco Mundial
Montos previamente aprobados para reforzamiento institucional (\$EUA):		
	Fase I: Oct-92	285 312
	Fase II: Jul-98	186 700
	Fase III: Abr-03	242 667
	Fase IV: Abr-06	247 270
	Fase V: Jul-08	247 270
	<b>Total</b>	<b>1 209 219</b>
Monto solicitado para renovación (Fase VI) (\$EUA):		185 453
Monto que se recomienda aprobar para la Fase VI (\$EUA):		18 5453
Costos de apoyo del organismo (\$EUA):		13 909
Costo total de la Fase VI de reforzamiento institucional a sufragar por el Fondo Multilateral (\$EUA):		199 362
Volumen equivalente de eliminación de CFC derivado de la Fase VI de reforzamiento institucional a 12,1 \$EUA/kg (toneladas PAO):		nc
Fecha de aprobación del programa de país:		1996
Consumo de PAO notificado en el programa de país (1996) (toneladas PAO):		609
Consumo básico de referencia de sustancias controladas (toneladas PAO):		
a)	Anexo A Grupo I (Clorofluorocarbonos - CFC) (Media 1995-1997)	870,1
b)	Anexo A Grupo II (Halcones) (Media 1995-1997)	104,3
c)	Anexo B Grupo II (Tetracloruros de carbono) (Media 1998-2000)	2,9
d)	Anexo B Grupo III (1,1,1-tricloroetano) (Media 1998-2000)	0,1
e)	Anexo E (Metilbromuro) (Media 1995-1998)	8,3
Consumo de SAO notificado más recientemente (2009) (toneladas PAO) conforme al Artículo 7:		
a)	Anexo A Grupo I (CFC)	16,6
b)	Anexo A Grupo II (Halcones)	0
c)	Anexo B Grupo II (Tetracloruros de carbono)	0
d)	Anexo B Grupo III (1,1,1-tricloroetano)	0
e)	Anexo E (Metilbromuro)	6,6
f)	Anexo C Grupo I (Hidroclorofluorurocarbonos - HCFC)	44,3
	<b>Total</b>	<b>67,5</b>
Año de notificación de los datos de ejecución del programa de país:		2009
Monto aprobado para proyectos (\$EUA):		8 542 383
Monto desembolsado (a fechas de diciembre de 2009 ) (\$EUA):		7 418 679
SAO a eliminar (toneladas PAO):		1 208,8
SAO eliminadas (a fechas de diciembre de 2009) (toneladas PAO):		4 208,8

1 Resumen de actividades y montos de financiación aprobados por el Comité Ejecutivo:

<b>Resumen de actividades</b>		<b>Fondos aprobados (\$EUA)</b>
a)	Proyectos de inversión:	5 361 636
b)	Fortalecimiento institucional:	1 209 219
c)	Preparación de proyectos, asistencia técnica, capacitación y otros proyectos ajenos a la inversión:	1 971 528
	<b>Total:</b>	<b>8 542 383</b>

### Informe sobre la marcha de las actividades

2 El Gobierno de Túnez termina su actual fase del proyecto de reforzamiento institucional habiendo alcanzado un importante hito, a saber: haber eliminado completamente la eliminación del consumo de las sustancias correspondientes a los Anexos A y B en la fecha estipulada para los países que operan al amparo del Artículo 5 que fue el 1 de enero 2010. Los cimientos de tal logro fueron, primero, el ímpetu dado por la Dependencia Nacional del Ozono a los criterios de la ANPE (Agencia Nacional de Protección del Medio Ambiente), que aseguró que las cuotas de CFC se mantuvieran bien por debajo de los objetivos hasta 2009, y durante dicho años, y que los halones se hubieran eliminado de antemano hace ya años.

3 Los sondeos y los estudios acometidos en el Plan nacional de eliminación de SAO en 2008 y a principios de 2009 con objeto de identificar las esferas en las que se necesitaba inversión y asistencia técnica, sirvieron también para transmitir un mensaje inequívoco al sector privado sobre la inminente eliminación y las políticas gubernamentales complementarias. Durante el periodo 2008-2010, la Dependencia Nacional del Ozono tomó las riendas para establecer las disposiciones de ejecución, de conformidad con el Plan nacional de eliminación, y dirigió su ejecución. Así mismo, supervisó que se ejecutara plenamente en 2009 la auditoria de verificación del consumo para 2006 y 2007, tanto para los CFC como para los halones, y aseguró que el auditor tuviera el acceso necesario a los datos de las aduanas. Durante la última parte de la Fase V del reforzamiento institucional, la ANPE organizó reuniones informativas y de concienciación para todos los importadores de HCFC y productos que contuvieran HCFC en el marco de la eliminación acelerada de tales HCFC (Decisión XIX/6 de las Partes). Se crearon impresos y se distribuyeron a estas partes interesadas para recoger en ellos los niveles de importación y empleos de HCFC. A partir del 1 de enero de 2010, todas las nuevas importaciones quedaron recogidas en estos impresos, así como una indicación de los compradores de HCFC en el mercado de Túnez. Todo ello constituye un considerable avance para asentar los cimientos necesarios para las futuras políticas sobre eliminación de los HCFC, en lo que se incluyen las cuotas.

4 La Dependencia Nacional del Ozono en Túnez, enmarcada en la ANPE, se aseguró también de que su programa reglamentario de trabajo se ejecutara en el 2008 y hasta mediados de 2010. En ello se incluyó no sólo la ejecución del sistema de cuotas y la gestión del sistema de concesión de licencias, sino también la vigilancia de los sectores y de las empresas, y la notificación pertinente a las Secretarías del Ozono y del Fondo Multilateral.

### Plan de acción

5 La Fase VI del reforzamiento institucional para Túnez se concentrará tanto en mantener la eliminación de las sustancias de los Anexos A y B como en la implantación gradual de nuevos mecanismos, proyectos y planteamientos para gestionar los siguientes controles del consumo de HCFC estipulados por el Procotolo de Montreal, así como en gestionar el consumo de metilbromuro para fumigación. En lo que respecta a seguir el ritmo de eliminación de CFC y de halones logrado en 2009, la Dependencia Nacional del Ozono enmarcada en la ANPE tendrá como objetivo central la terminación del Plan nacional de eliminación para finales de 2011. La Dependencia Nacional del Ozono se asegurará de que el resto de las actividades de eliminación de SAO pendientes en el plano nacional quedan engranadas para impulsar la gestión sólida de las SAO instaladas y de las que haya en existencias, recortando así la demanda de consumo de SAO en el sector de servicios y mantenimiento y su ejecución. Ello conllevará la coordinación con los organismos y ministerios pertinentes, lo que nos llevará a las actividades de asistencia técnica y de capacitación de los diversos sectores y de los funcionarios de aduanas.

6 Durante la Fase VI del reforzamiento institucional, la Dependencia Nacional del Ozono se apoyará sobre las iniciativas que tomó a principios de 2010 respecto de los importadores de HCFC que requieran notificación sobre las cantidades importadas y los usos a los que se destinen los HCFC, todo lo que constituirá la base de la que, en su momento, emane un sistema de cuotas. La Dependencia Nacional



del Ozono participará intensamente en el proceso de desarrollo de su Plan de gestión de eliminación de HCFC y en identificar nuevos proyectos de inversión que posibiliten cumplir en 2013 y 2015 las obligaciones sobre los HCFC. Por último, las actividades reglamentarias que incluyan actividades de conciencia del pública, notificación y supervisión anual formarán una parte integral de la Fase VI del reforzamiento institucional.



## Anexo II

### **PUNTOS DE VISTA EXPRESADOS POR EL COMITÉ EJECUTIVO AL RESPECTO DE LA RENOVACIÓN DE LOS PROYECTOS DE FORTALECIMIENTO INSTITUCIONAL PRESENTADOS A LA 61<sup>A</sup> REUNIÓN**

#### **Túnez**

1. Tras analizar el informe de eliminación definitiva presentado junto con la solicitud de renovación del proyecto de reforzamiento institucional para Túnez, el Comité Ejecutivo encomió al Gobierno de dicho país por haber cumplido con éxito sus compromisos de eliminación contraídos en el Protocolo de Montreal y por sus objetivos de desempeño estipulados en el acuerdo plurianual con dicho Comité para la implantación del plan nacional de eliminación de SAO el 1 de enero de 2010 a lo más tardar. El Comité Ejecutivo, toma nota, con reconocimiento, de los esfuerzos desplegados por el Gobierno de Túnez para asegurar la eliminación de las sustancias del Anexo A al ejecutar el plan nacional de eliminación de SAO, sin por ello dejar de incluir activamente a las partes interesadas en las nuevas obligaciones de eliminación HCFC sirviéndose de consultas con los sectores público y privado. El Comité Ejecutivo alienta a Túnez a continuar su acertada ruta de control y eliminación de las SAO siguiendo su política de actividades de incremento de la divulgación, supervisión, ejecución y concienciación pública, al tiempo que, además, le anima a la puntual terminación del plan nacional de eliminación de SAO de Túnez.

**2010 WORK PROGRAM  
AMENDMENT**

**PRESENTED TO THE 61<sup>st</sup> MEETING  
of the EXECUTIVE COMMITTEE**

**WORLD BANK IMPLEMENTED  
MONTREAL PROTOCOL OPERATIONS**

**10 May, 2010**

## **WORK PROGRAM FOR WORLD BANK-IMPLEMENTED MONTREAL PROTOCOL OPERATIONS**

1. This proposed work program for Bank-Implemented Montreal Protocol Operations is prepared on the basis of the World Bank 2010 Business Plan also being submitted to the 61st meeting of the Executive Committee. The proposed 2010 Business Plan consists of investment and non-investment activities to ensure Article 5 partner countries' full compliance with the 2010 complete phase-out of CFCs, halon, and CTC, and also includes activities identified as necessary to assist Article 5 countries to meet their first two HCFC reduction targets (i.e., freeze in 2013 and 10% reduction in 2015).
2. The value of deliverables contained in the proposed 2010 World Bank Business Plan, including investment and non investment activities, totals US \$73.17 million, including agency support costs. Funds will be used to support both new and previously approved activities which combined, will capture an estimated 14,050 ODP tonnes in 2010.
3. The proposed 2010 Business Plan includes deliverables of 9 investment activities in 8 countries, totaling roughly US \$69.44 million. These include annual work programs for 5 previously approved multi-year projects and 4 new HCFC sector phase-out plans.
4. The proposed 2010 Business Plan allocates US \$2.15 million (roughly 3% of the total investment deliverables for the year) to support national and sector phase-out plans in Antigua & Barbuda, Thailand, Tunisia and Turkey, as well as India CFC production closure projects. The Business Plan also allocates US \$67.29 million (roughly 97% of total investment deliverables for the year) to support national and sectoral HCFC phase-out work in China, Indonesia and Sri Lanka.
5. In 2010, requests to support implementation of previously approved phase-out and sector plans will include subsequent funds for: i) approved CFC phase-out plans in Antigua and Barbuda, Thailand and Tunisia; ii) a commercial refrigeration sector plan for Turkey and iii) an accelerated CFC production closure in India.
6. The proposed 2010 Business Plan includes requests to extend support for implementation of two existing institutional strengthening projects in the Philippines and Tunisia, totaling US\$0.369 million.
7. The proposed 2010 Business Plan also includes a request to carry out a comprehensive study on resource mobilization to maximize climate benefits from HCFC phase-out. The concept note for this proposed activity, along with a breakdown of costs associated with conducting this proposed study, is included in Annex I.
8. A further request included in the proposed 2010 Business Plan involves organization of a workshop and preparation of a comprehensive study on Technology Options to Meet Accelerated HCFC Phase-out Obligations, a joint initiative to be carried out in partnership with UNEP.

9. The proposed 2010 Work Program, which is being submitted for consideration at the 61st Meeting of the Executive Committee, includes six (6) project preparation funding requests:

- i. four (4) for preparation of HCFC phase-out sector plans;
- ii. a funding request for the renewal of the institutional strengthening program for Tunisia; and,
- iii. one (1) for a global initiative, which proposes initiation of a comprehensive study on resource mobilization to maximize climate benefits from HCFC phase-out.

10. Brief descriptions of the six project preparation funding requests are included in Table 1.

**Table 1: Project Preparation Funding Requests Submitted for Consideration of the 60<sup>th</sup> Meeting of the Executive Committee**

Country	Request (US\$)*	Duration	Description
Jordan	30,000	July 2010 – July 2011	Supplementary funds for preparation of HCFC refrigeration sector plan (commercial)
Thailand	100,000	July 2010 – July 2011	HCFC Foam Sector Plan (consumption of 59 ODP T)
Thailand	100,000	July 2010 – July 2011	HCFC Refrigeration Sector Plan (consumption of 45 ODP T)
Thailand	100,000	July 2010 – July 2011	HCFC A/C Sector Plan (consumption of 156 ODP T)
Tunisia	185,453	July 2010 – December 2011	Institutional Strengthening renewal
Global	250,000	July 2010 – November 2011	Resource Mobilization for HCFC Phase-out Co-benefits Study
Support Costs	57,409		
<b>Total</b>	<b>822,862</b>		

**Annex I**  
**DRAFT CONCEPT NOTE**  
**RESOURCE MOBILIZATION FOR**  
**MAXIMIZING CLIMATE BENEFITS OF HCFC PHASE-OUT**

**BACKGROUND**

The Montreal Protocol on Substances that Deplete the Ozone Layer has been considered as one of the most successful global environmental treaties as it has proven to be an effective instrument in bringing down consumption and production of the most potent ozone depleting substances (ODS) by more than 400,000 Mt within the last two decades<sup>1</sup>. Consumption and production of CFCs, halons, and CTC will be completely phased out in less than 12 months, except for a limited quantity for essential usages.

As most ODS are high global warming gases, phase-out of CFCs, halons, and CTC has also brought climate benefits. The Montreal Protocol in the last two decades has resulted in avoided emissions of high global warming gases equivalent to 25 billion tons of CO<sub>2</sub> equivalent in comparison with 2 billion tons of CO<sub>2</sub> equivalent to be achieved under the first commitment period of the Kyoto Protocol<sup>2</sup>.

However, phasing out of these potent ODS has resulted in an increasing demand for high global warming gases including gases regulated under the Kyoto Protocol<sup>3</sup>. For example, the demand for HFC-134a, which is a primary alternative for CFC in new refrigeration and air-conditioning applications, was more than 133,000 Mt in 2002<sup>4</sup> and could exceed 400,000 Mt by 2015<sup>5</sup>. In the short term, replacing CFCs, which have significant higher global warming values than HFCs, resulted in significant climate benefits as mentioned above. With continuing growth in the demand for refrigeration and air-conditioning equipment particularly in developing countries, however, continuing dependence on HFCs could eventually pose significant burden to the climate in the long run.

The ozone and climate communities recognize the linkage between their efforts in protecting the ozone layer and the climate. Increasing efforts have been asserted in order to ensure synergy between the two associated global conventions. When the Parties of the Montreal Protocol decided in 2007 to accelerate the phase-out of HCFCs<sup>6</sup>, it was recognized that selection of alternative technologies for HCFCs should take into consideration climate impact and benefits. However, the accelerated phase-out of HCFCs

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<sup>1</sup> 2007 Consolidated Progress Report, Multilateral Fund Secretariat, July 2008.

<sup>2</sup> Velder and al. 2007. The Importance of the Montreal Protocol in Protecting Climate, Vol 104. PNAS,

<sup>3</sup> Emissions of greenhouses regulated under the first commitment period of the Kyoto Protocol (2008-2012) are CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>.

<sup>4</sup> Consumption of HCFCs grew at an average growth rate of more than 20% a year from 1995 – 2001. Consumption continues to grow at almost the same rate from 2002 – 2007.

<sup>5</sup> IPCC/TEAP Special Report: Safeguarding the Ozone Layer and the Global Climate System Chapter 11

<sup>6</sup> HCFCs are controlled by the Protocol since 1994 as “Annex C” substances. In 2007, The Parties of the Montreal Protocol negotiated an accelerated schedule of phase-out by ten years for all Parties for HCFCs. Developing countries have agreed to phase-out HCFCs by 2030.

could result in an unintentional growth of HFC demand as it was the case for CFC phase-out; therefore, efforts should be made to ensure that more consideration be given to low GWP alternatives despite the fact that some alternatives will require higher investment capital<sup>7</sup>.

Under the current regulatory frameworks, neither the Montreal Protocol, nor the Kyoto Protocol is systematical covering the costs associated with a transition to low GWP technologies. The Kyoto Protocol is covering the mitigation of emissions, while the concern will be at the production and consumption levels. The Montreal Protocol has proven to be an effective instrument to deal with phasing out of ODS at the production and consumption levels; however, HFCs, which is primarily replacing ODS in the air-conditioning sector are regulated under the Kyoto Protocol, a protocol that has demonstrated, through the Clean Development Mechanism, the effectiveness of market instrument to leverage funding for technology transfer in developing countries<sup>8</sup>. Elements from both conventions can therefore be analyze and compared to preempt the increase in the demand of HFCs or high GWP gases.

## **OBJECTIVES**

The objective of this study is to explore options for preempting an increase in the demand of HFCs or any other high global warming gases as a result of HCFC phase-out in developing countries. The study will review and examine potential financing mechanisms available for financing the transition to low GWP alternatives, including a scheduled phase-down of HFCs in developing countries and transition economies. This study will focus on direct emissions of chemical; however, it recognized that actions to reduced indirect emissions indirect emissions, such as energy efficiency improvement, can have a significantly higher impact that focusing strictly on chemical used<sup>9</sup>. Therefore, the proposed study will also addressed technologies limitations and tradeoff between energy efficiency gains and low GWP gases in order to maximize overall energy benefits.

## **HCFCs PHASE-OUT SCHEDULE OF THE MONTREAL PROTOCOL**

As per Article 7 data reporting requirements under the Montreal Protocol, the total consumption of HCFCs, mainly HCFC-141b, HCFC-142b, and HCFC-22, of all developing country Parties in 2006 is approximately 352,000 MT. Consumption of other HCFCs (for example, HCFC-123) represents only a small fraction in the HCFC consumption of most developing countries. It is expected that consumption of HCFCs would continue to grow if there were no Montreal Protocol obligations as demand for

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<sup>7</sup> Use of certain low alternative may result in higher capital due to toxicity and/or flammability of product and necessity to ensure that manufacturing facilities, production and servicing personnel are trained and equipped with necessary safety equipment.

<sup>8</sup> The State and Trends of the Carbon Market 2008, World Bank, 2008 reported a cumulative committed investment to CDM projects activities over 2002-2007 of about US\$59 billion, for an average leverage ratio of 3.8.

<sup>9</sup> IPCC/TEAP Special Report: Safeguarding the Ozone Layer and the Global Climate System Chapter 11.



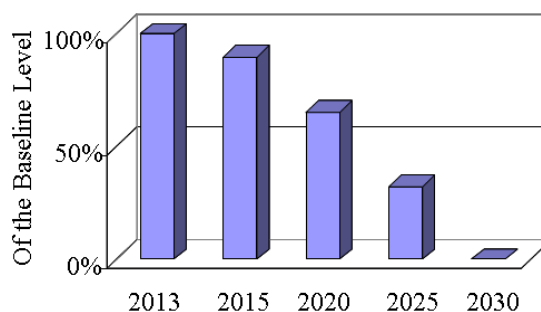
refrigeration and air-conditioning, and better insulation, in developing countries is growing at a rapid pace. Based on the aggregate HCFCs consumption trends of developing countries in the previous years, a growth rate of 9 - 10% per annum could be expected. By applying a 9% growth rate to the demand of each type of HCFCs, the total demand of HCFCs in developing countries could reach up-to 2.78 million tons level in 2030. The breakdown of HCFC demand in 2030 is shown in Table 1.

**Table 1. Demand of HCFCs (MT) Under Business-as-Usual Scenario in Developing Countries**

HCFC/Year	2010	2015	2020	2025	2030
HCFC-141b	171,445	242,008	372,360	572,921	881,510
HCFC-142b	45,070	63,620	97,887	150,611	231,734
HCFC-22	324,594	458,191	704,983	1,084,704	1,668,951
<b>Total</b>	541,108	763,818	1,175,229	1,808,236	2,782,195

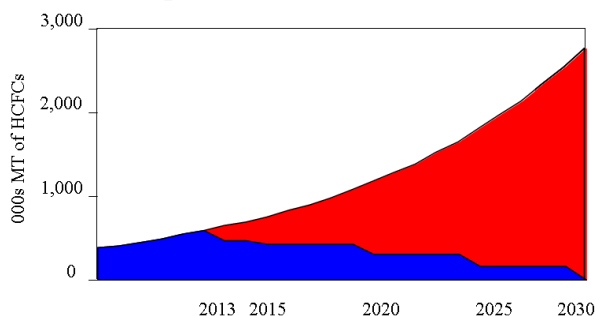
Actual demand of HCFCs is expected to be much lower than the business-as-usual scenario as the Montreal Protocol requires Article 5 countries to freeze their HCFC consumption by 2013 and followed by interim reduction steps leading to a complete phase-out by 2030, except a small quantity for meeting the servicing tail up to 2040.

**Fig. 1. HCFC Allowance Production and Consumption Schedule in Developing Countries**



With the accelerated HCFC phase-out schedule of the Montreal Protocol, a total HCFC consumption of 21 million MT could be avoided during the period 2013 – 2030<sup>10</sup>. This avoided consumption would result in early introduction of alternatives. Climate impacts or benefits are, therefore, dependent on the choices of alternatives to be adopted by Parties of the Montreal Protocol.

<sup>10</sup> For illustration purposes, it is assumed that the same demand growth for the BAU scenario and the same reduction schedule are applied to each HCFC.

**Fig. 2 Estimated consumption of HCFCs and alternatives for 2013 – 2030**

If the avoided consumption (the red area in Fig. 2) is replaced by low GWP alternatives, the total climate benefits from the accelerated HCFC phase-out schedule (excluding impacts from improved or inferior energy efficiency performances) could be as high as 30.5 Gt of CO<sub>2</sub> equivalent by 2030<sup>11</sup>. As early phase-out of HCFC-22 also results in avoided production of byproduct HFC-23, the accelerated HCFC phase-out schedule contributes therefore to additional indirect emission reductions of 5.6 Gt of CO<sub>2</sub> equivalent associated with avoided production of HFC-23<sup>12</sup>.

### NON-HCFC ALTERNATIVES

Major applications of HCFC-22, HCFC-141b, and HCFC-142b in developing countries are in the refrigeration, air-conditioning, and foam sectors. Alternatives to these HCFC applications include HFCs, which have high global warming potential values, and hydrocarbons (HC), CO<sub>2</sub> and ammonia, which have lower GWP values. Currently available non-HCFC alternatives for various applications are summarized in Appendix 1.

Selection of alternatives depends on the desired product quality and safety. For example, hydrocarbons, which are flammable, may not be desirable for certain applications. Certain alternatives may also compromise product quality (such as insulation performance of insulation foam products).

### CLIMATE IMPACT OF HCFC PHASE-OUT

The ozone depleting substances (HCFCs) are also high global warming gases, the phase-out of these chemicals presents an opportunity to maximize climate benefits, including energy efficiency gains and uses of low GWP alternatives. Alternatives currently available for replacing HCFCs consist of high global warming gases such as HFCs, low GWP gases such as hydrocarbons, CO<sub>2</sub> and ammonia.

<sup>11</sup> Assuming that HCFCs are replaced by only low GWP alternatives.

<sup>12</sup> Assuming 3% byproduct HFC-23 in the HCFC-22 production, refer to HCFC Phase-out under the Montreal Protocol - Introductory Note on a Programmatic Approach, Montreal Protocol Operations, World Bank, 2008

Selection of these substances would have to take into account a number of factors ranging from desired product qualities, flammability, toxicity, and associated costs of using such alternatives, including energy consumption and servicing aspects.

In terms of climate benefits, the selection of alternative gases, should not only focus on low GWP of alternatives, but should also cover energy efficiency benefits that could be gained over the lifetime of the equipment. This is particularly true for the foam products, air-conditioning and refrigeration equipment that are generally made with a small quantity of HCFCs, but are characterized by long product lifetime. Alternatives could be categorized according their energy efficiency potential and GWP of the products (refer to appendix 2).

### **ADDITIONALITY OF CLIMATE BENEFITS ASSOCIATED WITH ACCELERATED HCFC PHASEOUT**

To meet the accelerated HCFC phase-out schedule stipulated by the Montreal Protocol, major policies and actions must be undertaken to minimize the current demand of HCFCs and future dependence on HFCs. Restricting manufacturing of new HCFC-based equipment is also another important measure to avoid the build-up of HCFC demand for servicing this equipment in the future. Restricting production of new HCFC-based equipment and products could be applied to existing manufacturers or manufacturing capacity by providing them with incentives for early conversion. Establishment of new manufacturing capacity based on HCFC technologies should also be prohibited.

Recovery, recycling and reuse of HCFCs, particularly HCFC-22 which represents more than 80% of the total consumption in most developing countries, would assist countries to meet their Montreal Protocol obligations. Since the Montreal Protocol defines consumption as production plus import and minus export, recycled HCFC-22 would replace the need for production and/or import of virgin HCFC-22 which in turn assists countries in meeting their consumption limit.

Replacement of HCFC-based equipment would also contribute to significant reduction in HCFC demand. Given that HCFC-based equipment or products (e.g., air-conditioning equipment, insulation foams, and etc.) have a long product life, early replacement of these items could be costly and not financially viable. Based on experience from CFC phase-out, early replacement of HCFC-based equipment or products could be viable when new products are more energy (and resource) efficient. As there have been a number of projects addressing this issue, this option will not be addressed in this proposed study.

As pointed out earlier, replacement of HCFCs in most applications could be done via both low and high GWP alternatives. In most cases, applications of low GWP technologies in the foam and refrigeration sectors could result in lower product costs. However, because of related toxicity and/or flammability issues of these low GWP alternatives, higher capital investments are required to ensure that manufacturing facilities, production and servicing personnel are trained and equipped with necessary safety equipment. Conversion costs could be prohibitive, particularly for small-and-medium scale enterprises.

The CFC phase-out experience clearly demonstrates that while cyclopentane is available as a foam blowing agent, all small-and-medium scale enterprises opt for HCFC-141b as initial investments are much lower. Hence, the preferred choice for phasing out of HCFC in the foam sector for small-and-medium scale enterprises could as well be HFCs, rather than cyclopentane. Common HFCs for foam blowing applications include HFC-134a, HFC-152a, HFC-245fa, HFC-365mc, and HFC-227ea. These chemicals have GWP many times higher than hydrocarbon alternatives (with GWP of less than 25) (Appendix 3).

Similarly, HCFC-22 refrigerant in the refrigeration and air-conditioning applications could be replaced by either low or high GWP refrigerants (i.e, hydrocarbons, ammonia, carbon dioxide, and HFCs). For developing countries in particular where the demand of residential air-conditioners is rapidly increasing, selection of appropriate alternatives to HCFC-22 refrigerant would render significant climate benefits. Currently, HFC-410A, which has a high GWP value, seems to be an alternative of choice. Extensive research and development has been put in place to improve energy efficiency of new HFC-410A residential air-conditioners. Providing that similar energy efficiency could be achieved by hydrocarbon technology, replacing HCFC-22 with hydrocarbon refrigerant could contribute additional benefits to the climate since GWP of hydrocarbon refrigerant are more than 100 times lower than HFC-410A. However, safety concerns on the flammability of hydrocarbons could prevent a large-scale adoption of this technology. Extensive training of production and servicing personnel may be required in order to employ this technology safely. More awareness for end-users is also equally important in order to educate consumers of the safe use of these products.

Recovery and recycling of HCFC-22 during servicing and maintenance of refrigeration and air-conditioning equipment is considered as an eligible activity for funding from the Multilateral Fund. Thus far, the Multilateral Fund has allocated significant resources to support establishment of recovery and recycling networks in almost all developing country Parties of the Montreal Protocol. In addition, training on better containment (reducing leak, recovery and recycling, and reuse) has also been one of the core activities funded by the Multilateral Fund.

Experience from CFC recovery and recycling, thus far, is not encouraging. Implementation of recovery and recycling practice is more desirable financially when servicing equipment with a large refrigerant charge size. For example, recovery and recycling of refrigerants in large industrial and commercial refrigeration systems and in large chillers are common. However, recovery and recycling of CFCs from mobile air-conditioning equipment and domestic refrigerators have not shown a similar success as the price of CFCs and the quantity of CFCs that could be recovered from each unit are low.

It is expected that the economic of recovery and recycling HCFC-22 from residential air-conditioning units would probably be similar to recovery and recycling of CFCs from mobile air-conditioning equipment and domestic refrigerators. A combination of the low price of HCFC-22 and a small charge size of HCFC-22 in each piece of equipment, and

high transaction costs to implement recovery and recycling HCFC-22, makes the recovery and recycling practice less financial attractive to most service technicians.

Potential climate benefits of recovery and recycling HCFC-22 warrants further consideration as it leads to a lower requirement for production of virgin HCFC-22. Excluding the direct GWP associated with HCFC-22, recovery and recycling of one MT of HCFC-22 reduces emission of 30 kg of byproduct HFC-23 from production of one MT of virgin HCFC-22 or about 420 MT of CO<sub>2</sub> equivalent. This significant climate benefits render opportunity to mobilize additional resources to lower high transaction costs of implementing the recovery and recycling practice experienced by service technicians.

### **PROPOSED STUDY**

As indicated above, HCFC phase-out could result in an increased use of HFCs . In order to maximize benefits of both ozone layer protection and climate protection, a synchronized strategy for managing the use of HCFCs and phasing-down HFCs could assist Parties to the Montreal Protocol to develop a conducive environment for climate friendly technologies. This would also assist industries in developing countries to avoid two-steps conversion to low GWP technologies (from HCFC to HFC and to low GWP alternatives). To support market penetration of low GWP technologies, financial incentives within and outside the Multilateral Fund should be considered in order to offset higher costs, if any, of adoption of low GWP technologies. In addition, consumption and production of HFCs including those produced as byproducts of other chemical processes will also be considered.

Since all Parties to the Montreal Protocol are now in the process of developing their HCFC phase-out strategies, it is an opportune time for Parties to also consider their HFC strategy as part of their response to the call for more consideration of other environmental benefits, particularly the climate benefits, when phasing out HCFCs. Based on the business-as-usual scenario, it is obvious that the need for HFCs equipment or products (e.g., air-conditioning and insulation foam products) will continue to grow in spite of the HCFC phase-out schedule under the Montreal Protocol. Hence, to minimize the growth of HFCs the choice of technologies to be made by existing manufacturing facilities of those products currently produced with or containing HCFCs not only has to be considered, but also the choice of technologies for facilities to be established in the future in order to meet the demand of these products.

### **OBJECTIVES OF THE STUDY**

While HCFC phase-out renders two climate benefit opportunities: (i) improved energy efficiency; and (ii) use of lower GWP chemicals, the proposed study will focus on resource mobilization to support the latter, but will address technologies limitations and tradeoff between energy efficiency gains and low GWP gases.

The study will focus on resource mobilization to support projects aiming at reducing use of HFCs<sup>13</sup> as a result of HCFCs phase-out and reducing HFCs as a byproduct from HCFC production.

### **SCOPE OF THE STUDY**

The study will investigate: (i) review of tradeoff between energy efficiency gains and low GWP gases; (ii) costs and barriers associated with conversion of HCFC technology with to low GWP alternatives; (iii) volume of HFCs and equivalent in carbon dioxide equivalent associated with the consumption and production in developing countries and transition economies including those produced as byproducts of other chemical processes; and (iiv) potential funding resources (e.g., Multilateral Fund, Carbon Market, Carbon Partnership Funds, Clean Technology Fund, and etc.) to support adoption of better HCFC containment practice, and climate friendly technologies (v) recommendations (or development of a) for a funding methodologies such as approaches to evaluate and setting the baseline consumption and production of HFCs, etc. In addition, the study will investigate effective modalities for implementing these activities in order to ensure seamless synergy between the MLF funded activities and activities funded by resources outside the MLF.

Based on experience from CFC phase-out, it is anticipated that HCFC phase-out will involve a large number of beneficiaries. Moreover, HCFC phase-out strategies and HFC strategies may require not only investment and technical assistance activities but also a combination of policy and timely investment interventions to ensure cost-effective means of achieving the targets. Experiences from implementation of CFC phase-out activities in the last two decades clearly demonstrate effectiveness of sectoral or national approaches whereby policy and investment activities are carried out in chronology. Similarly, the climate community also recognizes the need to scale up its CDM activities. Recently, a program of activity approach has been adopted by the CDM Board.

There are some similarities between the sectoral or national approaches under the Multilateral Fund and the CDM program of activity approach. The study will review these different approaches and offer recommendations to synchronize implementation modalities as well as to synchronize, to the extent possible, monitoring and verification procedures that may be required by the MLF mechanism, CDM mechanism, and other potential funding mechanisms.

### **STUDY APPROACH**

The study will entail a desk review of the on-going study on HCFC alternatives and their climate benefits being conducted by UNEP TEAP under the auspices of the Montreal Protocol, the cost study being carried out by the Multilateral Fund, all applicable CDM methodologies, proposed approaches under negotiations by the climate community, funding mechanisms outside UNFCCC and MP such as the Clean Technology Carbon

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<sup>13</sup> It includes HFCs used as a result of CFC phaseout and possibly HCFC phase-out. For example, the study will explore financing opportunities for replacing HFC-134a MACs with low GWP alternatives.

Partnership Funds, Clean Technology Fund and others. Findings of the desk review will lead to recommendations or development of a funding methodologies for potential funding sources. The study will also include workshops to inform developing countries of findings of the study, which will lead to identification of potential pilot projects in a few developing countries.

**TIMEFRAME**

Detailed terms of reference for this study will be submitted for the consideration of the Executive Committee at its 61<sup>st</sup> Meeting in July 2010. The study will then take about 12 months to complete. The final report of the study will be submitted to the ExCom at its 65th Meeting in November 2011.

**Appendix 1: Non-HCFC Alternative Matrix**

Sector	Sub-sector	HCFCs Currently Used	Alternative Options
Foam	XPS	HCFC 22/HCFC 142b (blends), HCFC 22, HCFC 142b	CO <sub>2</sub> , CO <sub>2</sub> /Ethanol, CO <sub>2</sub> /HCs; HFC 134a
	Polyurethane Spray	HCFC 141b, minor use of HCFC 141b/HCFC 22	HFC, CO <sub>2</sub> (CO <sub>2</sub> not preferred option if superior thermal insulation performance is required.)
	Domestic refrigerators/freezers	HCFC 141b, minor use of HCFC 141b/HCFC 22	HFC, HC (Small enterprises use HFCs)
	Commercial refrigerators/freezers	HCFC 141b	HFC, HC, CO <sub>2</sub> (Adhesion problem with CO <sub>2</sub> )
	Sandwich panels - continuous	HCFC 141b	HFC, HC
	Sandwich panels - discontinuous	HCFC 141b	HFC, HC
	Insulated pipes	HCFC 141b	HFC, HC
	Integral skin foams	HCFC 141b	HFC 134a, CO <sub>2</sub> , HC
Refrigeration	Supermarket refrigerators	HCFC 22	R-404A, CO <sub>2</sub> , HCs and Ammonia (R-717)
	Industrial refrigeration	HCFC 22	R-717, CO <sub>2</sub>
	Transport refrigeration	HCFC 22	HFC 134a, R-404A, R-410A
Air-conditioning	Air-conditioning	HCFC 22	R-410A, HCs, CO <sub>2</sub>
	Water -heating heat pumps	HCFC 22	HFC 134a, R-410A, CO <sub>2</sub>
	Chillers	HCFC 22	HFC 134a

Source: OORG Presentations, OORG Meeting, October 2008, Washington DC

Note: R-404A and R-410A are HFC blends.



## Appendix 2: Selection of HCFC's Alternatives and Climate Considerations

In terms of climate benefits, it could be described that the available alternatives in the consumption sector can be categorized according to Figure 3. These four regions represent:

- Region I – Low GWP alternatives with improved energy and resource efficiency or thermal insulation property of the final products;
- Region II – High GWP alternatives with improved energy and resource efficiency or thermal insulation property of the final products;
- Region III – Low GWP alternatives with inferior energy and resource efficiency or thermal insulation property of the final products when compared with HCFC products;
- Region IV – High GWP alternatives with inferior energy and resource efficiency or thermal insulation property of the final products when compared with HCFC products.

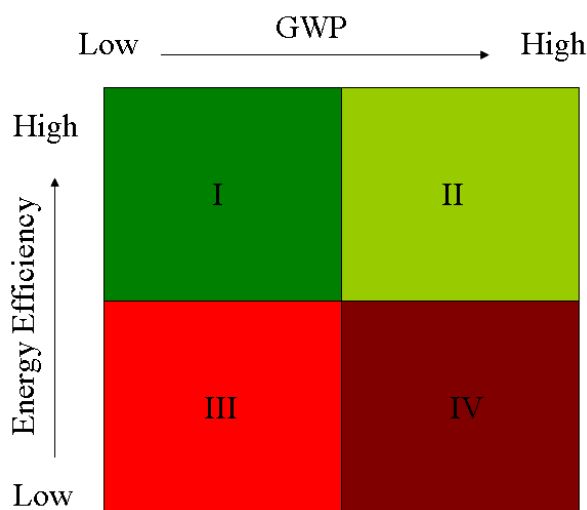


Fig. 3 Characteristics of Non-HCFC Alternatives

Foam products, air-conditioning and refrigeration equipment, are made with a small quantity of HCFCs. However, they have a long product lifetime. Therefore, any alternatives of HCFCs that fall in Regions III and IV are not desirable. For example, replacing HCFCs with low GWP alternatives (Region III) but resulting in low energy efficiency or insulation property, could result in higher energy consumption during the lifetime of these products. Emissions of carbon dioxide during the lifetime of the products normally are many times higher than the difference between the GWP values of HCFCs and alternatives used for manufacturing or maintaining these products. Alternatives in Region IV are even less desirable.

**Appendix 3: GWP of HCFCs and HFC alternatives<sup>14</sup>**

Substance	GWP
HCFC-22	1,700
HCFC-141b	630
HCFC-142b	2,000
HFC-134a	1,300
HFC-152a	140
HFC-245fa	820
HFC-365mc	840
HFC-227ea	2,900
HFC-23	14800
R-410A (HFC Blends)	2,100
R-404A (HFC Blends)	3,900
R-407C (HFC Blends)	1,800

*Note: R-404A, R-407C, and R-410A are HFC blends*

<sup>14</sup> 2006 UNEP Technical Options Committee Refrigeration, A/C and Heat Pump Assessment Report

**Appendix 4: Preparation Cost Breakdown**

<b>Element</b>	<b>Description</b>	<b>US\$</b>
Potential Volume of Carbon Dioxide Equivalent Emission Reduction	Review of current HCFC applications and available non-HCFC alternatives; market analysis on penetration of various alternatives (high and low GWP) and estimates on benefits from improved energy and resource performance (taking into account ongoing work of TEAP and OORG)	35,000
Barriers Associated with Conversion of HCFC Technology with Baseline Energy and Resource Efficiency to Low GWP Alternatives with Improved Energy and Resource Efficiency	Industrial survey in a selected number of Article 5 countries and Article 2 countries that are major technology providers for each HCFC application	50,000
Consumption and Production of HCFCs	Industrial survey focusing on chemical producers in both Article 5 and non-Article 5 countries; market analysis to project trends	10,000
Potential Funding Resources	Review of existing activities or projects funded by various funding mechanisms; review existing CDM and non-CDM methodologies; interview with prospective beneficiaries in Article 5 countries; identification of potential sources of financing; development of approaches and project model for securing such resources	55,000
Development of Funding Criteria/Standards/Methodologies	Development of tools for capturing co-financing resources outside the MLF	70,000
Stakeholder Consultation Meetings	3 consultation meetings	30,000
<b>Total</b>		<b>250,000</b>