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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Sixty-third Meeting
Montreal, 4-8 April 2011

Addendum

PROJECT PROPOSALS: CHINA

This document is issued to:

- **Add** information to the following project proposals and to **replace** their project evaluation sheets:

  - Sector plan for HCFC phase-out in the industrial and commercial refrigeration and air conditioning (ICR) sectors (Stage I for 2013 and 2015 compliance) — UNDP

  - HCFC-22 phase-out management plan for room air-conditioner manufacturing sector — UNIDO

- **Add** paragraph 33 bis.:

33 bis. The lead agency, UNDP, submitted to the Secretariat for the overall HPMP for China a draft agreement foreseen to cover the relevant sectors. The draft agreement is attached as submitted to the Secretariat for the Executive Committee's information and as a basis for discussion of an agreement.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

China

(I) PROJECT TITLE	AGENCY
Sector plan for phase-out of HCFCS in the industrial and commercial refrigeration and air conditioning sector (stage I)	UNDP

(II) LATEST ARTICLE 7 DATA	Year: 2009	18,602.7 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)									Year: 2009
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC123				4.0	2.0				6.0
HCFC124					6.1				6.1
HCFC133									
HCFC141b		5,056.8				465.9			5,535.7
HCFC142									
HCFC142b		1,066.0		2.0	349.8				1,417.7
HCFC22		1,353.0		6,221.6	3,456.2				11,030.8
HCFC225ca						1.0			1.0
HCFC225cb						0.0			0.0

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	To be determined	Starting point for sustained aggregate reductions:	n/a
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	1.7	Remaining:	

(V) BUSINESS PLAN		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
UNDP	ODS phase-out (ODP tonnes)	98.7	98.7	98.7	98.7	98.7	54.4	0.0	0.0	0.0	0.0	548.0
	Funding (US $)	24,800,400	24,800,400	24,800,400	24,800,400	24,800,400	13,778,000	0	0	0	0	137,780,000

(VI) PROJECT DATA			2011	2012	2013	2014	2015	2016	Total
Montreal Protocol consumption limits			n/a	n/a	baseline	baseline	baseline - 10%	baseline - 10%	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	19,100.0	19,100.0	17,190.0	17,190.0	n/a
Project Costs requested in principle(US$)	UNDP	Project costs	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	12,780,000	137,780,000
		Support costs	1,875,000	1,875,000	1,875,000	1,875,000	1,875,000	958,500	10,333,500
Total project costs requested in principle (US $)			25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	12,780,000	137,780,000
Total support costs requested in principle (US $)			1,875,000	1,875,000	1,875,000	1,875,000	1,875,000	958,500	10,333,500
Total funds requested in principle (US $)			26,875,000	26,875,000	26,875,000	26,875,000	26,875,000	13,738,500	148,113,500

(VII) Request for funding for the first tranche (2011)		
Agency	**Funds requested (US $)**	**Support costs (US $)**
UNDP	25,000,000	1,875,000
Funding request:	Approval of funding for the first tranche (2011) as indicated above	
Secretariat's recommendation:	For individual consideration	

- **Add** paragraph 202 bis.:

Climate indicator

202 bis. A calculation of the impact on the climate through the investment components of stage I of the HPMP in the ICR sector in China has been carried out, using the Multilateral Fund Climate Impact Indicator. The result is provided in Table 9.

Table 9: Climate indicator the ICR sector

Input							Total
	Generic						
	Country	[-]	**China**				
	Company data (name, location)	[-]	**ICR Sector Plan**				
	Select system type	[list]	AC factory assembly	Commercial frozen onsite	AC factory assembly		
	General refrigeration information						
	HCFC to be replaced	[-]	HCFC-22	HCFC-22	HCFC-22	HCFC-22	
	Amount of refrigerant per unit	[kg]	33.77	23.00	-	-	
	No. of units	[-]	114,019	6,522	117,723	7,692	245,956
	Refrigeration capacity	[kW]	96.0	96.0	96.0	96.0	
	Selection of alternative with minimum environmental impact						
	Share of exports (all countries)	[%]	-	-	-	-	
	Calculation of the climate impact						
	Alternative refrigerant (more than one possible)	[list]	HFC-32	HFC-32	HFC-410A	R-134a	

NOTE

All data displayed is specific to the case investigated and is not generic information about the performance of one alternative; performance can differ significantly depending on the case.

Output	*Note: The output is calculated as the climate impact of the refrigerant systems in their life time as compared to HCFC-22, on the basis of the amount produced within one year. Additional/different outputs are possible*						
	Country		**China**				
	Identification of the alternative technology with minimum climate impact						
	List of alternatives for identification of the one with minimum climate impact	[Sorted list, best = top (% deviation from HCFC)]	HC-600a (-21%)	HC-600a (-10%)	HC-600a (-21%)	HC-600a (-16%)	
			HC-290 (-18%)	HC-290 (-6%)	HC-290 (-18%)	HC-290 (-12%)	
			HFC-32 (-10%)	HFC-134a (-3%)	HFC-134a (-5%)	HFC-134a (-5%)	
			HFC-134a (-5%)	HFC-32 (-3%)	HFC-407C (-1%)	HFC-407C (0%)	
			HFC-407C (-1%)	**HCFC-22**	**HCFC-22**	**HCFC-22**	
			HCFC-22	HFC-407C (3%)	HFC-410A (5%)	HFC-410A (5%)	
			HFC-410A (5%)	HFC-410A (5%)			
	Calculation of the climate impact						
	Per unit, over lifetime (for information only):						Total
			HCFC-22	HCFC-22	HCFC-22	HCFC-22	
	Energy consumption	[kWh]	31,041,593,467	20,951,578,333	32,050,004,892	2,114,526,046	86,157,702,738
	Direct climate impact (substance)	[kg CO_2 equiv]	7,108,648	1,132,200	7,261,336	266,059	15,768,243
	Indirect climate impact (energy): In country	[kg CO_2 equiv]	32,076,313	21,649,964	33,118,338	2,185,010	89,029,625
	Indirect climate impact (energy): Global average	[kg CO_2 equiv]	-	-	-	-	-
	Calculation of the climate impact of the conversion						
	Selected refrigerant		**HFC-32**	**HFC-32**	**HFC-410A**	**R-134a**	
	*Total direct impact (post conversion – baseline)**	*[t CO_2 equiv]*	*(4,774,055.0)*	*(760,368.0)*	*196,363.0*	*(53,125.0)*	(5,391,185)
	*Indirect impact (country)***	*[t CO_2 equiv]*	*679,466.0*	*170,934.0*	*1,887,588.0*	*(60,484.0)*	2,677,504
	*Indirect impact (outside country)***	*[t CO_2 equiv]*	-	-	-	-	-
	Total indirect impact	*[t CO_2 equiv]*	*679,466.0*	*170,934.0*	*1,887,588.0*	*(60,484.0)*	2,677,504
	Total impact of the selected refrigerant	**[t CO_2 equiv]**	**(4,094,589)**	**(589,434)**	**2,083,951**	**(113,609)**	**(2,713,681)**
	Alternative refrigerant		**HC-290**	**HC-290**	**HC-290**	**HC-290**	
	*Total direct impact (post conversion – baseline)**	*[t CO_2 equiv]*	*(7,076,192)*	*(1,127,031)*	*(7,228,183)*	*(264,844)*	
	*Total indirect impact (country)***	*[t CO_2 equiv]*	*146,968*	*(225,534)*	*151,742*	*(23,959)*	
	*Total indirect impact (outside country)***	*[t CO_2 equiv]*	-	-	-	-	
	*Total indirect impact***	*[t CO_2 equiv]*	*146,968*	*(225,534)*	*151,742*	*(23,959)*	
	Total impact of alternative refrigerant	**[t CO_2 equiv]**	**(6,929,224)**	**(1,352,565)**	**(7,076,441)**	**(288,803)**	

*Direct impact: Different impact between alternative technology and HCFC technology for the substance-related emissions.

**Indirect impact: Difference in impact between alternative technology and HCFC technology for the energy-consumption-related emissions of CO_2 when generating electricity.

- **Add** comments preceding paragraph 207:

1. The submission of the industrial and commercial refrigeration and air conditioning (ICR) sector maintained an approach which was not in line with an assessment of incremental cost. While initially specific information regarding companies was essentially absent, subsequently information about a number of company characteristics was provided by 8 March 2011. This enabled a better understanding about eligibility and possible criteria to select companies for conversion, and allowed an approach to be established for a cost estimate.

2. However, regarding the calculation of incrementality, the submission remained vague even after providing additional data. The assessment of incremental cost had to be undertaken on the basis of a generic approach for lack of enterprise specific data, which is by definition problematic since incrementality in the Multilateral Fund takes into account what equipment is already available at an enterprise and whether it can be retrofitted or needs to be replaced. For example, the cost differences between replacing equipment and upgrading equipment can be very significant. Nevertheless, the Secretariat tried also to make progress on the calculation of incremental cost.

Determination of numbers of equipment manufacturers conversions necessary, eligibility

3. The Secretariat has used the information provided by UNDP to re-assess the number of conversions to be undertaken under the sector plan. It is unclear how representative the selection of companies is for the overall sector structure. The information related to 48 companies (5 per cent of the sector total) with 159 production lines and a consumption of 15,480 metric tonnes of refrigerant in 2008 (about 40 per cent of the sector consumption). The smallest of the companies in the list consumed 2 tonnes of refrigerant per year, the largest 2400 tonnes. No information was provided if this refrigerant consumption was actually HCFC-22; however, this has no true relevance for the assessment since the information from the sample of companies is used to assess, in particular, production line sizes and typical eligibility for funding in more general terms; whether or not the enterprises in the information provided will replace their production lines or whether other enterprises would need to be identified plays no particular role for the cost assessment. A similar consideration applies to the products manufactured. The companies or any sub-set the Secretariat selected for assessment purposes possibly do not represent exactly the sub-sectoral focus proposed in the sector plan submission; however, the submission did not include any compelling arguments that the focus cannot be altered, nor do the companies used by the Secretariat as a basis need to be the ones receiving assistance; they just demonstrate the existence of a such companies in the ICR sector and other, similar ones, might be selected instead during implementation. The Secretariat treated therefore the refrigerant consumption per company as indicative for the HCFC-22 use of a typical line for such a company.

4. The sector plan aims at phasing out 8450 metric tonnes of HCFC-22. Of those, 167 metric tonnes are, according to the proposal, to be provided by enterprises owned by non-Article 5 countries, and another 312 tonnes have already been phased out through demonstration projects. The latest information provided by UNDP also allowed an understanding of the level of consumption and number of production lines associated with companies that had previously received funding for CFC phase-out; at that time, the understanding had been that the Multilateral Fund would pay for sophisticated, flexible manufacturing technology for the commercial and industrial refrigeration sector, which would allow the sector to move from CFC use to HCFC and in a second step, without extra cost to non-ODS technologies once these were available. These enterprises are referred to here as “previously funded”. The information provided indicated that 5 companies from the list were previously funded enterprises.

5. The Secretariat had previously received information that partially de-linked today’s HCFC-22 consumption in previously funded enterprises from the CFC-12 conversion project, indicating that previous manufacturing of CFC-12 containing goods is by now HCFC free and the HCFC-22 consumption is only related to the manufacturing of other products, on other production lines. The

Secretariat has no means of assessing the validity of this claim. The Multilateral Fund might have expected, though, that the non-ODS know-how and manufacturing ability of these companies would reduce their need for support substantially. Therefore in lieu of other information, the Secretariat considered assuming a deduction of the eligible tonnage for these companies by 50 per cent on a company basis. The Secretariat was not in a position to quantify the degree to which these companies could have used the previously received support to avoid using HCFCs for a larger share of their products or for their recent growth, both of which would have reduced the burden on the Multilateral Fund considerably.

6. The Secretariat determined an average production line consumption for each enterprise, and sorted the enterprises accordingly. It turns out that 30 manufacturing lines in 9 enterprises in the limited sample of ICR sector companies provided to the Secretariat would be sufficient to address the sector consumption, on the assumption that 35 per cent of the consumption by smaller previously funded enterprises (amounting to 242 tonnes) would be phased out without funding provision. These 30 production lines would address 7,736 tonnes of HCFC consumption. Several of these enterprises might be only partially eligible since they have been previously funded, and a number of them are only partially eligible because they have foreign ownership. The non-eligible consumption related to foreign ownership is 857 tonnes or 10.75 per cent of the consumption to be phased out.

Compressor conversion costs and eligibility

7. The conversion of compressor manufacturers appears to be essential to ensure availability of components and technology for the sector conversion to HFC-32, introduced in the sector plan as a more environmentally benign alternative to both HCFC-22 and HFC-410A. The only alternative to funding compressor conversion projects with non-HFC-410A technology appears to be to rely for the first reduction targets until 2015 on the existing compressor manufacturing facilities, which are producing compressors for HFC-410A.

8. The conversion cost for the compressor conversions were assessed by the Secretariat to the degree possible. The main challenge is the lack on any data as to the current baseline in the companies; e.g., it is not clear from the proposal whether the future manufacturers of HFC-32 scroll compressors are currently producing scroll compressors and would only need to adapt their production to new parameters, or whether they are currently making a completely different compressor type with a possibly very different manufacturing process, e.g. reciprocating compressors. The list of items to be supplied strongly indicated either a new facility or a conversion of a manufacturer producing other compressor types that would not be able to use major parts of the existing hardware for the converted production.

9. The requested cost of US $14.6 million for the scroll compressor conversion tallies very closely with the costs provided in an interview published in April 2009 with an executive of one of the scroll manufacturers on the list provided by UNDP, which claims investments of US $15 million needed to set up a new scroll compressor production line, including manufacturing, assembling, and testing equipment.

10. Due to lack of baseline data, it was not possible to undertake a technical assessment of the incremental costs for an upgrade of existing scroll compressor manufacturers to HFC-32 technology. Because of the highly complex design and manufacturing process of scroll compressors, such an upgrade appears to be the most likely scenario. In lieu of this data, the Secretariat assessed instead the level of technical upgrade which would take place should a manufacturer of reciprocating compressors be converted to the manufacturing of scroll compressors. Reciprocating compressors are still widely manufactured for the larger air conditioning applications, using a relatively simple manufacturing technology. They have performance characteristics inferior to scroll compressors. It is likely that scroll compressors will increasingly replace reciprocating compressors in larger air conditioning equipment, since, once the technology is mastered, the production of scroll compressors becomes more cost effective and leads to smaller, more quiet and more efficient compressors for air conditioning applications . Consequently, any conversion of this type will provide a very significant technical upgrade for the

beneficiary. The Secretariat sees it therefore as justified to assume that due to the technical upgrade, the eligibility should be reduced by 50 per cent.

11. The Secretariat noted that the list provided by UNDP contained two manufacturers of scroll compressors. The data from the scroll compressor manufacturers in the list was used to understand the eligibility of such manufacturers. The two manufacturers have non-Article 5 ownership of, on average, 55.5 per cent.

12. An assessment was also carried out for the reciprocating compressor production. Similar to the situation in the scroll compressor production, it appeared that the equipment requested was more indicative of a new production line than a converted one. Reasonable assumptions of existing baseline equipment would reduce the level of costs for the, in total, relatively minor changes in the production equipment needed for the conversion. Due to the generic nature of the data provided, the Secretariat could only perform a fairly general review. In doing so, it appeared that items with a total cost of at least US $1.55 million are ineligible, reducing the eligible cost to US $1.94 million. The Secretariat had not discussed these reductions further with UNDP since they rely on assumptions of baseline equipment reasonably expected to be available, and UNDP had not been in the position to provide baseline information.

13. The Secretariat looked at the foreign ownership of the different manufacturers of reciprocating compressors in the list provided by UNDP. There were four enterprises that were *inter alia* producing compressors, in addition to the two scroll compressor manufacturers and one enterprise which had received funding for its compressor production conversion as part of a demonstration project. Among these four companies, the share of foreign ownership amounted to 55.8 per cent of their aggregated registered capital.

14. The total cost for the compressor conversions according to the calculations of the Secretariat is shown in below Table 10.

Table 10 - Compressor conversion costs

Compressor	**Deduction (%)**	**Deduction (US $)**	**Remaining cost (US $)**
Scroll			
Requested			14,600,000
Technical upgrade	50%	7,300,000	7,300,000
Foreign ownership	55.40%	4,044,200	**3,255,800**
Reciprocating			
Requested			3,490,000
Ineligible		1,550,000	1,940,000
Foreign ownership	55.80%	1,082,520	**857,480**
Total funding compressor conversion			**4,113,280**

Determination of ICC

15. The lack of baseline data and the approach to request equipment as needed for a major conversion or a new facility required the Secretariat to look at recently negotiated cost levels in the same sector in other countries. Using the example of conversions in Indonesia as part of the countries HPMP, costs per manufacturing line of US $400,000 were assumed for both conversions to HFC-410A and HFC-32. Another US $180,000 for safety related costs in case of use of HFC-32 were added, and in both cases a 10 per cent contingency. The conversion costs include the retooling of heat exchanger manufacturing for both alternatives, which is cost effective under these circumstances even for conversions to HFC-410A

since incremental operating cost can be reduced. The safety related costs include both changes in the manufacturing facility as well as additional, safety related development work.

Calculation of IOC

16. In assessing the requested IOC, the Secretariat has divided the per-unit costs originally requested by the charge in the units, arriving at costs per kg of HCFC-22 replaced, and has averaged the costs over all sub-sectors.

17. For the compressor cost, the Secretariat had taken an approximation on the basis of the cost of funding scroll compressor manufacturing conversion in China. On the basis of the production capacity provided by UNDP in its submission and the assumption that one of these scroll compressors would use 9 kg of refrigerant (the lowest average filling for any sub-sector provided by UNDP in its project proposal) the compressor manufacturing conversion cost per kg of HCFC-22 replaced would amount to US $3.62 for an HFC-32 compressor; for HFC-410A, the value was assumed to be one third lower. These assumptions would automatically exclude costs of refrigeration oil. An adjustment of the IOC for the compressor costs actually funded through this project has been made.

18. In regard to funding compressor cost, the Secretariat would like to point out that it had considered whether to propose no funding of IOC for compressors, on the basis that assistance for compressor manufacturers is being provided as part of this project, and that substantive assistance for conversion to non-ODS technologies had been provided in the past for compressor manufacturers through the CFC-12 phase-out in the commercial and industrial refrigeration sector. On the other hand, the Secretariat had to take into account UNDP's information that the products and manufacturing facilities targeted in the HCFC phase-out are different from those being targeted as part of the CFC phase-out project.

19. Based on the savings in other sectors due to the conversion of heat exchanger manufacturing, the Secretariat has increased the assumed savings to US $2.00 per kg of HCFC-22 phased out. The need for increased labour cost was not evident and its eligibility not clear, thus the related costs were excluded. Table 11 provides an overview of the original request for IOC (averaged) and the Secretariat's alternative calculation.

Table 11 - Calculation of IOC

Item	**Requested (US $/kg)**		**Secretariat's calculation (US $/kg)**	
Refrigerant	HFC-32	HFC-410A	HFC-32	HFC-410A
Compressor	7.81	5.43	3.62	2.41
Compressor oil	0.84	1	0.84	0.84
Electrical safety devices	2.26	0	2.26	0
Evaporator/condenser cost changes	-1.16	-1.37	-2	-2
Pipes/accessories	0.48	0.56	0.5	0.5
Refrigerant	-0.24	2.82	-0.24	2.8
Labour	0.32	0.37	0	0
Total (US $/kg HCFC-22 replaced)*	**6.30**	**6.30**	**4.98**	**4.55**

* Threshold at US $6.30 per kg

Other costs

20. The Secretariat determined for the calculation of PMU and TA cost the percentage of such cost in the original project proposal, at 9.35 per cent of the total of the ICC and IOC. The same percentage was used in the calculation of the overall costs for the sector phase-out.

Sector cost estimate

21. The Secretariat noted that, previously, funding was provided to several of the companies participating in the project for the conversion to non-ODS technology; however, UNDP and the Government of China had maintained that that funding had concerned different production facilities and products. The eligibility of those enterprises cannot consequently be assessed by the Secretariat. The Secretariat has therefore prepared two cost estimates, one assuming full eligibility of the previously funded enterprises to receive support, the other assuming that these enterprises would only be eligible for 50 per cent of their production. The reduction of the eligibility due to the combination of foreign ownership and previously funded enterprises would in these two cases differ between 10.75 per cent and 22.93 per cent. The overall costs for both cases are presented in below Table 12.

Table 12 - Overall costs

Cases			**Fully eligible (US S)**	**Partially eligible (US $)**	**Original request (US $)**
Incremental operating cost			Total		
Substance	Tonnes	Costs/kg	10.75%	22.93%	n/a
HFC-410A, HFC-134a	3,736	4.55	16,998,800	16,998,800	49,840,000
HFC-32	4,000	4.98	19,920,000	19,920,000	
Correction for funding compressor lines			-4,113,280	-4,113,280	n/a
Substance	Number of lines converted	Costs/line	-		
HFC-410A	15	440,000	6,600,000	6,600,000	107,940,000
HFC-32	17	638,000	10,846,000	10,846,000	
Total ICC and IOC			50,251,520	50,251,520	157,780,000
Eligible part			44,849,500	38,728,800	115,940,000
Funding for compressor conversion			4,113,280	4,113,280	10,060,000
Funding for PMU and technical assistance			5,082,700	5,082,700	11,780,000
Total (US $)			**54,045,480**	**47,924,780**	**137,780,000**
Cost effectiveness (7,971 tonnes) (US $/kg)			**6.78**	**6.01**	**17.28**

- **Replace** paragraph 207 with the following:

RECOMMENDATION

207. The Secretariat cannot at this time recommend a funding level since it is not possible to determine incremental cost with the accuracy needed. However, based on the considerations above as well as long-standing experience of the Secretariat it is assumed that the level of incremental cost would be between the two alternatives calculated as shown in Table 12 above.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

China

(I) PROJECT TITLE	AGENCY
HCFC-22 phase-out management plan for room air-conditioner manufacturing sector	UNIDO

(II) LATEST ARTICLE 7 DATA	Year: 2009	18,602.7 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP									Year: 2009
Chemical	Aerosol	Foam	Fire	Refrigeration		Solvent	Process	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC123				4.0	2.0				6.0
HCFC124					6.1				6.1
HCFC133									
HCFC141b		5,056.8				465.9			5,535.7
HCFC142									
HCFC142b		1,066.0		2.0	349.8				1,417.7
HCFC22		1,353.0		6,221.6	3,456.2				11,030.8
HCFC225ca						1.0			1.0
HCFC225cb						0.0			0.0

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	To be determined	Starting point for sustained aggregate reductions:	n/a
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	1.7	Remaining:	

(V) BUSINESS PLAN		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
UNIDO	ODS phase-out (ODP tonnes)	104.4	104.4	69.6	69.6	174.0	64.8					586.8
	Funding (US $)	32,250,000	32,250,000	21,500,000	21,500,000	53,750,000	20,019,750					181,269,750

(VI) PROJECT DATA			2011	2012	2013	2014	2015	2016	Total
Montreal Protocol consumption limits			n/a	n/a	baseline	baseline	baseline - 10%	baseline - 10%	
Maximum allowable consumption (ODP tonnes)			n/a	n/a	19,100	19,100	17,190	17,190	
Project Costs requested in principle(US$)	UNIDO	Project costs	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	18,623,023	168,623,023
		Support costs	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	1,396,727	12,646,727
Total project costs requested in principle (US $)			30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	18,623,023	168,623,023
Total support costs requested in principle (US $)			2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	1,396,727	12,646,727
Total funds requested in principle (US $)			32,250,000	32,250,000	32,250,000	32,250,000	32,250,000	20,019,750	181,269,750

(VII) Request for funding for the first tranche (2011)		
Agency	**Funds requested (US $)**	**Support costs (US $)**
UNIDO	30,000,000	2,250,000

Funding request:	Approval of funding for the first tranche (2011) as indicated above
Secretariat's recommendation:	For individual consideration

Replace paragraph 269 with the following:

269. A calculation of the impact on the climate through the investment components of stage I of the HPMP in the RAC sector in China has been carried out, using the Multilateral Fund Climate Impact Indicator. The result is provided in Table 13.

Input	**Table 13: Climate calculations for the RAC sector**				Total
	Generic				
	Country	[-]	**China**		
	Company data (name, location)	[-]	**RAC Sector phase I**		
	Select system type	[list]	AC on site assembly		
	General refrigeration information				
	HCFC to be replaced	[-]	HCFC-22		
	Amount of refrigerant per unit	[kg]	1.20	1.20	
	No. of units	[-]	5,000,000	2,500,000	7,500,000
	Refrigeration capacity	[kW]	3.5	3.5	
	Selection of alternative with minimum environmental impact				
	Share of exports (all countries)	[%]	-	-	
	Calculation of the climate impact				
	Alternative refrigerant (more than one possible)	[list]	HC-290	HFC-410A	
NOTE					
All data displayed is specific to the case investigated and is not generic information about the performance of one alternative; performance can differ significantly depending on the case.					

Output	*Note: The output is calculated as the climate impact of the refrigerant systems in their life time as compared to HCFC-22, on the basis of the amount produced within one year. Additional/different outputs are possible*				
	Country		**China**		
	Identification of the alternative technology with minimum climate impact				
	List of alternatives for identification of the one with minimum climate impact	[Sorted list, best = top (% deviation from HCFC)]	HC-600a (-28%)	HC-600a (-28%)	
			HC-290 (-24%)	HC-290 (-24%)	
			HFC-134a (-7%)	HFC-134a (-7%)	
			HFC-407C (-1%)	HFC-407C (-1%)	
			HCFC-22	**HCFC-22**	
			HFC-410A (5%)	HFC-410A (5%)	
	Calculation of the climate impact				
	Per unit, over lifetime (for information only):				Total
			HCFC-22	HCFC-22	
	Energy consumption	[kWh]	50,111,866,510	25,055,933,255	75,167,799,765
	Direct climate impact (substance)	[kg CO_2 equiv]	15,964,200	7,982,100	23,946,300
	Indirect climate impact (energy): In country	[kg CO_2 equiv]	51,782,262	25,891,131	77,673,393
	Indirect climate impact (energy): Global average	[kg CO_2 equiv]	-	-	-
	Calculation of the climate impact of the conversion				
	Selected refrigerant		**HC-290**	**HFC-410A**	
	*Total direct impact (post conversion – baseline)**	*[t CO_2 equiv]*	*(15,891,312.0)*	*215,854.0*	(15,675,458)
	*Indirect impact (country)***	*[t CO_2 equiv]*	*(567,818.0)*	*1,463,492.0*	895,674
	*Indirect impact (outside country)***	*[t CO_2 equiv]*	-	-	-
	Total indirect impact	*[t CO_2 equiv]*	*(567,818.0)*	*1,463,492.0*	895,674
	Total impact of the selected refrigerant* **	**[t CO_2 equiv]**	**(16,459,130)**	**1,679,346**	**(14,779,784)**
	Alternative refrigerant		**HFC-410A**	**HC-290**	
	*Total direct impact (post conversion – baseline)**	*[t CO_2 equiv]*	*431,707*	*(7,945,656)*	
	*Total indirect impact (country)***	*[t CO_2 equiv]*	*2,926,985*	*(283,909)*	
	*Total indirect impact (outside country)***	*[t CO_2 equiv]*	-	-	
	*Total indirect impact***	*[t CO_2 equiv]*	*2,926,985*	*(283,909)*	
	Total impact of alternative refrigerant	**[t CO_2 equiv]**	**3,358,692**	**(8,229,565)**	

*Direct impact: Different impact between alternative technology and HCFC technology for the substance-related emissions.

**Indirect impact: Difference in impact between alternative technology and HCFC technology for the energy-consumption-related emissions of CO_2 when generating electricity.

***China also chose to convert some of the units into R-161. The impact of conversion to R-161 cannot be provided.

- **Add** comments before paragraph 274:

1. The submission of the industrial and commercial refrigeration and air conditioning (RAC) sector maintained an approach which was not in line with the requirements for the assessment of incremental cost. While initially specific information regarding companies was essentially absent, information on a number of company characteristics and technical issues was subsequently provided by 18 February 2011. This enabled a better understanding about eligibility and possible criteria to select companies for conversion, and allowed an approach for a cost estimate to be established.

2. However, regarding the calculation of incrementality, the submission remained vague even after providing additional data. The assessment of incremental cost had to be undertaken on the basis of a generic approach for lack of enterprise specific data, which is by definition problematic since incrementality in the Multilateral Fund takes into account what equipment is already available at an enterprise and whether it can be retrofitted or needs to be replaced. For example, the cost differences between replacing equipment and upgrading equipment can be very significant. Nevertheless, the Secretariat tried also to make progress on the calculation of incremental cost.

Determination of numbers of equipment manufacturers conversions necessary, eligibility

3. The Secretariat has used the information provided by UNIDO to assess whether a more cost effective approach to the phase-out is possible than proposed by UNIDO. The main impact on funding appears to be the foreign ownership of enterprises. While the average of the foreign ownership is 9.6 per cent, it would be possible to select the enterprises for conversion in a way that would result in foreign ownership of, on average, 39.7 per cent, with an according reduction in the level of ICC and IOC. It is likely to be unrealistic to expect that the Government of China could reach this maximum number; however, a share of 20 per cent may be possible to achieve. The Secretariat used both 10 per cent and 20 per cent of foreign ownership share as a basis for its further assessment.

Compressor conversion costs and eligibility

4. The conversion of compressor manufacturers appears to be essential to ensure availability of components and technology for the conversion to HC-290, introduced in the sector plan as a more environmentally benign alternative to both HCFC-22 and HFC-410A. The only alternative to funding compressor conversion projects with non-HFC-410A technology appears to be to rely for the first reduction targets until 2015 on the existing compressor manufacturing facilities, which are producing compressors for HFC-410A.

5. The conversion cost for the compressor conversions were assessed by the Secretariat to the degree possible. The main challenge is the lack of any data on the current baseline in the companies; e.g., it is not clear from the proposal whether the future manufacturers of compressors using alternative technologies are currently producing similar compressors and would only need to adapt their production to new parameters, or whether they are making a completely different compressor type with a possibly very different manufacturing process. The list of items to be supplied indicated either a new facility or a conversion of a manufacturer producing other compressor types that would not be able to use major parts of the existing hardware for the converted production.

6. According to the project document, the total production in 2008 of compressors for RAC units in China was 79,000,000. About 43 per cent of the compressors are provided by manufacturers that are fully owned by non-Article 5 countries. With the share of ownership from non-Article 5 countries for the remaining six enterprises, about 63 per cent of the compressor production is foreign owned. Non-HCFC technologies had a share of 18 per cent of the RAC compressor market, and the share of export is also about 18 per cent.

7. During stage I of the HPMP it is intended to convert an annual production of 5,402,000 RAC units to HC-290 and of 2,476,000 RAC units to HFC-410A. Given the share of foreign ownership in the sector, this leads to a maximum possible funding of a capacity of 2,007,364 compressors/year for HC-290 technology and of 920,073 for HFC-410A. The conversions requested are for a capacity of 1.7 million units per year. It is evident that for HFC-410A, this is above the eligible amount of compressor conversion for the whole stage I of the HPMP by a capacity of almost 780,000 units/year. Using the requested funding as a basis, the funding for the HFC-410A compressor manufacturer would therefore be limited to US $1,109,500. For the manufacturer of HC-290 compressors, the funding would be granted at the level requested, i.e. at of US $2,980,575. With converting one line, 85 per cent of the eligible compressor production for stage 1 directed towards HC-290 compressors would have received funding. Consequently, only about 15 per cent of the eligible compressor production for HC-290 compressors necessary for stage I would remain unfunded, and none of the eligible compressor production for HFC-410A. The costs for conversion of compressor production as proposed by UNIDO could not be assessed in detail due to lack of baseline data, and were therefore accepted at the level requested, with the adjustments for eligibility as explained. The total costs for compressor conversions foreseen in the Secretariat's proposal is therefore US $4,090,074.

Determination of ICC

8. The lack of baseline data and the approach to request equipment as needed for a major conversion or a new facility forced the Secretariat to undertake assumptions regarding the baseline equipment which could not be checked against data from the counterpart. However, the total funding proposed suggests that the funds will suffice for the conversions, provided the economies of scale are fully utilized. However, the Secretariat would like to point out that this approach unavoidably has some degree of uncertainty. The proposed costs have been provided in Table 14 below.

Table 14 - ICC proposed by the Secretariat for the conversion to the two different alternatives

Equipment	**Conversion cost to HC-290 / HFC-161 (US $)**		**Conversion cost to HFC-410A (US $)**	
	Secretariat's assessment	Original request	Secretariat's assessment	Original request
Assembly line modification and conversion to ex-proof	15,000	117,000	not requested	
Refrigerant tank	30,000	97,000	30,000	30,000
Transfer pump (amount in brackets)	15,000		11,500 (1)	34,500 (3)
Refrigerant pipeline	4,000		4,000	4,000
Leak detectors (amount in brackets)	40,000 (2)	80,000 (4)	28,000	28,000
Helium leak testing system conversion (HC-290) / Circuit tightness control and nitrogen generator (HFC-410)	32,000	32,000	18,050	38,050
Charging machines (amount in brackets)	50,000 (1)	100,000 (2)	25,900	51,800 (2)
Vacuum pump	not requested		7,500	75,000
Ventilation system (amount in brackets)	20,000 (4)	80,000 (4)	not requested	
Safety system	100,000	140,000		
Ultrasonic sealing machine (amount in brackets)	30,000 (1)	60,000 (2)		
Function test system	30,000	85,000		
Heat exchanger conversion	434,150	868,300	0	867,700
Ex-proof conversion of laboratory	5000	20,000	not requested	
Performance test	10,000	159,000		
Test unit	60,000	80,000	60,000	60,000
Recovery stations (Exproof for R-290) (amount in brackets)	5,000 (1)	10,000 (2)	500	6,000
Service installation tools	0*	591,750	not requested	
Sub-total	850,150	2,520,050	185,450	1,108,750

Equipment	Conversion cost to HC-290 / HFC-161 (US $)		Conversion cost to HFC-410A (US $)	
Delivery, insurance, installation 7.5%	63,761	189,004	13,909	83,156
Contingency 10%	91,391	270,905	19,936	100,000
Plant engineering, product redesign, trials, testing	60,000	100,000	30,000	30,000
Training of personnel	20,000	120,000	20,000	20,000
Total funding	**1,085,302**	**3,199,959**	**269,295**	**1,341,906**

*The request for service installation tools on an enterprise basis with an aggregated cost of US $13,018,500 has been replaced by costs on a national basis under the TA component

Calculation of IOC

9. The Secretariat, in its calculation, used a number of assumptions differing from those provided by UNIDO.

(a) The calculation of IOC for HFC-410A was based on a differential in refrigerant cost of US $6.00 per unit. The value was corrected using the level used in the ICR sector plan of US $2.82 per kg / US $3.38 per unit.

(b) The calculation for HC-290 had two specific items in it that the Secretariat questioned, namely a Lokring® connector for US $2.60 and a leak detector for US $4.70 per unit. The Secretariat asked for comments from UNIDO regarding the connector cost, and commented that this cost appears unlikely to persist for long, given the total quantity of units and the obvious saving potential if other solutions are being employed. UNIDO advised that the Lokring® connectors were the only practical solution, and that the amount of production for the first stage is relatively small, and it would be difficult to reach a level that can significantly lower the cost of the products. The Secretariat and UNIDO did not enter into a second exchange on the matter, but the Secretariat observed that including the capacity already converted (partly with support from the MLF), around 5.6 million units per year would be built, requiring more than 10 million connectors per year. This quantity appears to the Secretariat to be substantive, thus savings were assumed. The exchange with UNIDO on leak detector costs was very similar, with the same reasoning from UNIDO, i.e. the quantities were too small to achieve economies of scale. The Secretariat decided to assume that the production costs of both components could be reduced by 50 per cent, given the significant production volume;

(c) The IOC also included savings due to heat exchanger conversion for HC-290 production, but not for HFC-410A production.

10. In the calculation of IOC, UNIDO has demonstrated that the compressor cost amounted to 45.0 per cent for HC-290 technology and to 50.9 per cent for HFC-410A technology (with the corrected cost differential for refrigerant, Lokring® connectors and leak detector). Decision 60/44 had limited the IOC for the air conditioning sector to a maximum of US $6.30 per kg of HCFC-22 replaced. With full funding (HFC-410A) and 84.7 per cent funding (HC-290) of the compressor conversion for all stage I RAC conversion projects, the Secretariat took the funding of the compressor manufacturers into account by removing the respective shares for the compressors from the IOC. Consequently, the IOC per unit was reduced to US $4.16 for HC-290 and US $3.71 per unit for HFC-410A technology (US $3.46 per kg for HC-290 and US $3.10 per kg for HFC-410A technology).

11. The Secretariat considered the benefits from retooling from the heat exchanger conversion, allowing the use of new heat exchanger designs with the potential for more energy efficient and/or smaller size heat exchangers with the latest technology. While the IOC calculation included already a

reduction for the savings in copper cost after the conversion of heat exchanger manufacturing, the Secretariat believes that the degree of technical upgrade goes beyond what is captured by the change in material cost for the heat exchangers. Consequently, for HC-290 conversions a technical upgrade of 50 per cent was assumed. For conversions to HFC-410A, it was assumed that the heat exchanger conversion would not be eligible.

Other costs

12. The Secretariat determined the calculation of PMU and technical assistance (TA) costs at 6.04 per cent of the total of the ICC and IOC. The same percentage was used in the calculation of the overall costs for the sector phase-out. The Secretariat added to that the costs for equipping and training refrigeration technicians in the installation of HC-290 air conditioners, which was originally contained in the ICC for RAC manufacturers. Assuming the training of 5,000 technicians in the whole of China on a cost basis of US $150 per trainee, plus equipment cost per person of US $1,315, as proposed, the total would amount to US $7,325,000, minus the share for non-Article 5-country ownership. The Secretariat reflected the associated costs under TA.

Sector cost estimate

13. The Secretariat had advised, as above, that the different shares for foreign ownership will be taken into account. The costs for both alternatives are provided in below Table 15.

Table 15 - Overall costs for the RAC sector

Share foreign ownership		**9.6%**	**19.7%**	**Original request**
ICC	No. of conversions	**Costs (US $)**		
HC-290	22	23,876,651	23,876,651	70,399,098
HFC-410A	10	2,692,950	2,692,950	15,320,000
IOC	No. of units	**Costs (US $)**		
HC-290	5,402,000	22,460,132	22,460,132	59,560,200
HFC-410A	2,476,000	9,196,037	9,196,037	
TA for installation of HC-290 units	5,000	7,325,000	7,325,000	n/a
Sub-total		**65,550,769**	**65,550,769**	**145,279,298**
Foreign ownership		- 6,292,874	- 12,900,391	n/a
Compressor conversion		4,090,074	4,090,074	13,041,725
PMU and TA		3,828,911	3,429,536	0,302,000
Total		**67,176,880**	**60,169,988**	**168,623,023**
Cost effectiveness (US $/kg)		7.11	6.36	17.84

- **Replace** paragraph 274 with the following:

RECOMMENDATION

274. The Secretariat cannot at this time recommend a funding level since it is not possible to determine incremental cost with the accuracy needed. However, based on the considerations above as well as long-standing experience of the Secretariat it is assumed that the level of incremental cost would be between the two alternatives calculated as shown in Table 15 above.

DRAFT AGREEMENT BETWEEN CHINA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUROCARBONS

1. This Agreement represents the understanding between the Government of the People's Republic of China (the "Country") and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) as set out in Appendix 1-A ("The Substances") to a sustained level of 17,190[1] ODP tonnes prior to 1 January 2015 in compliance with Montreal Protocol schedules.

2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A ("The Targets and Funding") in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A . The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of the Substances which exceeds the level defined in row 1.2 of Appendix 2-A (maximum allowable total consumption of Annex-C, Group I substances) as the final reduction step under this agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances which exceeds the level defined in rows 4.1.3 and 4.2.3.

3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees in principle to provide the funding set out in row 3.1 of Appendix 2-A (the "Targets and Funding") to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (the "Funding Approval Schedule").

4. The Country will meet the consumption limits for each of the Substances as indicated in Appendix 2-A. It will also accept independent verification, to be commissioned by the relevant bilateral or implementing agency, of achievement of these consumption limits as described in sub-paragraph 5(b) of this Agreement.

5. The Executive Committee will not provide the Funding in accordance with the Funding Approval Schedule unless the Country satisfies the following conditions at least 60 days prior to the applicable Executive Committee meeting set out in the Funding Approval Schedule:

   (a) That the Country has met the Targets for all relevant years. Relevant years are all years since the year in which the Hydrochlorofluorocarbons Phase-out Management Plan (HPMP) was approved. Exempt are years for which no obligation for reporting

[1] *Based on a projected Baseline and subject to provisions of ExCom Decision 60/44 Para (e)*

of country programme data exists at the date of the Executive Committee Meeting at which the funding request is being presented;

(b) That the meeting of these Targets has been independently verified, except if the Executive Committee decided that such verification would not be required;

(c) That the Country had submitted tranche implementation reports in the form of Appendix 4-A (the "Format of Tranche Implementation Report and Plan") covering each previous calendar year, that it had achieved a significant level of implementation of activities initiated with previously approved tranches, and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent

(d) That the Country has submitted and received approval from the Executive Committee for a tranche implementation plan in the form of Appendix 4-A (the "Format of Tranche Implementation Reports and Plans") covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A (the "Monitoring Institutions and Roles") will monitor and report on Implementation of the activities in the previous tranche implementation plan in accordance with their roles and responsibilities set out in Appendix 5-A. This monitoring will also be subject to independent verification as described in sub-paragraph 5(b);

7. The Executive Committee agrees that the Country may have the flexibility to reallocate the approved funds, or part of the funds, according to the evolving circumstances to achieve the smoothest phase-down and phase-out of the Substances specified in Appendix 1-A. Reallocations categorized as major changes must be documented in advance in a Tranche Implementation Plan and approved by the Executive Committee as described in sub-paragraph 5 (d). Major changes would relate to reallocations affecting in total 30 per cent or more of the funding of the last approved tranche, issues potentially concerning the rules and policies of the Multilateral Fund, or changes which would modify any clause of this Agreement. Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan under implementation at the time and reported to the Executive Committee in the Tranche Implementation Report. Any remaining funds will be returned to the Multilateral Fund upon closure of the last tranche of the plan.

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sub-sector, in particular:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation and

(b) The Country and the bilateral and implementing agencies involved will take full account of the requirements of decisions 41/100 and 49/6 during the implementation of the plan.

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfill the obligations under this Agreement. UNDP has agreed to be the lead implementing agency (the "Lead IA") and Germany, Japan, UNIDO, UNEP and World Bank have agreed to be cooperating implementing agencies (the "Cooperating IA") under the lead of the Lead IA in respect of the Country's activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of any of the IA taking part in this Agreement.

10. The Lead IA will be responsible for carrying out the activities of the plan as detailed in the first submission of the HPMP with the changes approved as part of the subsequent tranche submissions, including but not limited to independent verification as per sub-paragraph 5(b). This responsibility includes the necessity to co-ordinate with the Cooperating IA to ensure appropriate timing and sequence of activities in the implementation. The Cooperating IA will support the Lead IA by implementing the activities listed in Appendix 6-B under the overall co-ordination of the Lead IA. The Lead IA and Cooperating IA have entered into a formal agreement regarding planning, reporting and responsibilities under this Agreement to facilitate a co-ordinated implementation of the Plan, including regular coordination meetings. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2, 2.4, 2.6, 2.8, 2.10 and 2.12 of Appendix 2-A.

11. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in row 1.2 of Appendix 2-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next tranche of funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amounts set out in Appendix 7-A in respect of each ODP tonne of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the country did not comply with this Agreement, and take related decisions. Once these decisions are taken, this specific case will not be an impediment for future tranches as per paragraph 5.

12. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decision that may affect the funding of any other consumption sector projects or any other related activities in the Country.

13. The Country will comply with any reasonable request of the Executive Committee, the Lead IA and the Cooperating IAs to facilitate implementation of this Agreement. In particular, it will provide the Lead IA and the Cooperating IA with access to information necessary to verify compliance with this Agreement.

14. The completion of the HPMP and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption has been specified in Appendix 2-A. Should at that time activities be still outstanding which were foreseen in the Plan and its subsequent revisions as per sub-paragraph 5(d) and paragraph 7, the completion will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per Appendix 4-A (a), (b), (d) and (e) continue until the time of the completion if not specified by the Executive Committee otherwise.

15. All of the agreements set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Montreal Protocol unless otherwise defined herein.

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tones)
HCFC-22	C	I	11,706
HCFC-141b	C	I	5,874
HCFC-142b	C	I	1,505
HCFC-123	C	I	7
HCFC-124	C	I	7
HCFC-225	C	I	2
Total			**19,100**

Note: *The starting point is based on projected baseline and subject to provisions of ExCom Decision 60/44 Para (e)*

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2011	2012	2013	2014	2015	Total
1.1	Montreal Protocol reduction schedule of Annex-C, Group-I substances (ODP tonnes)	N/A	N/A	19,100	19,100	17,190	**N/A**
1.2	Maximum allowable total consumption of Annex-C, Group-I substances (ODP tonnes)	N/A	N/A	19,100	19,100	17,190	**N/A**
2.1	Lead IA UNDP agreed funding (US$)						
2.2	Support costs for UNDP (US$)						
2.3	Cooperating IA (Germany) agreed funding (US$)						
2.4	Support costs for Germany (US$)						
2.5	Cooperating IA (Japan) agreed funding (US$)						
2.6	Support costs for Japan (US$)						
2.7	Cooperating IA (IBRD) agreed funding (US$)						
2.8	Support costs for IBRD (US$)						
2.9	Cooperating IA (UNIDO) agreed funding (US$)						
2.10	Support costs for UNIDO (US$)						
2.11	Cooperating IA (UNEP) agreed funding (US$)						
2.12	Support costs for UNEP (US$)						
3.1	**Total agreed funding (US$)**						
3.2	Total support cost (US$)						
3.3	Total agreed costs (US$)						
4.1	4.1.1 Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes)						**1,367**
	4.1.2 Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)						**30**
	4.1.3 Remaining eligible consumption for HCFC-22 (ODP tonnes)						**10,309**
4.2	4.2.1 Total phase-out of HCFC-141b agreed to be achieved under this agreement (ODP tonnes)						**1,670**
	4.2.2 Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)						**14**
	4.2.3 Remaining eligible consumption for HCFC-141b (ODP tonnes)						**4,190**
4.3	4.3.1 Total phase-out of HCFC-142b agreed to be achieved under this agreement (ODP tonnes)						**296**
	4.3.2 Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)						**0**
	4.3.3 Remaining eligible consumption for HCFC-142b (ODP tonnes)						**1,209**
4.4	4.4.1 Total phase-out of HCFC-123, HCFC-124 and HCFC-225 agreed to be achieved under this agreement (ODP tonnes)						**0**
	4.4.2 Phase-out of HCFC-123, HCFC-124 and HCFC-225 to be achieved in previously approved projects (ODP tonnes)						**0**
	4.4.3 Remaining eligible consumption for HCFC-123, HCFC-124 and HCFC-225 (ODP tonnes)						**16**

Note: *Data in Rows 4.1 to 4.4 are based on a projected Baseline and subject to provisions of ExCom Decision 60/44 Para (e). All figures rounded off to the nearest 1.00*

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval not earlier than the last meeting of the year preceding the year specified in Appendix 2-A.

APPENDIX 4-A: TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plan will consist of five parts:

(a) A narrative report regarding the progress in the previous tranche, reflecting on the situation of the Country in regard to phase out of the Substances, how the different activities contribute to it and how they relate to each other. The report should further highlight successes, experiences and challenges related to the different activities included in the Plan, reflecting on changes in the circumstances in the country, and providing other relevant information. The report should also include information about and justification for any changes vis-à-vis the previously submitted tranche plan, such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes. The narrative report will cover all relevant years specified in sub-paragraph 5(a) of the Agreement and can in addition also include information about activities in the current year;

(b) A verification report of the HPMP results and the consumption of the substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in sub-paragraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;

(c) A written description of the activities to be undertaken in the next tranche, highlighting their interdependence, and taking into account experiences made and progress achieved in the implementation of earlier tranches. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall plan foreseen. The description should cover the years specified in sub-paragraph 5(d) of the Agreement. The description should also specify and explain any revisions to the overall plan which were found to be necessary;

(d) A set of quantitative information for the report and plan, submitted into a database. As per the relevant decisions of the Executive Committee in respect to the format required, the data should be submitted online. This quantitative information, to be submitted by calendar year with each tranche request, will be amending the narratives and description for the report (see sub-paragraph 1(a) above) and the plan (see sub-paragraph 1(c) above), and will cover the same time periods and activities; it will also capture the quantitative information regarding any necessary revisions of the overall plan as per sub-paragraph 1(c) above.

While the quantitative information is required only for previous and future years, the format will include the option to submit in addition information regarding the current year if desired by the country and lead implementing agency; and

(e) An Executive Summary of about five paragraphs, summarizing the information of above sub-paragraphs 1(a) to 1(d).

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The monitoring process will be managed by Foreign Economic Cooperation Office, Ministry of Environmental Protection (FECO/MEP) with the assistance of the Lead IA.

2. The consumption will be monitored and determined based on official import and export data for the Substances recorded by relevant government departments.

3. FECO/MEP shall compile and report the following data and information on an annual basis on or before the relevant due dates:

   (a) Annual reports on consumption of the Substances to be submitted to the Ozone Secretariat;
   (b) Annual reports on progress of implementation of HPMP to be submitted to the Executive Committee of the Multilateral Fund; and

4. FECO./MEP and the Lead IA will engage an independent and qualified entity to carry out a qualitative and quantitative performance evaluation of the HPMP implementation.

5. The evaluating entity shall have full access to relevant technical and financial information related to implementation of this agreement.

6. The evaluating entity shall prepare and submit FECO/MEP and the Lead IA, a consolidated draft report at the end of each Tranche Implementation Plan, comprising of the findings of the evaluation and recommendations for improvements or adjustments, if any. The draft report shall include the status of the Country's compliance with the provisions of this Agreement.

7. Upon incorporating the comments and explanations as may be applicable, from FECO/MEP, Lead IA and the Cooperating IAs, the evaluating entity shall finalize the report and submit to FECO/MEP and Lead IA.

8. FECO/MEP shall endorse the final report and the Lead IA shall submit the same to the relevant meeting of the Executive Committee along with the Tranche Implementation plan and reports.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

1. The Lead IA will be responsible for the following:

    (a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's phase-out plan;
    (b) Assisting the Country in preparation of the Tranche Implementation Plans and subsequent reports as per Appendix 4-A;
    (c) Providing verification to the Executive Committee that the Targets have been met and associated annual activities have been completed as indicated in the Tranche Implementation Plan consistent with Appendix 4-A;
    (d) Ensuring that the experiences and progress is reflected in updates of the overall Plan and in future Tranche Implementation Plans consistent with sub-paragraphs 1(c) and 1(d) of Appendix 4-A;
    (e) Fulfilling the reporting requirements for the tranches and the overall Plan as specified in Appendix 4-A as well as project completion reports for submission to the Executive Committee. The reporting requirements include the reporting about activities undertaken by the Cooperating IA;
    (f) Ensuring that appropriate independent technical experts carry out the technical reviews;
    (g) Carrying out required supervision missions;
    (h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;
    (i) Coordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;
    (j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the co-ordinating implementing agencies, the allocation of the reductions to the different budget items and to the funding of each implementing or bilateral agency involved;
    (k) Ensuring that disbursements made to the Country are based on the use of the indicators; and
    (l) Providing assistance with policy, management and technical support when required.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the HPMP results and the consumption of the substances mentioned in Appendix 1-A, as per sub-paragraph 5(b), sub-paragraph 1(b) of Appendix 4-A and Appendix 5-A.

APPENDIX 6-B: ROLE OF COOPERATING IMPLEMENTING AGENCIES

1. The Cooperating IA will be responsible for the following:

(a) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the Lead IA to ensure a coordinated sequence in the activities; and
(b) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A.

APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US$ ---------- per ODP tonne of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met.