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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

**PROJECT PROPOSAL: PAPUA NEW GUINEA**

This document consists of the comments and recommendations of the Fund Secretariat on the following project proposal:

Phase-out

- HCFC phase-out management plan (first tranche) Germany

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## Papua New Guinea

<b>(I) PROJECT TITLE</b>	<b>AGENCY</b>
HCFC Phase Out Management Plan	Germany (lead agency)

<b>(II) LATEST ARTICLE 7 DATA</b>	Year: 2009	3.2 (ODP tonnes)
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<b>(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)</b>								<b>Year: 2009</b>			
Chemical	Aerosol	Foam	Fire	Refrigeration		Solvent	Process	Lab	Total		
				Manufacturing	Servicing						
HCFC-123											
HCFC-124											
HCFC-141b											
HCFC-142b											
HCFC-22						3.2					3.2

<b>(IV) CONSUMPTION DATA (ODP tonnes)</b>			
2009 - 2010 baseline (estimate):	3.4	Starting point for sustained aggregate reductions:	3.4
<b>CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)</b>			
Already approved:	0.0	Remaining:	0

<b>(V) BUSINESS PLAN</b>			<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>
Germany	ODS phase-out (ODP tonnes)		3.3		3.1						0.7		7.1
	Funding (US \$)		301,000	0	287,000	0					65,000		653,000

<b>(VI) PROJECT DATA</b>			<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017-2019</b>	<b>2020</b>	<b>2022-2024</b>	<b>2025</b>	<b>Total</b>
Montreal Protocol consumption limits (estimate)			n/a	n/a	3.4	3.4	3.06	3.06	3.06	2.21	2.21	0.12	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	3.19	3.08	2.94	2.6	2.26	1.39	0.87	0	n/a
Project Costs requested in principle(US\$)	Germany	Project costs	350,000		340,000			301,000		259,000			1,250,000
		Support costs	41,300		40,120			35,518		30,562			147,500
Total project costs requested in principle (US \$)			350,000		340,000			301,000		259,000			1,250,000
Total support costs requested in principle (US \$)			41,300		40,120			35,518		30,562			147,500
Total funds requested in principle (US \$)			391,300		380,120			336,518		289,562			1,397,500

<b>(VII) Request for funding for the first tranche (2011)</b>			
<b>Agency</b>	<b>Funds requested (US \$)</b>	<b>Support costs (US \$)</b>	<b>ODS phase-out (ODP tonnes)</b>
Germany	350,000	41,300	

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

## **PROJECT DESCRIPTION**

1. On behalf of the Government of Papua New Guinea, the Government of Germany as the lead implementing agency, has submitted to the 63<sup>rd</sup> Meeting of the Executive Committee an HCFC phase-out management plan (HPMP) at a total cost, as originally submitted, of US \$1,260,000 plus agency support cost of US \$148,600 for the complete phase-out of its HCFC consumption by 2025. The HPMP will be implemented solely by the Government of Germany. The proposal is for a one-time funding and an accelerated phase-out of HCFC consumption by 2025.
2. As originally submitted, the Government of Germany is requesting US \$366,000 plus agency support cost of US \$43,165 for the first tranche of the HPMP.

### **Background**

#### ODS regulations

3. Papua New Guinea had set up a National Ozone Office (NOU) within the Department of Environment and Conservation (DEC) in 1992 by decision of the National Executive Council. The same decision also approved the country's accession to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer.
4. The existing system to control ODS imports became effective on 1 January 2004 when the Environment Act 2000 and the Environment Regulation 2002 came into force. This ODS licensing system covers all ozone depleting substances (ODS) including HCFCs and HCFC blends. Under this legislation, no ODS can be imported or exported unless the importer/exporter has a valid environment permit and has submitted a notification of intent to import/export an ODS. Permits are renewed annually. A ban on the importation (and exportation) of equipment containing CFCs came into force on 19 January 2007, when the Environment (Ozone Depleting Substances) Regulation came into force. There are currently no bans or quotas for the import of HCFCs or HCFC containing equipment, these will be introduced by 2012.
5. The DEC is responsible for the implementation of the Montreal Protocol in Papua New Guinea and oversees the implementation of ozone related projects in the country as well as drawing up policies and administrative measures for the implementation of the Montreal Protocol. The NOU facilitates and coordinates ODS phase-out projects and policies. The NOU is located within the Industry Standards Division of the DEC.

#### HCFC consumption

6. HCFCs are used in Papua New Guinea only for servicing of refrigeration and air-conditioning equipment in the fishing, tourism, food processing, and other commercial sectors and in households. Papua New Guinea does not produce HCFCs; therefore all substances used are imported into the country mainly from China and Singapore. While HCFC-22 is predominantly the HCFC used, HCFC-409a and HCFC-408a have been imported in small quantities since 2006 as a substitute for CFCs, but the quantities of these refrigerants are negligible and will be regulated through import licenses. The use of HCFCs is expected to grow due to increased handling of chilled and frozen food and increased demand from the growing tourism facilities in the country for refrigeration and air-conditioning systems.
7. The annual consumption of HCFCs during the 2005-2009 period was roughly estimated at an average of 65.6 metric tonnes (mt) (3.6 ODP tonnes per year based on the survey undertaken for the HPMP preparation). Table 1 shows the 2005-2009 level of HCFC consumption in Papua New Guinea, comparing the reported consumption under Article 7 with the results from the HCFC survey. There is a

discrepancy of 1.2 mt for the figures gathered from the survey as compared with the Article 7 data in 2007. This was due to some missing documentation for that year, which placed the level of consumption resulting from the survey to be lower than what was reported. The survey also indicated, that for that particular year, the difference could also be attributed to the fact that the survey looked at installed equipment and related servicing needs, while Article 7 data was based on the actual imports for that year that could be due to a one-time stockpiling for the country.

Table 1: HCFC level of consumption in Papua New Guinea

Year	Article 7		Survey results	
	HCFC-22 (in metric tonnes)	HCFC-22 (ODP tonnes)	HCFC-22 (in metric tonnes)	HCFC-22 (ODP tonnes)
2003	65.45	3.6	66.5	3.66
2004	69.09	3.8	70	3.85
2005	67.27	3.7	68.4	3.76
2006	72.73	4	72.8	4
2007	90.91	5	68.4	3.76
2008	56.36	3.1	58.6	3.22
2009	58.18	3.2	60.1	3.31

8. The installed capacity of refrigeration and air-conditioning units in the country using HCFC-22 was estimated at 71,500 units in 2009 as shown in Table 2.

Table 2: Distribution of HCFC-22 in refrigeration systems

Type	Total	Total charge (tonnes)		Servicing (tonnes)	
		Metric	ODP	Metric	ODP
Residential type air conditioning	55,000	55	3	16	0.88
Commercial air conditioning	5,000	40	2.2	20	1.1
Commercial refrigeration i.e. Display cabinets, freezers, ice machines	8,500	17	0.9	9	0.5
Cold rooms and freezer rooms	3,000	21	1.1	15	0.82
<b>Total</b>	<b>71,500</b>	<b>133</b>	<b>7.2</b>	<b>60</b>	<b>3.3</b>

9. The HPMP indicated that given the fluctuations in imports in the last five years, no real trend can be determined for the growth in HCFC consumption. Therefore, the forecast consumption was estimated based on the growth of the last 2 years (2008-2009) and the projected growth in imports in 2011 which was estimated at approximately 5 per cent. Assuming that there was unconstrained use of HCFCs in the future, a 5 per cent increase in imports of HCFC would be expected on an annual basis. The table below provides a summary of this forecast.

Table 3: Forecast consumption of HCFC in Papua New Guinea

Projected consumption		2005	2006	2007	2008	2009	2010	2011	2012	2013
	MT							67	70	73.5
ODP							3.7	3.85	4	4.2
Actual consumption (survey)	MT	68	73	91*	59	60	67			
	ODP	3.76	4.00	5*	3.22	3.31	3.70			

\*A7 data

#### HCFC phase-out strategy

10. The Government of Papua New Guinea is proposing a single stage approach to achieve the complete phase-out of HCFCs by 2025, with no additional service tail. The plan will be to impose an import ban on HCFC based equipment by 2015. The decision to phase out HCFCs earlier than the Montreal Protocol schedule is based on the country's commitment to meet challenges for both ozone protection and climate at the same time. The Government has provided its commitment to this accelerated phase-out in a written communication to the Multilateral Fund Secretariat. The phase-out plan is presented in the table below:

Table 4: Proposed HCFC phase-out schedule of Papua New Guinea

Schedule	MP Targets	Papua New Guinea Reduction Targets
Average 2009-2010	Baseline	Baseline level
1 January 2012		Freeze at baseline
1 January, 2013	Freeze at baseline	5% reduction from baseline
1 January 2014		11% reduction from baseline
1 January 2015	10% reduction from baseline	15% reduction from baseline
1 January 2016		25% reduction from baseline
1 January 2017		35% reduction from baseline
1 January 2020	35% reduction from baseline	60% reduction from baseline
1 January 2022		75% reduction from baseline
1 January 2025	67.5% reduction from baseline	100% phase-out
1 January 2030	100% phase-out *2.5% service tail up to 2040	

11. To achieve the targets set in the above schedule, Papua New Guinea will implement activities that will include both investment and non-investment projects to be implemented from 2010-2025. The early phase of the project will focus on regulatory interventions, enforcement, promotion of ozone-climate co-benefit activities as well as enhanced awareness activities and initiation of investment projects while the later phase will focus on a combination of non-investment and investment activities. The main objectives of the non-investment component is to sustain the HCFC reduction achieved through the investment activities and ensure reduction of HCFC needs in 2015-2025 period. The implementation plan includes measures using a combination of regulations and enforcement instruments, training and capacity building, awareness raising and technical assistance initiatives.

12. The HPMP also envisages a technical assistance component that will be provided for the servicing sector. Under this programme, mini-claim centres (MCCs) will be established. The ownership of these MCCs is proposed to be with one or more of the main refrigeration and air conditioning servicing establishments as contractors. These will be operated on a commercial basis and will receive recovered refrigerants that are collected by air conditioning and refrigeration servicing shops and independent technicians from a designated geographical area. The mini-reclaim contractors would charge a processing fee for this reclamation, to mitigate the costs and overheads associated with the reclamation operations. Recovery tools will also be provided to technicians, and training will be conducted on the use of such equipment.

13. An end-user retrofit pilot incentive programme is also proposed, where seed or incentive funding will be provided to selected beneficiaries once a verification of retrofits has been done. The HPMP envisaged retrofits to hydrocarbon (HC) refrigerants, and training that will be provided in the handling of these refrigerants and how to retrofit using these alternative.

Table 5: Specific activities of the HPMP and proposed period of implementation

<b>Activity</b>	<b>Implementation stage</b>
HCFC phase-out policies and enforcement <ul style="list-style-type: none"> <li>• Enforcement of regulations</li> <li>• Training for customs officers and other law enforcement departments</li> </ul>	Overall plan (2011-2020)
Awareness raising	Overall plan (2011-2020)
Servicing technician training and provision of tools	Overall plan (2011-2016)
Containment and re-use of refrigerants <ul style="list-style-type: none"> <li>• Establishment of mini-reclaim centers (MCC)</li> </ul>	Overall plan (2011-2015)
End-user retrofit/ replacement pilot incentive programme	Overall plan (2012-2025)
Project Coordination and Monitoring	Overall plan (2012-2025)

14. The Government of Papua New Guinea has explored an approach to integrate ozone and climate benefits by working very closely with the Papua New Guinea Climate Office to ensure the implementation of regulations to control the use of synthetic greenhouse gases. Papua New Guinea is also pushing for policy and regulatory interventions to make energy efficient units containing alternative refrigerants more affordable, and to raise public awareness about the long-term financial and environmental benefits of investing in ozone and climate friendly energy efficient units.

Cost of the HPMP

15. The total overall cost of the HPMP for Papua New Guinea has been estimated at US \$1,260,000, as submitted plus US \$545,000 of estimated counterpart funding from the Government and private sources, to achieve the complete phase-out of 62.6 mt (3.4 ODP tonnes) of HCFCs by 2025 as shown below.

Table 6: Total cost of the HPMP for Papua New Guinea

<b>Description of activities</b>	<b>Government of Germany (US\$)</b>	<b>Counterpart funding (US\$)</b>
HCFC phase-out policies and enforcement <ul style="list-style-type: none"> <li>• Enforcement of regulations</li> <li>• Training for customs officers and other law enforcement departments</li> </ul>	130,000	30,000
Awareness raising	120,000	70,000
Servicing technician training and provision of tools	255,000	35,000
Containment and re-use of refrigerants <ul style="list-style-type: none"> <li>• Establishment of mini-reclaim centers (MCC)</li> </ul>	225,000	5,000
End-user retrofit/ replacement pilot incentive programme	280,000	405,000
Project coordination and monitoring	250,000	In kind
<b>Total amount requested for funding</b>	<b>1,260,000</b>	<b>545,000</b>

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

16. The Secretariat reviewed the HPMP for Papua New Guinea in the context of the guidelines for the preparation of HPMPs (decision 54/39), the criteria for funding HCFC phase-out in the consumption sector agreed at the 60<sup>th</sup> Meeting (decision 60/44), subsequent decisions on HPMPs made at the 62<sup>nd</sup> Meeting and the 2011-2014 business plan of the Multilateral Fund.

#### Issues related to HCFC consumption

17. The Government of Germany provided an explanation on the discrepancy in data between the survey and that reported under Article 7 particularly for 2007. It indicated that the country faced some difficulties in doing the survey as some supporting documents could not be traced, and therefore, the figures did not match those for the year 2007. It also mentioned that the 2007 figure reported under Article 7 represented the more realistic value for the amount of HCFCs imported, while the survey figure related more to the HCFCs required in the country as it was based on the equipment installed and the related service requirements. The Government of Germany also mentioned that the high imports registered in 2007 were adjusted by the imports of subsequent years as seen in Table 1. It was also explained that recent economic development in the country has opened up a number of areas for tourist purposes thereby requiring new hotels and facilities that needed the use of HCFC-22 equipment.

#### Starting point for aggregate reduction in HCFC consumption

18. The Government of Papua New Guinea agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the average level of consumption in 2009 and estimated

consumption in 2010, which has been estimated at 3.4 ODP tonnes. The business plan indicated a baseline of 3.29 ODP tonnes.

#### Technical and cost issues

19. The Secretariat raised a number of issues regarding the HPMP. These included issues regarding the need for changes in the legal framework for the management of HCFCs vis-à-vis funding already provided for policy development during HPMP preparation. It was mentioned that the country already has an ODS licensing system, and that import quotas to monitor HCFC imports, ban imports of HCFC-containing equipment and increase the capacity of the enforcement authorities to facilitate the efficient implementation of these ODS policies will be implemented as part of the HPMP by 2012.

20. The Secretariat noted that the HPMP foresees activities in the servicing sector such as training of both customs and servicing technicians as well as an awareness raising component. It also originally included components for the establishment of recovery and reclaim centres and an end-user retrofit programme proposing the use of HC as an alternative refrigerant. In discussions with Germany, the agency indicated that the country, while cognizant of the decisions of the Executive Committee on funding eligibility for low-volume consuming (LVC), requested for a higher cost of the HPMP beyond what was set out in decision 60/44 (i.e. US \$1,260,000). In reducing costs to be in line with the decision, the Government decided to exclude some activities related to the mini-reclaim centres and retrofits.

21. The Secretariat raised concerns on the proposed plan of the country to accelerate phase-out 5 years earlier than the Montreal Protocol schedule, its capacity to meet these strict deadlines, and the overall national commitment and framework to support this plan in line with decisions 59/47 and 62/10. In justifying this approach, the Government of Germany stressed that Papua New Guinea as a small island country has made commitments under the UN Framework Convention on Climate Change (UNFCCC) to reduce emissions by half by 2030 and achieve carbon neutrality by 2050. The accelerated phase-out of HCFCs, the eventual phase-in of non-HCFC alternatives, and the other activities that will be implemented under the HPMP, will complement the efforts of the Government to achieve these targets. It indicated that there is commitment at the highest level of Government to ensure that these two commitments are met side by side, and this approach is seen as an opportunity to commence actions as soon as possible when sufficient time is still available to ensure efficient implementation. Papua New Guinea has provided copies of their commitment to the UNFCCC as well as a communication from the DEC to demonstrate a strong national commitment to the accelerated phase-out of HCFCs (Annex I to the present document).

22. In discussing the individual activities and the corresponding total cost of the initial HPMP submission with the Government of Germany, the Secretariat reiterated decision 60/44, where the funding levels for countries with an HCFC consumption of 360 mt (19.8 ODP tonnes) or less in the refrigeration servicing sector only were listed. It also drew attention to decision 62/10 where it mentions that for countries that wish to accelerate their HCFC phase-out beyond the 35 percent reduction, the total funding available for achieving 100 per cent phase-out would be extrapolated from that available for meeting the 35 per cent reduction in consumption as prescribed in the table in subparagraph f(xii) of decision 60/44. In line with decision 62/10 and considering that the country's estimated baseline is calculated at 62.6 mt, the country will be eligible for funding for up to a maximum of US \$800,000 for accelerated HCFC phase-out.

23. The Secretariat also noted that, in the revised HPMP, the cost of the institutional strengthening project is now included at a cost of US \$450,000 (i.e. US \$30,000 annually for the period 2011-2025). The Government of Germany informed the Secretariat that the country wishes the IS to be part of the HPMP as it will be beneficial especially in the area of awareness creation, which can be combined with awareness done under IS to make it more coordinated and efficient. The agency likewise indicated that data collection under the IS can be complemented with the monitoring exercise on enforcement that needs to be done under the HPMP. The Secretariat notes that the inclusion of the institutional

strengthening (IS) is consistent with decision 59/47 and that the Government was informed and accepts the consequences of the inclusion of the IS in its HPMP in line with decision 62/15.

24. After further discussion of the activities and how these would allow the country to comply with the phase-out measures of the Montreal Protocol, the total level of funding for the implementation of the HPMP has been agreed at US \$1,250,000 excluding agencies support costs summarised in Table 7 below. The funding level for the HPMP implementation is based on a one time funding for accelerated HCFC phase-out and on the selected starting point using the calculated baseline of 61.7 mt (3.4 ODP tonnes), and the costs for the IS. The agreed distribution of funds for the activities are shown in Table 7 below:

Table 7: Revised level of funding for the HPMP of Papua New Guinea for accelerated phase-out (US \$)

<b>Description of activities</b>	<b>Government of Germany (US \$)</b>	<b>Counterpart funding (US \$)</b>
HCFC phase-out policies and enforcement <ul style="list-style-type: none"> <li>• Enforcement of regulations</li> <li>• Training for officers of customs and other law enforcement departments</li> </ul>	85,000	30,000
Awareness raising	60,000	85,000
Servicing technician training and provision of tools	160,000	80,000
Containment and re-use of refrigerants <ul style="list-style-type: none"> <li>• Establishment of mini-reclaim centers (MCC)</li> </ul>	160,000	5,000
End-user retrofit/ replacement pilot incentive programme	175,000	490,000
Project coordination and monitoring	160,000	
Institutional strengthening (2011-2025)	450,000	
<b>Total amount requested for funding</b>	<b>1,250,000</b>	<b>690,000</b>

#### Impact on the climate

25. The proposed technical assistance activities in the HPMP, which include the introduction of better servicing practices and enforcement of HCFC import controls, will reduce the amount of HCFC-22 used for refrigeration servicing. Each kilogram (kg) of HCFC-22 not emitted due to better refrigeration practices results in the savings of approximately 1.8 CO<sub>2</sub>-equivalent tonnes saved. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by Papua New Guinea, in particular its proposal to proceed to the use of hydrocarbons in the service sector and its above-average efforts to improve servicing practices and reduce associated refrigerant emissions through re-use of HCFC refrigerant indicate that it is likely that the country will surpass the level of 23,237 CO<sub>2</sub>-equivalent tonnes that would not be emitted into the atmosphere as estimated in the 2011-2014 business plan. However, at this time, the Secretariat is not in a position to quantitatively estimate the impact on the climate. The impact might be established through an assessment of implementation reports by, *inter alia*, comparing the levels of refrigerants used annually from the commencement of the implementation of the HPMP, the reported amounts of refrigerants being recovered and recycled, the number of technicians trained and the HCFC-22 based equipment being retrofitted.

### Co-financing

26. In response to decision 54/39(h) on potential financial incentives and opportunities for additional resources to maximize the environmental benefits from HPMPs pursuant to paragraph 11(b) of decision XIX/6 of the Nineteenth Meeting of the Parties, the Government of Papua New Guinea indicated that an estimated US \$690,000 is being considered as co-funding towards the implementation of the activities in the HPMP. These funds will come from both the Government and other private funding sources.

### 2011-2014 business plans of the Multilateral Fund

27. The Government of Germany is requesting US \$1,250,000 plus support costs for implementation of the HPMP. The total value requested of US \$1,397,500 including support cost is above the total amount in the business plan because the country includes IS costs in its HPMP.

28. Based on the estimated HCFC baseline consumption in the servicing sector of 62.6 mt, Papua New Guinea's allocation up to the 2020 phase-out should be US \$280,000 in line with decision 60/44.

### Draft agreement

29. A draft Agreement between the Government of Papua New Guinea and the Executive Committee for HCFCs phase-out is contained in Annex I to the present document.

## **RECOMMENDATION**

30. The HPMP for Papua New Guinea is submitted for individual consideration. The Executive Committee may wish to consider:

- (a) Whether to approve, in principle, the HCFC phase-out management plan (HPMP) for Papua New Guinea for the period 2011 to 2025, at the amount of US \$1,397,500 comprising of US \$1,250,000 (including US \$450,000 for institutional strengthening) and agency support costs of US \$147,500 for the Government of Germany, on the understanding that there will be no more funding eligibility for HCFC phase-out in the country after 2025;
- (b) Noting that the Government of Papua New Guinea had agreed at the 63<sup>rd</sup> Meeting to establish as its starting point for sustained aggregate reduction in HCFC consumption the estimated baseline of 3.4 ODP tonnes, calculated using actual consumption for 2009 and estimated consumption for 2010;
- (c) Whether to approve the draft Agreement between the Government of Papua New Guinea and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex II to the present document;
- (d) Requesting the Fund Secretariat, once the baseline data were known, to update draft Appendix 2-A to the Agreement to include the figures for maximum allowable consumption, and to notify the Executive Committee of the resulting change in the levels of maximum allowable consumption and of any potential related impact on the eligible funding level, with any adjustments needed to being made when the next tranche was submitted; and
- (e) Approving the first tranche of the HPMP for Papua New Guinea, and the corresponding implementation plan, at the amount of US \$391,300 comprising of US \$350,000 and agency support costs of US \$41,300 for the Government of Germany.

## **Annex I**

- 1- Letter of commitment from the Government of Papua New Guinea supporting accelerated HCFC phase-out in the HPMP.
  
- 2- Letter from the Government of Papua New Guinea to UNFCCC showing the country's commitment to meet carbon neutrality by 2050.

Letter of commitment from the Government of Papua New Guinea supporting  
accelerated HCFC phase-out in the HPMP.



**DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
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**Ms Cecelia Mercado,**  
Secretariat,  
Multilateral Fund for the Implementation of the Montreal Protocol,  
1800 McGill College Ave.,  
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Date: 11 February 2011  
Our ref: HPMP

Dear Madam,

**Subject: PROPOSED EARLY PHASE OUT OF HCFC REFRIGERANTS AND LINKAGES WITH THE  
CARBON NEUTRALITY POLICY**

The Papua New Guinea government continues to regard the protection of the Ozone Layer as a priority and to this end is proposing an early phase out for HCFC use by 2025. At the same time it does not want this early phase out to contribute to other environmental problems, such as global warming, through the replacement of HCFCs with refrigerants of a higher Global Warming Potential (GWP), especially when there are environmentally safe alternatives available.

The Papua New Guinea National Government recently adopted a 40 year development strategy called "PNG Vision 2050" and *Environmental Sustainability and Climate Change* is one of the 'seven pillars' that makes up the strategy. Vision 2050 requires that PNG will become a carbon neutral country by 2050 with a reduction in greenhouse emissions by at least 50% by 2030. While the focus in PNG is on protection of forests, this alone will not achieve the required reduction and therefore all other avenues to reduce greenhouse gases are being explored.

One such area is the reduction of greenhouse gases used in the refrigeration sector. Unfortunately, while PNG has been actively reducing impacts on the ozone layer through phase out of ozone depleting substances, an unwanted side effect is a move towards refrigerants with higher GWPs. While natural refrigerants are available with low GWPs local industry has been reluctant to adopt these, without the Government taking the lead.

The Department of Environment and Conservation recognizes that HFCs need to be controlled as part of its overall greenhouse gas reduction strategy in order to achieve carbon neutrality by 2050. As a first step changes to regulations are currently before that National Executive Council which, when approved, will see the inclusion of HFCs on the list of Hazardous Environmental Contaminants (under the Environment Act) and require importers of HFCs to obtain an Environmental Permit issued under the Act. The Environmental Permit will set conditions which will include a requirement

that approval for imports be sought from the department and annual data reported. The permitting system will also enable controls to be imposed such as levies, quotas and ultimately phase outs. Later in the year amendments to the Environment (Ozone Depleting Substances) Regulation 2007 will be made to include synthetic greenhouse gases also.

I propose this year, also, that a policy be developed for, National Executive Council approval whereby all government institutions will be required to phase out the use of ODS and HFC refrigerants in their air-conditioning and refrigeration systems starting 2012. New cooling equipment purchased by government must adhere to low GWP requirements of the 2050 Vision. This is in compliance with the overall policy on purchasing that the government must follow to meet its targets. By ensuring that more equipment using natural refrigerants, such as hydrocarbons, are in use in the country there will then be a demand for trained technicians to handle such equipment and there will also be a ready supply of natural refrigerants and parts in country to service this equipment. With presence of appropriate equipment and necessary skills it will be possible to implement a nationwide phase out of HFC equipment alongside the HCFC phase out.

The use of economic incentives through the imposition of an import levy on HFC refrigerants and possibly a corresponding subsidy on HC refrigerant imports we will be incorporated in the *Environment (Fees and Charges) Regulation 2002*.

Papua New Guinea is set to become a major producer of LNG within the next 5 years. The possibility of PNG producing its own hydrocarbon refrigerants will be investigated. Assistance from the two major LNG developers, Exxon Mobil and InterOil Ltd will be sought. These HC refrigerants could be exported through the region also.

Increasingly HCFC based equipment will become harder to get. Already major companies are beginning to phase out its use in PNG. Unfortunately they are currently opting for the most readily available alternatives based on HFCs. While cooling equipment that uses HC is becoming increasingly available, in the region (in Australia and Asia), without a timely intervention by government most of the equipment will be HFC based which is the reason for the new provisions before Cabinet to place controls on HFC use. These HFC related provisions are expected to be approved by cabinet by early 2011.

Regardless of whether there is funding for HCFC phase out activities in PNG, HCFC refrigerants and HCFC based equipment will be replaced. However, without government intervention the replacements are likely to be refrigerants with a high GWP. By funding the activities the PNG Government will be able to ensure that the replacements are truly environmentally friendly.

I look forward to your favorable consideration of HPMP submission.



**DR. WARI IAMO,**  
Secretary

## Annex II

### **AGREEMENT BETWEEN THE GOVERNMENT OF PAPUA NEW GUINEA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE PHASE OUT OF HYDROCHLOROFLUOROCARBONS**

1. This Agreement represents the understanding of the Government of Papua New Guinea (the “Country”) and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) set out in Appendix 1-A (“The Substances”) to a sustained level of zero ODP tonne prior to 1 January 2025 in compliance with Montreal Protocol schedules, with the understanding that this figure is to be revised one single time in 2011, when the baseline consumption for compliance would be established based on Article 7 data, with the funding to be adjusted accordingly, as per decision 60/44, and on the understanding that there will be no more funding eligibility for any HCFC phase-out in the country after 2025.
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”; the Target) 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 row 4.1.3 (remaining eligible consumption).
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 (“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 (“Funding Approval Schedule”).
4. The Country will accept independent verification, to be commissioned by the relevant bilateral or implementing agency, of achievement of the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A (“The Targets, and Funding”) of this Agreement as described in subparagraph 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 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 plan and submitted a tranche implementation report in the form of Appendix 4-A (“Format of Tranche Implementation Report and Plan”) for Plans”) 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; and
- (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 Format of Tranche Implementation Report and Plan”) for 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 (“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 fulfil the obligations under this Agreement. Germany has agreed to be the lead implementing agency (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 agencies 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). The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 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, and the Lead IA to facilitate implementation of this Agreement. In particular, it will provide the Lead 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 tonnes)
HCFC-22	C	I	3.4

### APPENDIX 2-A: THE TARGETS, AND FUNDING

		2011	2012	2013	2014	2015	2016	2017-19	2020	2022-24	2025	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	3.4	3.4	3.06	3.06	3.06	2.21	2.21	0.12	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	3.19	3.08	2.94	2.6	2.26	1.39	0.87	0	n/a
2.1	Lead IA Germany agreed funding(US \$)	350,000		340,000			301,000		259,000			1,250,000
2.2	Support costs for Lead IA(US \$)	41,300		40,120			35,518		30,562			147,500
3.1	Total agreed funding (US \$)	350,000		340,000			301,000		259,000			1,250,000
3.2	Total support cost (US \$)	41,300		40,120			35,518		30,562			147,500
3.3	Total agreed costs (US \$)	391,300		380,120			336,518		289,562			1,397,500
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes)											3.4
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)											0
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)											0

### APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

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

### APPENDIX 4-A: FORMAT OF TRANCHE IMPLEMENTATION REPORT AND PLAN

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 the Lead IA; 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 NOU will appoint a national institution to monitor all activities of the HPMP. This institute will submit annual progress reports of status of implementation of the HPMP through the NOU to Germany.
2. Verification of the achievement of the performance targets, specified in the Plan, will be undertaken, upon specific request of the Executive Committee, by an independent local company or independent local consultants contracted by Germany.

#### **APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY**

1. The Lead IA will be responsible for a range of activities. These can be specified in the project document further, but include at least 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
- (f) Ensuring that appropriate independent technical experts carry out the technical reviews undertaken by the IA;
- (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) Ensuring that disbursements made to the Country are based on the use of the indicators; and
- (j) 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 organization 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) of the Agreement and sub-paragraph 1(b) of 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 \$180 per ODP kg 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.

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