



**Programme des
Nations Unies pour
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COMITE EXECUTIF
DU FONDS MULTILATERAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTREAL
Cinquante-septième réunion
Montréal, 30 mars – 3 avril 2009

**PROGRAMME DE TRAVAIL DU PNUD
POUR L'ANNEE 2009**

OBSERVATIONS ET RECOMMANDATION DU SECRETARIAT DU FONDS

1. Le PNUD demande au Comité exécutif d'approuver le montant de 3 219 684 \$US, plus 241 776 \$US de frais d'appui d'agence, au titre de son programme de travail de l'année 2009.
2. Les activités proposées par le PNUD dans son programme de travail 2009 sont présentées ci-dessous, au tableau 1 :

Tableau 1 : Programme de travail du PNUD

| Pays | Activité/Projet | Montant demandé (\$US) : | Montant recommandé (\$US) |
|--|--|--------------------------|---------------------------|
| SECTION A : ACTIVITÉS RECOMMANDÉES POUR APPROBATION GLOBALE | | | |
| A1. Prorogation des projets de renforcement des institutions : | | | |
| Chili | Renforcement des institutions (Phase VIII) | 186 550 | 186 550 |
| Géorgie | Renforcement des institutions (Phase VI) | 60 667 | 60 667 |
| Pakistan | Renforcement des institutions (Phase V) | 224 467 | 224 467 |
| | Sous-total pour A1 : | 471 684 | 471 684 |
| A2. Demandes supplémentaires pour le volet investissements des PGEH | | | |
| Arménie | Préparation des activités d'investissement du PGEH | 30 000 | 30 000 |
| Bangladesh | Préparation des activités d'investissement du PGEH | 100 000 | 100 000 |
| Bolivie | Préparation des activités d'investissement du PGEH | 50 000 | 50 000 |
| Brésil | Préparation des activités d'investissement du PGEH | 358 000 | 358 000 |
| Chili | Préparation des activités d'investissement du PGEH | 100 000 | 100 000 |
| Colombie | Préparation des activités d'investissement du PGEH | 150 000 | 150 000 |
| Costa Rica | Préparation des activités d'investissement du PGEH | 60 000 | 60 000 |
| Cuba | Préparation des activités d'investissement du PGEH | 50 000 | 50 000 |
| Rép. Dominicaine | Préparation des activités d'investissement du PGEH | 60 000 | 60 000 |
| El Salvador | Préparation des activités d'investissement du PGEH | 30 000 | 30 000 |
| Géorgie | Préparation des activités d'investissement du PGEH | 30 000 | 30 000 |
| Indonésie | Préparation des activités d'investissement du PGEH | 90 000 | 90 000 |
| Iran | Préparation des activités d'investissement du PGEH | 85 000 | 85 000 |
| Kirghizistan | Préparation des activités d'investissement du PGEH | 30 000 | 30 000 |
| Liban | Préparation des activités d'investissement du PGEH | 100 000 | 100 000 |
| Malaisie | Préparation des activités d'investissement du PGEH | 250 000 | 250 000 |
| Nigéria | Préparation des activités d'investissement du PGEH | 50 000 | 50 000 |
| Panama | Préparation des activités d'investissement du PGEH | 50 000 | 50 000 |
| Paraguay | Préparation des activités d'investissement du PGEH et financement supplémentaire pour la préparation du PGEH | 125 000 | 125 000 |
| Pérou | Préparation des activités d'investissement du PGEH | 80 000 | 80 000 |
| Sri Lanka | Préparation des activités d'investissement du PGEH | 40 000 | 40 000 |
| Swaziland | Préparation des activités d'investissement du PGEH | 30 000 | 30 000 |
| Tanzanie | Préparation des activités d'investissement du PGEH | 50 000 | 50 000 |
| Uruguay | Préparation des activités d'investissement du PGEH | 60 000 | 60 000 |
| | Sous-total pour A2 : | 2 058 000 | 2 058 000 |
| A3. Vérification des PGEF | | | |
| Géorgie | Vérification du PGEF | 20 000 | 20 000 |
| | Sous-total pour A3 : | 20 000 | 20 000 |

| SECTION B : ACTIVITÉS RECOMMANDÉES POUR EXAMEN INDIVIDUEL | | | |
|--|--|-----------|-----------|
| B1. Assistance technique pour la validation de technologie pour la démonstration de technologies de remplacement des HCFC | | | |
| Égypte | Préparation pour la validation de HC à bas prix dans les mousses | 30 000 | * |
| Turquie | Préparation pour la validation de HFO dans les mousses XPS | 30 000 | * |
| Sous-total pour B1 : | | 60 000 | |
| B2. Préparation de projet pour des projets de démonstration de technologies de remplacement des HCFC | | | |
| Chine | Préparation pour un projet de démonstration concernant la conversion des HCFC-22 dans des systèmes de pompes à chaleur air/air | 30 000 | * |
| Chine | Préparation pour un projet de démonstration concernant la conversion des HCFC-22 dans des compresseurs de réfrigération à mouvement alternatif | 30 000 | * |
| Sous-total pour B2 : | | 60 000 | |
| B3. Assistance technique | | | |
| Au niveau mondial | Mobilisation de ressources pour prendre en main les effets bénéfiques de l'élimination des HCFC sur l'évolution climatique | 250 000 | * |
| Sous-total pour B3 : | | 250 000 | |
| B4. Projets pilotes de la gestion des déchets de SAO | | | |
| Bolivie | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 30 000 | * |
| Brésil | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 40 000 | * |
| Colombie | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 40 000 | * |
| Cuba | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 30 000 | * |
| Égypte | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 40 000 | * |
| Ghana | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 30 000 | * |
| Inde | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 60 000 | * |
| Uruguay | Préparation d'un projet pilote sur la gestion d'une banque de SAO | 30 000 | * |
| Sous-total pour B4 : | | 300 000 | |
| Sous-total pour les sections A et B : | | 3 219 684 | 2 549 684 |
| Coûts d'appui aux agences (7,5 % pour la préparation de projet et le renforcement des institutions et pour les autres activités d'un montant supérieur à 250 000 \$US, et 9 % pour les autres activités d'un montant inférieur à 250 000 \$US) : | | 241 776 | 191 526 |
| Total : | | 3 461 460 | 2 741 210 |

* Projet pour examen individuel ou en attente

SECTION A : ACTIVITÉS RECOMMANDÉES POUR APPROBATION GLOBALE

A1. Prorogation des projets de renforcement des institutions :

- (a) Chili (Phase VIII) : 186 550 \$US
- (b) Géorgie (Phase V) : 60 667 \$US
- (c) Pakistan (Phase V) : 224 467 \$US

Description du projet

3. Le PNUD a présenté des demandes de prorogation des projets de renforcement des institutions pour les trois pays mentionnés ci-dessus. Les demandes concernant ces pays sont décrites à l'Annexe 1 du présent document.

Recommandation du Secrétariat

4. Le Secrétariat du Fonds recommande l'approbation globale des demandes de prorogation du renforcement des institutions pour ces pays au niveau de financement indiqué au tableau 1. Le Comité exécutif pourrait envisager de faire part aux gouvernements de ces pays des observations présentées à l'annexe II du présent document.

A2. Demandes supplémentaires pour le volet investissements des PGEH :

| | | |
|------------------|--|---------|
| Arménie | Préparation des activités d'investissement du PGEH | 30 000 |
| Bangladesh | Préparation des activités d'investissement du PGEH | 100 000 |
| Bolivie | Préparation des activités d'investissement du PGEH | 50 000 |
| Brésil | Préparation des activités d'investissement du PGEH | 358 000 |
| Chili | Préparation des activités d'investissement du PGEH | 100 000 |
| Colombie | Préparation des activités d'investissement du PGEH | 150 000 |
| Costa Rica | Préparation des activités d'investissement du PGEH | 60 000 |
| Cuba | Préparation des activités d'investissement du PGEH | 50 000 |
| Rép. Dominicaine | Préparation des activités d'investissement du PGEH | 60 000 |
| El Salvador | Préparation des activités d'investissement du PGEH | 30 000 |
| Géorgie | Préparation des activités d'investissement du PGEH | 30 000 |
| Indonésie | Préparation des activités d'investissement du PGEH | 90 000 |
| Iran | Préparation des activités d'investissement du PGEH | 85 000 |
| Kirghizistan | Préparation des activités d'investissement du PGEH | 30 000 |
| Liban | Préparation des activités d'investissement du PGEH | 100 000 |
| Malaisie | Préparation des activités d'investissement du PGEH | 250 000 |
| Nigéria | Préparation des activités d'investissement du PGEH | 50 000 |
| Panama | Préparation des activités d'investissement du PGEH | 50 000 |
| Paraguay | Préparation des activités d'investissement du PGEH | 125 000 |
| Pérou | Préparation des activités d'investissement du PGEH | 80 000 |
| Sri Lanka | Préparation des activités d'investissement du PGEH | 40 000 |
| Swaziland | Préparation des activités d'investissement du PGEH | 30 000 |
| Tanzanie | Préparation des activités d'investissement du PGEH | 50 000 |
| Uruguay | Préparation des activités d'investissement du PGEH | 60 000 |

Description du projet

5. Le PNUD a demandé des fonds supplémentaires pour la préparation des activités d'investissement des PGEH approuvés pour les 24 pays énumérés ci-dessus. Dans les demandes présentées, le PNUD a fourni des informations de base sur la consommation de HCFC du pays, les secteurs dans lesquels les HCFC sont utilisés et comment les plans sectoriels conduiront à un PGEH complet, en particulier dans les pays où la mise en œuvre est partagée par plusieurs agences. Les informations se rapportant à chacune des demandes sont présentées aux pages 4 à 10 du programme de travail du PNUD, joint en annexe à ce document.

Observations du Secrétariat

6. Le Secrétariat a examiné toutes les demandes mentionnées ci-dessus en détail et estime que les informations fournies et le financement demandés sont en accord avec la décision 56/16.

Recommandation du Secrétariat

7. Le Secrétariat du Fonds recommande l'approbation globale des demandes de préparation des activités d'investissement du PGEH dans les 24 pays énumérés ci-dessus, au niveau de financement indiqué au tableau 1 du présent document.

A3. Vérification des PGEFGéorgie : Vérification indépendante du PGEF : 20 000 \$US

8. Dans la décision 45/54, le Comité exécutif demande, entre autres, la vérification annuelle d'un échantillon, sélectionné au hasard, de 10 % des PGEF en cours de mise en œuvre approuvés pour des pays à faible volume de consommation. Le Secrétariat a sélectionné au hasard pour cet exercice un certain nombre de PGEF approuvés et la Géorgie est l'un de ces pays sélectionnés. Le PNUD, responsable du PGEF en Géorgie en tant qu'agence d'exécution, a été prié de soumettre à l'examen de la présente réunion, dans son programme de travail 2009, une demande de financement pour la réalisation de cette vérification. Le PNUD demande pour cet exercice un montant de 20 000 \$US.

Observations du Secrétariat

9. Le PNUD a informé le Secrétariat que le montant demandé est en accord avec les coûts courants et en conformité avec les fonds approuvés par le Comité exécutif lors de réunions précédentes pour des vérifications identiques.

Recommandation du Secrétariat

10. Le Secrétariat du Fonds recommande l'approbation globale de cette demande au niveau de financement indiqué au tableau 1 du présent document.

SECTION B : ACTIVITÉS RECOMMANDÉES POUR EXAMEN INDIVIDUEL**B1. Assistance technique pour la validation des technologies de remplacement des HCFC**

Égypte : Préparation de projet pour la validation de HC à bas prix dans les mousses : 30 000 \$US

Turquie : Préparation pour la validation de HFO dans les mousses XPS : 30 000 \$US

Description du projet

11. Le PNUD soumet deux demandes de préparation de projets de démonstration afin de valider l'utilisation au meilleur coût et la faisabilité de technologies de substitution utilisant des hydrocarbures (HC) afin de remplacer en Égypte les HCFC-141b dans les applications de mousse rigide et de mousse à pellicule externe incorporée, et une autre concernant l'utilisation en Turquie de HFO-1234ze dans les panneaux de polystyrène extrudé.

12. Le projet pour l'Égypte sera mis en œuvre à Technocom, une entreprise de formulation et un distributeur de produits chimiques et équipements polyuréthane, fondée en 1993. Les résultats de ce projet démontreront les avantages des polyols à base d'hydrocarbures pour les entreprises de formulation.

13. Le projet pour la Turquie testera le HFO-1234ze, un agent de gonflage nouvellement commercialisé, au PAO zéro et au faible potentiel de réchauffement de la planète (PRG), dans la fabrication de mousse rigide et de mousse à pellicule externe incorporée

Observations du Secrétariat

14. Le Secrétariat a noté que les propositions du PNUD n'indiquent pas les quantités de SAO qui pourraient être éliminées grâce à ces projets. Le PNUD a fait savoir au Secrétariat que, comme il s'agit d'un exercice de validation, l'élimination de HCFC se fera uniquement une fois les technologies mises en œuvre dans des entreprises spécifiques.

15. Pour le moment, la préparation de projet demandée autorisera le PNUD à concevoir les projets et à identifier les entreprises dans lesquelles les démonstrations de la technologie à base de HFO pourront être réalisées en Turquie. Le Secrétariat a noté que le PNUD n'a pas identifié dans ce pays un bénéficiaire particulier, mais l'agence a indiqué que ceci serait fait au cours du processus de préparation du projet. Dans le cas de l'Égypte, une entreprise de formulation a été identifiée, lieu de la préparation du projet.

16. Le Secrétariat a noté que par sa décision 55/43(e), le Comité exécutif a invité les agences bilatérales et les agences d'exécution à préparer et à soumettre de toute urgence un nombre limité de propositions de projets d'une durée déterminée, impliquant des sociétés de formulation et/ou des fournisseurs de produits chimiques intéressés, afin de développer, d'optimiser et de valider des formules chimiques utilisées pour des agents de gonflage sans HCFC. Bien que ces deux propositions du PNUD concernant la préparation de ces deux projets en Turquie et en Égypte satisfassent certaines exigences de cette décision, elles omettent toutes deux de donner des informations sur les quantités de HCFC à éliminer. De plus, dans le cas de la Turquie, la proposition n'identifie pas l'entreprise dans laquelle le projet de validation sera mis en œuvre.

Recommandation du Secrétariat

17. À la lumière des observations ci-dessus, le Comité exécutif pourrait envisager de financer ou de ne pas financer les demandes concernant les préparations de projet pour l'Égypte et la Turquie.

B2. Préparation de projet pour des projets de démonstration des technologies de remplacement des HCFC

Chine : Préparation de projet pour la conversion des HCFC-22 en R-410A dans les pompes à chaleur air/air de Tsinghua Tongfang Artificial Environment Co. Ltd. : 30 000 \$US

Chine : Préparation de projet pour la conversion de HCFC-22 dans des compresseurs à mouvement alternatif des systèmes de réfrigération pour les applications d'entreposage réfrigéré à froid au Yantai Moon Group Co. Ltd : 30 000 \$US

Description du projet

18. Le PNUD a soumis deux demandes pour la préparation de projets de démonstration dans le secteur de la réfrigération en Chine. Ces propositions sont présentées à l'Annexe 2 du programme de travail du PNUD jointe au présent document.

- a) Tsinghua Tongfang Artificial Environment Co. Ltd., entreprise fondée en 1993, est le leader chinois de la technologie des pompes à chaleur. Le projet évaluera de bien-fondé technique et commercial de l'utilisation de R-410 pour remplacer les HCFC dans les nouvelles séries de systèmes de pompe à chaleur air/air sans HCFC, ceci au moyen d'une nouvelle conception et d'une conversion du système et de ses composants.
- b) Yantai Moon Group Co. Ltd, fondée en 1956, est spécialisée dans la fabrication des dispositifs de pompes à chaleur et des appareils de réfrigération. Ce projet évaluera le bien-fondé technique et commercial de l'utilisation des différents produits de remplacement des HCFC dans ce secteur.

19. Les fonds de préparation de projet seront utilisés pour développer des propositions d'investissement qui, une fois mises en œuvre, développeront des modèles pouvant être reproduits pour être utilisés dans des entreprises de fabrication identiques, pour établir les résultats techniques et la faisabilité économique des produits de remplacement montrés ainsi que la méthodologie de calcul des coûts de conversion futurs.

Observations du Secrétariat

20. Le Secrétariat a examiné ces demandes conformément aux exigences de la décision 56/16(i) et a noté que celles-ci ne fournissent pas de raisons impérieuses pour lesquelles le Comité doit choisir l'un ou l'autre de ces projets. De plus, les deux propositions ne donnent pas d'indications sur les HCFC utilisés dans les entreprises ni sur la part qu'elles représentent dans le total des HCFC utilisés dans le pays. En ce qui concerne la demande de préparation pour un projet visant des compresseurs à mouvement alternatif, le PNUD n'a pas indiqué la technologie qui allait faire l'objet d'une démonstration.

21. Le PNUD a expliqué que ces demandes étaient faites en réponse à la décision 55/43(f) dans laquelle le Comité exécutif, entre autres, invite les agences à présenter un nombre limité de projets de démonstration pour la reconversion des HCFC dans les sous-secteurs de la réfrigération et de la climatisation à des technologies à faible potentiel de réchauffement de la planète (PRG), afin d'identifier toutes les étapes requises et d'évaluer les coûts de ces étapes. Elles répondent également aux demandes du gouvernement chinois qui a besoin de projets pour faire connaître la technologie décrite pour chaque application. Les résultats de ces démonstrations aideront le gouvernement chinois et l'industrie de la réfrigération à prendre des décisions sur les produits de substitution à utiliser pour permettre l'élimination des HCFC dans ces secteurs. Le Secrétariat a également noté que les deux propositions ne contiennent aucune information sur les quantités de HCFC qui seront éliminées dans le cadre de ces projets de démonstration conformément à la décision 55/43(b).

Recommandations du Secrétariat

22. À la lumière des observations du Secrétariat exposées ci-dessus, le Comité exécutif pourrait envisager ou non de financer les demandes de préparation de projet pour les deux projets de démonstration en Chine conformément aux décisions 55/43 et 56/16(i).

B3. Assistance technique

Niveau mondial: Mobilisation de ressources pour prendre en main les effets bénéfiques connexes de l'élimination des HCFC sur l'évolution climatique : \$US 250 000

Description du projet

23. Le PNUD a soumis une demande de projet d'assistance technique pour mobiliser des ressources afin de maximaliser les effets bénéfiques sur l'évolution climatique de l'élimination des HCFC, à un niveau de financement de 250 000 \$US, plus coûts d'appui. Cette demande s'accompagne d'une note décrivant les objectifs, les activités, ainsi que les résultats attendus. Ce projet est présenté à l'Annexe 3 du programme de travail du PNUD.

24. Ce projet examinera les projets potentiels pouvant exiger un cofinancement des avantages climatiques supplémentaires utilisant divers scénarios, étudiera les méthodologies émergentes pour déterminer les effets bénéfiques climatiques de l'élimination des SAO et en commanditera d'autres si nécessaire. Il essaiera également d'évaluer les risques et les responsabilités financières des différentes options de financement, par exemple la vente des crédits carbone, et développera un plan de marketing pour les acheteurs potentiels. Toutes ces activités seront réalisées le cas échéant en étroite coopération avec les organes du Fonds multilatéral.

25. Le tableau ci-dessous indique la ventilation des 250 000 \$US demandés par le PNUD :

| | |
|---|---------------------|
| Un chef d'équipe (consultant international) | 45 000 \$US |
| Frais consultants | 169 000 \$US |
| Frais de déplacement | 36 000 \$US |
| TOTAL | 250 000 \$US |

26. La proposition indique également que si le financement indiqué ci-dessus peut être fourni par le Fonds multilatéral, le PNUD apportera le même montant au moyen d'un financement en nature provenant de ses sources propres, afin d'accélérer le développement de ces méthodologies.

Observations du Secrétariat

27. Par la décision XIX/6, paragraphe 11(b), la Dix-neuvième Réunion des Parties a indiqué au Comité exécutif d'accorder la priorité lors de l'examen des projets d'élimination des HCFC, entre autres, aux « produits et solutions de remplacement qui réduisent au minimum les autres impacts sur l'environnement, en particulier sur le climat, en tenant compte de leur potentiel de réchauffement global, de leur consommation d'énergie et d'autres facteurs pertinents ». À sa 54^e réunion, le Comité exécutif a adopté une série de lignes directrices pour la préparation des plans de gestion de l'élimination des HCFC (PGEH), et, lors de ses 55^e et 56^e réunions, a approuvé pour 115 pays le financement de la préparation d'un PGEH.

28. Les lignes directrices convenues pour la préparation des plans de gestion de l'élimination finale des HCFC dans le cadre de la décision 54/39 comprenaient pour les pays visés à l'Article 5 la disposition d'envisager dans le PGEH des incitatifs financiers potentiels et des possibilités de cofinancement afin d'assurer que l'élimination des HCFC apportent des avantages environnementaux, conformément au paragraphe 11(b) de la décision XIX/6 citée plus haut.

29. Le Secrétariat fait remarquer que les résultats de l'étude proposée par le PNUD peut aider les pays à examiner les options de cofinancement lors du processus de préparation du PGEH. Il note

également qu'il n'existe pas encore à l'heure actuelle de directives de la part du Comité exécutif sur la façon dont on peut calculer les effets bénéfiques de l'élimination des HCFC sur l'évolution climatique et si ces coûts peuvent être calculés en tant que surcoûts dans le cadre du Fonds multilatéral.

30. Le Secrétariat note que c'est la première fois qu'une proposition de cette nature est soumise par le Fonds et qu'il n'existe aucun précédent de ce type de demandes ni de lignes directrices pour leur examen. Il indique également que ce projet ne constitue peut-être pas clairement un surcoût tel que celui-ci est défini dans la Liste indicative des catégories de surcoûts contenue dans l'Article 10 et adoptée lors de la Quatrième Réunion des Parties au Protocole de Montréal, et n'est donc pas éligible au financement. Toutefois, le Comité exécutif pourrait examiner la proposition détaillée soumise par le PNUD et voir si elle peut faire l'objet d'une discussion sur la base de sa contribution positive au développement de PGEH détaillés.

Recommandation du Secrétariat

31. Le Comité exécutif pourrait envisager de considérer cette proposition à la lumière des informations fournies ci-dessus et lors de la discussion du point 14 de l'ordre du jour, Facilité d'obtenir des revenus supplémentaires provenant de prêts et autres sources.

B4. Projets pilotes de la gestion des déchets SAO

Bolivie : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 30 000 \$US

Brésil : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 40 000 \$US

Colombie : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 40 000 \$US

Cuba : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 30 000 \$US

Égypte : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 40 000 \$US

Ghana : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 30 000 \$US

Inde : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 60 000 \$US

Uruguay : Préparation d'activités de démonstration de gestion et de destruction de banques de SAO : 30 000 \$US

Description du projet

32. Le PNUD a présenté des demandes de préparation de projet pilotes pour la destruction de SAO pour les huit pays énumérés ci-dessus.

33. Les projets pilotes concernant des pays à faibles volumes de consommation cherchent à acquérir des données et une expérience pratique sur la collecte des CFC contaminés, y compris les coûts et la logistique de la collecte, les options de destruction et les moyens d'améliorer les stratégies de gestion et de destruction des banques de SAO. Pour les pays à plus grands volumes, ils aborderont des questions telles que des modèles durables pour l'élimination des SAO, la collecte et l'inventaire appropriés des déchets de SAO, des interventions politiques pour permettre un traitement et une élimination plus aisés et plus efficaces des déchets de SAO. Dans de nombreux cas, les projets pilotes examineront également la

possibilité d'utiliser la vente de crédits carbone en tant qu'option pour l'élimination et la destruction de déchets de SAO.

34. Des informations détaillées concernant chacune de ces demandes mentionnées ci-dessus sont présentées à l'Annexe 1 du programme de travail du PNUD, joint au présent document.

Observations du Secrétariat

35. Au paragraphe 2 de la décision XX/7, la Réunion des Parties a chargé le Comité exécutif d'envisager d'urgence le démarrage de projets pilotes sur la collecte, le transport, le stockage et la destruction de substances qui appauvrissent la couche d'ozone. Le Comité exécutif, tout en ayant accepté à la 51^e réunion d'inclure des projets de destruction de SAO dans les plans d'activités des agences, n'a pas encore formulé une approche pour l'évaluation de leur impact et il n'existe pas non plus à l'heure actuelle de lignes directrices relatives à l'élaboration de ce type de projets. De plus, la présente réunion constitue la première opportunité pour le Comité de prendre en considération les implications du paragraphe 2 de la décision XX/7(2) en relation avec ses opérations de financement.

36. En dépit de l'absence de lignes directrices, le Secrétariat s'est informé du type d'activités dont le projet pilote allait faire la démonstration et de ce qu'allait couvrir le financement demandé. Le PNUD a fourni des informations détaillées pour chacune des demandes, notamment la description des activités qui seront réalisées et sur ce que l'ensemble du projet examinera.

37. En examinant les coûts demandés pour chaque pays, le Secrétariat considère qu'ils correspondent aux niveaux historiques de la préparation de projet, qui inclut les frais pour les experts et les déplacements.

Recommandation du Secrétariat

38. Le Comité exécutif pourrait envisager d'examiner les demandes de préparation de projets pour les huit pays énumérés plus haut à la lumière des observations du Secrétariat du Fonds.

Annex I

INSTITUTIONAL STRENGTHENING PROJECT PROPOSALS

Chile: Renewal of institutional strengthening

| Summary of the project and country profile | |
|--|-----------|
| Implementing Agency: | UNDP |
| Amounts previously approved for institutional strengthening (US \$): | |
| Phase I: jun-92 | 210,907 |
| Phase II: oct-96 | 113,500 |
| Phase III: jul-98 | 143,500 |
| Phase IV: dec-00 | 143,500 |
| Phase V: nov-02 | 186,550 |
| Phase VI (year 1): apr-05 | 93,275 |
| Phase VI (year 2): nov-05 | 93,275 |
| Phase VII: mar-07 | 186,550 |
| Total | 1,171,057 |
| Amount requested for renewal (Phase VIII) (US \$): | 186,550 |
| Amount recommended for approval for Phase VIII (US \$): | 186,550 |
| Agency support costs (US \$): | 13,991 |
| Total cost of institutional strengthening Phase VIII to the Multilateral Fund (US \$): | 200,541 |
| Equivalent amount of CFC phase-out due to institutional strengthening Phase VIII at US \$12.1/kg (ODP tonnes): | n/a |
| Date of approval of country programme: | 1989 |
| ODS consumption reported in country programme (1989) (ODP tonnes): | 864.10 |
| Baseline consumption of controlled substances (ODP tonnes): | |
| (a) Annex A Group I (CFCs) (Average 1995-1997) | 828.7 |
| (b) Annex A Group II (Halons) (Average 1995-1997) | 8.5 |
| (c) Annex B Group II (Carbon tetrachloride) (Average 1998-2000) | 0.6 |
| (d) Annex B Group III (Methyl chloroform) (Average 1998-2000) | 6.4 |
| (e) Annex E (Methyl bromide) (Average 1995-1998) | 212.5 |
| Latest reported ODS consumption (2007) (ODP tonnes) as per Article 7: | |
| (a) Annex A Group I (CFCs) | 19.2 |
| (b) Annex A Group II (Halons) | 0.0 |
| (c) Annex B Group II (Carbon tetrachloride) | 0.7 |
| (d) Annex B Group III (Methyl chloroform) | 3.5 |
| (e) Annex E (Methyl bromide) | 168.0 |
| (f) Annex C Group I (HCFCs) | 78.8 |
| Total | 270.2 |
| Year of reported country programme implementation data: | 2007 |
| Amount approved for projects (US \$): | 9,622,384 |
| Amount disbursed (February 2009) (US \$): | 7,833,680 |
| ODS to be phased out (ODP tonnes): | 1,081.8 |
| ODS phased out (February) (ODP tonnes): | 700.5 |

1. Summary of activities and funds approved by the Executive Committee:

| Summary of activities | | Funds approved (US \$) |
|------------------------------|--|-------------------------------|
| (a) | Investment projects: | 4,699,443 |
| (b) | Institutional strengthening: | 1,171,057 |
| (c) | Project preparation, technical assistance, training and other non-investment projects: | 3,751,884 |
| | Total: | 9,622,384 |

Progress Report

2. During phase VII of the institutional strengthening project in Chile, a major achievement under the lead of the National Ozone Unit was the entry into force of the Rule of the Ozone Law which establishes the quota and licensing system. With regard to its compliance situation, the country has returned to compliance on methyl chloroform consumption. The National Ozone Unit of Chile has also coordinated the implementation of the refrigerant management plan and started the implementation of the national CFC phase-out plan for the servicing sector. Two final umbrella projects in the foams and refrigeration manufacturing sectors that had a slow start are now in implementation. The National Ozone Unit actively participated in several successful national and international meetings and awareness campaigns. It worked diligently in helping the country meet its goals as far as involving the public and private enterprises and in close coordination with the implementing agencies (IA).

Plan of Action

3. During this coming phase, the National Ozone Unit in cooperation with the IAs will work to finalise the project to eliminate solvents, implement the remaining activities under the national CFC phase-out plan and complete all the remaining investment projects in the country. It will also initiate actions to tackle the new challenges posed by the decision XIX/6 on HCFC on ODS related legislation, data collection and reporting and public and targeted awareness campaigns, and prepare the HCFC phase-out management plan (HPMP).

Georgia: Renewal of institutional strengthening

| Summary of the project and country profile | |
|--|---------|
| Implementing Agency: | UNDP |
| Amounts previously approved for institutional strengthening (US \$): | |
| Phase I: month year | 70,000 |
| Phase II: month year | 46,700 |
| Phase III: month year | 60,667 |
| Phase IV: month year | 60,667 |
| Phase V: month year | 60,667 |
| Total | 298,701 |
| Amount requested for renewal (Phase VI) (US \$): | 60,667 |
| Amount recommended for approval for Phase VI (US \$): | 60,667 |
| Agency support costs (US \$): | 4,550 |
| Total cost of institutional strengthening Phase VI to the Multilateral Fund (US \$): | 65,217 |
| Equivalent amount of CFC phase-out due to institutional strengthening Phase VI at US \$12.1/kg (ODP tonnes): | n/a |
| Date of approval of country programme: | 1996 |
| ODS consumption reported in country programme (1996) (ODP tonnes): | 21.5 |
| Baseline consumption of controlled substances (ODP tonnes): | |
| (a) Annex A Group I (CFCs) (Average 1995-1997) | 22.5 |
| (b) Annex A Group II (Halons) (Average 1995-1997) | 42.5 |
| (c) Annex B Group II (Carbon tetrachloride) (Average 1998-2000) | 0.0 |
| (d) Annex B Group III (Methyl chloroform) (Average 1998-2000) | 0.0 |
| (e) Annex E (Methyl bromide) (Average 1995-1998) | 13.7 |

| | |
|---|-----------|
| Latest reported ODS consumption (2007) (ODP tonnes) as per Article 7: | |
| (a) Annex A Group I (CFCs) | 2.7 |
| (b) Annex A Group II (Halons) | 0.0 |
| (c) Annex B Group II (Carbon tetrachloride) | 0.0 |
| (d) Annex B Group III (Methyl chloroform) | 0.0 |
| (e) Annex E (Methyl bromide) | 1.8 |
| (f) Annex C Group I (HCFCs) | 1.8 |
| Total | 6.3 |
| Year of reported country programme implementation data: | 2007 |
| Amount approved for projects (US \$): | 1,731,326 |
| Amount disbursed (February 2009) (US \$): | 1,075,965 |
| ODS to be phased out (ODP tonnes): | 86.7 |
| ODS phased out (February 2009) (ODP tonnes): | 33.8 |

4. Summary of activities and funds approved by the Executive Committee:

| Summary of activities | | Funds approved (US \$) |
|-----------------------|--|------------------------|
| (a) | Investment projects: | 550,500 |
| (b) | Institutional strengthening: | 298,701 |
| (c) | Project preparation, technical assistance, training and other non-investment projects: | 882,125 |
| | Total: | 1,731,326 |

Progress report

5. Georgia reported on a number of important initiatives it has undertaken during Phase V of the institutional strengthening project. These include timely reporting on ODS consumption, training workshops for customs officers, approval of code of practice, training materials and equipment for vocational schools, MB alternatives registration, and a series of awareness raising activities which covered the whole country. The NOU of Georgia has achieved excellent results in coordinating ODSs phase-out activities in Georgia.

Plan of action

6. Over the next 2 years Georgia's action plan intends to focus on the fulfilment of the MP commitments, especially in relation to the 100 percent CFC and halons reduction measure. Planned activities will include coordination of TPMP (including MDI component) and HPMP programmes; provision of support to enhance monitoring of import/export of ODS, as well as monitoring of the effectiveness of registered MB alternatives. Awareness raising will be one the key direction of work.

Pakistan: Renewal of institutional strengthening

| Summary of the project and country profile | | |
|---|--|---------|
| Implementing Agency: | | UNDP |
| Amounts previously approved for institutional strengthening (US \$): | | |
| Phase I: sep-94 | | 254,958 |
| Phase II: dec-01 | | 172,564 |
| Phase III: dec-03 | | 224,467 |
| Phase IV(year I): mar-07 | | 112,233 |
| Phase IV(year II): nov-07 | | 112,234 |
| Total | | 876,456 |
| Amount requested for renewal (Phase V) (US \$): | | 224,467 |
| Amount recommended for approval for Phase V (US \$): | | 224,467 |
| Agency support costs (US \$): | | 16,835 |
| Total cost of institutional strengthening Phase V to the Multilateral Fund (US \$): | | 241,302 |

| | |
|---|------------|
| Equivalent amount of CFC phase-out due to institutional strengthening Phase V at US \$12.1/kg (ODP tonnes): | n/a |
| Date of approval of country programme: | 1995 |
| ODS consumption reported in country programme (1995) (ODP tonnes): | 2003.6 |
| Baseline consumption of controlled substances (ODP tonnes): | |
| (a) Annex A Group I (CFCs) (Average 1995-1997) | 1,679.4 |
| (b) Annex A Group II (Halons) (Average 1995-1997) | 14.2 |
| (c) Annex B Group II (Carbon tetrachloride) (Average 1998-2000) | 412.9 |
| (d) Annex B Group III (Methyl chloroform) (Average 1998-2000) | 2.3 |
| (e) Annex E (Methyl bromide) (Average 1995-1998) | 14.0 |
| Latest reported ODS consumption (2007) (ODP tonnes) as per Article 7: | |
| (a) Annex A Group I (CFCs) | 170.3 |
| (b) Annex A Group II (Halons) | 0.0 |
| (c) Annex B Group II (Carbon tetrachloride) | 0.0 |
| (d) Annex B Group III (Methyl chloroform) | 0.0 |
| (e) Annex E (Methyl bromide) | 0.0 |
| (f) Annex C Group I (HCFCs) | 183.7 |
| Total | 354.0 |
| Year of reported country programme implementation data: | 2007 |
| Amount approved for projects (US \$): | 19,654,576 |
| Amount disbursed (February 2009) (US \$): | 17,829,368 |
| ODS to be phased out (ODP tonnes): | 2,435.5 |
| ODS phased out (as at February 2009) (ODP tonnes): | 2,299.3 |

7. Summary of activities and funds approved by the Executive Committee:

| Summary of activities | | Funds approved (US \$) |
|-----------------------|--|------------------------|
| (a) | Investment projects: | 16,639,465 |
| (b) | Institutional strengthening: | 876,456 |
| (c) | Project preparation, technical assistance, training and other non-investment projects: | 2,138,655 |
| | Total: | 19,654,576 |

Progress report

8. During its fourth phase, the institutional strengthening (IS) project of Pakistan continued successfully, achieving and maintaining compliance with the Montreal Protocol control measures for CFCs, halons and methyl bromide and have returned to compliance with the requirements for CTC through the implementation of its plan of action. During this phase a number of significant and proactive steps have been taken in order to ensure its 2010 phase-out target is met, including the continued implementation of its phase-out projects and the imposition of a ban on import of CFC-based compressors in July 2008 under the new Trade Policy 2008-09. During the implementation of the fourth phase, through the continued education and training of the customs officers, the Customs authorities in Pakistan seized over 64 metric tons of CFC. The Ozone Unit of Pakistan continued to monitor the ongoing RMP, CTC sector phase-out plan and the halon bank projects as well as implement a number of public awareness campaigns and production of awareness material. The Government of Pakistan also successfully negotiated a phase-out project in its MDI sector which will partially cover the cost of the conversion in two enterprises. The Government of Pakistan has also been elected as Co-Chair of the Open-Ended Working Group (OEWG) of the Montreal Protocol in 2009.

Plan of action

9. The NOU of Pakistan has the following objectives for the fifth phase of the institutional strengthening project: to monitor the implementation of the separately funded RMP, CTC sector phase-out plan and halon bank project to implement the recently approved MDI conversion plan and to carry out work to support the elaboration of their HCFC phase-out management plan. Further to the implementation of specific projects, the NOU will continue raising public awareness through various activities.

Annexe II

POINTS DE VUE EXPRIMÉS PAR LE COMITÉ EXÉCUTIF SUR LES PROROGATIONS DES PROJETS DE RENFORCEMENT DES INSTITUTIONS SOUMISES À LA 57^e RÉUNION

Chili

1. Le Comité exécutif a examiné le rapport final accompagnant la demande de prorogation du projet de renforcement des institutions pour le Chili et note avec satisfaction les réussites à l'actif de la CONOMA durant la mise en œuvre de cette dernière phase. Le Comité exécutif note en particulier les progrès réalisés par le Chili dans la création et la mise en œuvre d'un système d'autorisation entièrement opérationnel et actualisé. Ces progrès apporteront un grand soutien au correspondant national du bureau de l'ozone et aideront à maintenir la conformité aux objectifs de consommation de SAO. Le Comité exécutif est également encouragé par les progrès enregistrés par plusieurs activités, notamment le plan de gestion des frigorigènes et l'assistance technique en vue d'éliminer les solvants appauvrissant la couche d'ozone, qui ont contribué à la conformité pour la consommation de TCA. Le Comité exécutif félicite le gouvernement du Chili pour les résultats atteints et espère qu'au cours des deux prochaines années le Chili poursuivra avec grand succès la mise en œuvre des activités prévues et qu'il maintiendra et améliorera ses niveaux actuels de réduction des CFC.

Géorgie

2. Le Comité exécutif a examiné les informations accompagnant la demande de prorogation du projet de renforcement des institutions pour la Géorgie et prend note du fait que la consommation de CFC communiquée par ce pays continue à baisser, étant passée de 8 tonnes PAO en 2005 à 3 tonnes PAO en 2007. La valeur de référence de la Géorgie pour les CFC étant de 22,50 tonnes, ceci signifie que la Géorgie a pu être en conformité avec la réduction de 85 % requise par le Protocole de Montréal pour les CFC. Dans sa demande, la Géorgie a fait part de plusieurs initiatives importantes prises pendant la phase V du projet de renforcement des institutions. L'UNO de la Géorgie est parvenue à d'excellents résultats dans la coordination des activités d'élimination de SAO. Toutes les activités sont mises en œuvre de manière très efficaces et en temps voulu. Le plan d'action de la Géorgie indique l'intention de ce pays de se concentrer au cours des deux prochaines années sur le respect des engagements souscrits en vertu du Protocole de Montréal, notamment ceux concernant les mesures de réduction de 100 % pour le CFC et les halons. Le plan inclut de plus le lancement d'activités se rapportant aux HCFC en réponse aux décisions prises lors de la dix-neuvième Réunion des Parties à cet égard.

Pakistan

3. Le Comité exécutif a examiné le rapport accompagnant la demande de prorogation du projet de renforcement des institutions pour le Pakistan et prend note avec satisfaction de l'action rapide de ce pays concernant la présentation d'un Plan d'action pour assurer le retour à la conformité avec les mesures de réglementation des CTC du Protocole de Montréal. Le Comité exécutif note également, que dans le cadre du projet de renforcement des institutions, le Pakistan a pris des dispositions importantes pour l'élimination de sa consommation de SAO, marquant notamment des progrès dans la mise en œuvre de son projet de banque de halons, dans son PGF, dans l'élimination sectorielle des CTC ainsi que dans l'organisation d'ateliers de formation pour les agents des douanes et les techniciens frigoristes. Le Comité exécutif soutient grandement les efforts du Pakistan de réduction de la consommation de SAO. Le Comité espère ainsi que durant les deux prochaines années, le Pakistan poursuivra la mise en œuvre de son programme de pays et les activités d'élimination et réussira pleinement à réduire ses niveaux actuels de consommation de SAO. Le Comité exécutif désire également féliciter le gouvernement du Pakistan pour son élection à la fonction de Vice-président du 29^e groupe de travail à composition non limitée des Parties au Protocole de Montréal.

**EXECUTIVE COMMITTEE OF THE MULTILATERAL
FUND
FOR THE IMPLEMENTATION OF THE
MONTREAL PROTOCOL
(57th Meeting, 30 March – 3 April 2009, Montreal)**

**2009 WORK PROGRAMME
OF THE
UNITED NATIONS DEVELOPMENT PROGRAMME**

**Request for Project Preparation and Non-Investment Projects at the
57th Executive Committee Meeting**

18 February 2009

2009 UNDP WORK PROGRAMME

57th Executive Committee Meeting (30 March –3 April 2009, Montreal)

This Work Programme document contains all non-investment and project preparation programmes that are being requested at the 57th Meeting of the Executive Committee. These requests amount to US\$ 3,219,684 plus US\$ 241,776 of support cost, as elaborated upon below.

1. Institutional Strengthening Renewal Requests.

The following Institutional Strengthening Renewal Requests are being submitted at the 57th meeting of the Executive Committee:

| NR | COUNTRY | TITLE | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ |
|--|----------|-------------------------------------|--------------------|-------------------|--------------------|
| 1 | Chile | Institutional Strengthening Phase 8 | 186,550 | 13,991 | 200,541 |
| 2 | Pakistan | Institutional Strengthening Phase 5 | 224,467 | 16,835 | 241,302 |
| 3 | Georgia | Institutional Strengthening Phase 6 | 60,667 | 4,550 | 65,217 |
| Subtotal Institutional Strengthening Projects | | | 471,684 | 35,376 | 507,060 |

Documents for the IS Renewal Request above were submitted separately by UNDP.

2. Verification of a Terminal Phaseout Management Plan.

As communicated by the MLS Secretariat in their email of 10 Feb 2009, and in accordance with decision 45/54(d) of the Executive Committee, UNDP will have to conduct an independent verification of the TPMP in Georgia in 2009, for which funding is being requested as follows:

| NR | COUNTRY | TITLE | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ |
|----|---------|--------------------------------------|--------------------|-------------------|--------------------|
| 1 | Georgia | Independent Verification of the TPMP | 20,000 | 1,800 | 21,800 |

3. Pilot projects in ODS waste management

| NR | COUNTRY | TITLE | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ |
|--|----------|--|--------------------|-------------------|--------------------|
| 1 | Bolivia | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 2 | Brazil | PRP for Demonstration on ODS Banks Mgt and Destruction | 40,000 | 3,000 | 43,000 |
| 3 | Colombia | PRP for Demonstration on ODS Banks Mgt and Destruction | 40,000 | 3,000 | 43,000 |
| 4 | Uruguay | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 5 | Ghana | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 6 | Cuba | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 7 | Egypt | PRP for Demonstration on ODS Banks Mgt and Destruction | 40,000 | 3,000 | 43,000 |
| 8 | India | PRP for Demonstration on ODS Banks Mgt and Destruction | 60,000 | 4,500 | 64,500 |
| Subtotal PRP Pilots on ODS Waste Management and Destruction | | | 300,000 | 22,500 | 322,500 |

The projects above are proposed as response to the Decision XX/ 7 (2) from the Meeting of the Parties who requested the Executive Committee of the Multilateral Fund, to consider as a matter of urgency commencing pilot projects that may cover the collection, transport, storage and destruction of ozone depleting substances. As an initial priority, the Executive Committee might consider projects with a focus on assembled stocks of ODS with high net global warming potential, in a representative sample of regionally diverse Parties operating under paragraph 1 of Article 5. It is understood that this initial priority would not preclude the initiation of other types of pilot projects including on halons and carbon tetrachloride should these have an important demonstration value. In addition to protecting the ozone layer, these projects will seek to generate practical data and experience on management and financing modalities, achieve climate benefits, and would explore opportunities to leverage co-financing.

For each PRP request about 40% of the budget would be used for international consultants, 40% for national consultants (or local subcontracts) and 20% for workshops/ sundries.

Annex 1 of this document provides more detailed general information on the proposals and also on each of the 8 above-mentioned ODS waste pilot requests, which provides justifications as to why they were included and what synergies will be sought for, from other funding sources.

4. Requests for Activities related to HCFCs

4.1. Additional Preparatory Funds for HCFC Phase-out Management Plans (HPMPs)

Proposals are described in the following table and would result in individual projects, umbrella projects or sector plans which would be submitted together with the HPMP for funding in 2010. Here again, for each PRP request about 40% of the budget would be used for international consultants, 40% for national consultants (or local subcontracts) and 20% for workshops/ sundries.

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|----|------------|---|--------|---------------|--------|---|
| 1 | Armenia | PRP for HPMP-investment activities: HCFC Elimination at the SAGA Refrigeration Manufacturing Plant. | 30,000 | 2,250 | 32,250 | Armenia reported 4.4 ODP tones of HCFC-22 in 2007. The funds would be used for the elimination of HCFCs at the SAGA commercial refrigeration manufacturing plant, which according to the Government's official request, is the largest HCFC-consuming enterprise in Armenia. |
| 2 | Bangladesh | PRP for HPMP-investment activities: HCFC elimination through a Foam Sector Phaseout Plan. | 50,000 | 3,750 | 53,750 | Bangladesh has reported 32.23 ODP tones of HCFC-22 and 4.95 ODP tones of HCFC-141b in 2007. The Government requested UNDP to prepare investment activities in different HCFC manufacturing sectors. There are two main manufacturing sectors in Bangladesh that use HCFC. These are the refrigeration sector which consumes close to 40% of the total HCFC 22 consumption of Bangladesh and the Foam Sector. These two sectors have not been previously characterized and it is anticipated that due to the large consumption volumes in the Refrigeration sector (over 250 MT), additional funding will be required to properly identify the users and develop specific options for phase out in some of the manufacturers. It is expected that the additional funding will be necessary to conduct a number of sector stakeholder consultations, additional data collection, additional analysis and identification of options of alternatives, including looking at climate neutral options. The same will be expected in the Foam Sector. |
| 3 | Bangladesh | PRP for HPMP-investment activities: HCFC elimination through a Refrigeration Sector Phaseout Plan. | 50,000 | 3,750 | 53,750 | See previous Bangladesh-entry. |
| 4 | Bolivia | PRP for HPMP-investment activities: HCFC elimination in the foam sector phaseout plan. | 50,000 | 3,750 | 53,750 | Bolivia reported in 2007 a total of 4 ODP Tones of HCFC consumption. According to Decision 56/16 Bolivia could request up to US\$ 100,000 for preparatory activities in the manufacturing sectors. The present request for US\$50,000 is only for the foams manufacturing sector where there are as a minimum 2 companies using HCFC 141b according to information gathered from previous activities in the country. However, this information has to be properly collected and companies visited to determine baseline. This is the only request to be done by UNDP. GTZ as Lead agency has been informed and it may request additional funding within the Decision limits for other manufacturing sectors. |

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|----|---------|---|---------|---------------|---------|---|
| 5 | Brazil | PRP for HPMP-investment activities: HCFC elimination in the foam manufacturing sector. | 150,000 | 11,250 | 161,250 | Brazil has reported 1,545.2 ODP tones of HCFCs in 2007. There are 600 companies identified in the foams sector, nine companies in the air conditioning manufacturing sector, at least one company using HCFC 141b as solvent in another manufacturing sector and an undetermined number of companies using an average of 15 Tones of HCFC 22 as process agent in the chemical industry. The funds requested will be distributed as follows: 150,000 for the foams sector, US\$ 80,000 for the refrigeration manufacturing sector, US\$ 80,000 for the air conditioning manufacturing sector and the remaining funds (US\$48,140) for solvents use in the manufacturing sector (including process agent). The balance of eligible PRP funds (US\$ 400,000 - 358,140) would be used by GTZ for its work with 2 companies in the XPS sector. |
| 6 | Brazil | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector. | 80,000 | 6,000 | 86,000 | See previous Brazil-entry. |
| 7 | Brazil | PRP for HPMP-investment activities: HCFC elimination in the air conditioning manufacturing | 80,000 | 6,000 | 86,000 | See previous Brazil-entry. |
| 8 | Brazil | PRP for HPMP-investment activities: HCFC elimination for the use of solvents in the manufacturing sector. | 48,000 | 3,600 | 51,600 | See previous Brazil-entry. |
| 9 | Chile | PRP for HPMP-investment activities: HCFC elimination in the foam manufacturing sector. | 50,000 | 3,750 | 53,750 | Chile has reported 78.8 ODP tones of HCFCs in 2007. Through previous activities it is expected that at least 4 companies are using HCFC 141b and 1 is using HCFC 22 in the production of foams. In addition at least two companies are using HCFC 22 and one company is using HCFC 141b in the production of commercial refrigeration. With the preparatory funds data will be properly collected to identify use of HCFC 141b and HCFC 22 and include eligible user companies in sector and subsector plans for foams and refrigeration. |
| 10 | Chile | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector. | 50,000 | 3,750 | 53,750 | See previous Chile-entry. |

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|----|---------------|--|---------|---------------|---------|--|
| 11 | Colombia | PRP for HPMP-investment activities: HCFC elimination in the manufacture of foams in the refrigeration and other foams sectors. | 150,000 | 11,250 | 161,250 | Colombia has reported 206.2 ODP tones of HCFCs in 2007. HCFC 141b is consumed by the domestic & commercial refrigeration sectors in the manufacturing of rigid foam, as well as in several foam subsectors . Through previous activities around 23 companies converted to HCFC 141b plus 36 out of 543 SMEs were identified. The remaining companies need to be verified as well as companies that were using HCFC 141b from the outset. With the PRP funds, sector plans will be prepared. In addition, HCFC 22 is being used by multiple companies in the production of refrigeration chambers and installation of commercial refrigeration systems among others. The total PRP eligible for Colombia is US\$ 200,000. However, only US\$ 150,000 will be requested at this meeting to address the foams manufacturing sector. The additional US\$50,000 will be requested for the refrigeration sector at a future meeting. |
| 12 | Costa Rica | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector. | 60,000 | 4,500 | 64,500 | Costa Rica has reported 15.8 ODP tones of HCFCs in 2007. The government has informed UNDP that they have 3-14 enterprises in the manufacturing sector. Based on knowledge about the sectors (commercial and domestic refrigeration) it appears that approximately 5 companies use HCFC 141b. UNDP would like to request 60.000 US\$ now for the refrigeration sector and would like to reserve the remaining eligible US\$ 40,000 for the foams sector later. |
| 13 | Cuba | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 50,000 | 3,750 | 53,750 | Cuba has reported 14.4 ODP tones of HCFCs in 2007. The government has informed UNDP that they have 3-14 enterprises in the manufacturing sector. Based on knowledge about the commercial refrigeration sectors in Cuba, it appears that approximately 2 companies use HCFC 141b. UNDP would like to request 50.000 US\$ instead of the original amount of US\$ 80,000. |
| 14 | Dominican Rep | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 60,000 | 4,500 | 64,500 | The Dominican Republic has reported 51.2 ODP tones of HCFCs in 2007. The government has informed UNDP that they have 3-14 enterprises in the manufacturing sector. Based on knowledge about the sectors (Rigid Foam and commercial refrigeration), it appears that approximately 4 companies use HCFC 141b. UNDP would like to request 60.000 US\$ to address the foam sector. |
| 15 | El Salvador | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing at one enterprise. | 30,000 | 2,250 | 32,250 | El Salvador has reported 16.7 ODP tones of HCFCs in 2007. The government has informed UNDP that they have 3-14 enterprises in the manufacturing sector. Based on knowledge about the Domestic Refrigeration sector in El Salvador, it appears that approximately 1 company uses HCFC 141b. UNDP would like to request 30.000 US\$ to address this 141b consumption at the enterprise. |
| 16 | Georgia | PRP for HPMP-investment activities: HCFC elimination in the assembly of refrigeration equipment. | 30,000 | 2,250 | 32,250 | Georgia has reported 1.8 ODP tones of HCFC-22 in 2007. As mentioned in the business plan letter received from the NOU, there are companies using HCFCs which assemble commercial refrigeration equipment. Georgia |

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|----|------------|--|--------|---------------|--------|---|
| | | | | | | mentioned this is a very important area of work for the country which needs to be addressed. |
| 17 | Indonesia | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector (except air-to-air air-conditioning). | 70,000 | 5,250 | 75,250 | Indonesia has reported 286.8 ODP tones of HCFCs in 2007. The requested funding would be used for developing individual/group projects and sector plans for the Air Conditioning and Refrigeration sectors (defined as per Decision 56/16 (e) to be incorporated in Indonesia's HPMP for compliance with 2013/15 targets. As per the outputs of the HCFC survey carried out in 2005-2007, these two sectors have a combined over 300 enterprises engaged in manufacturing activities and represent over 60% of the HCFC consumption in manufacturing in Indonesia. Indonesia's 2007 HCFC consumption was in the 101-300 ODP Tones range and hence qualifies for an additional US\$ 200,000 for PRP for investment activities of which US\$ 92,000 was allocated to UNDP. |
| 18 | Indonesia | PRP for HPMP-investment activities: HCFC elimination in the air-to-air air conditioning sector | 20,000 | 1,500 | 21,500 | See previous Indonesia-entry |
| 19 | Iran | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector (except air-to-air airconditioning). | 45,000 | 3,375 | 48,375 | Iran has reported 191.4 ODP tones of HCFCs in 2007. The requested funding would be used for developing individual/group projects and sector plans for the Air Conditioning and Refrigeration Sectors (plus part of the Foam Sector - rigid foam SMEs) to be incorporated in Iran's HPMP for compliance with the 2013/15 targets. As per the outputs of the HCFC survey carried out in 2005-2007, each of these sectors have 100 or more enterprises engaged in manufacturing activities and represent over 60% of the overall HCFC consumption in manufacturing in Iran. Iran's 2007 HCFC consumption was in the 101-300 ODP Tones range and hence qualifies for an additional US\$ 200,000 for PRP for investment activities. |
| 20 | Iran | PRP for HPMP-investment activities: Firefighting and Solvents Sectors | 10,000 | 750 | 10,750 | See previous Iran-entry |
| 21 | Iran | PRP for HPMP-investment activities: HCFC elimination Rigid Foams Subsector Plan | 30,000 | 2,250 | 32,250 | See previous Iran-entry |
| 22 | Kyrgyzstan | PRP for HPMP-investment activities: HCFC elimination in the assembly of refrigeration equipment. | 30,000 | 2,250 | 32,250 | Kyrgyzstan has reported 1.6 ODP tones of HCFCs in 2007. As mentioned in the business plan letter received from the NOU, there are companies using HCFCs which assemble commercial refrigeration equipment. The NOU mentioned that this is a very important area of work for the country which needs to be addressed. |

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|----|----------|---|---------|---------------|---------|--|
| 23 | Lebanon | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector (except air-to-air airconditioning). | 60,000 | 4,500 | 64,500 | Lebanon has reported 19.8 ODP tones of HCFCs in 2007. The requested funding would be used for developing individual/group projects and sector plans in all sectors (defined as per Decision 56/16 (e) to be incorporated in Lebanon's HPMP for compliance with 2013/15 targets. As per the outputs of the HCFC survey carried out in 2005-2007, Lebanon has 40 enterprises in the Foams Sector and 140 enterprises in the Air Conditioning and Refrigeration sectors engaged in manufacturing activities. Lebanon's 2007 HCFC consumption was in the 0-100 ODP Tones range and hence qualifies for an additional US\$ 100,000 for PRP for investment activities. |
| 24 | Lebanon | PRP for HPMP-investment activities: HCFC elimination in the air-to-air air conditioning sector | 15,000 | 1,125 | 16,125 | See previous Lebanon-entry |
| 25 | Lebanon | PRP for HPMP-investment activities: HCFC elimination Foams Sector Plan | 25,000 | 1,875 | 26,875 | See previous Lebanon-entry |
| 26 | Malaysia | PRP for HPMP-investment activities: HCFC elimination in the refrigeration manufacturing sector (except air-to-air airconditioning). | 120,000 | 9,000 | 129,000 | Malaysia has reported 413.7 ODP tones of HCFCs in 2007. The requested funding would be used for developing individual/group projects and sector plans in all sectors (defined as per Decision 56/16 (e) to be incorporated in Malaysia's HPMP for compliance with 2013/15 targets. As per the outputs of the HCFC survey carried out in 2005-2007, there are about 200 enterprises in the Foam Sector and over 500 enterprises in the Refrigeration and Air Conditioning sectors, engaged in manufacturing activities. Malaysia's 2007 HCFC consumption was in the 301-500 ODP Tones range and hence qualifies for an additional US\$ 250,000 for PRP for investment activities. |
| 27 | Malaysia | PRP for HPMP-investment activities: HCFC elimination in the air-to-air air conditioning sector | 30,000 | 2,250 | 32,250 | See previous Malaysia-entry |
| 28 | Malaysia | PRP for HPMP-investment activities: HCFC elimination Foams Sector Plan | 100,000 | 7,500 | 107,500 | See previous Malaysia-entry |
| 29 | Nigeria | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 50,000 | 3,750 | 53,750 | Nigeria has reported 96.0 ODP tones of HCFCs in 2007. Funding would be used to develop a foams sector strategy which would align itself with the HPMP. An attempt will be made to cover the various foam subsectors in the country. The remaining US\$ 50,000 of eligible PRP funding would go to UNIDO for the RAC and solvents sectors. |
| 30 | Panama | PRP for HPMP-investment activities: HCFC elimination Foams Sector Plan | 50,000 | 3,750 | 53,750 | Panama has reported 15.0 ODP tones of HCFCs in 2007. The government has informed UNDP that they have 3-14 enterprises in the manufacturing sector. Based on knowledge about the sectors in Panama (Flexible and Rigid Foam), it appears that approximately 3 |

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|----|-----------|--|--------|---------------|--------|--|
| | | | | | | companies use HCFC 141b. UNDP would like to request 50.000 US\$ at this time. |
| 31 | Paraguay | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 60,000 | 4,500 | 64,500 | Paraguay has reported 14.7 ODP tones of HCFCs in 2007. Although there is no report of HCFC 141b consumption in 2007 there is consumption of HCFC 142b in the country. Information is being gathered to understand if this consumption corresponds to XPS sector or if it maybe HCFC 141b that has not been properly reported. Several companies in the foam and commercial refrigeration sector could be using HCFC 141b but information has to be properly registered. UNDP would like to request 60.000 US\$ at this time. |
| 32 | Paraguay | PRP for HPMP's Overarching Strategy. | 65,000 | 4,875 | 69,875 | As per Decision 56/16 according to the HCFCs consumption level Paraguay could request US\$150,000 for HPMP Preparation. At the 56th Meeting US\$ 85,000 were approved; the remaining funding is requested at this meeting. |
| 33 | Peru | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 80,000 | 6,000 | 86,000 | Peru has reported 43.4 ODP tones of HCFCs in 2007. Through data gathered from previous activities in the country, it has been found that there are at least six companies producing foams in the country and as minimum two of them are using HCFC 141b. However no data has been gathered from some companies and it is expected there will be more companies using HCFC 141b. |
| 34 | Sri Lanka | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors as well as the solvents sector. | 40,000 | 3,000 | 43,000 | Sri Lanka has reported 15.4 ODP tones of HCFCs in 2007. It has been estimated from the HCFC survey done for Sri Lanka that there are approximately 143 manufacturing enterprises in Sri Lanka consuming HCFC. The survey was not able to properly characterize the enterprises and it is anticipated that additional funding will be required to carry out this activity as well as looking at technological issues for these manufacturers especially in the production of commercial equipment, which represents the largest sub-sector in Sri Lanka. The Government requested UNDP to prepare investment activities in different sectors in Sri Lanka. The World Bank has included in its WP the prp request for the Refrigeration and AC sectors totaling US\$ 60,000. As result, UNDP decreased its request from US\$ 100,000 to US\$ 40,000. |
| 35 | Swaziland | PRP for HPMP-investment activities: HCFC Elimination at the Palfridge Domestic Refrigeration Manufacturing Plant. | 30,000 | 2,250 | 32,250 | Swaziland's 2007 HCFC consumption was 5.6 ODP tones of which about 80% is believed to be consumed at PalFridge(manufacturing of domestic refrigerators). This may be the only HCFC-consuming manufacturing facility in Swaziland. While the NOU requested UNDP's assistance for this plant, GTZ has meanwhile offered to be a partner in this project. |

| Nr | Country | Title | Budget | Support Costs | Total | Explanation |
|-------|----------|---|-----------|---------------|-----------|---|
| 36 | Tanzania | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 50,000 | 3,750 | 53,750 | Tanzania has reported 2.1 ODP tones of HCFCs in 2007. According to the NOU, there are three foam producing companies in the country. |
| 37 | Uruguay | PRP for HPMP-investment activities: HCFC elimination in foams used in the refrigeration manufacturing and other foam sectors. | 60,000 | 4,500 | 64,500 | Uruguay has reported 18.0 ODP tones of HCFCs in 2007. The spray/PIP sector in Uruguay has around 14 manufacturing companies, several of them consuming HCFC 141b. With the preparatory funds data will be properly collected to identify use of HCFC 141b and include eligible user companies in sector plan. |
| TOTAL | | | 2,058,000 | 154,350 | 2,212,350 | |

4.2. Preparatory Funds for Technology-Validation and Demonstration Projects for HCFC alternative technologies

As was the case during the last meeting, the demonstration / technology-validation projects that will result from the following project preparation requests will be submitted as individual country-projects. As for previous PRP-requests, about 40% of the budget would be used for international consultants, 40% for national consultants (or local subcontracts) and 20% for workshops/ sundries.

4.2.1 Preparatory Funds for Technology-Validation Technical Assistance Projects for HCFC alternative technologies

UNDP will be submitting a limited number of Technology Validation projects in 2009 as described in the narrative of our business plan. These are technical assistance projects such as those that were already approved at the 56th meeting of the Executive Committee for Mexico and Brazil. These are in line with ExCom decision 55/43 and are being submitted in view of the rapidly changing market, new technology options and the special situation in article-5 countries. A major objective of such types of demonstrations is to find cost-saving methods to the MLF in order to carry out HCFC-investment activities in future years. The result of these validations will apply to all countries that would thus benefit from a wider choice of technology options when it comes to real HCFC phase-out efforts. However, just as was the case for Brazil and Mexico approved at the last meeting, there is no ODP associated with these two projects as it is pure technology-validation at the level of a system house. Having said that, all follow-up projects that would benefit from the results of these projects (phase 2) would be submitted as INV projects with relevant ODP-phaseout.

| COUNTRY | TITLE | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ | Explanation |
|---------|--|--------------------|-------------------|--------------------|---|
| Egypt | PRP for Validation of low-cost HC in Foams | 30,000 | 2,250 | 32,250 | Preparation funds are requested for a validation project that would evaluate the feasibility and cost reduction options in the use of hydrocarbons to replace HCFC-141b in foam applications (rigid and integral skin) in cooperation with a system house and equipment manufacturers and validate these subsequently at selected recipients. Hydrocarbons as foam blowing agents have been extensively applied to replace CFCs but the use was so far limited by high related investment. Lowering the costs of using hydrocarbons would make an environmental beneficial technology more affordable in an Article 5 context where 80% of the enterprises qualify as SME. This project will be designed around Technocom, an Egyptian system house which was founded in 1993. It is 100% Egyptian owned and is a large PU chemical and equipment distributor and a PU system house. There is no export to other countries. The Govt has asked UNDP to include this project in its business plan. |
| Turkey | PRP for Validation of HFO in XPS Foams | 30,000 | 2,250 | 32,250 | Preparation funds are requested for a pilot project that would evaluate HCFC replacement in extruded polystyrene foam boardstock by HFO-1234ze, a newly commercialized zero ODP/low GWP blowing agent. |

| | | | | | |
|--------------|--|--------|-------|--------|--|
| | | | | | Turkey is one of the larger producers of this product which has currently very few validated HCFC replacement options that are environmentally acceptable. UNDP possesses sufficient information regarding the technology to be validated The Govt agreed with UNDP developing this pilot proposal as proposed, but wants to get more information before deciding on the final selection of the local technology developer. UNDP may be able to provide more information at the 57 th meeting itself. |
| TOTAL | | 60,000 | 4,500 | 64,500 | |

4.2.2 Preparatory Funds for Demonstration Projects for HCFC alternative technologies

The following two requests for project preparation would lead to demonstration projects, and they would have ODP phase out associated with them.

| COUNTRY | TITLE | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ | Explanation |
|----------------|---|---------------------------|--------------------------|---------------------------|--|
| China | Demonstration project for conversion of HCFC-22 based residential air source heat pump units to R-410A at Tsinghua Tongfang Artificial Environment Co. Ltd. | 30,000 | 2,250 | 32,250 | The project concept is attached separately – see annex 2. Upon successful completion, this demonstration project will (a) Develop a replicable project model for HCFC-22 reductions/phase-out for residential air source heat pump unit applications (b) Establish technical performance and economic feasibility of R-410A as the refrigerant residential air source heat pump units application and introduce and apply the same to similar enterprises (c) Establish a methodology for calculation of conversion costs, which can serve as a reference for residential air source heat pump units application and similar enterprises and (d) Facilitate elimination of about 70 metric tones of HCFC-22 consumption at Tsinghua Tongfang Artificial Environment Co. Ltd. The key impact of the project upon successful completion would be to eliminate 70 metric tones of HCFC-22 at Tsinghua Tongfang Artificial Environment Co. Ltd. And to further facilitate reduction or elimination of HCFC-22 by the residential air source heat pump unit manufacturers in China. |
| China | Demonstration project for conversion of HCFC-22 based reciprocating refrigeration compressors for cold storage applications at Yantai Moon Group Co. Ltd. | 30,000 | 2,250 | 32,250 | The project concept is attached separately – see annex 2. Upon successful completion, this demonstration project will (a) Develop a replicable project model for HCFC-22 reductions/phase-out for reciprocating refrigeration compressors for cold storage applications (b) Establish technical performance and economic feasibility of the selected technology for the selected applications and introduce and apply the same to similar enterprises (c) Establish a methodology for calculation of conversion costs, which can serve as a reference for similar applications and enterprises (d) Facilitate elimination of about 200 metric Tones of HCFC-22 consumption by the downstream users of reciprocating refrigeration compressors manufactured by Yantai Moon Group Co. Ltd. The key impacts of the project upon successful completion would be to facilitate reduction or elimination of HCFC-22 in the downstream users of compressors manufactured by Yantai Moon Group Co. Ltd. by ensuring domestic availability of proven non-HCFC compressors in China. |

| | | | | | |
|-------|--|--------|-------|--------|--|
| TOTAL | | 60,000 | 4,500 | 64,500 | |
|-------|--|--------|-------|--------|--|

Additional clarifications were requested from UNDP on these two China proposals and our detailed responses are provided herewith:

Demo for conversion of HCFC-22 based reciprocating refrigeration compressors for cold storage (Yantai Moon Ltd)

- *Please specify the technology that will be demonstrated. While a list of alternatives is provided, it is unclear which one will be specifically demonstrated. As the Executive Committee will have to select the demo projects it will approve based on decision 55/43, the current proposal does not provide sufficient information to allow for a recommendation of a specific technology/alternative that will be demonstrated. It will be appreciated if this can be clarified as soon as possible.*

At this point (project preparation), the selection of technology cannot be finalized for various reasons. For the application (cold storage systems) for which Yantai Moon manufactures HCFC-22 based reciprocating compressors, Ammonia and CO₂ are unlikely to be considered, because this would require a complete change of products and manufacturing facilities (not conversion of existing facility) due the fundamentally different technical considerations, product design and materials involved, in addition to health and safety issues. HCs cannot be applied for this size/capacity of compressors due to safety reasons. Feasible and cost-effective conversion of the existing facility can only be carried out with alternatives that would not involve a completely new product. Therefore HFC-based alternatives are likely to be selected. Within the HFC-based options, there would not be a significant difference in approach for selection. Moreover, since climate impact of the alternative needs to be considered (both in terms of GWP and energy efficiency), Yantai Moon would need to evaluate the available HFC-based technologies including viable emerging low-GWP options, and select the optimum one that meets the parameters (technical, environmental, safety, efficiency, etc which are already described in detail in the proposal). The demonstration project proposal resulting from this preparation funding request would identify the alternative technology.

- *It is also noted that this company was identified as a top priority for implementation of an ammonia refrigeration compressor project under its CFC phase out programme. Did the company convert its compressors to ammonia? If so, from what date and what percent of the production was converted? How much of the current production is still HCFC-based and why can't they convert to ammonia?*

The earlier MLF-funded project referred to was CPR/REF/16/INV/114 (WB implemented). In that project, the company did not convert its CFC-12 based compressors to Ammonia. It set up a new production facility (3,200/year) for small and medium open-type reciprocating ammonia-based compressors, which did not directly displace the existing production, but replaced CFC-12 based production of such compressors by 7 other enterprises. As per MLF records, that project was completed in May 1999. As per the latest data (2008), Yantai Moon produced 1,290 units, of which 258 units were HCFC-22 based, mainly serving large cold storage applications, with individual refrigerant charge exceeding 750 kg. As mentioned in the earlier paragraph, ammonia technology is quite different and

conversion of existing facility would not be possible – instead a completely new product and facility suited for ammonia would be needed. With HFC-based technology, the existing facility can be retrofitted and adapted.

- *Kindly also confirm that the HCFC consumption indicated in the cover page of 40 metric Tones is the amount of tonnage associated with this project and is the volume that will be potential reduced once the project is completed?*

As mentioned in the cover sheet of the Yantai Moon proposal, 200 metric Tones of HCFC-22 consumption would be addressed (indirectly at Yantai Moon), at the downstream users of the compressors produced by Yantai Moon. This would appropriately be elaborated upon within the main demonstration project proposal.

Demo project for the conversion of HCFC-based residential air source heat pumps to R-410a (Tsinghua company)

- *Please confirm that the indicated amount of 70 metric Tones is the amount of phase out that will be associated with this project.*

Confirmed.

- *The project description notes that this enterprise has developed its own core technology, core products as well as core systems, presumably for R-410 a. Will this demo project contribute allow for replication of the same technology to other manufacturing companies in the country that make the same products and enable them to use the same technology?*

Yes. However, this is meant to be informational. Core technology refers to design elements which may not be necessarily related only to the refrigerant used or the product for which this demonstration project is proposed, namely, air source heat pump units. The enterprise also manufactures water and ground source heat pump units, lithium bromide absorption heat pump units, water heaters, fan coil units, air handling units and air purifiers, for which it has developed the core technology.

Both the above preparation funding requests are consistent with ExCom Decision 55/43 (b) and (f).

5. Resource Mobilization to Address Climate Co-Benefits in HCFC phaseout

| NR | COUNTRY | TITLE | ODS | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ |
|----|---------|---|-----|--------------------|-------------------|--------------------|
| | Global | Resource Mobilization to address climate co-benefits in HCFC Phaseout | GLO | 250,000 | 18,750 | 268,750 |

During the Inter-Agency Coordination Meeting held in Montreal in January 2009, the MLF Secretariat presented the components of a paper for a potential Facility to look for ways to mobilize resources to add to existing US\$ 1.2 million originated from the Thai Chillers

projects, to address the climate co-benefits in HCFC phaseout. Agencies were invited to comment on various options presented by the Secretariat and to suggest other options for the use of this Facility.

UNDP has included US \$250,000 in its 2009 MLF business plan for the purpose of resource mobilization to address climate co-benefits. UNDP has significant experience in the carbon financing sector which it can leverage to assist in the development of a sound approach to the co-financing of incremental climate benefits (whether from the market or on a cost-coverage basis).

The Montreal Protocol Unit of UNDP has vast experience in the area of ODS projects but has no dedicated budget to seek to apply the carbon financing 'best practice' possessed within UNDP via its MDG-Carbon Facility. UNDP has also a large portfolio of Climate Change projects in Energy Efficiency and Energy Access to the Poor projects (funded by the GEF and a diversity of donors) as well as experience in resource mobilization and sequencing finance for environment and energy solutions in an integrated way.

UNDP's experience could provide substantial added value to the deliberations of the Executive Committee of the Multilateral Fund and its Secretariat on the co-financing of climate benefits, and could offer a proving ground for key ideas. UNDP will tap into the experience and expert advice from the team of its fully operational MDG Carbon Facility, to deliver on options to address the matter.

If the requested funding is available from the MLF, UNDP is prepared to match that in co-finance, to cover for the time of its Carbon Finance team and related operational costs (US\$ 250,000) that would be used to fully backstop MPU team and provide legal support as well as share with the Secretariat the UNDP's experience in setting many Facilities, among them the MDG Carbon and UN REDD Facilities.

At the meeting, the Secretariat questioned whether this is an incremental cost, yet it was found that a potential use of the Facility to fund this activity may be discussed at the upcoming ExCom meeting and ExCom members may wish to deliberate on this proposal. The proposal is therefore being included in this Work Programme. The details can be found in annex 3 of this document.

Demonstrations for ODS-Waste Management/Destruction Proposals

Referring to paragraph 3 on UNDP's Proposed ODS-Waste/Destruction demonstration projects, some additional information from countries is being provided as follows.

A. General Information

For the last few years, UNDP has continuously been requested by some countries to include in its Business Plan, activities that would help them to manage their stocks of ODS which can not be reused, as well as the ODS-containing waste, in a sound way. These stocks/waste are dispersed in the countries, in old equipment, containers, cylinders, and to say the least, in the millions of appliances in the countries. Without proper regulatory framework and a programme to deal with them, they are improperly handled and disposed of, adding to the ODS emissions to the atmosphere.

With the CFC phaseout approaching, its increasing price, and the establishment and implementation of the recovery schemes in many countries, those banks of unwanted ODS are increasing, not counting illegally traded ODS, apprehended as a result of the enforcement of legislation in place.

In addition, if one considers ODS containing foams, those banks are really large and potential for sustainable recovery and disposal programmes exist, especially in countries that have reclamation facilities and are engaging in refrigeration replacement and other programs to manage ODS and reduce demand, which also bring important energy savings benefits.

The potential for recovery, proper management and disposal of such unwanted ODS banked, has been proven as being possible in developed countries if the proper legislation and price incentives as well as business opportunities exist. Therefore, the business model can be sustainable if certain conditions are in place. Those need to be ascertained for the different countries as they vary from country to country. The applicability of banks management schemes in developed countries needed to be demonstrated in Article 5 countries.

Developing countries lack access to that information and to technical and financial assistance to help them to understand the issues, size them, and be able to design a management system / business model, estimate costs and partnerships needed for such programme to happen, and identify sources of finance.

Demonstration projects would bring the seed money necessary to identify their current situation and potential public-private partnerships, and bring "lessons learned" from developed countries that will help them to think through and establish a solid "unwanted ODS" management system taking into account considerations of sound management of chemicals, as well as finding sound environment solutions for final disposal/destruction that will benefit both ozone and climate. UNDP's strategy to work in different areas to mobilize additional financial resources is detailed in paragraph 5.3 below.

UNDP submissions for demonstrations/pilot projects are backed by Decision XX/7 on

ANNEX 1 – Demos for ODS Waste Management/Destruction

environmentally sound management of banks of ozone-depleting substances, which "requests the Executive Committee of the Multilateral Fund to consider as a matter of urgency commencing pilot projects that may cover the collection, transport, storage and destruction of ozone-depleting substances. UNDP included the countries that asked us to do so. The restricted numbers also follows the MOP decision to allow a "selected number" of such demos. We also focused on countries which have had progress in addressing ODS waste management leading to the need for destruction. In addition we looked at the high probability to find synergies with other sources of existing funds such as UNDP's GEF-programme on energy-efficiency which often provides links with ODS-waste management/destruction efforts and brings the volume of waste required for such schemes. We also only included countries who requested us to do so.

B. Country-Specific Information.

It should be noted that UNDP only plans to request project preparation in 2009, while the proposals themselves would be submitted in 2010. As mentioned in paragraph 3 above, more information is being provided for the following PRP requests:

| NR | COUNTRY | TITLE | PROJECT VALUE US\$ | SUPPORT COST US\$ | TOTAL FUNDING US\$ |
|--|----------|--|--------------------|-------------------|--------------------|
| 1 | Bolivia | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 2 | Brazil | PRP for Demonstration on ODS Banks Mgt and Destruction | 40,000 | 3,000 | 43,000 |
| 3 | Colombia | PRP for Demonstration on ODS Banks Mgt and Destruction | 40,000 | 3,000 | 43,000 |
| 4 | Uruguay | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 5 | Ghana | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 6 | Cuba | PRP for Demonstration on ODS Banks Mgt and Destruction | 30,000 | 2,250 | 32,250 |
| 7 | Egypt | PRP for Demonstration on ODS Banks Mgt and Destruction | 40,000 | 3,000 | 43,000 |
| 8 | India | PRP for Demonstration on ODS Banks Mgt and Destruction | 60,000 | 4,500 | 64,500 |
| Subtotal PRP Pilots on ODS Waste Management and Destruction | | | 300,000 | 22,500 | 322,500 |

1 & 4. Bolivia and Uruguay

National Ozone Units of both LVC countries have been receiving several reports from the refrigeration servicing sector indicating there is contaminated CFC 12 stored and no solution is provided for those. There have been difficulties to measure the volumes of ODS in banks in the countries as individual volumes are not big and storage is spread; this situation seems to be common in LVCs. There is interest from the Governments to undertake a pilot project to avoid CFC emissions to the atmosphere and provide an environmentally sound solution to the contaminated CFCs, which has been cumulated since the beginning of their projects in the servicing sector. The projects will seek to generate data and experience on collection of contaminated CFC in LVCs including costs and logistics of collection, options for disposal and ways to improve LVCs strategies to manage and destroy ODS banks.

2. Brazil.

In Brazil, 90% of its population of 180 million has at least one refrigerator. In order to reduce energy demand, the government took several actions, including passing legislation mandating all utilities to apply 0.5 % of their net annual income in Energy Efficiency projects, stimulating the market for EE products. An agreement between the Government and Utilities in 2006 on CFC-12 collection by utilities in their appliance replacement programmes allowed the inter linkages needed with the MLF approved NPP and its reclamation centers and better management of CFCs recovered.

In 2008 the first pilot project initiated by one Utility replaced 50,000 refrigerators but no solution for insulation foam existed. Initially, Brazil asked UNDP to assist in finding solutions for a sustainable business to recover CFCs from foam and compressors and recycle the refrigerators. The recycling program and collection of ODS from insulation foam needed solutions as far as technology and costs. Germany donated 5 million Euros into this de-manufacturing component that will allow fridge recycling equipment and training as well as certification of recycling standards.

The potential for a sustainable business model for refrigerators recycling (de-manufacturing) in Brazil is now real, as 1 million refrigerators will be replaced per year- as per official Government plan approved by the President. This will bring new business in the country, stimulating private sector to compete for such de-manufacturing operations.

Nevertheless, there is no solution for the destruction portion linking the efforts on the ground , as the equipment replacement pilots scale up to cover other states. The MLF demo requested will help to link existing equipment replacement programmes to recycling centers/ installations, look into transportation logistic , legislation/regulatory measures/standards needed, leading to a sustainable business model for proper disposal of ODS wastes. Destruction technologies evaluations, identification of potential partnerships as well as finance options, including the potential for income from carbon finance in the voluntary market are foreseen.

The pilot proposed will be of particular importance as in Brazil only 91 Tones of ODS were identified and are ready in storage for destruction as result of the recover and recycling of CFCs, from compressors during the regular servicing of equipment (not in foams). There are now in Brazil additional 7,150 Tones of CFC installed in domestic refrigerators to be de-manufactured and replaced by energy efficient ones generating additional CFCs that will need to be destroyed. In addition, Brazil has an approved US\$ 13.5 million GEF project (Market Transformation for Energy Efficiency in Buildings), plus US\$ 15 million IADB, that will transform the market for EE products, leading to inefficient chillers replacement, adding to the amount of ODS recovered to be destroyed.

The above appliance replacement schemes have been proven to be successful in developed countries, when proper legislation and incentives are in place and the business is sustainable. Its applicability in different Article 5 countries with different circumstances is to be demonstrated.

3. Colombia

Colombia is the largest refrigerator producer in the Northern zone of South America with an estimated annual production of 1,300,000 units. More than 40 % of the production is exported to Venezuela, Ecuador, Peru and Central America. Local consumption (production plus imports) is in the range of 800,000 units per year.

Since December 2005 Colombia has an overall policy for the management of hazardous waste, where ODSs are included. This policy is covered in the Resolution 4741 of 2005 based on the implementation of Basel Convention.

The stock of ODS ready to destroy at September of 2008 is 19,314 Tones including CFC 11, CFC 12, Halon 1301, HCFC 22, CFC/HCFC blends. There is a detailed inventory by sector and by enterprise specifying contaminated, recycled and virgin material.

Between April and August 2008 the Government of Colombia implemented an initiative to substitute CFC based domestic refrigerators and to dispose of them in an environmentally sound way. A total of 2000 CFC based domestic refrigerators of different sizes and brands were collected and dismantled. One of the biggest refrigerators retailers, one materials recycling company and two of the most important domestic refrigerators manufacturers participated in the initiative. The initiative aimed to study impact on CFC emissions, reduction on energy consumption and reuse of residual materials; and to generate awareness of final users on energy and environment issues. This initiative helped put together all the stakeholders involved in the process and allowed the creation of a favorable environment for the search of economic and legislative mechanisms that could help remove the barriers for substitution of the estimated 3 million CFC based units still working in the country, with the environmental benefits that this represents. It also provided valuable data on the average materials composition and energy consumption of the old domestic refrigerators produced in the country.

The above would be an excellent starting point for a pilot project on ODS destruction in this country that has the commitment of the government and local industry. There are still uncertainties and the need to analyze important aspects of larger scale operations such as available options and costs for logistics (including storage and transport) and final disposal of the CFCs stockpiles, possible legislative measures associated and financial mechanisms that could help cover the costs, among others. The assistance proposed is critical to Colombia to help to address these issues.

4. Uruguay: see 1.

5. Ghana

Ghana, like many other developing countries, has a relatively large local market in inefficient used and rehabilitated refrigerators. It is estimated that there are currently 2.9 million refrigerators/freezers in the residential and non-residential sectors. Ghana is in the process of transforming its national refrigerator market to replace the old, inefficient

ANNEX 1 – Demos for ODS Waste Management/ Destruction

refrigerators and freezers with new more efficient and environmentally friendly refrigeration appliances. Ghana is planning on using carbon credit finance to help finance the advertising and incentive program that will be removing the older, used refrigeration appliances from the market.

Ghana also would like to look into the possibilities to not only scrap the older refrigeration appliances, but also to recover the ODS from these appliances, to dispose and destroy these substances and to obtain the appropriate GHG emissions reduction credits. But collection and disposal is expensive and the GHG crediting mechanism for the ODS is not yet established. A mechanism for receiving and properly destroying the ODS would be an extremely useful complement to the efficiency market transformation program. This aspect would be specifically dealt with through the proposed MLF demonstration component which would show the results of ODS destruction and finance options which will be conducted.

The proposed MLF demonstration project would be linked to a GEF proposal entitled “Promoting of Appliance Energy Efficiency and Transformation of the Refrigerating Appliances Market in Ghana” for US\$ 3.95 million (of which US\$ 1.95 million would come from the GEF) which was submitted by UNDP to the GEF in September 2008.

6. Cuba

Cuba has a national funded Energy Efficiency project, where they intent to replace 3 million domestic refrigerators, of which 2.6 million have been replaced so far. This programme has been on-going for several years, and the ozone unit has provided the programme with recovery machines to recover the CFCs. All the logistics related to recollection and de-manufacturing of domestic refrigerators is in place, and they have so far recovered more than 100 tons ODS. Cuba seeks assistance to set up a destruction project for the recovered CFC. The project will be implemented jointly with Japan, and Japan will help Cuba to identify technological solutions for the destruction. UNDP would help to identify options to mobilize finance and get partnerships required

7. Egypt

UNDP is implementing a US\$ 5.4 million GEF-supported programme in removing barriers towards achieving energy-efficiency in various economic sectors. Several labs were accredited to assess energy-efficiency levels of household appliances such as refrigerators and freezers. 220 fridges were tested for EE levels. The requested demonstration project will allow Egypt to link results and legislation framework for EE existing initiatives contained in the GEF project to bring the incentives to establish an appliances de-manufacturing and recycling management system to proper collection and final disposal of ODS. There is already a high-level Governmental support to this current approved GEF project. As it relates to available ODS stockpiles, according to NOU's rough estimates from 2007, the stockpiles could be 2,000 tons. A detailed survey is required to understand the exact figures and their breakdown by chemical since ODS waste is available in foams, A/C, refrigeration and fire-fighting sector. Carbon finance and other options to mobilize resources and partnerships will be identified during the demonstration project.

8. India

India is a large producer of appliances and equipment. There is a very large existing population of CFC-based appliances, such as household refrigerators, freezers as well as commercial and industrial refrigeration equipment containing CFCs. Estimates of the total size of these banks in India are available from many sources and generally range widely from 25,000 to 500,000 metric Tones, however this needs to be established. It is expected that during the medium to long term (3 to 15 years), a significant proportion of the population of CFC-based appliances and equipment would need to be replaced due to various reasons such as end of useful life, energy efficiency considerations, consumer preferences, business reorganization, etc., potentially making large quantities of CFCs available for disposal, along with the consequent challenges to minimize emission risks.

The proposed pilot project for ODS disposal in India would:

- a) Establish estimated sizes of CFC banks, through survey of representative samples
- b) Prioritize accessible banks for replacement programmes
- c) Establish a representative sample size of banks covering two applications (household appliances and industrial/commercial refrigeration equipment), in which interventions on energy efficiency, waste disposal and CFC management would be implemented, demonstrating the selected technologies and their synergies with environmental objectives across conventions, as well as multi-source financial mechanisms
- d) Propose policy and regulatory interventions which would support successful scaling up of ODS disposal measures
- e) Identify and assess risks associated with the above interventions and propose mechanisms to manage these risks
- f) Assess and document the comprehensive environmental impact of the above interventions.

CHINA

**REQUEST FOR PROJECT PREPARATION FUNDING FOR DEMONSTRATION
PROJECTS IN THE INDUSTRIAL AND COMMERCIAL REFRIGERATION
SECTOR**

Summary of the funding requests

| Project title | Funding request | Support costs | Total |
|--|------------------------|----------------------|--------------|
| A. Demonstration project for the conversion of HCFC-22 based reciprocating refrigeration compressors for cold storage applications | 30,000 | 2,250 | 32,250 |
| B. Demonstration project for the conversion of HCFC-22 based residential air source heat pumps | 30,000 | 2,250 | 32,250 |

Rationale and objectives

The proposed demonstration projects, upon successful completion will:

- a) Develop a replicable project model for HCFC-22 reductions/phase-out in the selected applications
- b) Establish technical performance and economic feasibility of the selected technology for the selected applications and introduce and apply the same to similar enterprises
- c) Establish a methodology for calculation of conversion costs, which can serve as a reference for similar applications and enterprises

Sector Background

Since the early 1990s, the Industrial and Commercial Refrigeration sector in China has made significant progress consistent with the overall pace of development in China. The sector has maintained over 15% average annual growth rate and has contributed to China becoming a global producer for air-conditioning and refrigeration products. The estimated output of this sector in China in 2007 was valued at about US\$ 18 billion, representing an increase of about 33% compared to the previous year. There are over 1,000 enterprises in the sector, with combined assets valued at over US\$ 20 billion.

HCFC-22 has long been widely used as a mature refrigerant for most refrigeration and air conditioning applications, due to its suitable properties. In absence of satisfactory zero-ODP alternatives, HCFC-22 was also used as an interim replacement for CFCs in the initial stages of the CFC phase-out programme. At present, in the Industrial and Commercial Refrigeration sector in China, HCFC-22 is used as a refrigerant for a wide range of applications. About 80% of the refrigeration and air-conditioning products use HCFC-22 as a refrigerant, only a small number of applications use R134a, R410A, R407C, Ammonia and Lithium Bromide as refrigerants. HCFC-22 consumption has grown rapidly over the years in this sector due to the significant growth of the sector. In 2007, the estimated HCFC-22 consumption in this sector was about 40,000 Tones.

ANNEX 2 - Demos for HCFC in the RAC sector in China

A. Demonstration project for the conversion of HCFC-22-based reciprocating refrigeration compressors for cold storage applications

| | | | |
|---|--|-----------------------------|------|
| COUNTRY: | CHINA | IMPLEMENTING AGENCY: | UNDP |
| PROJECT TITLE: | Demonstration project for conversion of HCFC-22 based reciprocating refrigeration compressors for cold storage applications at Yantai Moon Group Co. Ltd. | | |
| PROJECT IN CURRENT BUSINESS PLAN: | Yes | | |
| SECTOR: | Industrial & Commercial | | |
| SUBSECTOR: | Refrigeration & AC Compressors | | |
| ODS USE IN SECTOR: | 40,00 Metric Tones 0 | | |
| ODS USE IN ENTERPRISE: | 0 (No direct consumption) | | |
| PROJECT IMPACT: | Metric Tones (indirect) 200 | | |
| PROJECT DURATION: | 18 months | | |
| PROJECT COSTS: | US\$ 30,00 (Preparation funding) 0 | | |
| REQUESTED GRANT: | US\$ 30,00 0 | | |
| IMPLEMENTING AGENCY SUPPORT COSTS: | US\$ 2,250 | | |
| TOTAL COST TO MULTILATERAL FUND: | US\$ 32,25 0 | | |
| STATUS OF COUNTERPART FUNDING: | Not applicable | | |
| PROJECT MONITORING MILESTONES: | Included | | |
| NATIONAL COORDINATING BODY: | FECO/MEP | | |

ANNEX 2 - Demos for HCFC in the RAC sector in China

PROJECT SUMMARY

Upon successful completion, this demonstration project will:

- a) Develop a replicable project model for HCFC-22 reductions/phase-out for reciprocating refrigeration compressors for cold storage applications
- b) Establish technical performance and economic feasibility of the selected technology for the selected applications and introduce and apply the same to similar enterprises
- c) Establish a methodology for calculation of conversion costs, which can serve as a reference for similar applications and enterprises
- d) Facilitate elimination of about 200 metric Tones of HCFC-22 consumption by the downstream users of reciprocating refrigeration compressors manufactured by Yantai Moon Group Co. Ltd.

The proposed project covers the following main interventions:

- (i) Redesign of compressors for introducing a new series of non-HCFC compressors, including redesign of various components and parts
- (ii) Retrofit the production line and process tooling equipment suitable for the new technology
- (iii) Retrofit the original experimentation facility and factory test-bed.
- (iv) Carry out extensive tests and trials to establish technical performance with the new technology
- (v) Assess economic feasibility and environmental performance of the new technology

The key impacts of the project upon successful completion would be to facilitate reduction or elimination of HCFC-22 in the downstream users of compressors manufactured by Yantai Moon Group Co. Ltd. by ensuring domestic availability of proven non-HCFC compressors in China.

Enterprise Background

Yantai Moon Group Co. Ltd. was established in 1956, specializing in manufacturing of air conditioning and refrigeration products and engineering design, installation, commissioning and technical advisory services in the areas of frozen foods, food processing, industrial refrigeration, central air conditioning, fruit and vegetable preservation technologies. In 1998, Yantai Moon Group Co. Ltd. was listed on Shenzhen Stock market. The enterprise has independent intellectual property rights for refrigeration compressor manufacturing technology.

Yantai Moon Group Co. Ltd., as a large-scale backbone enterprise in refrigeration and air-conditioning industry in China, has advanced technology and rich experience in ammonia and HFC-22 refrigeration compressor manufacturing and system integration. In 1992, Yantai Moon was identified by the State Environmental Protection administration (currently Ministry of Environmental Protection) as a top priority company for implementation of the "small-scale ammonia refrigeration compressor production project" under ODS III which was approved at the 15th meeting of the Executive Committee.

Technology Selection

The following factors need to be considered for selection of the alternative technology:

Technical factors

- Processing characteristics
- Functionality in end-product
- Proven and mature technology
- Energy efficiency

Commercial factors

- Cost-effectiveness
- Reliable availability

Health and safety factors

- Low risk for occupational health
- Low risk for physical safety (flammability, etc)

Environmental factors

- Direct ozone impacts
- Direct and indirect climate impacts

ANNEX 2 - Demos for HCFC in the RAC sector in China

Yantai Moon Group Co. Ltd. will carefully consider the above factors in evaluating HCFC-22 alternatives in its manufacture of reciprocating refrigeration compressors and for making the final selection of technology. Some of the candidates currently available are listed below:

| Substance | GWP | Application | Remark |
|-----------------|-------|---|--|
| Ammonia | 0 | Industrial refrigeration and process chillers | Flammability and toxicity issues. Material compatibility issues. |
| CO ₂ | 1 | Supermarket refrigeration in a secondary loop and in stationary and mobile air conditioning systems | Major redesign of system components needed. |
| Hydrocarbons | <15 | Small-capacity domestic and commercial refrigeration equipment | Flammability issues. Not widely used in large capacity systems |
| R-134a | 1,300 | Domestic, commercial refrigeration medium-temperature applications | Not efficient in low-temperature systems and industrial refrigeration applications. Needs synthetic lubricants |
| R-407C | 1,520 | Most applications | Properties closely match R22. Temperature glide, synthetic lubricants needed, slightly less efficient than R22 |
| R-410A | 1,710 | Most applications | Near azeotropic blend of R-32 and R-125. Higher pressures, better cooling capacity, low temperature glide, high GWP, synthetic lubricants needed |
| R-404A | 3,260 | Low temperature applications | High GWP, less efficient at medium temperatures, synthetic lubricants needed |
| R-507 | 3,900 | Low temperature applications | Azeotropic non-flammable blend of HFC-125 and HFC-143a. Refrigerating capacity comparable to R-502. Good heat transfer characteristics at low temperatures |

Project Description

The proposed project will cover the following main interventions:

- (i) Assess technical suitability, economic feasibility and environmental performance of the various available alternatives based on predetermined parameters and select an alternative that satisfactorily meets these parameters

ANNEX 2 - Demos for HCFC in the RAC sector in China

- (ii) Redesign of compressors for introducing a new series of non-HCFC compressors, including redesign of various components and parts with the selected technology
- (iii) Retrofit the production line and process tooling equipment suitable for the new technology
- (iv) Retrofit the original experimentation facility and factory test-bed.
- (v) Carry out extensive tests and trials to establish technical performance with the new technology including impacts on system components, lubricants, etc.

Project Impact

Upon successful completion, this demonstration project will:

- a) Develop a replicable project model for HCFC-22 reductions/phase-out for reciprocating refrigeration compressors for cold storage applications
- b) Establish technical performance and economic feasibility of the selected technology for the selected applications and introduce and apply the same to similar enterprises
- c) Establish a methodology for calculation of conversion costs, which can serve as a reference for similar applications and enterprises
- d) Facilitate elimination of about 200 metric Tones of HCFC-22 consumption by the downstream users of reciprocating refrigeration compressors manufactured by Yantai Moon Group Co. Ltd.

Monitoring Milestones

| | 2009 | | | | 2010 | | | |
|--|------|----|----|----|------|----|----|----|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Submission of proposal to MLF | | █ | | | | | | |
| Approval by MLF | | | █ | | | | | |
| Project document signature by Government | | | | █ | | | | |
| Implementation appraisal | | | █ | █ | | | | |
| Selection of alternative technology | | | | █ | | | | |
| Redesign of system and components | | | | █ | █ | | | |
| Equipment procurement | | | | | █ | █ | | |
| Retrofit of production line | | | | | █ | █ | █ | |
| Installation and commissioning | | | | | | █ | █ | █ |
| Prototype trials | | | | | | | █ | █ |
| Technical laboratory analysis and improvements | | | | | | | █ | █ |
| Trial production | | | | | | | | █ |
| Certifications | | | | | | | | █ |
| Project appraisal, acceptance and reporting | | | | | | | | █ |
| Commercial production | | | | | | | | █ |

ANNEX 2 - Demos for HCFC in the RAC sector in China

B. Demonstration project for the conversion of HCFC-22-based Residential Air Source heat Pumps to R-410A

| | | | |
|---|--|-----------------------------|------|
| COUNTRY: | CHINA | IMPLEMENTING AGENCY: | UNDP |
| PROJECT TITLE: | Demonstration project for conversion of HCFC-22 based residential air source heat pump units to R-410A at Tsinghua Tongfang Artificial Environment Co. Ltd. | | |
| PROJECT IN CURRENT BUSINESS PLAN: | Yes | | |
| SECTOR: | Industrial & Commercial | | |
| SUBSECTOR: | Refrigeration & AC Commercial Air Conditioning | | |
| ODS USE IN SECTOR: | 40,00 Metric Tones 0 | | |
| ODS USE IN ENTERPRISE: | 70 Metric Tones | | |
| PROJECT IMPACT: | Metric Tones 70 | | |
| PROJECT DURATION: | 18 months | | |
| PROJECT COSTS: | US\$ 30,00 (Preparation funding) 0 | | |
| REQUESTED GRANT: | US\$ 30,00 0 | | |
| IMPLEMENTING AGENCY SUPPORT COSTS: | US\$ 2,250 | | |
| TOTAL COST TO MULTILATERAL FUND: | US\$ 32,25 0 | | |
| STATUS OF COUNTERPART FUNDING: | Not applicable | | |
| PROJECT MONITORING MILESTONES: | Included | | |
| NATIONAL COORDINATING BODY: | FECO/MEP | | |

ANNEX 2 - Demos for HCFC in the RAC sector in China

PROJECT SUMMARY

Upon successful completion, this demonstration project will:

- a) Develop a replicable project model for HCFC-22 reductions/phase-out for residential air source heat pump unit applications
- b) Establish technical performance and economic feasibility of R-410A as the refrigerant residential air source heat pump units application and introduce and apply the same to similar enterprises
- c) Establish a methodology for calculation of conversion costs, which can serve as a reference for residential air source heat pump units application and similar enterprises
- d) Facilitate elimination of about 70 metric Tones of HCFC-22 consumption at Tsinghua Tongfang Artificial Environment Co. Ltd.

The proposed project covers the following main interventions:

- (i) Redesign of residential air source heat pump units for introducing a new series of non-HCFC units, including redesign of various components and parts
- (ii) Retrofit the production line and process tooling equipment suitable for the new technology
- (iii) Carry out extensive tests and trials to establish technical performance with the new technology
- (iv) Assess economic feasibility and environmental performance of the new technology

The key impact of the project upon successful completion would be to eliminate 70 metric Tones of HCFC-22 at Tsinghua Tongfang Artificial Environment Co. Ltd. and to further facilitate reduction or elimination of HCFC-22 by the residential air source heat pump unit manufacturers in China.

Enterprise Background

Tsinghua Tongfang Artificial Environment Co. Ltd. was established in 1993. The enterprise is a state owned company, specializing in research and development, manufacturing and sale of the environmental products and systems. In the air conditioning field, the company actively carries out research and development of environmental control products, green construction, energy efficiency in buildings and renewable energy technologies. The enterprise employs 1,062 persons, of which about 35% have undergraduate and graduate level education.

Over the past decade, Tsinghua Tongfang Artificial Environment Co. Ltd. has successfully developed several product lines, including air-source/water-source/ground-source heat pump units, heat pump water heaters, lithium bromide absorption heat pump units, fan-coil units, central-station air handling units and air purifiers. The enterprise has accumulated rich experience in the development and application of the heat pump products. The technology level and quality of the products manufactured by Tsinghua Tongfang Artificial Environment Co. Ltd. are highly appreciated by consumers and other producers in the industry. The low ambient temperature air source heat pump units manufactured by the enterprise are classified at the International Leading Level by the Ministry of Construction. The range of heat pump units manufactured by Tsinghua Tongfang Artificial Environment Co. Ltd. is also classified at Leading Level domestically. Most products manufactured by the enterprise meet or exceed the National Standard on Energy Efficiency.

Tsinghua Tongfang Artificial Environment Co. Ltd. is the national leader in heat pump technology. The enterprise comprises a unique amalgam of industry, academia and research, and is abreast of the latest scientific progress on technology and environment. The enterprise has developed its own "core technology", "core products" and "core systems" with independent intellectual property rights.

Tsinghua Tongfang Artificial Environment Co. Ltd. currently has three production bases, with 12 different product lines, with production capacity valued at about US\$ 3 billion.

Technology Selection

The following factors need to be considered for selection of the alternative technology:

Technical factors

- Processing characteristics
- Functionality in end-product

ANNEX 2 - Demos for HCFC in the RAC sector in China

- Proven and mature technology
- Energy efficiency

Commercial factors

- Cost-effectiveness
- Reliable availability

Health and safety factors

- Low risk for occupational health
- Low risk for physical safety (flammability, etc)

Environmental factors

- Direct ozone impacts
- Direct and indirect climate impacts

Some of the candidates currently available are listed below:

| Substance | GWP | Application | Remark |
|-----------------|-------|---|--|
| Ammonia | 0 | Industrial refrigeration and process chillers | Flammability and toxicity issues. Material compatibility issues. |
| CO ₂ | 1 | Supermarket refrigeration in a secondary loop and in stationary and mobile air conditioning systems | Major redesign of system components needed. |
| Hydrocarbons | <15 | Small-capacity domestic and commercial refrigeration equipment | Flammability issues. Not widely used in large capacity systems |
| R-134a | 1,300 | Domestic, commercial refrigeration medium-temperature applications | Not efficient in low-temperature systems and industrial refrigeration applications. Needs synthetic lubricants |
| R-407C | 1,520 | Most applications | Properties closely match R22. Temperature glide, synthetic lubricants needed, slightly less efficient than R22 |
| R-410A | 1,710 | Most applications | Near azeotropic blend of R-32 and R-125. Higher pressures, better cooling capacity, low temperature glide, high GWP, synthetic lubricants needed |
| R-404A | 3,260 | Low temperature applications | High GWP, less efficient at medium temperatures, synthetic lubricants needed |
| R-507 | 3,900 | Low temperature applications | Azeotropic non-flammable blend of HFC-125 and HFC-143a. Refrigerating capacity comparable to R-502. Good heat transfer characteristics at low temperatures |

ANNEX 2 - Demos for HCFC in the RAC sector in China

Tsinghua Tongfang Artificial Environment Co. Ltd. has carefully considered and applied the above-mentioned factors in evaluating HCFC-22 alternative candidates listed above and has concluded that R-410A technology is most suited for application to its heat pump products, due to its technical performance and relative neutrality with respect to global warming impact as compared to HCFC-22 and also due to potential energy efficiency gains through system improvements. In addition, Tsinghua Tongfang Artificial Environment Co. Ltd. has also carefully studied the international regulatory and market scenario, and notes that R-410A has wide acceptability in this particular market segment, both in USA and Japan.

Being the leader in heat pumps sub-sector in China, Tsinghua Tongfang Artificial Environment Co. Ltd. is considered to be the appropriate candidate for carrying out a demonstration project for this application in China.

Project Description

The proposed project will cover the following main interventions:

- (i) Redesign of system and components for introducing a new series of non-HCFC air source heat pump units with R-410A technology. A total 8 specifications and 20 product models in the capacity range of 6 kw to 45 kw will be redesigned
- (ii) Retrofit the production line and process tooling equipment suitable for the new technology
- (iii) Carry out extensive tests and trials to establish technical performance with the new technology including impacts on system components, lubricants, etc.

Project Impact

Upon successful completion, this demonstration project will:

- (a) Develop a replicable project model for HCFC-22 reductions/phase-out for air source heat pump unit applications with R-410A technology in China
- (b) Establish technical performance and economic feasibility of R-410A technology for air source heat pump unit applications and introduce and apply the same to similar enterprises at a later date
- (c) Establish a methodology for calculation of conversion costs, which can serve as a reference for similar applications and enterprises
- (d) Facilitate elimination of about 70 metric Tones of HCFC-22 consumption at Tsinghua Tongfang Artificial Environment Co. Ltd.

ANNEX 2 - Demos for HCFC in the RAC sector in China

Monitoring Milestones

| | 2009 | | | | 2010 | | | |
|--|------|----|----|----|------|----|----|----|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Submission of proposal to MLF | | ■ | | | | | | |
| Approval by MLF | | | ■ | | | | | |
| Project document signature by Government | | | ■ | | | | | |
| Implementation appraisal | | | ■ | | | | | |
| Redesign of system and components | | | ■ | ■ | ■ | ■ | | |
| Equipment procurement | | | | ■ | ■ | ■ | ■ | |
| Retrofit of production line | | | | ■ | ■ | ■ | ■ | |
| Installation and commissioning | | | | | | ■ | ■ | ■ |
| Prototype trials | | | | | | | ■ | ■ |
| Technical laboratory analysis and improvements | | | | | | | ■ | ■ |
| Trial production | | | | | | | ■ | ■ |
| Certifications | | | | | | | | ■ |
| Project appraisal, acceptance and reporting | | | | | | | | ■ |
| Commercial production | | | | | | | | ■ |

ANNEX 3 – Resource Mobilization to Address Climate Co-Benefits in HCFC phaseout

UNDP and the Carbon Finance agenda

UNDP has been an active participant in the carbon finance arena over the last five years and has more recently established the MDG Carbon Facility which offers project development and management services to the growing number of Clean Development Mechanism (CDM) and other projects in the compliance market. As far as CDM access is concerned, generally only large countries have had the benefit of it and therefore UNDP has been focusing on the technological and geographical expansion of the scope of projects covered under the CDM. In this context, the MDG Carbon Facility sees itself as an innovative force in the field of carbon finance with development goals as core principle.

One of the areas in which the UNDP MDG Carbon Facility is seeking to enlarge its activities is in the burgeoning voluntary carbon market. Consistent with UNDP's pioneering spirit, an expansion of scope is already foreseen in respect of non-Kyoto gases. In particular, the opportunity exists to extend activities into the funding of appropriate projects covering ozone depleting substances (ODS), an area where UNDP has long-standing expertise having acted as an Implementing Agency for the Multilateral Fund since its inception in the early 1990s. UNDP's current role as Lead Agency for a very significant number of countries seeking to phase-out HCFCs under Decision XIX/6 puts the agency in a unique position to identify and develop appropriate projects.

ODS Project Opportunities

UNDP sees clear opportunities for projects in at least two areas:

1. Bank management and ODS disposal projects – particularly related to the end-of-life management of appliances.
2. Co-funding opportunities in HCFC phase-out where additional climate benefit can be gained by additional investment in technology selection.

For example, there are clear possibilities to use linkages with other programmes such as energy efficiency actions under the GEF to identify projects and leverage access to old appliances in order to ensure appropriate end-of-life management, and tap into country specific initiatives towards energy savings gains in appliance replacement national programmes.

Coordination with the Multilateral Fund and its Secretariat

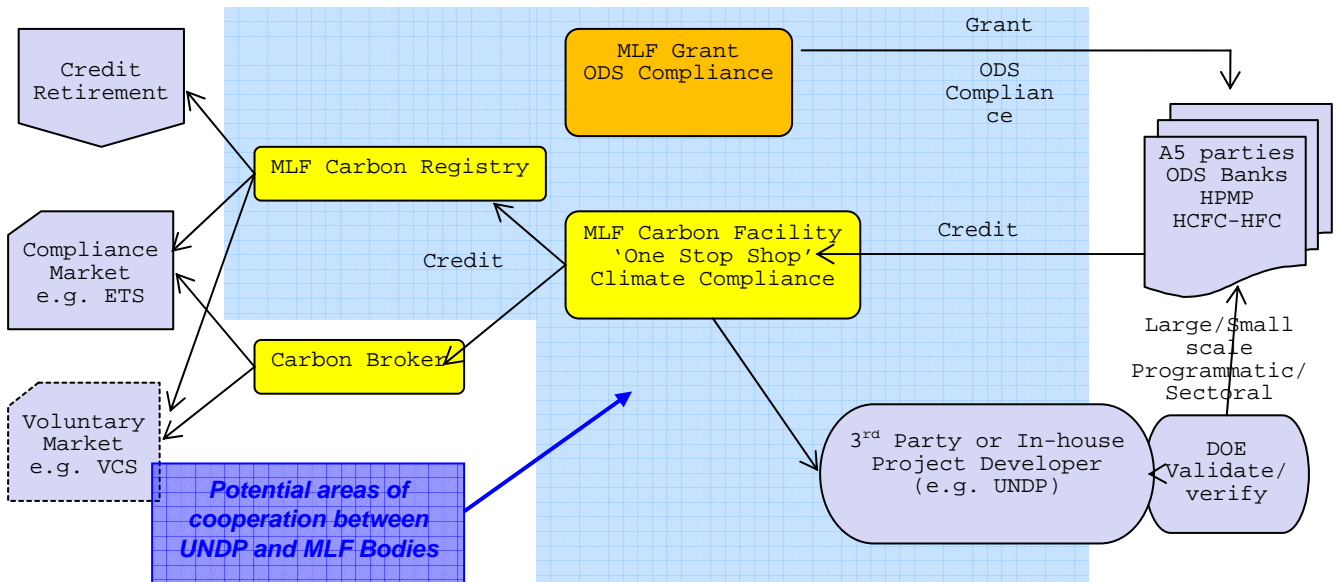
It is recognised that both project areas are of significant interest to the Executive Committee of the Multilateral Fund, since the Committee is required to give priority to cost-effective projects that optimise climate benefit under Decision XIX/6. The mechanisms by which such benefits are assessed are still under development, but UNDP is actively coordinating with the MLF Secretariat to ensure that approaches to the subject are consistent.

Apart from the evaluation of climate benefit itself, UNDP is keen to work with the Secretariat on mechanisms for accessing co-funding and, in particular, in enhancing the reputation (and value) of credits generated and placed on the carbon market in the face of some concern among some stakeholders that projects involving high-GWP gases are likely to result in a glut of poorly defined credits.

ANNEX 3 - Resource Mobilization to Address Climate Co-Benefits in HCFC phaseout

UNDP believes that a dedicated registry could provide a significant contribution to this process and wishes to work with the MLF Secretariat to optimise the interaction between the market framework and the projects themselves.

There are a number of potential models that may ultimately be applicable. To illustrate, the following diagram indicates just one option:



Proposed Activities in 2009

UNDP has significant experience in the carbon financing sector which it can leverage to assist in the development of a sound approach to the co-financing of incremental climate benefits (whether from the market or on a cost-coverage basis). The Montreal Protocol Unit of UNDP has vast experience in the area of ODS projects but has no dedicated budget to seek to apply the carbon financing ‘best practice’ possessed within UNDP via MDG Carbon.

Such a combined and synchronised resource could provide substantial added value to the deliberations of the Executive Committee of the Multilateral Fund and its Secretariat on the co-financing of climate benefits and could offer a proving ground for key ideas. The Montreal Protocol Unit therefore proposes the following steps in 2009:

- 1) Identification and documentation of potential exemplar projects requiring co-financing of incremental climate benefits in the following areas:
 - a. An MLF funded project where incremental climate benefits will come at a cost of >\$25 per tonne of CO₂ saved
 - b. An Article 5 project where the HCFC phase-out is not funded under the MLF but could be funded from the proceeds of the incremental climate benefit.
 - c. An Energy Efficiency project (e.g. GEF) in which E-o-L management of ODS would bring incremental ozone and climate benefits.
 - d. A stand-alone bank management./ODS destruction project which could be based on an existing methodology

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- 2) On-going review of emerging methodologies in support of any of the four project types identified above.
- 3) Commissioning of new methodologies, where appropriate, to address specific project types in an environmentally sound fashion
- 4) Assessing risk and financial liabilities and cost effectiveness of different trading options
- 5) Marketing Business Plan and identification of potential buyers
- 6) Coordination and reporting to MLF Bodies on findings and potential pitfalls

Resource Requirements

UNDP estimates that it will need to commit resources of around **\$250,000** plus support costs in 2009 to cover UNDP MPU staff and external expert consulting services. In addition, UNDP would require in house expertise from the MDG carbon facility.

If the above seed funding is available from the MLF, **UNDP is prepared to match that in co-finance**, to cover for the time of its Carbon Finance team and related operational costs (US\$ 250,000) that would be used to fully backstop MPU team and provide legal support as well as share with the Secretariat the UNDP's experience in setting many Facilities, among them the MDG Carbon and UN REDD Facilities.

Additional Information on Outputs and Inputs for this proposal further to Comments received from the MLFS

Four different scenarios have been identified that could benefit from co-funding (a to d). Some of the valuable outputs from assessing these four exemplar projects would be an assessment of the extent to which:

- Existing methodologies are available
- There are precedents of such projects already available
- There are would-be partners who would work with the MLF on co-funding
- There is acknowledgement that these could fit into a wider funding framework with linkage between Executive Committee of the MLF and the Executive Board of the CDM

This could be documented in a Report which uses the 'particular' to drive thinking on the 'funding framework' required. We could envisage a four-by-four matrix of the projects assessed against the items listed above (this may not be exhaustive)

Items (2) and (3) on the deliverables list are really only examples of what might need to be done to facilitate the accessibility of carbon finance for these four project types.

Therefore, we do not see this yet as progressing immediately to four concrete project proposals. We are looking for the best ultimate solution to encapsulate all four project types rather than to take what is already 'on-the-shelf' and applying it with the risk that this will potentially not fit the project in mind.

We therefore envisage the following steps in the process, which would probably constitute the major headings of the report UNDP plans to produce:

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1. A full analysis of the four project types and their potential climate benefits
2. A review of existing carbon financing options and the pros and cons of each of them
3. Some ideas on how these project types could be incorporated within one mechanism
4. Existing barriers to such a mechanism and the actions required to remove those barriers

The added value that the UNDP involvement brings is in 'concrete examples' of the type of project that is 'out there' as well as a broad overview (via MDG Carbon) of the wider fit within the carbon agenda.

Regarding the team to deliver (re "inputs"), UNDP would suggest the following (subcontracts with consultancy-firms with teams of experts may be selected in lieu of individual consultants if found to be more suitable):

1. One team-leader (international consultant) overlooking the whole study (US\$ 45,000)
2. 4 international consultants characterizing in detail the four project types outlined (US\$ 104,000)
3. 4 international consultants providing the assessment of the barriers and taking agreed steps to assist in removing them (e.g. methodology development) (US\$ 65,000).
4. Travel costs to organize meetings with various donor funds and other interested parties that may be involved in this study (US\$ 36,000).

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Total à US\$ 250,000