UNITED NATIONS





# United Nations Environment Programme

Distr. LIMITED

UNEP/OzL.Pro/ExCom/45/45 4 March 2005

**ORIGINAL: ENGLISH** 

EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL Forty-fifth Meeting Montreal, 4-8 April 2005

#### **COUNTRY PROGRAMME: BHUTAN**

- Country Programme Evaluation Sheet (prepared by the Multilateral Fund Secretariat)
- Comments and Recommendations of the Multilateral Fund Secretariat
- Transmittal Letter from the Government of Bhutan
- Country Programme Cover Sheet
- Country Programme (Executive Summary submitted by the Government of Bhutan)

#### BHUTAN COUNTRY PROGRAMME EVALUATION SHEET

Ozone Unit, National Environment Commission

# Status of ratification of the Vienna Convention and the Montreal Protocol

	Signature	Ratification	<b>Entry into</b>
Vienna Convention (1985)		23-Aug-04	21-Nov-04
Montreal Protocol (1987)		23-Aug-04	21-Nov-04
London Amendment (1990)		23-Aug-04	21-Nov-04
Copenhagen Amendment		23-Aug-04	21-Nov-04
Montreal Amendment (1997)		23-Aug-04	21-Nov-04
Beijing Amendment (1999)		23-Aug-04	21-Nov-04

Production of controlled substances:

No controlled substances produced

Consumption of controlled substances (2004) 0.2 metric tonnes

0.2 weighted tonnes (ODP)

(tonnes)	CFC-11	CFC-12	CFC-113	CFC-114	CFC-115	TOTAL Halon121	Halon130	TOTAL	CTC	MCF	TOTAL	MB
ODS ODP		0.2 0.2				0.2 0.2						

About 0.011 ODP tonnes of CTC were consumed in 2004

Distribution of ODP by	CFC 9	93.8% <b>Halon</b>		CTC and	<b>d MCF</b> 6.3%	MB	
Distribution of ODP by sector:	Aerosol	Foam	Halon	Refrigeration	Solvent	Other	MB
Consumption (ODP tonnes):	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Percent of total:				93.8%	6.3%		
MONTREAL PROTOCOL (ODP tonne	s)	CFCs		Halons	Methyl bromic	de	

Baseline consumption 0.2

Allowable level of consumption in 2005

Source: Country Programme (2005)

# **Country Programme**

Duration of country programme: 5 years (2005-2009)

ODS phase-out target: Complete phase-out of CFC-11 by end of 2001; complete phase-out of

CFC-12 by end 2009

Phase-out priority area: Refrigeration servicing sector

Cost of activities in country \$486,500

# Strategy:

The Government proposes to achieve its compliance targets through a combination of activities to reduce dependence on ODS, regulatory measures for controlling and monitoring the use of CFC and CFC-based equipment and capacity-building to reach the target audience in a cost-effective manner. Regional and sub-regional co-operation is expected to form a key component of the action plan that will help Bhutan achieve compliance.

#### COMMENTS AND RECOMMENDATIONS

#### **DESCRIPTION**

- 1. According to a survey of ODS consumption conducted during preparation of the Bhutan country programme/RMP in 2004, about 0.165 ODP tonnes of CFCs were used in the country to service refrigeration equipment. In 1997, 270 kg of halons were imported by the Department of Civil Aviation, and a total of 14 litres of CTC were imported by Bhutan Ferro Alloys Limited between 2001 and 2003.
- 2. The refrigeration equipment in operation in Bhutan is serviced in 15 specialized agencies, each operating with 1 to 3 technicians; there are also 12 in-house technicians servicing industrial refrigeration equipment.
- 3. The Government is currently in the process of formulating a National Environment Protection Act to address the preservation of environment and heritage. The National Environment Commission, which has inter-ministerial representation, controls environment-related matters in Bhutan. Currently, Bhutan does not have a comprehensive regulatory framework for ODS phase-out except for a ban that was recently introduced on import of ODS and ODS-based equipment into the country. Given the free trade between Bhutan and India, the country also has imported CFCs for servicing refrigeration equipment without proper permits. Therefore, there is an urgent need to prepare comprehensive regulations for registration, monitoring and control of sale of CFCs and CFC-based equipment.
- 4. At its 43rd Meeting, the Executive Committee approved the institutional strengthening project for Bhutan for a one-year period (US \$40,000). As a result, the Ozone Unit was established under the National Environment Commission. Since then, the Ozone Unit has been responsible for the preparation of the country programme and the RMP project for which US \$60,000 had been allocated at the 43rd Meeting.
- 5. The country programme includes an RMP project proposal. As originally submitted, the Government of Bhutan was requesting a total of US \$486,500 for the implementation of this project. The Multilateral Fund Secretariat's comments and recommendations on this request are presented in document UNEP/OzL.Pro/ExCom/45/22.

# **SECRETARIAT'S COMMENTS**

6. So far, the only assistance that the Government of Bhutan has received from the Multilateral Fund has been US \$100,000 for the preparation of its country programme/RMP project and the establishment of the Ozone Unit for a one-year period.

# Issues related to compliance by Bhutan

7. In its report to the 16th Meeting of the Parties to the Montreal Protocol, the President of the Implementation Committee stated that "Bhutan, the most recent State to join the Protocol, was not yet required to report (ODS consumption data under Article 7), and he looked forward to

receiving its data reports as soon as possible". In this regard the Secretariat advised that, as a matter of urgency (if it has not already been done), the Government of Bhutan should send an official communication to the Ozone Secretariat reporting the relevant ODS consumption according to the data collected during the preparation of the country programme/RMP submitted to the 45th Meeting of the Executive Committee.

8. Subsequently, UNEP informed the Secretariat that on 15 February 2005, the Government of Bhutan had reported its ODS consumption to the Ozone Secretariat.

# **CFC** consumption

- 9. It is reported in the country programme/RMP that a significant proportion of the demand for ODS in Bhutan is met through India. The majority of CFCs that are being used in Bhutan are provided by a company located in India, and several refrigeration systems are also serviced in India. Under these circumstances, the Secretariat sought an explanation from UNEP on whether the amount of CFCs reported as consumption (as defined by of the Montreal Protocol) is the actual amount of CFCs imported into Bhutan, or whether the figure also includes the amount of CFC being used by Indian workshops (located in India) to service refrigeration systems from Bhutan.
- 10. Subsequently, UNEP confirmed that the amount of CFC being used by Indian workshops has not been included in the calculation of CFC consumption in Bhutan. Furthermore, all CFC importers in the country are typically not engaged in the resale of CFCs, but are involved in the servicing of refrigeration systems.

# ODS legislation

- 11. At its 43rd Meeting, the Executive Committee allocated US \$60,000 to UNEP and UNDP to assist the Government of Bhutan in the preparation of the country programme and the RMP project proposal, on the understanding that, at the time of submission of the country programme/RMP project, ODS-related legislation should have been drafted. However, it is reported in the country programme that the Government of Bhutan is in the process of preparing and implementing regulations for monitoring and controlling ODS uses in the country.
- 12. UNEP pointed out that Bhutan is in the process of developing its first Environment Act. Despite this, Bhutan has already drafted an ODS licensing system, just four months after ratification of the Montreal Protocol and its amendments, and is currently issuing a government notification banning imports of ODS-based equipment. The draft licensing system underwent a consultation process during the stakeholder workshop conducted on 13 January 2005 and is in the process of being promulgated through the Legal Department. There is now a need to discuss the system in detail with the implementing bodies (e.g., customs, enforcement officers, Trade Ministry) to ensure proper awareness and coordination, and to register all relevant CFC importers/end-users in Bhutan.
- 13. It is reported in the Bhutan country programme that India has agreed to provide support in capacity-building, training and regulation enforcement through joint working arrangements

with Bhutan. This will be in addition to the industry support offered by Indian refrigerator manufacturers and distributors to Bhutan's refrigeration servicing industry.

# Phase-out plan and compliance

- 14. CFC consumption in Bhutan has been estimated at 0.16 ODP tonnes for 2005, which is similar to the CFC baseline. To achieve compliance with the 2005 allowable consumption level, the Government of Bhutan is proposing to reduce the current level of CFC consumption by about 50 per cent through the retrofit of refrigeration systems and the introduction of drop-in refrigerants. The Secretariat pointed out that the reduction in the level of CFC consumption proposed by the Government of Bhutan might be difficult to achieve, taking into consideration that so far no phase-out activities have been approved for Bhutan. Furthermore, the training programmes for refrigeration service technicians and the technical assistance programme proposed in the RMP might commence only once relevant agreements with UNEP and UNDP are signed (possibly during the second half of 2005).
- 15. On this issue, UNEP informed the Secretariat that the challenge ahead for Bhutan is primarily due to its late ratification of the Montreal Protocol (23 August 2004). The Government of Bhutan has already initiated awareness-raising activities, imposed restrictions on ODS imports, and issued a notice to ban the importation of CFCs and CFC-based equipment as an interim measure to make sure that the country will stay in compliance with the 2005 target. UNDP and UNEP have adopted a fast-track approach to assist Bhutan to achieve compliance. Furthermore, both implementing agencies are already working very closely with the Government of Bhutan to hire a national resource person immediately to develop the feasibility study for retrofitting industry refrigeration equipment (it is expected that this work could be completed before the approval of the Bhutan country programme by the Executive Committee). UNDP and UNEP are also exploring modalities to speed up the transfer of funding to Bhutan, so that work can start immediately after approval.

#### SECRETARIAT'S RECOMMENDATIONS

- 16. The Fund Secretariat recommends approval of the Bhutan country programme, noting that approval of the country programme does not denote approval of the projects identified therein or their funding levels. Approval of the Bhutan country programme is without prejudice to any decisions that might be taken by the Parties following consideration by the Implementation Committee of the consumption data submitted under Article 7 by the Government of Bhutan.
- 17. The Fund Secretariat also recommends that the Government of Bhutan be requested to present information annually to the Executive Committee on progress being made in the implementation of the country programme, in accordance with the decision of the Executive Committee on the implementation of country programmes (UNEP/OzL.Pro/ExCom/10/40, para. 135). Using the approved format, the initial report, covering the period 1 April 2005 to 31 December 2005, should be submitted to the Fund Secretariat no later than 1 May 2006.

\_\_\_\_



# मैज.लूट्य.त्रघट.पर्ट्र.वार्य.वेर्य.केंट्य.केंट्य.केंट्य.लूव्यय.लूव्य.क्ट्री ट्राज.केंट्य.वेच्य.वर्षिट्री

# NATIONAL ENVIRONMENT COMMISSION SECRETARIAT

NEC/Ozone/2005/8715

February 25, 2005

The Multilateral Fund Secretariat for Implementation Of Montreal Protocol Montreal Canada

Attention: The Chief Officer, Multilateral Fund Secretariat

Country Programme and Refrigerant Management Plan of Bhutan

We are pleased to submit the Country Programme / Refrigerant Management Plan (CP/RMP) for Bhutan for the implementation of Montreal Protocol. This document provides a strategy as envisaged by the Royal Government of Bhutan to achieve its target's defined under the Montreal Protocol on Substances that Deplete the Ozone Layer.

The Kingdom of Bhutan acceded to the Montreal Protocol and its amendments in August, 2004 and has followed an accelerated approach with support from UNEP and UNDP in assessing consumption and defining a road map for implementation of the Montreal Protocol. As an Article 5 country, the Country needs financial assistance to follow a fast track implementation of ODS phaseout activities and achieving compliance under the Protocol. We are committed to achieve, without further requests for funding for the RMP, at least the 50% reduction step in 2005 and the 85% reduction step in 2007 with the approved CP/RMP by ensuring timely implementation and appropriate monitoring of phaseout activities defined in the CP/RMP. While the licensing system and quota controls on ODS is being prepared by the Royal Government, we have issued a notification for controlling imports of ODS into Bhutan.

As a least developed country, we look forward to receiving enhanced assistance from the Secretariat in helping Bhutan achieve its compliance targets defined under the Protocol.

Yours faithfully,

Deputy Minister for Environment

NECS, PO Box 466, Thimphu, Bhutan Telephone: (975-2) 323384/325856/324323/326993

Email addresses:

AFD admnec@druknet.net.bt Technical Division EIA Section: eanec@druknet.net.bt RMS Section: rnrnec@druknet.net.bt ICO section: cunec@druknet.net.bt

Policy Coordination Division Policy Analysis Section: ppdnec@druknet.net.bt Legal Section: legalnec@druknet.net.bt

Fax: (975-2) 323385

# COUNTRY PROGRAMME COVER SHEET

Country: The Kingdom of Bhutan Date Received: February 2005

Lead National Agency: United Nations Environment Programme

Period covered by Lead Implementation Agency: 2005 - 2009

Country Programme: 2005 - 2009

# 1. Phase Out Schedule

Substances	Current consumption (kgs x ODP) in (2003)	Planned total consumption till phase- out (kgs x ODP)	Planned year phase-out
CFC-11	Nil	Nil	2005
CFC-12	165	340	2009
CFC-113	Nil	Nil	2005
Halon	Nil	Nil	2005
Halon	Nil	Nil	2005
CTC	11	Nil	2005
MTC	nil	Nil	2005
Total:	176	340	

# 2. Government Action Plan

Year(s)	Description of action	Sector (if any)	Intended effect	Estimated costs
2005 2005 2005 2005-08	Implementation regulations for: - registration of ODS sellers, ODS using equipment sellers - licensing and quota system for ODS - ban on use of MCF, Methyl bromide - bans on use of CFC / CFC using technologies in refrigeration & air conditioning sector	All  Solvent / Fumigation applications Ref. & Air-conditioning	Monitoring of ODS supply / use Monitoring of ODS supply / use Stoppage of use of MCF/Methyl Bromide  Limitation and phase-out use of ODS	Government actions – no specific costs except time and resources spent on implementation of regulations

3. Project Summary

Year (s)	Type of project	Project description	Project cost (US \$)	Incremental cost (US \$)	Participating Implementing Agencies	Kgs x ODP Phased Out
2005 – 07	Institutional Strengthening	IS project for MP implementation	Renewal in July 2005	Renewal in July 2004	UNEP	Not Applicable
2005-06	Regulations development	Sub regional cooperation and support for regulations in Bhutan	20,000	20,000	UNEP	Not Applicable
2005	Awareness & capacity Building	Awareness program for ODS phaseout in Bhutan	30,000	30,000	UNEP	Not Applicable
2005-06	Regulations implementation	Train the trainers on regulations implementation	55,000	55,000	UNEP	Not Applicable
2005-07	Technician training	Train the trainers on technician training	29,000	29,000	UNEP	Not Applicable
2005-06	Retrofit	Retrofit of ref. & air conditioning equipment in domestic, commercial and indl ref. Sector	200,000	200,000	UNDP	85
2005-06	Equipment support to technician	Equipment support to service technicians	97,500	97,500	UNDP	N/A
2005-07	Halon backing	Technical assistance on halon banking	25,000	25,000	UNEP	N/A
2005-08	Monitoring	Monitoring RMP implementation	30,000	30,000	UNEP	N/A

Note: The costs indicated above exclude agency fee.

# 4. Costs

Cost of Activities and Projects in Country Programme (US \$)	486,500	
Estimated cost of complete phase out (US \$)	-	
Estimated cost effectiveness (US \$)	1430	per kg x ODP

# **5. Comments**

#### **EXECUTIVE SUMMARY**

# **Background**

The Royal Government of Bhutan ("Bhutan") has recently acceded to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol and its five Amendments in August 2004. With a baseline consumption of about 170 kgs, Bhutan qualifies as an Article 5 country based on its per capita consumption.

Bhutan is very special case, as it has acceded to the Protocol when the time lines for the control measures for consumption freeze for CFCs and Halons have passed. Further the control measures for 50% consumption reduction for CFCs, Halons and 85% reduction in CTC have entered into force on 1<sup>st</sup> Jan 2005. Control measures for 85% reduction in CFCs is less than 2 years away. Bhutan , therefore , has an urgent need to initiate activities to achieve compliance under the Montreal Protocol. Another dimension of Bhutan's specific case is that the country has a hilly terrain which poses difficulties in access to the users in terms of awareness outreach and technology transfer to non-ODS technology. Combined with these, the geographical location of Bhutan-between two large producers of ODS-gives the challenging task to Bhutan not only to achieve compliance but to sustain it. Its open borders, particularly with India makes compliance a formidable challenge. Given its late ratification of the Protocol, the country faces a challenging task, in terms of time available, of implementing capacity building, policy and regulatory measures to achieve compliance under the Protocol. In light of the above, the country intends to follow a "fast track" approach<sup>1</sup> in implementing measures to achieve compliance with financial support from the MLFS.

This atypical situation of Bhutan necessitates the diversion from the conventional approaches and the typical cost effective thresholds.

The Country Programme and Refrigerant Management Plan (CP/RMP) was prepared with assistance from UNEP and UNDP to address the need for compliance in Bhutan as per the approval at the 43<sup>rd</sup> meeting of Executive Committee for the implementation of the Montreal Protocol. The CP/RMP is being submitted to the 45<sup>th</sup> meeting of Excom for consideration.

# Supply and use of ODS

Bhutan imports ODS for its consumption. The country has consumed CFCs, Halons, CTC and HCFCs for different applications. Most of the ODSs in Bhutan are sold by a large supplier located near the border of Bhutan in India. Since the quantities are small, the ODSs are sold directly to consuming agencies which, at times, also resell small quantities of ODS chemicals.

The following table presents the consumption of ODS in Bhutan in the year 2003.

<sup>&</sup>lt;sup>1</sup> UNEP has developed internal approach paper for the fast track approach utilising CAP services for the countries who are the late entries in the Protocol.

Table 1: Consumption of ODSs in 2003

Substance	All figures are in kgs						
	Production	Imports	Exports	Consumption	ODP	ODP kgs	
Annexure A							
Group I							
CFC-11	-	Nil	-	Nil	1	Nil	
CFC-12	-	165	-	165	1	165	
CFC-115	-	Nil	-	Nil	0.6	Nil	
Total						165	
Annex A							
Group 2							
Halon-1211	-	Nil	_	Nil	3	Nil	
Halon-1301	-	Nil	-	Nil	10	Nil	
Total						0	
Annex B							
Group II							
Carbontetra-chloride							
	-	10	-	10	1.1	11	
Total						11	
Annex B							
Group III							
Methylchloro-							
Form	-	Nil	-	Nil	0.1	Nil	
Annex E							
Methyl Bromide							
•	_	Nil	-	Nil	0.6	Nil	
Total						176	

Source: Inputs from National Consultant Survey reports (November/December 2004) and best estimates. The figures above present the best estimates consumption through demand estimates of ODS for Bhutan for the year 2003. These demand estimates are made based on the equipment population and consumption parameters.

Currently, the consumption of CFCs and HCFCs is high in the refrigeration and air conditioning sector primarily in servicing. Reported consumption of halons and CTC consumption in 2004 is nil. Bhutan has very close trade tie-ups with India and materials and services flow freely across the borders. Refrigeration and air conditioning equipment also move across borders and get serviced in the Indian towns near the borders.

CFCs are consumed for refrigeration and air conditioning servicing purposes only. Commercial refrigeration and industrial refrigeration equipment constitute more than 60% of ODS consumption of Bhutan. While there is use of car air conditioners in Bhutan, the levels of consumption of MAC equipment in the country is low as majority of servicing of MACs is carried out in India.

Based on the survey inputs, the estimated consumption of CFCs, past, currently and in future, for recharge is given in the table below. This assumes no intervention by the Protocol measures.

**Table 2 : Projected Consumption of ODS in Bhutan** 

(Figures in kgs)

	1995	1996	1997	2002	2003	2004	2005	2006	2007	2008	2009	2010
Projected demand												
Domestic refrigeration	33	34	34	32	36	37	36	35	33	31	30	29
Commercial refrigeration	50	50	50	45	54	52	48	24	4	0	0	0
Industrial refrigeration	55	105	75	47	59	63	63	63	63	63	63	63
MAC	7	8	9	15	17	16	16	16	16	15	15	15
Sub-total of the above	146	197	169	140	165	168	163	137	115	110	108	107

Halons were consumed in the year 1997 by the Department of Civil Aviation for Druk Air and the total quantities consumed is 270 kgs for servicing purposes. No consumption of halons was reported after the year 1997.

Based on the above projections, the baseline consumption levels for Annexure A Group I substances, Annexure A Group II substances and Annex B Group II substances are 171 ODP kgs, 270 ODP kgs and 0 ODP kgs, respectively.

From the above, one can see that Bhutan will not be able to adhere to the Protocol limits with Annexure A Group I substances for the year 2005 and 2007. Further, given the late ratification of the Protocol by Bhutan and its impending need to achieve compliance to the 2005 and 2007 targets, it is necessary to immediately initiate actions to reduce consumption. The country has to initiate action immediately and continue activities at enhanced momentum during the years 2005, 2006 and 2007.

#### **Institutional and Policy framework**

Currently, Bhutan follows environmentally friendly policies to prevent damage to its ecosystems and heritage. They closely link their growth policies to preservation of environment and heritage. They are in the process of formulating a National Environment Protection Act to address these aspects.

National Environment Commission (NEC) controls environment related matters in Bhutan and has inter ministerial representation. There are, however, no ODS related regulations except for the recently pronounced controls on ODS/ODS using products. The National Ozone Unit is established under NEC and is supervising activities relating to Montreal Protocol matters. There are identified officers in the NEC managing Montreal Protocol activities in the country including coordination of CP/RMP preparation.

#### **Government strategy**

The Royal Government of Bhutan proposes to achieve its compliance targets through a combination of project activities to reduce dependence on ODS, regulatory measures for controlling and monitoring use of ODS and ODS based products and capacity building measures to reach the target audience quickly and in a cost effective manner.

Regional and sub-regional cooperation is expected to form a key component of action points that will facilitate Bhutan in achieving compliance and this shall include close cooperation with neighbours, particularly India, on capacity building & awareness and implementation and harmonization of regulations.

# **Proposed actions**

The actions which the Government intends to initiate in accordance with the phase-out strategies are summarized in Table 3.2 below.

**Actions to initiated by the Government** 

Sector	Action	Timing	Intended effect
All	Institutional Strengthening by establishing a National Ozone Cell. (NOU is already in place)	July 2005 (renewal)	Build capability to implement Country Program for phase out.
	Collect and disseminate information on ODS phase-out and alternatives  Awareness	May 2005 September (Ozone Day)	Increase public awareness and availability of information on technical options.
	7 Trial City	May 2005 – Dec 2009 (high intensity in 2005)	
Refrigeration and air conditioning	Retrofit of Industrial Refrigeration equipment using CFCs	May – December 2005	Reduction in service charge consumption of equipment.
	Retrofit of domestic and commercial refrigeration equipment.	May 2005 – Feb 2006	Reduction in service consumption of equipment.
	Training on retrofit of CFC based refrigerators	May 2005 onwards	Reduction in CFC consumption through servicing in future.
	Training of technicians on good servicing practices through train the trainer approach	May 2005 – August 2006	Better servicing practices and reduced ODS consumption
Halons	Capacity building and information exchange on halon management	May 2005 – Feb 2007	Enhacement of capacity of Civil Aviation Authorities to adopt non- ODS alternatives.
Carbon tetrachloride	Capacity building and information dissemination on use of non-ODS alternatives in solvents	May – December 2005	Identification of small users of CTC.  Facilitate switching over to non-ODS alternatives in small users of CTC.

Sector	Action	Timing	Intended effect
Regulatory*	Registration and licensing of	Feb./March	Regulations are critical to reduce
interventions	ODS buyers and importers of	2005	Bhutan's dependence on ODS based
	equipment using ODSs		equipment and reduce ODS consumption. This can be achieved
	Ban on imports of CFC		through these interventions on supply
	based refrigeration	May 2005	and demand side.
	equipment.		
	Ban on import of cars using	May 2005	
	CFC based mobile air conditioner.		
	Ban on installation of	May 2005	
	industrial equipment using CFCs.		
	Ban on import of other		
	ODSs for consumption use.		
Training of customs	Training of customs officers	May 2005 –	Reduction in illegal cross border
officers and networking	on ODS trade and prevention of illegal trade	April 2006	movement of ODSs.
networking	of megal trade		
	Networking of customs	May 2005	Task force on monitoring
	officers with the Indian	to March	implementation of ODS.
	authorities for controlling illegal trade	2007	
	Monitoring ODS	Ongoing	
	consumption phaseout		
	regulations implementation		
	in the margins of network meetings.		
Note: Halou is summently a use	for sivil aniation authorities and is done i		

Note: Halon is currently a use for civil aviation authorities and is done in line with the guidelines prescribed by the international civil aviation authorities. Given the criticality of this application, decomissioning of halon usage has to be done in line with the rules prescribed by the international civil aviation authorities.

While the Sixteenth Meeting of Parties to the Montreal Protocol had taken up this issue, no specific recommendation on halons has been provided by the International Civil Aviation Organistion (ICAO) on this issue. In light of this, the use of halon for this application may be treated as a critical application and be exempt from controls prescribed for Halons under the Montreal Protocol.

# Activities carried out by CAP

To assist Bhutan in its initiatives, CAP team of UNEP had provided technical inputs and policy support on compliance and its impact to Bhutan. Further, UNEP resource persons provided technical inputs on CP/RMP preparation to the local consultant team and the National Ozone Officer. In addition to this, joint mission was conducted by UNEP and UNDP resource person to expedite preparation of CP/RMP of Bhutan. Such steps have helped the country in preparation of CP/RMP document over a period of 6 months from August 2004.

# Potential projects and their costs

The potential projects that need to be implemented for phasing out ODSs is given below. The details of the respective projects are given in Annexure 1 to 8.

Name of Project	Date	Estimated Cost (US\$)	Agency service fee (US \$)	Amount Requested from Fund (US\$)
		Renewal in		
Institutional Strengthening	2005-2007	July 2005		
Regulations development and				
implementation support project	2005	20,000	2,600	22,600
Awareness generation project	2005-2007	30,000	3,900	33,900
Enforcement officers training project	2005-2006	55,000	7,150	62,150
Technician training project	2005-2006	29,000	3,770	32,770
Retrofit of equipment using ODSs	2005 - 2006	200,000	18,000	218,000
Equipment support for technicians	2005- 2006	97,500	8,775	106,275
Capacity building and information				
exchange on Halon management	2005-2007	25,000	3,250	28,250
Monitoring RMP project implementation	2005-2008	30,000	3,900	33,900
Total		486,500	51,345	537,845

Depending upon reassessment of situation in the year 2007, additional project interventions may be submitted by Bhutan.

# **Timetable**

The details of the different activities to be undertaken are given in the table below.

Particulars	2005	2006	2007	2008	2009	2010
Projects						
Retrofit project for industrial						
equipment						
Retrofit project for domestic and						
commercial refrigeration equipment						
Equipment support to technicians						
Capacity building						
Institutional Strengthening Project						
Awareness building						
Training of technicians						
Monitoring of implementation of						
projects						
Information exchange and capacity						
building for halon management						
Regulations development and						
implementation						
Development of regulations for						
ODS phaseout						
Training of customs officers						

# **Roles in implementing strategy**

The National Ozone Cell has been established under the NEC and this cell will be the lead agency for implementing the Country Programme. In addition to this, a committee which has representatives from all key ministries shall be constituted to coordinate implementation of activities under the Country Programme. In addition to the above, agencies in Government of India such as NACEN, refrigeration training institutions under NCOPP, domestic refrigeration industry and customs officers are expected to play a supportive role in facilitating ODS phase-out in Bhutan.

The other important organizations who will participate in the implementation of the strategy are Bank of Bhutan will function as the financial intermediary for handling funds from the Multilateral Fund, United Nations Environment Programme, which will be the implementing agency for the Institutional Strengthening project and United Nations Development Programme, which will be the implementing agency of equipment support and retrofitting projects.

The different projects contemplated under the CP/RMP will be implemented with assistance from UNEP / UNDP.

#### Role of CAP

# **South South Cooperation**

India has agreed to provide support in capacity building, training and regulations implementation to Bhutan through joint working arrangements with Bhutan. This will be in addition to the industry support offered by Indian manufacturers and the distributors in the refrigeration sector to Bhutan's refrigeration servicing industry.

# **Sub regional Dialogue**

Sub regional dialogues will also form a key component of the action plan for Bhutan. This will help in capacity building and measures to resolve high impact issues that can push small volume consuming country like Bhutan. The subregional dialogue will primarily be relating to India, Nepal and Bangladesh as these countries have significant influence on consumption pattern in Bhutan.

#### Task Force in the sub region

To monitor activities and the issues relating to the sub regional dialogue, there is a need to coordinate among countries in the region. It is therefore proposed to form a sub-regional task force to monitor activities and issues relating to implementation of CP/RMP of Bhutan.