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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Seventy-sixth Meeting  
Montreal, 9-13 May 2016

**PROJECT PROPOSAL: BHUTAN**

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

Phase-out

- HCFC phase-out management plan (third tranche) UNEP and UNDP

**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS**

**Bhutan**

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase out plan	UNDP, UNEP (lead)	63 <sup>rd</sup>	Total by 2025

<b>(II) LATEST ARTICLE 7 DATA (Annex C Group I)</b>	Year: 2014	0.25 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2014	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123									
HCFC-124									
HCFC-141b									
HCFC-142b									
HCFC-22					0.25				0.25

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	0.3	Starting point for sustained aggregate reductions:	0.3
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	0.3	Remaining:	0.0

(V) BUSINESS PLAN		2016	Total
UNEP	ODS phase-out (ODP tonnes)	0.1	0.1
	Funding (US \$)	94,920	94,920
UNDP	ODS phase-out (ODP tonnes)	0.0	0.0
	Funding (US \$)	62,130	62,130

(VI) PROJECT DATA		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020-2024	2025	Total
Montreal Protocol consumption limits		n/a	n/a	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1	n/a
Maximum allowable consumption (ODP tonnes)		n/a	n/a	0.28	0.28	0.25	0.25	0.20	0.2	0.1	0.1	0.0	n/a
Agreed funding (US\$)	UNDP	Project costs	70,000		42,000		57,000					19,000	188,000
		Support costs	6,300		3,780		5,130					1,710	16,920
	UNEP	Project costs	100,000		70,000		84,000					28,000	282,000
		Support costs	13,000		9,100		10,920					3,640	36,660
Funds approved by ExCom (US\$)	Project costs	170,000	0	112,000	0	0	0.0	0.0	0.0	0.0	0.0	0.0	282,000
	Support costs	19,300	0	12,880	0	0	0.0	0.0	0.0	0.0	0.0	0.0	32,180
Total funds requested for approval at this meeting (US\$)	Project costs						141,000						141,000
	Support costs						16,050						16,050

<b>Secretariat's recommendation:</b>	Blanket approval
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## PROJECT DESCRIPTION

1. On behalf of the Government of Bhutan, UNEP as the lead implementing agency, has submitted to the 76<sup>th</sup> meeting a request for funding for the third tranche of the HCFC phase-out management plan (HPMP), at a total cost of US \$157,050, consisting of US \$84,000, plus agency support costs of US \$10,920 for UNEP, and US \$57,000, plus agency support costs of US \$5,130 for UNDP. The submission includes a progress report on the implementation of the second tranche and the tranche implementation plan for 2016 to 2024.

### Report on HCFC consumption

2. The Government of Bhutan reported a consumption of 0.25 ODP tonnes of HCFC in 2014 and estimated a consumption of 0.20 ODP tonnes for 2015, which are below the maximum allowable consumption of 0.28 ODP tonnes and 0.25 ODP tonnes, respectively. The 2011-2015 HCFC consumption is shown in Table 1.

**Table 1. HCFC consumption in Bhutan (2011-2014 Article 7 data, 2015 estimated)**

<b>HCFC-22</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015*</b>	<b>Baseline</b>
Metric tonnes	5.62	5.6	5.0	4.63	3.59	5.4
ODP tonnes	0.28	0.31	0.28	0.25	0.20	0.3

\*Estimate.

3. HCFC-22 consumption is used mainly in the air-conditioning and refrigeration servicing sector.

### *Country programme (CP) implementation report*

4. The Government of Bhutan reported HCFC sector consumption data under the 2014 CP implementation report which is consistent with the data reported under Article 7. The 2015 CP report will be submitted by April 2016.

### Progress report on the implementation of the second tranche of the HPMP

#### *Legal framework*

5. The Ozone Rules and Regulation of 2005 was revised in 2008 to include import and export controls on HCFC and HCFC-based equipment and to strengthen penalties. It also bans the production, import and export of ODS already phased out (i.e. CFCs).

#### *Refrigeration servicing sector*

6. The main activities implemented include:

- (a) Training of 46 customs officers and clearing agents on monitoring and controlling HCFCs and HCFC-based equipment, and an additional 30 customs officers will be trained using the balance of the second tranche. Customs officers attended a border dialogue organized with the Nepal Bureau of Standards and Meteorology and the Department of Customs and a national customs manual was prepared;
- (b) The refrigeration and air-conditioning (RAC) curriculum was developed and distributed to two Technical Training Institutes (TTIs), the Ministry of Labour and Human Resources (MOLHR) and the National Environment Commission (NEC); and a certificate course curriculum for RAC was developed to reinforce the capacities of technicians;

- (c) Additional recovery and reclamation equipment (i.e. recovery and recycling units, recovery bottles, vacuum pumps, cylinders, high and low pressure gauges and dryer filters) was procured and delivered to Vocational Training Institutes (VTIs) and 21 trainers and RAC technicians from the TTIs and five MOLHR officials were trained on RAC servicing; and
- (d) Awareness activities were organized and brochures, articles and posters on HCFC phase-out were distributed.

7. Due to the limited retrofit technology options, and in consultation with national stakeholders, it was proposed to replace the retrofit incentive scheme with a “Replacement support project for end-users” to be implemented later in 2016.

*Project implementation and monitoring unit (PMU)*

8. The NEC is an independent authority, appointed by the Government of Bhutan as the focal agency to take on all matters relating to the environment including the Montreal Protocol. It has been responsibility of implementing the provisions under the Vienna Convention on the protection of the Ozone layer and the Montreal Protocol. The national ozone unit (NOU) is tasked to carry out the day-to-day management and in collaboration with all concerned stakeholders to ensure the smooth and timely implementation of the HPMP.

Level of fund disbursement

9. As of March 2016, of the US \$282,000 so far approved, US \$243,000 had been disbursed (US \$131,000 for UNEP, and US \$112,000 for UNDP) as shown in Table 2. The balance of US \$39,000 will be disbursed in 2016.

**Table 2. Financial report of stage I of the HPMP for Bhutan (US \$)**

Agency	First tranche		Second tranche		Total approved	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNEP	100,000	100,000	70,000	31,000	170,000	131,000
UNDP	70,000	70,000	42,000	42,000	112,000	112,000
<b>Total</b>	170,000	170,000	112,000	73,700	282,000	243,000
<b>Disbursement rate (%)</b>	100		66		86	

Implementation plan for the third tranche of the HPMP

10. The following activities will be implemented until December 2024:
- (a) Four training workshops for 120 trainers, customs officials and other enforcement officers, and RAC servicing technicians on new regulations and/or border dialogues (UNEP) (US \$26,000);
  - (b) Four training workshops for 100 trainers and refrigeration technicians on good practices in refrigeration and the establishment of a standard examination and certification procedure for technicians (UNEP) (US \$43,000);
  - (c) Purchase and delivery of additional recovery and reclamation equipment (i.e. recovery and recycling units, recovery bottles, vacuum pumps, cylinders, high and low pressure gauges and dryer filters) to VTIs (UNDP) (US \$10,000)
  - (d) Workshops for training institutions, service workshops, and end-user stakeholders in the replacement of HCFC-22-based air-conditioners with low-global warming (GWP)

refrigerants (HFC-32 and HC-290). The NEC will demonstrate and share its experience on replacing HCFC-22-based residential and larger RAC equipment with HFC-32 and HC-290-based to maximize the climate benefits and energy savings (UNDP) (US \$47,000);

- (e) Awareness raising and dissemination of information on HCFC phase-out to stakeholders including, *inter alia*, the Department of Customs, MOLHR, Hotel Association of Bhutan, Association of Bhutanese Industries, Department of Energy, Environment Services Division and Compliance Monitoring Division from the NEC (UNEP) (US \$15,000);

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

#### Verification report

11. At the time of issuance of this document, the verification report of HCFC consumption for the years 2013, 2014 and 2015 was still on-going. Therefore, in line with decision 72/19, funds approved under the third tranche will not be transferred until the Secretariat has reviewed the verification report and confirmed that the Government is in compliance with the Montreal Protocol and its Agreement with the Executive Committee.

#### Progress report on the implementation of the second tranche of the HPMP

##### *Legal framework*

12. The Government of Bhutan has already issued HCFC import quotas for 2016 at 0.22 ODP tonnes.

##### *Refrigeration servicing sector*

13. The project component for end-users is proposing to replace HCFC-22-based systems with non-HCFC systems rather than retrofitting them as originally proposed. Based on information provided by UNEP, the guidelines and eligibility criteria for the replacement of the equipment have not been finalized and will be discussed with the Government, the Steering Committee, and the stakeholders before their approval.

14. With regard to the retrofitting of equipment with hydrocarbon refrigerants, UNEP clarified that there are no regulations/codes in place allowing the use of hydrocarbon-based RAC systems and that the NOU is not aware of any retrofits in the country. Also, the Government of Bhutan is fully aware of the relevant decisions of the Executive Committee on retrofit<sup>1</sup>. With respect to the country's policy to promote the use of more climate-friendly alternatives to HCFCs, UNEP indicated that a public procurement document, taking into consideration climate-friendly alternatives, is under review. In addition to HCFC-22, the other refrigerants currently available are R134, R-404A, HFC-407C, HFC-410A, HC-290 and R-600A.

15. With regard to the long-term sustainability of the training programmes, UNEP advised that the strategy was to partner with the key ministries such as the Ministry of Labour and Human Resource to integrate HCFC phase-out into the training of TTIs thereby ensuring that all technicians who are trained in these institutes are aware of the ODS issues. A part of the strategy is also having Steering Committee members who are representatives from the Hotel Association of Bhutan, Association of Bhutanese Industries, and the Bhutan Chamber for Commerce and Industries to guide the phase-out of HCFC.

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<sup>1</sup> Decisions 72/17 and 73/34.

Continuation of awareness and advocacy programmes and strengthening enforcement are also contributing to the sustainable reductions. The RAC curriculum is under implementation in partnership with other sectors so that technicians training and certification will be sustainable beyond the project duration.

### Conclusion

16. The country's import licensing and quota system is operational and will enable HCFC consumption reductions in line with the Montreal Protocol's phase-out schedule. The HPMP is progressing and the 2014 reported and 2015 estimated consumption are below the maximum allowable consumption. The verification report is planned to be submitted by July 2016. The activities implemented under the first and second tranches and those planned under the third tranche including training and certification, strengthening of vocational training institutes and awareness raising activities, will further strengthen the servicing sector and ensure the long term sustainability of the activities proposed under of the HPMP.

### **RECOMMENDATION**

17. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the second tranche of stage I of the HCFC phase-out management plan of (HPMP) for Bhutan; and further recommends blanket approval of the third tranche of stage I of the HPMP for Bhutan, and the corresponding 2016-2024 tranche implementation plan, at the funding levels shown in the table below on the understanding that the approved funds would not be transferred to UNEP and UNDP until the Secretariat had reviewed the verification report and confirmed that the Government of Bhutan was in compliance with the Montreal Protocol and the Agreement between the Government and the Executive Committee:

	<b>Project title</b>	<b>Project funding (US \$)</b>	<b>Support cost (US \$)</b>	<b>Implementing agency</b>
(a)	HCFC phase-out management plan (stage I, third tranche)	84,000	10,920	UNEP
(b)	HCFC phase-out management plan (stage I, third tranche)	57,000	5,130	UNDP