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DU FONDS MULTILATÉRAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTRÉAL
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Montréal, 13 – 17 novembre 2017

**AMENDEMENTS AU PROGRAMME DE TRAVAIL
DE LA BANQUE MONDIALE
DE L'ANNEE 2017**

Les documents de présession du Comité exécutif du Fonds multilatéral aux fins d'application du Protocole de Montréal sont présentés sous réserve des décisions pouvant être prises par le Comité exécutif après leur publication.

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT DU FONDS

1. La Banque mondiale demande au Comité exécutif d'approuver la somme de 820 000 \$US plus les coûts d'appui à l'agence de 72 400 \$ pour les amendements à son programme de travail de 2017 précisés dans le tableau 1. La proposition est jointe au présent document.

Tableau 1. Amendements au programme de travail de 2017 de la Banque mondiale

Pays	Activité/projet	Somme demandée (\$US)	Somme recommandée (\$US)
PARTIE A : ACTIVITÉS RECOMMANDÉES POUR EXAMEN INDIVIDUEL			
A1 : Assistance technique pour les activités de facilitation (décision 79/46)			
Malaisie	Activités de facilitation de la réduction progressive de HFC	250 000	*
Philippines	Activités de facilitation de la réduction progressive de HFC	250 000	*
Thaïlande	Activités de facilitation de la réduction progressive de HFC	250 000	*
Total partiel de A1		750 000	*
Coûts d'appui à l'agence (de 9 pour cent pour la préparation des projets)		67 500	*
Total de A1		817 500	*
A2 : Préparation de projets pour les projets en lien avec les HFC (décisions 78/3 g) et 79/45)			
Thaïlande	Préparation de projets pour la reconversion du HFC à des substances de remplacement à base de HFO ou autres solutions à faible PRG dans la production d'équipement de réfrigération commercial chez Pattana Intercool et System Forms Co., Ltd.	40 000	
Coûts d'appui à l'agence (de 7 pour cent pour la préparation des projets)		2 800	
Total de A2		42 800	
A3: Préparation de projets pour des projets de démonstration sur l'atténuation ou la reconversion du sous-produit HFC-23 (décision 79/47)			
Chine	Préparation d'un projet de démonstration de la technologie de reconversion du sous-produit HFC-23 chez Shandong Dongyue Chemical Co. Ltd.	30 000	*
Coûts d'appui à l'agence (de 7 pour cent pour la préparation des projets)		2 100	*
Total de A3		32 100	*
Total global (A1, A2, A3)		892 400	*

*Pour examen individuel

PARTIE A : ACTIVITÉS RECOMMANDÉES POUR EXAMEN INDIVIDUEL

A1 : Assistance technique pour les activités de facilitation (décision 79/46)

Contexte

2. La Banque mondiale a soumis des demandes de financement conformément à la décision 79/46¹ pour la mise en œuvre d'activités dans les trois pays visés à l'article 5 indiqués dans le tableau 1. Les propositions détaillées sont jointes aux annexes 2 à 4 de la proposition de la Banque mondiale.

¹ Le Comité exécutif a décidé, entre autres, d'approuver les activités de facilitation étant entendu que les pays jouiraient de la souplesse nécessaire pour entreprendre les activités qui leur permettraient de respecter leurs obligations d'atténuation initiales au titre de l'Amendement de Kigali. Les activités de facilitation pourraient comprendre entre autres les activités de facilitation et de soutien à la ratification hâtive de l'Amendement de Kigali, la mise en œuvre des arrangements institutionnels à l'appui, l'examen des programmes de permis, la communication de données sur les HFC, et des activités de démonstration et ne portant pas sur des activités.

3. Les activités de facilitation proposées par les trois pays comprennent les éléments suivants :
- a) L'évaluation de la réglementation existante relative à la protection du climat et de la couche d'ozone, afin de cerner les occasions de renforcer les politiques existantes, et le cadre de réglementation et de suivi des importations, des exportations et de l'utilisation des HFC;
 - b) L'examen et la mise à jour des programmes de permis et de quotas des SAO, afin d'y inclure les HFC et d'adapter le système d'harmonisation des codes douaniers actuels en vue d'effectuer le suivi de l'importation/exportation des HFC et des mélanges contenant des HFC;
 - c) L'étude des synergies entre les agences gouvernementales jouant un rôle dans la protection du climat et de la couche d'ozone, afin de coordonner leurs efforts de contrôle et de suivi des HFC, et de communication de données sur la consommation et les émissions aux traités environnementaux mondiaux concernés;
 - d) L'examen des résultats des sondages sur les solutions de remplacement des SAO (Philippines et Thaïlande) ou mise en œuvre d'un sondage sur la consommation de HFC (Malaisie), afin d'analyser et de prévoir la valeur de référence de la consommation de HFC et de compiler des technologies de remplacement pour les différents secteurs;
 - e) L'élaboration d'un projet de stratégie mettant en évidence les scénarios de réduction progressive des HFC, afin de passer à la ratification et au respect de l'Amendement de Kigali.

Observations du Secrétariat

4. Le Secrétariat a préparé un guide de soumission des demandes d'activités de facilitation de la réduction progressive des HFC, afin de faciliter la préparation et la soumission des demandes d'activités de facilitation, et l'a présenté aux agences bilatérales et d'exécution lors de la réunion de coordination interagences.² Le Secrétariat pris note que les demandes d'activités de facilitation soumises par la Banque mondiale sont conformes au guide.

5. Les gouvernements de l'Allemagne et de l'Italie (en qualité d'agences bilatérales) et les quatre agences d'exécution ont présenté des demandes de financement des activités de facilitation au nom de 59 pays visés à l'article 5, conformément à la décision 79/46. Au paragraphe e) de cette décision, le Comité exécutif a décidé que les demandes d'activités de facilitation soumises à la 80^e réunion seraient financées au moyen de contributions volontaires supplémentaires provenant de pays non visés à l'article 5, dans la mesure du possible. Le Secrétariat a inclus une liste de toutes les demandes pour des activités de facilitation soumises à la 80^e réunion en précisant le niveau de financement et les agences participantes dans le document Aperçu des questions soulevées pendant l'examen des projets,³ afin de faciliter l'examen des projets et les échanges entre les membres du Comité exécutif, et de respecter la modalité de financement convenue à la décision 79/46 e).

6. Le Secrétariat a examiné les demandes d'activités de facilitation et a conclu qu'elles répondaient à toutes les exigences de la décision 79/46, comme suit :

² Montréal, 5-7 septembre 2017. Les agences bilatérales et d'exécution ont été reconnaissantes de l'élaboration de ce guide.

³ UNEP/OzL.Pro/ExCom/80/22.

- a) La Banque mondiale a remis des lettres d'appui des gouvernements de ces trois pays visés à l'article 5 précisant leur intention de faire de leur mieux pour ratifier l'Amendement de Kigali dans les meilleurs délais;
- b) Les trois propositions de projet comprenaient une description détaillée de toutes les activités de facilitation, des arrangements institutionnels, de la ventilation des coûts et du calendrier de mise en œuvre.
- c) Toutes les propositions seront mises en œuvre dans un délai de 18 mois.

Recommandation du Secrétariat

7. Le Comité exécutif pourrait souhaiter examiner les demandes d'activités de facilitation de la réduction progressive des HFC pour les trois pays indiqués au tableau 1 dans le contexte de ses débats sur les propositions de projets sur les HFC décrits dans le document Aperçu des questions soulevées pendant l'examen des projets.

A2 : Préparation de projets pour les projets en lien avec les HFC (décisions 78/3 g) et 79/45)

Description du projet

8. La Banque mondiale a soumis une demande de préparation de projet pour la reconversion du HFC à un frigorigène à faible PRG dans la fabrication d'équipement de réfrigération commercial dans deux entreprises de la Thaïlande, Pattana Intercool et Systems Forms, indiquée dans le tableau 1, ci-dessus. Les détails de la demande de préparation de projet figurent dans l'annexe 5 à la proposition de la Banque mondiale.

Observations du Secrétariat

9. Le gouvernement de l'Allemagne (en qualité d'agence bilatérale) et trois agences d'exécution ont soumis des demandes de financement pour la préparation de projets d'investissement pour l'élimination du HFC dans le secteur de la consommation de 10 pays visés à l'article 5 et quatre projets d'investissement (entièrement développés) pour l'élimination du HFC-134a en Argentine,⁴ au Bangladesh,⁵ en Colombie⁶ et au Mexique,⁷ conformément aux décisions 78/3⁸ et 79/45⁹. Le Comité exécutif devra examiner tous les projets en lien avec les HFC soumis à la 80^e réunion, en prenant note des critères de sélection (c.-à-d., technologie proposée, reproductibilité et répartition géographique des propositions) et de leur modalité de

⁴ UNEP/OzL.Pro/ExCom/80/30.

⁵ UNEP/OzL.Pro/ExCom/80/32.

⁶ UNEP/OzL.Pro/ExCom/80/38.

⁷ UNEP/OzL.Pro/ExCom/80/45.

⁸ Le Comité exécutif a décidé, entre autres, d'approuver un petit nombre de projets en lien avec les HFC dans le secteur de la fabrication seulement, afin que le Comité exécutif acquière de l'expérience dans le domaine des surcoûts d'investissement et d'exploitation associés à la réduction progressive des HFC, étant entendu que tout pays qui soumet un projet aura ratifié l'Amendement de Kigali ou remis une lettre officielle précisant l'intention du gouvernement de ratifier l'Amendement, qu'aucun appui financier supplémentaire ne sera disponible jusqu'au dépôt de l'instrument de ratification aux Nations Unies à New York et que la quantité de HFC réduite en conséquence du projet sera soustraite du point de départ.

⁹ Le Comité exécutif a réitéré la décision 78/3 g) et établi les critères suivants pour l'examen des propositions de projets en lien avec les HFC : les projets doivent viser des entreprises individuelles ayant décidé de reconverter à des technologies éprouvées, être reproductibles au pays, dans la région ou dans le secteur, et doivent tenir compte de la répartition géographique, les projets doivent être entièrement mis en œuvre dans un délai maximum de deux ans, et les rapports d'achèvement doivent être exhaustifs et comprendre des renseignements détaillés sur les surcoûts d'investissement, les surcoûts d'exploitation, toute économie réalisée pendant la reconversion et les facteurs pertinents ayant facilité la mise en œuvre.

financement (c.-à-d., à partir de contributions volontaires supplémentaires de pays non visés à l'article 5, dans la mesure du possible, après avoir accordé la priorité aux activités de facilitation¹⁰). Le Secrétariat a inclus une liste de toutes les propositions de projets en lien avec les HFC soumises à la 80^e réunion, en fournissant une courte description et en précisant la technologie choisie, les niveaux de financement et les agences participantes dans le document Aperçu des questions soulevées pendant l'examen des projets, afin de faciliter l'examen des projets et les échanges entre les membres du Comité exécutif.

10. En ce qui concerne la demande de préparation de projet pour deux projets d'élimination des HFC en Thaïlande, le Secrétariat a pris note que la proposition respectait tous les critères de soumission des décisions 78/3 et 79/45 ainsi que les décisions pertinentes sur le financement de la préparation de projets.

Recommandation du Secrétariat

11. Le Comité exécutif pourraient souhaiter examiner les demandes de préparation de projets pour la reconversion des HFC à des substances de remplacement à base de HFO ou d'autres solutions à faible PRG dans la fabrication d'équipement de réfrigération commercial à Pattana Intercool et Systems Forms Co. Ltd., indiquées dans le tableau 1 ci-dessus, dans le contexte de ses échanges sur les propositions de projets en lien avec les HFC décrites dans le document Aperçu des questions soulevées pendant l'examen des projets.

A3 : Préparation de projets pour des projets de démonstration sur l'atténuation ou la reconversion du sous-produit HFC-23 (décision 79/47)

Description du projet

12. La Banque mondiale a soumis une demande de financement pour la préparation d'un projet de démonstration sur la reconversion du sous-produit HFC-23 chez Shandong Dongyue Chemical Co. Ltd., en Chine, indiquée dans le tableau 1, ci-dessus, conformément à la décision 79/47 g).¹¹ Les détails de la demande de préparation de projet sont fournis à l'annexe I de la proposition de la Banque mondiale.

Observations du Secrétariat

13. Le Secrétariat a pris note que la demande de préparation d'un projet de démonstration de la technologie de reconversion du sous-produit HFC-23 respectait les décisions pertinentes concernant le financement de la préparation de projets.

14. Le Secrétariat a demandé de plus amples renseignements sur l'envergure de la reconversion, le nombre de chaînes à reconvertir et une estimation du coût global de la proposition de projet qui sera créée. La Banque mondiale a répondu que cette information ne sera connue que pendant la préparation du projet de démonstration, qui pourrait être soumis aussi tôt que la 81^e réunion.

15. Le Secrétariat sollicite l'avis du Comité exécutif au sujet de la source de financement de ce projet, en précisant que dans sa décision 79/47 g) les demandes de financement pour les projets de démonstration sur le contrôle des émissions de HFC-23 seraient soumises à la 81^e réunion et que le financement volontaire supplémentaire provenant de pays non visés à l'article 5 devrait être alloué (en priorité) aux activités de facilitation suivies des projets d'investissement en lien avec les HFC dans le secteur de la consommation.

¹⁰ Décision 79/45 d).

¹¹ Le Comité exécutif a invité toutes les agences d'exécution à soumettre des propositions sur les technologies possibles d'atténuation ou de reconversion du sous-produit HFC-23 pour la reconversion économique, écologique et durable du HFC-23.

Recommandation du Secrétariat

16. Le Comité exécutif pourrait souhaiter examiner la demande de financement de la préparation d'un projet de démonstration de la technologie de reconversion du sous-produit HFC-23 chez Sandong Fongyue Chemical Co. Ltd., en Chine à la lumière des observations du Secrétariat.

2017 BUSINESS PLAN
WORK PROGRAM AMENDMENT



WORLD BANK GROUP

WORLD BANK IMPLEMENTED
MONTREAL PROTOCOL OPERATIONS

Presented to the
80th Meeting of the Executive Committee
of the Multilateral Fund

Revised
4 October 2017

WORK PROGRAM FOR WORLD-BANK IMPLEMENTED MONTREAL PROTOCOL OPERATIONS

1. This proposed work program amendment for Bank-Implemented Montreal Protocol Operations is prepared on the basis of the 2017-2019 World Bank Business Plan which was approved by the Executive Committee at its 77th meeting.
2. The 2017-2019 World Bank Business Plan consists of investment and non-investment activities to assist Article 5 partner countries to meet their HCFC reduction target, the 2020 35% reduction. The Business Plan includes, in addition to deliverables associated with previously approved and new investment activities, requests to extend support for implementation of existing institutional strengthening projects in 2 countries.
3. As part of the 2017-2019 Business Plan, the World Bank has submitted stage II of the HPMP for Argentina, China, Indonesia, Jordan, the Philippines, and Vietnam; and stage II of the HPPMP for China. Stage II of the HPMP for Thailand is being prepared and will be submitted in 2018.
4. In addition, this work program amendment includes activities for HFC-related projects in response to decisions undertaken at the 79th Meeting of the Executive Committee, in particular, decisions 79/45, 79/46, and 79/47.

2017 Work Program – ExCom 80 Amendment

5. The proposed 2017 Work Program Amendment being submitted for consideration at the 80th Meeting of the Executive Committee, includes funding requests for Agency Core Unit Costs, one preparation activity for feasible technology demonstration for HFC-23 by-product conversion technologies for China, one preparation activity for demonstration/stand-alone investment projects for commercial refrigerator manufacturers in Thailand, and three HFC enabling activities, outlined in Table 1 below. Explanation on the preparation activities and HFC enabling activities are described in annexes below.

*Table 1: Funding Requests Submitted for Consideration
by the 80th Meeting of the Executive Committee*

Country	Request (US\$)	Support Costs (US\$)	Duration	Description	Supporting document
China	30,000	2,100	1 year	Preparation of technology demonstration project for HFC-23 by-product conversion at Shandong Dongyue Chemical Co. Ltd.	Annex 1
Malaysia	250,000	17,500	1.5 years	Enabling activities for HFC phase-down	Annex 2
Philippines	250,000	17,500	1.5 years	Enabling activities for HFC phase-down	Annex 3
Thailand	250,000	17,500	1.5 years	Enabling activities for HFC phase-down	Annex 4
Thailand	40,000	2,800	1 year	Project preparation for conversion from HFC to HFO-based or other low-GWP alternatives in the production of commercial refrigeration equipment at Pattana Intercool and System Forms Co., Ltd.	Annex 5
Global	0	1,735,000	1 year	Agency Core Unit Costs	
Total	820,000	1,792,400			

Annex 1: Request for project preparation for feasible technology demonstration of HFC-23 by-product conversion technologies at Shandong Dongyue Chemical Co. Ltd for China

1. The Government of China has requested the Bank to prepare a technology demonstration of HFC-23 by-product conversion technology at Shandong Dongyue Chemical Co. Ltd. which is one of the largest HCFC-22 producers in China. This request is in response to Decision 79/47 inviting implementing agencies to submit to the 81st meeting proposals for feasible technology demonstration for HFC-23 by-product mitigation or conversion technologies with the potential for cost-effective, environmentally sustainable conversion of HFC-23.
2. Preparation activities will include technical assessment as well as financial analyses of various HFC-23 conversion technologies in comparison to HFC-23 destruction and by-product mitigation. The assessment will include review and evaluation of technical feasibility of various HFC-23 conversion technologies, determination of the capital cost of investment and recurrent costs (i.e., operating costs) of each option, and price and market for converted chemicals. Comparison of these costs for various technologies will be made in order to identify the most cost-effective option for the Multilateral Fund while taking into account specific needs of the enterprise.
3. The Bank is requesting \$30,000 to prepare project proposal for submission to the 81st ExCom meeting. At the time of project submission to the 81st ExCom, the proposal will identify the selected HFC-23 conversion technology and provide information on the set up of the facility, costs, and HFC-23 conversion capacity.
4. The estimated breakdown of preparation cost is shown in table below.

ACTIVITIES	COST (US \$)
International Expert	\$20,000
International Travel	\$8,500
Domestic Travel	\$1,500
Total	\$30,000

Annex 2: HFC Enabling Activities for Malaysia

Background

The Government of Malaysia is fully committed to the Montreal Protocol (MP) and the Climate Change Convention. It acceded to both the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer in August 1989. As of 1 January 2010, Malaysia has fulfilled its commitment to phase out consumption of all controlled substances with the exception of hydrochlorofluorocarbons (HCFCs).

Various chemical and physical properties of HFCs and other alternatives make them suitable refrigerants and blowing agents. They also have several other industrial application-friendly properties like superior solvent abilities for which they're extensively used in various applications like fire-extinguishers, aerosols etc.

Malaysia has not yet undertaken the non-ODS alternatives survey though it is expected their main HFC consumption will be used as refrigerants for air-conditioning and refrigeration systems. Malaysia has the highest percentage of car ownership among ASEAN countries. Almost all passenger cars and trucks are equipped with mobile air-conditioners where hydrofluorocarbons (HFC) is used as refrigerant. In addition, the market penetration of residential air-conditioners is also the highest among ASEAN countries. Currently, more than 90% of the households in Malaysia are installed with air-conditioners. Major refrigerants used in air-conditioners are either hydrochlorofluorocarbon (HCFC) or HFC. These refrigerants have global warming potential (GWP) more than thousand times of carbon dioxide. HFC phase-down which is the objective of the Kigali Amendment is therefore relevant to the future economic development of Malaysia.

Since Malaysia had not embarked in any HFC survey and the current import/export control system did not have any provisions for tracking the flow of each specific HFC, Malaysia is requesting an additional support for conducting HFC survey in accordance with decision 74/53. This activity will be done in parallel with the initial HFC enabling activities.

Objectives

The main objective for the proposed enabling activities is to enable Malaysia to proceed with the ratification of the Kigali Amendment and make recommendations for policy and regulatory actions that would enable Malaysia to be in compliance with the initial HFC phase-down obligations under the Amendment.

Proposed approach and activities

The proposed approach includes the following:

- (i) An assessment of existing domestic regulations pertaining to the ozone and climate protection in order to identify potential options to strengthen existing policy and regulatory framework to effectively control and monitor import, export, and use of HFCs. One of the primary systems of controls on ODS is the Application Import Permit System (AP System), which is administered by the Ministry of International Trade and Industry (MITI). Since its introduction in 1994 under the Prohibition of Import (Amendment No. 4) Order, 1994 of the Customs Act, 1967, all importers of the listed ODS must obtain an import permit issued by MITI. The total quantity of any of these substances that can be imported in any year is set by MITI in consultation with DOE. The amount is reduced each year in line with the Montreal Protocol obligations.
- (ii) Capacity building for DOE, MITI, Customs Department, and others in order to strengthen their capacity to extend existing licensing and quota systems for ozone depleting substances under the AP system to cover HFCs, and to adapt existing Harmonized System (HS) of Custom Codes for tracking import/export of HFCs and HFC blends.
- (iii) Exploring synergy among various government agencies involved in ozone and climate protection

with an aim to coordinate their efforts to control and monitor HFCs and to report HFC consumption and emissions to the relevant global environmental treaties (i.e. UNFCCC and Montreal Protocol).

- (iv) Conduct Malaysia HFC survey¹² and analyze to forecast the baseline HFC consumption level (average consumption between 2020 and 2022) and consumption beyond 2022 based on business as usual through intensive consultation with government, industry and NGOs. The HFC consumption projection would then be compared with the maximum level allowed by the Kigali Amendment. This would provide guidance for the Government of Malaysia with regard to timing and compliance concerns.
- (v) Based on the forecasted baseline HFC consumption and use, a list of alternative technologies for respective sectors will be developed. Consultations with stakeholders to determine appropriate alternative technologies for the Malaysia context would be carried out. All alternative technologies that are currently commercially available as well as emerging technologies and expected timeframe for these technologies would become commercially available should be considered.
- (vi) Develop a draft strategy highlighting different phase-down scenarios for Malaysia to proceed with ratification and to be in compliance with short-term, medium-term, and long-term commitments with the Kigali Amendment. The strategy should include recommendations for policy and regulatory actions to enable Malaysia to proceed with the ratification and those that would enable Malaysia to be in compliance with the Amendment. In addition, the strategy should provide comprehensive analyses for Malaysia's technology pathway for complying with the Amendment.

Impact on HCFC phase-out projects implementation

The implementation of the enabling activities would not delay implementation of HCFC phase-out projects in Malaysia.

¹² Separate funding requested in accordance with decision 74/53

Proposed activities, implementation plan, and budgets¹³

Activities	Responsible entity	Target group	Start date	Date of completion	Tentative Budget (US \$)	Milestones	Expected outputs
1. National consultation workshop (Kick-off)	WB/NOU	Industry/legislators	Jan-18	Jan-18	10,000	Workshop conducted – workshop summary report	Introduction to Kigali Amendment
2. Review existing regulations to control and monitor import and export of HFCs and HFC-blends	WB/NOU	Legislators	Feb-18	Jun-18	10,000	Report with recommendations	Revision of regulations to enable control and monitor import and export of HFCs and HFC-blends
3. Training workshops for customs officers/DIW/importers/exporters	NOU/ customs department	Industry/legislators	Jan-19	Jun-19	30,000	Workshop conducted – workshop report	Capacity building of national stakeholders
4. Review ODS alternative survey, analysis and forecast baseline HFC consumption	WB/NOU	Industry/legislators	Jul-18	Aug-18	20,000	Model for forecast HFC consumption	Improve capacity to analyse HFC phase-down scenarios
5. Industry consultation workshops	WB/NOU	Industry (MAC, domestic refrigerator, Residential AC, solvent, fire fighting)	Jul-18	Mar-19	50,000	Workshop conducted – workshop report	Identification of potential technology pathway for each sector
6. Review of lower-GWP alternatives in each sector including assessment of commercial availability of alternatives and components	WB/NOU	Industry	Jun-18	Dec-18	30,000	Technical reports for each sector	

¹³ Indicative list and cost which can be subjected to change as deemed necessary

Activities	Responsible entity	Target group	Start date	Date of completion	Tentative Budget (US \$)	Milestones	Expected outputs
7. Development of phase-down scenarios, technology pathway, and draft strategy	WB/NOU	Industry/legislators	Jan-19	Apr-19	50,000	Draft strategy with recommendations for policy and regulatory actions to enable compliance	
8. National consultation workshop (draft strategy)	WB/NOU	Industry/legislators	Mar-19	Apr-19	10,000	Workshop conducted – workshop summary report	
9. Information dissemination on the Kigali Amendment	NOU	Public/industry / legislators	Apr-19	May-19	10,000		Information package
10. Public consultation for ratification of Kigali Amendment	NOU	Public/industry / legislators	Apr-19	May-19	20,000	National consultation report	Initial process before ratification of Kigali Amendment
11. National consultation workshop (ratification)	NOU	Parliament/legislators	May-19	Jun-19	10,000		Support by members of Parliament on the ratification bill
Total					250,000		

Institutional arrangements

Brief background of relevant agencies that will be involved in HFC enabling activities is summarized as follow:

- 1) Malaysia established the Ozone Protection Unit within the Department of Environment (DOE) to respond to mandates of the Montreal Protocol. The Ozone Protection Unit (OPU) within the Air Division of the Department of Environment, plays a lead role in the Government's sustained efforts to phase-out ODS in the country.
- 2) The OPU is also the Secretariat to the National Steering Committee (NSC) for the Protection of Ozone Layer that serves as an advisory body to the Government to provide strategic and policy guidance for implementation of the Montreal Protocol. The Chair of the NSC is the Secretary General of the Ministry of Natural Resources and Environment. There are various working groups for the implementation of Montreal Protocol in Malaysia and the OPU acts as their coordinating body.
- 3) Ministry of International Trade and Industry (MITI) administers the Application Import Permit System (AP System) which is one of the primary systems of controls on ODS. MITI, in consultation with DOW, set the import quota of ODS that can be imported in any year. The amount is reduced each year in line with the Montreal Protocol obligations.

Annex 3: HFC Enabling Activities for Philippines

Background

The Philippines is fully committed to the Montreal Protocol (MP). It signed the Protocol on September 14, 1988 and ratified both the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer in July 1991. As of 1 January 2010, the Philippines has fulfilled its commitment to phase out consumption of all controlled substances with the exception of hydrochlorofluorocarbons (HCFCs).

Various chemical and physical properties of HFCs and other alternatives make them suitable refrigerants and blowing agents. They also have several other industrial application-friendly properties like superior solvent abilities for which they're extensively used in various applications like fire-extinguishers, aerosols etc.

The main consumption of HFCs in the Philippines has been observed in the refrigeration and air-conditioning applications such as: unitary air-conditioning, chiller, domestic refrigerator, commercial and industrial refrigeration, transportation refrigeration. There are also HFC consumption in other sectors including: aerosol, fire fighting, foam, and solvent.

Preliminary results of ODS alternatives survey shows major import of HFCs in 2015 as summarized in table below.

HFC	Import (mt)
HFC-134a	1,064
R-410A	312
R-404A	170
R-507	30
R-407C	27
HFC-236fa	24
Other HFCs ¹⁴	12
Total	1,639

Objectives

The main objective for the proposed enabling activities is to enable Philippines to proceed with the ratification of the Kigali Amendment and make recommendations for policy and regulatory actions that would enable Philippines to be in compliance with the initial HFC phase-down obligations under the Amendment.

Proposed approach and activities

The proposed approach includes the following:

- (i) An assessment of existing domestic regulations pertaining to the ozone and climate protection in order to identify potential options to strengthen existing policy and regulatory framework to effectively control and monitor import, export, and use of HFCs. These regulations include: the Republic Act #6969, known as the "Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990" regulates, restricts, or prohibits the importation, manufacture, processing, sale, distribution, use, and disposal of chemical substances and mixtures that present unreasonable risk and/or injury to health or the environment; Chemical Control Orders (CCO); and Memorandum Circular No. 2005-03.
- (ii) Capacity building for DENR-EMB, POD, BOC, and others in order to strengthen their capacity

¹⁴ Include HFCs and HFC-blends with quantity less than 20 MT.

to extend existing licensing and quota systems for ozone depleting substances to cover HFCs, and to adapt existing Harmonized System (HS) of Custom Codes for tracking import/export of HFCs and HFC blends.

- (iii) Exploring synergy among various government agencies involved in ozone and climate protection with an aim to coordinate their efforts to control and monitor HFCs and to report HFC consumption and emissions to the relevant global environmental treaties (i.e. UNFCCC and Montreal Protocol).
- (iv) Review Philippines ODS alternatives survey and analyze to forecast the baseline HFC consumption level (average consumption between 2020 and 2022) and consumption beyond 2022 based on business as usual through intensive consultation with government, industry and NGOs. The HFC consumption projection would then be compared with the maximum level allowed by the Kigali Amendment. This would provide guidance for the Government of Philippines with regard to timing and compliance concerns.
- (v) Based on the forecasted baseline HFC consumption and use, a list of alternative technologies for respective sectors will be developed. Consultations with stakeholders to determine appropriate alternative technologies for the Philippines context would be carried out. All alternative technologies that are currently commercially available as well as emerging technologies and expected timeframe for these technologies would become commercially available should be considered.
- (vi) Develop a draft strategy highlighting different phase-down scenarios for Philippines to proceed with ratification and to be in compliance with short-term, medium-term, and long-term commitments with the Kigali Amendment. The strategy should include recommendations for policy and regulatory actions to enable Philippines to proceed with the ratification and those that would enable Philippines to be in compliance with the Amendment. In addition, the strategy should provide comprehensive analyses for Philippines' technology pathway for complying with the Amendment.

Impact on HCFC phase-out projects implementation

The implementation of the enabling activities is not expected to delay implementation of stage II of the HCFC phase-out management plan in Philippines¹⁵.

¹⁵ Stage II HPMP of Philippines is being considered at the 80th ExCom.

Proposed activities, implementation plan, and budgets¹⁶

Activities	Responsible entity	Target group	Start date	Date of completion	Tentative Budget (US \$)	Milestones	Expected outputs
12. National consultation workshop (Kick-off)	WB/NOU	Industry/legislators	Jan-18	Jan-18	10,000	Workshop conducted – workshop summary report	Introduction to Kigali Amendment
13. Review existing regulations to control and monitor import and export of HFCs and HFC-blends	WB/NOU	Legislators	Feb-18	Jun-18	10,000	Report with recommendations	Revision of regulations to enable control and monitor import and export of HFCs and HFC-blends
14. Training workshops for customs officers/DIW/importers/exporters	NOU/ customs department	Industry/legislators	Jan-19	Jun-19	30,000	Workshop conducted – workshop report	Capacity building of national stakeholders
15. Review ODS alternative survey, analysis and forecast baseline HFC consumption	WB/NOU	Industry/legislators	Jul-18	Aug-18	20,000	Model for forecast HFC consumption	Improve capacity to analyse HFC phase-down scenarios
16. Industry consultation workshops	WB/NOU	Industry (MAC, domestic refrigerator, Residential AC, solvent, fire fighting)	Jul-18	Mar-19	50,000	Workshop conducted – workshop report	Identification of potential technology pathway for each sector
17. Review of lower-GWP alternatives in each sector including assessment of commercial availability of alternatives and components	WB/NOU	Industry	Jun-18	Dec-18	30,000	Technical reports for each sector	

¹⁶ Indicative list and cost which can be subjected to change as deemed necessary

Activities	Responsible entity	Target group	Start date	Date of completion	Tentative Budget (US \$)	Milestones	Expected outputs
18. Development of phase-down scenarios, technology pathway, and draft strategy	WB/NOU	Industry/legislators	Jan-19	Apr-19	50,000	Draft strategy with recommendations for policy and regulatory actions to enable compliance	
19. National consultation workshop (draft strategy)	WB/NOU	Industry/legislators	Mar-19	Apr-19	10,000	Workshop conducted – workshop summary report	
20. Information dissemination on the Kigali Amendment	NOU	Public/industry / legislators	Apr-19	May-19	10,000		Information package
21. Public consultation for ratification of Kigali Amendment	NOU	Public/industry / legislators	Apr-19	May-19	20,000	National consultation report	Initial process before ratification of Kigali Amendment
22. National consultation workshop (ratification)	NOU	Senate/Office of the President	May-19	Jun-19	10,000		Support by members of Senate and Office of the President on the ratification bill
Total					250,000		

Institutional arrangements

Brief background of relevant agencies that will be involved in HFC enabling activities is summarized as follow:

- 1) **Environmental Management Bureau (EMB):** the **Department of the Environment and Natural Resources (DENR)**' **EMB** acts as the focal point for the implementation of the Montreal Protocol in the Philippines. Under Department Administrative Order No. 2003-43, the **Philippine Ozone Desk (POD)** was created in 1994 to facilitate and coordinate ODS phase-out projects and policies for overall implementation of Montreal Protocol obligations.
- 2) **Project Management Unit (PMU):** PMU was also created in 2014 to spearhead HCFC phase-out activities and to carry out the work programs of HPMP Stage I and its subsequent implementation. The HPMP-PMU remains as the focal office in the preparation and implementation of HPMP Stage II and ensures proper coordination with all concerned stakeholders including donor agencies.
- 3) **Bureau of Customs (BOC):** BOC is responsible for implement/enforce relevant rules and regulations related to the import, export, transport, processing, storage, possession or sale of ODS and its alternatives. BOC designated the Environmental Protection Unit (EPU) under the Office of the Deputy Commissioner for Intelligence and Enforcement Group (IEG) to be in-charge in the implementation of the agreement and act as the official liaison to DENR-EMB through the POD.
- 4) Other actors taking part in the institutional framework for Montreal Protocol implementation are DENR-EMB and its Regional Offices, Department of Trade and Industry (DTI) and its Fair Trade Enforcement Bureau, Technical Education and Skills Development Authority (TESDA) at the Department of Labor and Employment, and Local Government Units-LGUs under the Department of Interior and Local Government and its Business Permits and Licensing Offices.

Annex 4: HFC Enabling Activities for Thailand

Background

The Government of Thailand is fully committed to the Montreal Protocol and the Climate Change Convention. In particular, substances controlled by the Montreal Protocol are widely used as refrigerants for air-conditioning and refrigeration systems. Thailand is one of the largest manufacturing hubs in Southeast Asia given its central location and market access for the 600-million consumers in the ASEAN Economic Community (AEC) and supported by relatively good infrastructure and business environment. Thailand is the second largest residential air-conditioning manufacturing base in East Asia with annual output of 17 million units in 2016. Major refrigerants used in air-conditioners are either hydrochlorofluorocarbon (HCFC) or hydrofluorocarbon (HFC). Its automotive industry is the largest in Southeast Asia and 12th largest in the world with an annual output of nearly 2 million vehicles in 2015. Almost all passenger cars and trucks are equipped with mobile air-conditioners where HFC is used as refrigerant. Thailand also produces 5-6 million units of domestic refrigerator of which about 2 million units were sold in domestic market and the rest in export markets. These refrigerants have global warming potential (GWP) more than thousand times of carbon dioxide. HFC phase-down which is the objective of the Kigali Amendment is therefore relevant to the future economic development of Thailand.

Preliminary results of ODS alternatives survey shows major import of HFCs in 2015 as summarized in table below.

HFC	Import (mt)
R-410A	9,289
HFC-134a	4,505
HFC-32	1,148
R-404A	347
HFC-152a	112
R-407C	111
Other HFCs ¹⁷	155
Total	15,667

Objectives

The main objective for the proposed enabling activities is to enable Thailand to proceed with the ratification of the Kigali Amendment and make recommendations for policy and regulatory actions that would enable Thailand to be in compliance with the initial HFC phase-down obligations under the Amendment.

Proposed approach and activities

The proposed approach includes the following:

- (i) An assessment of existing domestic regulations pertaining to the ozone and climate protection in order to identify potential options to strengthen existing policy and regulatory framework to effectively control and monitor import, export, and use of HFCs.
- (ii) Capacity building for Department of Industrial Works, Customs Department, and others in order to strengthen their capacity to extend existing licensing and quota systems for ozone depleting substances to cover HFCs, and to adapt existing Harmonized System (HS) of Custom Codes for

¹⁷ Include HFCs and HFC-blends with quantity less than 100 MT.

tracking import/export of HFCs and HFC blends.

- (iii) Exploring synergy among various government agencies involved in ozone and climate protection with an aim to coordinate their efforts to control and monitor HFCs and to report HFC consumption and emissions to the relevant global environmental treaties (i.e. UNFCCC and Montreal Protocol).
- (iv) Review Thailand ODS alternatives survey and analyze to forecast the baseline HFC consumption level (average consumption between 2020 and 2022) and consumption beyond 2022 based on business as usual through intensive consultation with government, industry and NGOs. The HFC consumption projection would then be compared with the maximum level allowed by the Kigali Amendment. This would provide guidance for the Government of Thailand with regard to timing and compliance concerns.
- (v) Based on the forecasted baseline HFC consumption and use, a list of alternative technologies for respective sectors will be developed. Consultations with stakeholders to determine appropriate alternative technologies for the Thailand context would be carried out. All alternative technologies that are currently commercially available as well as emerging technologies and expected timeframe for these technologies would become commercially available should be considered.
- (vi) Develop a draft strategy highlighting different phase-down scenarios for Thailand to proceed with ratification and to be in compliance with short-term, medium-term, and long-term commitments with the Kigali Amendment. The strategy should include recommendations for policy and regulatory actions to enable Thailand to proceed with the ratification and those that would enable Thailand to be in compliance with the Amendment. In addition, the strategy should provide comprehensive analyses for Thailand's technology pathway for complying with the Amendment.

Impact on HCFC phase-out projects implementation

The implementation of the enabling activities would not delay implementation of HCFC phase-out projects in Thailand.

Proposed activities, implementation plan, and budgets¹⁸

Activities	Responsible entity	Target group	Start date	Date of completion	Tentative Budget (US \$)	Milestones	Expected outputs
1. National consultation workshop (Kick-off)	WB/NOU	Industry/legislators	Jan-18	Jan-18	10,000	Workshop conducted – workshop summary report	Introduction to Kigali Amendment
2. Review existing regulations to control and monitor import and export of HFCs and HFC-blends	WB/NOU	Legislators	Feb-18	Jun-18	10,000	Report with recommendations	Revision of regulations to enable control and monitor import and export of HFCs and HFC-blends
3. Training workshops for customs officers/DIW/importers/exporters	NOU/ customs department	Industry/legislators	Jan-19	Jun-19	30,000	Workshop conducted – workshop report	Capacity building of national stakeholders
4. Review ODS alternative survey, analysis and forecast baseline HFC consumption	WB/NOU	Industry/legislators	Jul-18	Aug-18	20,000	Model for forecast HFC consumption	Improve capacity to analyse HFC phase-down scenarios
5. Industry consultation workshops	WB/NOU	Industry (MAC, domestic refrigerator, Residential AC, solvent, fire fighting)	Jul-18	Mar-19	50,000	Workshop conducted – workshop report	Identification of potential technology pathway for each sector
6. Review of lower-GWP alternatives in each sector including assessment of commercial availability of alternatives and components	WB/NOU	Industry	Jun-18	Dec-18	30,000	Technical reports for each sector	

¹⁸ Indicative list and cost which can be subjected to change as deemed necessary

Activities	Responsible entity	Target group	Start date	Date of completion	Tentative Budget (US \$)	Milestones	Expected outputs
7. Development of phase-down scenarios, technology pathway, and draft strategy	WB/NOU	Industry/legislators	Jan-19	Apr-19	50,000	Draft strategy with recommendations for policy and regulatory actions to enable compliance	
8. National consultation workshop (draft strategy)	WB/NOU	Industry/legislators	Mar-19	Apr-19	10,000	Workshop conducted – workshop summary report	
9. Information dissemination on the Kigali Amendment	NOU	Public/industry / legislators	Apr-19	May-19	10,000		Information package
10. Public consultation for ratification of Kigali Amendment	NOU	Public/industry / legislators	Apr-19	May-19	20,000	National consultation report	Initial process before ratification of Kigali Amendment
11. National consultation workshop (ratification)	NOU	Parliament/legislators	May-19	Jun-19	10,000		Support by members of Parliament on the ratification bill
Total					250,000		

Institutional arrangements

Brief background of relevant agencies that will be involved in HFC enabling activities is summarized as follow:

- 5) **Ministry of Finance (MOF):** MOF is the designated focal point for World Bank projects in Thailand. All grant agreements between Thailand and the World Bank are signed by MOF on behalf of Thailand. Moreover, the Customs Department under the MOF has a vital role in monitoring imports and exports of HCFC. The Customs Department has worked with the Department of Industrial Works for more than a decade in controlling imports and exports of CFCs. It has recently extended its cooperation with the Department of Industrial Works to cover imports and exports of HCFCs.
- 6) **Ministry of Industry (MOI):** MOI is the designated agency for the implementation of the Montreal Protocol. It is also in charge of the development and implementation of national industrial policies and regulations including the Hazardous Substances Act and the Factory Act. These framework laws are employed for controlling import, transport, storage, use, and final disposal of ODS.
- 7) **Department of Industrial Works (DIW):** MOI has appointed DIW to serve as the national focal point for the implementation of the Montreal Protocol. DIW is tasked with enforcement of the Hazardous Substances and Factory Acts. DIW houses the key units including NOU and the PMU which are responsible for the implementation of MLF funded activities.
- 8) **Treaties and International Strategies Bureau (TISB):** TISB is a bureau under DIW with a mandate for developing industrial strategies in relation to global environment treaties. Its responsibilities under the project include: determining overall annual import quotas of HCFCs, verifying annual HCFC consumption, reconciling import data from the Customs Department and data recorded by the Hazardous Substances Control Bureau (HSCB) and other activities required by the Montreal Protocol. TISB will be supported by the National Ozone Unit, which has been funded by the MLF for the last 21 years, and DIW-PMU.
- 9) **Hazardous Substances Control Bureau (HSCB):** HSCB is a bureau under DIW, which has the legal mandate to issue import permits for all hazardous substances. For HCFC control, HSCB is responsible for allocating the overall annual import quotas as determined by TISB to each importer and for issuing import/export permits to eligible importers/exporters. HSCB will also be in charge of monitoring actual imports/exports made by importers/exporters and recording the actual import/export quantities reported by all importers/exporters. The data collected by HSCB and import records maintained by Customs Department will be used by TISB to conduct independent verification of annual consumption as required by the agreement between the Executive Committee of the Multilateral Fund.
- 10) **National Ozone Unit (NOU):** The NOU was established in 1992 within DIW. Its main responsibility is to ensure Thailand's compliance with its obligations under the Montreal Protocol especially monitoring import/export of ODSs, implementing import quota system of ODSs and liaising with other government agencies including the Customs Department to ensure the effective control of the borders to preempt any illegal shipments of ODS in and out of the country. Moreover, the NOU is also tasked to comply with Article 7 data reporting requirements and submit Progress Reports on the

Implementation of the Country Program on an annual basis, carry out public awareness activities, information exchange with stakeholders in the country, including both public and private sectors, and stakeholders in other Article 5 countries within the region and participate in all international meetings related to the Montreal Protocol.

- 11) **DIW Project Management Unit (DIW-PMU):** The DIW-PMU will be responsible for day to day operations including overseeing the implementation of technical assistance activities. DIW-PMU will review and determine the eligibility of the enterprise for sub-project financing following criteria established by the MLF and agreed to by the Bank and provide advice to beneficiary enterprises in preparing their subproject proposals. In addition, DIW-PMU will assist DIW in putting into place both overarching regulations and sector specific regulations and policies and engaging with the Foam Association and Air-Conditioning and Refrigeration Industry Club of the Federation of Thai Industries to ensure full cooperation of the industry in reducing its consumption of HCFCs and inform the industry of financial and technical assistance available from the Project. DIW-PMU will also be responsible for reporting requirements as detailed in the Project Implementation Manual.
- 12) **Customs Department:** Customs Department is responsible to check import of any banned substances into the country and keep a track of all controlled substances as notified by the government entered through or departed from port or check point. In order to proceed with import/export clearance, the importer/exporter is required to furnish Customs Department with the original import/export permit and approved import/export declaration form from DIW.

Annex 5: Request for project preparation for conversion of HFC to lower-GWP refrigerant at Pattana Intercool and System Forms.

1. The Government of Thailand has requested the Bank to prepare an investment project for conversion from HFC to HFO-based alternatives in the manufacturing of commercial refrigeration equipment at Pattana Intercool Co., Ltd. And System Forms Co., Ltd. in response to Decision 79/45.
2. Pattana Intercool and System forms are manufacturers of commercial refrigeration equipment for restaurants, supermarkets, convenience stores, etc. They produce a variety of commercial refrigeration equipment for low and medium temperature applications. The two companies consumed approximately 35 MT of HFC-134a and small quantity of R-404A and R-507.
3. The Bank is requesting \$40,000 to prepare project proposal for submission to the 81st ExCom meeting. At the time of project submission, the proposal will identify the selected mature technology and confirm the quantities of HFCs that will be phased out.
4. The estimated breakdown of preparation cost is shown in table below.

ACTIVITIES	COST (US \$)
International Expert	\$22,000
National Consultant	5,000
International Travel	\$10,000
Domestic Travel	\$3,000
Total	\$40,000