

**United Nations Development Programme
Country: The Kingdom of Bhutan
Project Document**

Project Title	HCFC Phase-out Management Plan for Bhutan – UNDP Component: [BHU/PHA/63/INV/17]
UNDAF Outcome(s):	By 2012, national capacity for environmental sustainability and disaster management strengthened (MDG 7)
Expected CP Outcome(s): <i>(Those linked to the project and extracted from the CPAP/UNDAF Action Plan)</i>	National capacity to address current environmental challenges and mainstream environmental concerns into policies, plans and programs enhanced
Expected Output(s): <i>(Those that will result from the project and extracted from the CPAP)</i>	HCFC Phase-Out Management Plan (HPMP) for Bhutan for compliance with Montreal Protocol control targets for HCFC consumption in 2013, 2015, 2017, 2019 and 2025
Executing Entity:	National Environment Commission
Implementing Agency:	United Nations Development Programme

Project Summary

The XIXth Meeting of the Parties to the Montreal Protocol in September 2007, through its Decision XIX/6, adopted an accelerated phase-out schedule for HCFCs. The first control is the freeze on production and consumption of HCFCs from 1 January 2013 at the Baseline Level (average of 2009 and 2010 consumption levels). The other control steps are reduction of 10% by 2015, reduction of 35% by 2020, reduction of 67.5% by 2025, reduction of 100% by 2030, allowance of 2.5% of baseline (annual equivalent) for period 2030-2040 and complete phase out by 2040. Government of Bhutan was given assistance amounting to US \$ 85,000 to prepare HCFC Phase-out Management Plan (HPMP) with UNEP as the lead implementing agency and UNDP as the cooperating agency.

During the 63rd Meeting of the Executive Committee, HCFC Phase-out Management Plan (HPMP) of Bhutan was approved by the Executive Committee with UNEP as the lead implementing agency, and UNDP as the cooperating agency. Total funding approved was US \$ 470,000 for both agencies. For implementing HPMP, a multi-year Performance-based Agreement between the Government of Bhutan and the Executive Committee was finalised in this meeting. Through the HPMP, the country has committed to phase-out HCFCs by 1 January 2025. Out of the approved amount of US \$ 470,000, funds aggregating to US \$ 188,000 were allocated to UNDP for assisting in implementation of the investment and associated components of HPMP. Of this, first tranche of US \$ 70,000 was approved at the 63rd Meeting of the Executive Committee.


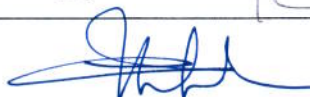

Upon implementation of the project, Government of Bhutan in reducing its consumption of HCFCs to 0.28 ODP tons (5.09 MT) in 2013 and 2014, and 0.25 ODP tons (4.55 MT) in 2015 and reduction of 0.2 ODP tons (3.6 MT) in 2017 and 2018 from the baseline consumption of 0.31 ODP tons (5.6 MT) and progress towards achieving zero consumption of HCFCs by 1 January 2025.

Programme Period: 2013 – 2025	
Primary Outcome: Expanding access to environmental and energy services for the poor	
Secondary Outcome: Strengthened national capacities to mainstream environment and energy concerns into national development plans and implementation systems; and Countries develop and use market mechanisms to support environmental management	
Atlas Award ID: 00065284	Total resources required 188,000 US\$
Start date: 1 January 2013	Total allocated resources: _____
End Date: 31 December 2025	• Regular _____
	• Other: _____
	o MLF 188,000 US\$
Management Arrangements NIM	Unfunded budget: -
	In-kind Contributions -

Agreed by Government (NEC)

Agreed by Government (GNHC)

Agreed by UNDP


 15 Feb 2013
 18 Feb 2013

I. SITUATION ANALYSIS

1. OBJECTIVE

The objective of this project is to implement projects under HPMP in line with overall strategy and implementation plan outlined in the HPMP document approved by the 63rd Meeting of the Executive Committee (decision no. 63/44 and Annex XXVI to the report of the 63rd Meeting of the Executive Committee).

2. BACKGROUND

2.1 Country Profile

Bhutan is a small landlocked country in the Himalayas, sandwiched between China to the north and India to the south. The country covers a total area of about 38,394 square kilometers. Bhutan has varying climatic conditions and can be divided into three distinct climatic zones of subtropical in the southern zones, temperate in the inner Himalayan valleys of the central region and cold in the north. The population for Bhutan is 671,083 with 126,115 households and a per capita GDP of US\$ 2,152.4 (National Statistics Bureau, 2009).

2.2 ODS Phase Out Activities in Bhutan

The Royal Government of Bhutan became a Party to the Vienna Convention for the Protection of the Ozone Layer, as well as the Montreal Protocol on Substances that Deplete the Ozone Layer and its four Amendments. These multilateral legal instruments were both ratified by the 82nd session of the National Assembly in 2004 in order to join hands with the international community to protect the environment and human health through sound management of Ozone Depleting Substances and to ensure sustainable development and inter-generational equity in pursuit of Gross National Happiness through conservation and enhancement of quality of environment.

The table below shows the dates of ratification by Bhutan of the Montreal Protocol and its amendments:

Agreement	Date of ratification	Entry into force
Vienna Convention	23 August 2004	21 November 2004
Montreal Protocol	23 August 2004	21 November 2004
London Amendment	23 August 2004	21 November 2004
Copenhagen Amendment	23 August 2004	21 November 2004
Montreal Amendment	23 August 2004	21 November 2004
Beijing Amendment	23 August 2004	21 November 2004

Source: Ozone Secretariat.

Under the Montreal Protocol, Bhutan received assistance through a number of projects including Country Programme, Refrigerant Management Plan, Terminal Phase-out Management Plan for Bhutan and funding for Institutional Strengthening project from the Multilateral Fund, with UNEP and UNDP as implementing agencies. These projects, primarily, aimed towards phasing out the use of Chlorofluorocarbons (CFCs), Halons and Carbon tetrachloride (CTC) systematically so that these substances can be completely phased out by 2010. The implementation of these projects enabled the country to successfully phase out the use of CFCs, Halons and CTC (Methyl Chloroform, Bromofluoroethanes, Bromochloromethane and Methyl Bromide are presently not used in the country) as per the Montreal Protocol schedule.

2.3 Evolution of HCFC Phase-out Management Plans

HCFCs, which have Ozone Depleting Potential (ODP) up to 15% of that of CFCs, are also classified as controlled substances under Annex-C, Group-I of the Montreal Protocol. HCFCs therefore, have use restrictions and would eventually have to be phased-out. Initially for developing countries, the scheduled phase-out date for HCFCs was 1 January 2040 with an interim control measure of freezing HCFC production and consumption at 2015 levels, from 1 January 2016.

During the implementation of the CFC phase-out under the Montreal Protocol, HCFCs were approved as interim substitutes for CFCs in many of the projects, particularly in foam applications, and activities supported by the Multilateral Fund. Given that HCFCs did not have specific control measures such as freeze, phase-out limits till 2015, during the late 1990s and early 2000s, HCFC consumption saw significant increase in foam and RAC applications.

The XIXth Meeting of the Parties to the Montreal Protocol in September 2007, through its Decision XIX/6, adopted an accelerated phase-out schedule for HCFCs. The first control is the freeze on production and consumption of HCFCs from 01 January 2013, at the Baseline Level (average of 2009 and 2010 consumption levels). The second control step is the reduction of 10% from the Baseline Levels on January 1, 2015. Subsequent control steps are 35% reduction by 2020, 67.5% by 2025, 97.5% by 2030 and complete phase out from January 1 2040. The decision also directed the Executive Committee of the Multilateral Fund to assist Article-5 Parties in preparation of HCFC Phase-out Management Plans (HPMP).

2.4 HCFC Phase-out Management Plan of Bhutan

During the 55th meetings of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol held in July 2008, Government of Bhutan received assistance total amounting to US \$ 85,000 for preparation of HPMP. The Government of Bhutan designated UNEP¹ as the lead agency for preparation of HPMP and to implement non investment component of HPMP. UNDP was designated as the cooperating agency to implement investment component.

The HPMP of Bhutan was prepared and submitted for the consideration of 63rd meeting of the Executive Committee held in April 2011. The HCFC phase-out management plan of Bhutan stems from the firm commitment of the country to protect and preserve the environment and to maintain the negative carbon emission status. Based on this, the country has committed to phase-out HCFCs by 1 January 2025. The plan will impose an import ban on import of HCFC based equipment by 2013. The decision on phasing-out of HCFC by 2025 is based on the countries determination to maintain the negative carbon emission status. The HCFC phase-out schedule in ODP tons and tranche schedule is shown the table below (also provided in Row 1.2 of Appendix-2A of the Agreement between Government of Bhutan and the Executive Committee, attached as Annex III to this document):

¹ Funds for preparation of HPMP were provided to UNEP for undertaking tasks associated with preparation in consultation with NOU.

	2011	2012	2013	2015	2016	2017-2018	2019	2020-2024	2025	Total
Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1	n/a
Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	0.31	0.31	0.28	0.25	0.25	0.2	0.1	0.1	0.007	n/a
Funding for UNDP component (US\$)	70,000		42,000		57,000				19,000	188,000

The planned activities and implementation of the HCFC Management Phase out Plan is through:

- 1) HCFC phase-out policies and enforcement,
- 2) Information exchange and advocacy programme,
- 3) Servicing technician training and certification programme,
- 4) Investment projects to facilitate HCFC consumption reduction:
 - (a) Recovery and Reclamation programme
 - (b) End-user retrofit incentive programme.
- 5) Project coordination, monitoring and management, and
- 6) Promotion of ozone climate co-benefit activities (to be funded outside of MLF):
 - (a) Standards and Labelling Programme
 - (b) Framework for Efficient and Low HCFC Economic Development

The non-investment component (1-3, 5 and 6 above) will be implemented by UNEP and the investment component (4 above) by UNDP. To maximise synergies, wherever feasible and required by the NOU, training and outreach components would be used for facilitating implementation of investment and non-investment components of the project.

The Executive Committee approved HPMP of Bhutan at a funding level of US \$ 470,000 (decision no. 63/44 and Agreement between Government of Bhutan and Executive Committee presented in Annex XXVI to the report of the 63rd Meeting of the Executive Committee). Of this, the total funds approved for UNDP component amounts to US \$ 188,000 and of this, first tranche of US \$ 70,000 has been disbursed to UNDP.

Upon implementation of HPMP components, Government of Bhutan will reduce its consumption of HCFCs to 0.25 ODP tons (4.5 MT) in 2015 from estimated current consumption of 0.31 ODP tons (5.6 MT) and help in sustaining HCFC consumption reduction in future in order to achieve complete phase-out of HCFCs by 1 January 2025.

II. STRATEGY FOR HPMP IMPLEMENTATION

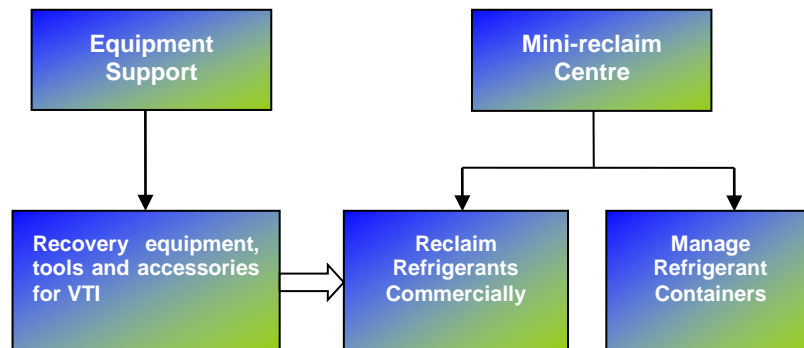
In order to achieve Bhutan's targets i.e. 2013, 2015, 2017, 2019 and 2025 targets, UNDP will assist the Government in implementing recovery and reclamation and retrofit component and would work closely with the National Ozone Unit (NOU) of Bhutan and UNEP in project implementation.

One of the important areas that need to be addressed for reduction of HCFC consumption in service agencies is capacity building of RAC service technician training institutions with training equipment. It must also be noted that the Government has had extensive consultations with the service establishments as well as Government bodies associated with technician training and during these consultations, the importance of building service training institution infrastructure has been emphasised. This would facilitate achieving sustained training of technicians for implementation of recovery and reclamation and retrofit component under HPMP. Given that HPMP activities are to be undertaken over the next 12 years, establishing training institution infrastructure assumes importance.

An overview of project components that would be implemented by UNDP is given below. Implementation of these components would be supported by building service training infrastructure in technical institutions in Bhutan, as explained above.

Recovery and Reclamation (R&R) Programme

The main objective of this component is to provide training and equipment support to service technicians for implementation of recovery and reuse program through refrigerant reclamation.



Considering the geographical spread of Bhutan, it is proposed that one mini-claim centre be established and the ownership of the mini-reclaim centre is proposed to be with one of the Vocational Training Institutes (VTI), and/or main refrigeration and air conditioning servicing establishments as a contractor. The mini-reclaim centre will be provided with the following:

- One set of refrigerant mini-reclaim unit capable of purification to ARI-700 (2004) standards (virgin refrigerants)
- One set of accessories and tools
- Technical assistance

The mini-reclaim centre will be operated on a commercial basis. It would receive recovered refrigerants collected by air conditioning and refrigeration servicing shops and independent technicians. The mini-reclaim contractor would charge a processing fee for this reclamation, to mitigate the costs and overheads associated with the reclamation operations. The refrigerant containers would be managed by the mini-reclaim contractor on a rotational/exchange basis (similar to domestic cooking gas cylinders). The containers shall be appropriately labeled in

accordance with the regulations. The mini-reclaim center would also record, track and report on incoming and outgoing refrigerants.

It is proposed that independent air conditioning technicians be provided with training and recovery units, accessories and tools, so that in addition to reducing HCFC emissions in servicing through better practices, recovery of refrigerants in servicing would be promoted, availability of refrigerants to the mini-reclaim centers would be assured and the overall dependence on virgin HCFCs in the servicing sector would be reduced.

NOU will be responsible for monitoring of the reclaim programme, with assistance from UNDP. UNDP will provide technical backstopping including programme design, equipment specifications and technical evaluation, as found necessary.

The proposed budget is shown as below:

Item	Budget (US\$)
Recovery units, tools and accessories	45,000
Mini-reclaim units and accessories (3)	39,000
Stakeholder workshops (2)	5,000
Programme promotion, literature and documentation	2,000
Total	91,000

*Budget revised from HPMP submitted to ExCom in consultation with NOU. The funds given in table above would be redistributed for building RAC service technician training infrastructure in consultation with NOU.

Retrofit Incentive Programme

The existing population of HCFC-based domestic, commercial and industrial refrigeration and air conditioning equipment is the main source of HCFC consumption in Bhutan. While the reclaim programme will contribute to reduction of HCFC usage during servicing as well as to some extent reduce dependence on virgin HCFCs, until the HCFC-based equipment at the end-users remains in service, the demand for HCFCs would continue to exist. In order to achieve major reductions in demand for HCFCs, it is considered necessary to initiate a pilot programme that provides incentives to end-users to retrofit their HCFC-based equipment to non-HCFC alternatives.

For small commercial refrigeration equipment, it is proposed that drop-in hydrocarbon blends could be used to retrofit the HCFC-based equipment. For small residential and commercial air conditioning units, low-GWP blends are proposed to be used for retrofitting. It is proposed to provide a small incentive for these end-users reflecting a portion of the total retrofit costs. On a pilot basis, about 20 commercial refrigeration units and 30 small air conditioning units will be targeted for retrofitting. The actual retrofit would be carried out through the VTI and/or servicing establishments. The seed or incentive funding would be provided to the VTI or servicing establishments upon submission of evidence that the retrofits were adequately and satisfactorily carried out. This incentive amount would be passed on by the servicing establishments or VTI to the end users as a concession.

For the larger end-users in the commercial and industrial refrigeration and air conditioning sub-sectors, it is proposed to select up to 5 representative end-users from the typical refrigeration end-use applications (cold storages, hospitals, electricity/telecommunications companies, etc) for carrying out a retrofitting demonstration. The end users will need to meet eligibility criteria established by NOU. The NOU will carry out the qualification and selection of end users for participating in this pilot program, with technical assistance from UNDP.

The selected end users would then enter into a binding agreement with the NOU, incorporating appropriate legal, technical and operational provisions. **Each end user would be provided financial assistance covering the actual retrofitting/replacement costs (excluding taxes) of up to a maximum limit against satisfactory completion of conversion and satisfactory documentation justifying the costs.** Any balance funds would be applied towards creating additional such demonstration end users, until exhausted.

In order to promote the end-user demonstration/incentive programme, promotional and technical literature and documentation will be prepared. Three technical assistance workshops would be needed for the end-users to familiarize them with the programme and promote their participation.

The expected outcomes of this program would be:

- Availability of demonstration cases of successful retrofitting of HCFC-based refrigeration and air conditioning systems for information dissemination and awareness
- Confidence-building in other end-users, precipitating early retrofitting decisions at other end-users
- Reducing HCFC demand for servicing of refrigeration and air conditioning equipment at end-users

The programme would be implemented by NOU with the assistance of UNDP and technical experts who would provide technical backstopping for developing program design, technical assistance for retrofits, evaluation of retrofits, etc.

The proposed budget is shown as below:

Item	Budget (US\$)
HC & Low GWP retrofit kits for small commercial refrigeration equipment and small AC units	40,000
Incentive programme for large commercial/ industrial refrigeration end-users (5)	30,000
Programme promotion, literature and documentation	5,000
Technical assistance workshops for end-users for retrofitting training (2)	12,000
Technical assistance from technical experts	10,000
Total	97,000

*Budget revised from HPMP submitted to ExCom in consultation with NOU. The funds given in table above would be redistributed for building RAC service technician training infrastructure in consultation with NOU.

III. TIME FRAME/MONITORING MILESTONES

Overall time plan for implementation of the programs is given in the table below:

Particulars	Year beginning November 2012								
	2012	2013	2014	2015	2016	2017	2018	2019	2020-
1. Building service training infrastructure									
Procurement and installation of equipment for technicians servicing HCFC based RAC equipment									
2. Recovery and Reclamation (R&R) program									
Training of technician and equipment support on good practices including recovery and reclamation									
Technical assistance to support good servicing practices									
3. Retrofit incentive program									
Retrofit incentive for end-users – design and capacity building									
Retrofit incentive project for end-users-implementation									

Note: (1) To ensure cost-effective implementation, wherever feasible, synergies with UNEP component will be identified particularly on information outreach and training support. (2) Procurement of equipment for training institutions commenced in the year 2012.

IV. RESULTS AND RESOURCES FRAMEWORK

Applicable Goal (UNDAF):	By 2012, national capacity for environmental sustainability and disaster management strengthened (MDG 7)			
ATLAS Award ID:	00065284			
ATLAS Project ID:	00081856			
Intended Outputs	Output Targets for 2012 to 2025	Indicative activities	Responsible Parties	Inputs (US \$)
<p>Output: Bhutan's HCFC compliance targets for 2013, 2015, 2017, 2019 and 2025 achieved through HPMP implementation</p> <p>Baseline: Average of 2009 and 2010 HCFC consumption of 0.31 ODP tons (5.6 MT)</p> <p>Indicator: - HCFC consumption reduction of 0.28 ODP tons (5.0 MT) in 2013 - Reduction of 0.25 ODP tons (4.5 MT) in 2015 - Reduction of 0.2 ODP tons (3.6 MT) in 2017 and 2018 - Reduction of 0.1 ODP tons (1.8 MT) in 2019 - Reduction of 0.007 ODP tons (0.1 MT) in 2025</p> <p>from the average of 2009 and 2010 levels</p>	<p>Targets: 2012 – 2013</p> <ul style="list-style-type: none"> Procurement and installation of service training equipment in 2 VTIs. 	<p>1. Capacity building of VTIs</p> <ul style="list-style-type: none"> Establishment of service training infrastructure at 2 VTIs. 	UNDP/ NOU-NEC	94,000
	<p>Targets: 2013 – 2015</p> <ul style="list-style-type: none"> Implementation of R&R and Retrofit incentive program Report on achievement of 2013 and 2015 compliance target, and release of 2013 tranche Monitoring and review on a half yearly basis. 	<p>2. Recovery and Reclamation program</p> <ul style="list-style-type: none"> Procurement and distribution of Recovery equipment to the VTI Establishment of mini Reclamation centre Technical assistance on project implementation Monitor project implementation 	UNDP/ NOU-NEC	44,000
	<p>Targets: 2016-2025</p> <ul style="list-style-type: none"> Report on achievement of 2017, 2019 and 2025 compliance target, and release of 2016 and 2025 tranche <p>For both the above components, it is imperative to equip service technicians for maximising HCFC recovery and reclamation and retrofitting HCFC based equipment with alternatives.</p>	<p>3. Retrofit incentive program</p> <ul style="list-style-type: none"> Procurement of ODS alternative retrofit kits and/or development of incentive scheme for HCFC based refrigeration and air conditioning units and distribution/ implementation. Technical assistance workshops for end-users Monitor project implementation 	UNDP/ NOU-NEC	50,000
				188,000

V. ANNUAL WORK PLAN

The Annual Work Plan for the first tranche of HPMP is given below. Given the importance of building RAC service technician infrastructure for sustainable training and capacity building for HCFC phase out, funds under first tranche and a portion of funds under second tranche are proposed to be used for procurement and installation of service technician training equipment at two VTIs in Bhutan.

AWARD ID	00065284					
PROJECT ID	00081856					
Project Title	Implementation of HPMP of Bhutan – UNDP Component					
Executing Agency	National Ozone Unit, National Environment Commission, Royal Government of Bhutan (“NOU-NEC”)					
ATLAS Activity	Responsible Party	Source of funds	ATLAS Code	ATLAS Budget Description	2013	2014-2025
Activity: Procurement and distribution of equipment for RAC technician training in VTIs for HPMP implementation	NOU-NEC	63030	72200	Contractual Services (Procurement and distribution of equipment to 2 VTIs for HPMP implementation)	70,000	Note
Total					70,000	

Note: The budgets are currently shown for the first tranche of US\$70,000. The balance funding of US\$ 118,000 will be released by MLF in future tranches in 2013, 2016 and 2025 and will be phased into the budgets through appropriate budget revisions.

VI. MANAGEMENT STRUCTURE FOR HPMP IMPLEMENTATION

1. Execution Modality

The project will be managed in accordance with standard UNDP procedures under National Implementation Modality (NIM). The Government of Bhutan through its National Ozone Unit, National Environment Commission (NOU-NEC) will be implementing project activities with support from UNDP. NIM has been chosen as the Government has capacity to undertake implementation of the project with technical support from UNDP. The UNDP Country Office has consulted the Government and agreed with the Government on the implementation modality.

The HPMP agreement between the Executive Committee and Government of Bhutan is a **Performance based agreement** whereby the annual funding tranches will be approved by the Executive Committee after examining the project performance. This will require achievement of specific HCFC phase-out milestones and for this, the enterprises/organisations assisted by the Government through this project need to achieve specific milestones for HCFC phase-out and convert to HCFC free alternatives in a time-bound manner. Therefore, the project activities including R&R program and Retrofit incentive program, will be implemented through the **Performance Based Payment (PBP) mechanism**. Under this, for project components, Memorandum of Agreement (MoA) or equivalent agreement would be signed between the Government/NOU and VTI or service providers for specific activities/tasks, as found necessary. The agreement will define the terms of association between the Government/NOU and VTI or service providers for identified tasks. On completion of intended milestones duly confirmed by the Government/NOU, payment would be released to the VTI or service providers, as defined under specific project components.

UNDP will work closely with the NOU during the course of project implementation. UNDP will be responsible for financial management as required under NIM modalities and result-based project monitoring.

2. Payment schedule and indicators

Payment schedule for the project components along with milestone and indicators is given in Table below.

Milestone	Indicator	Timeline	Amount (USD)
Procurement of equipment for VTIs and finalisation of implementation plan for recovery & reclamation and retrofit component of HPMP.	(i) Project document signature (ii) Final implementation plan (iii) Licensing system/Quota for HCFC imports established (iv) Submission of final CP progress report and Article 7 report for 2011 (v) Receipt of equipment for 2 VTIs for undertaking service technicians training	15 February 2013	70,000
Total			70,000

The payment schedule and indicators for tranche 2013, 2016 and 2025 will be finalized and agreed upon by NOU and UNDP during 2013.

3. Roles and responsibilities

The roles and responsibilities of National Ozone Unit and UNDP are given below.

National Ozone Unit, National Environment Commission (NOU-NEC)

The National Ozone Unit (NOU) under National Environment Commission (NEC) will be responsible for undertaking the project activities and day-to-day HPMP related work with the policy guidance from NEC. The NOU will be responsible for:

- Coordination of overall project implementation and monitoring
- Planning project activities in consultation with UNEP and UNDP for HPMP implementation
- Commissioning technical and operations evaluations;
- Preparing progress and financial reports for submission to the Implementing Agencies and other organisations, as relevant, relating to the project;
- Monitoring and record keeping of the activities of servicing workshops and technicians who have been given equipment under the HPMP
- Coordinate the activities, in particular Vocational Training Institutes (VTI), and other national stakeholders (e.g. Ministry of Economic Affairs, Ministry of Labour and Human Resources, Bhutan Chamber of Commerce and Industry) for timely and effective project implementation

UNDP

UNDP will provide the following assistance to NOU under this project:

- Assisting the NOU in the implementation and assessment of UNDP components
- Providing technical and policy inputs, as required, for R&R and Retrofit incentive program implementation
- Assist NOU in preparation of implementation reports and implementation plan, as required
- Providing reports to UNEP on these activities, for inclusion in the consolidated reports to the ExCom.
- Providing support to UNEP on specific verification required for project performance to the Executive Committee and project progress reporting.

UNEP, as the Lead Agency, will be responsible for overall implementing and monitoring of the activity, in line with the agreement.

VII. MONITORING FRAMEWORK AND EVALUATION

a. Monitoring and Reporting

UNDP Bhutan will be responsible for financial monitoring and reporting on all disbursements of the programme and will ensure continued reporting to the Government of Bhutan and Multilateral Fund Secretariat. Financial disbursements and auditing, as well as the procurement of goods and services, and the recruitment of personnel shall be based on Government regulations, rules and procedures to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP.

The reporting with respect to the project shall include the following reports:

- Annual Project Progress Report (APR) as per UNDP format to be submitted annually as of project initiation.
- Progress of Implementation of Country Programme (including HCFCs)
- Article 7 ODS Data Report (including HCFCs)

Monitoring will include a continuous review of the various project components and will be intended to (i) measure the progress towards meeting the overall project objectives and (ii) alert implementing partners to potential problems in implementation and propose corrective measures.

b. Quality Management for Project Activity Results

Quality management for project activity results is presented in the table below.

OUTPUT: To achieve Bhutan's phase-out target: HCFC consumption reduction of 0.28 ODP tons (5.0 MT) in 2013, Reduction of 0.25 ODP tons (4.5 MT) in 2015, Reduction of 0.2 ODP tons (3.63 MT) in 2017, Reduction 0.1 ODP tons (1.81 MT) in 2019, Reduction of 0.007 ODP tons (0.13 MT) in 2025, from the estimated current consumption of 0.31 ODP tons (5.6 MT) and facilitate sustaining phase-out.

Activity Result 1	Capacity building of technical institutions	Start Date: February 2013 End Date : December 2013
Purpose	Capacity building of RAC service technician training institutions for sustainable training for HPMP implementation	
Description	<ul style="list-style-type: none"> • Procurement of training equipment for service technician training • Distribution of the equipment to 2 VTIs • Ongoing training of technicians in VTIs 	
Quality Criteria	Quality Method	Date of Assessment
Procurement of equipment completed and distributed to VTIs	Equipment received by VTIs	May 2013
Technician training by VTIs	Report on training coverage and number of technicians trained for servicing equipment	Ongoing

Activity Result 2	Recovery and Reclamation programme	Start Date: February 2013 End Date : December 2016
Purpose	Ensuring that reclamation center be commercially functional and local service technicians maximize recovery of refrigerants.	
Description	<ul style="list-style-type: none"> Defining technical specifications equipment Bidding and procurement of equipment Distribution of equipment to identified beneficiary enterprises 	
Quality Criteria	Quality Method	Date of Assessment
Bidding and procurement of equipment completed	Equipment delivered as per quality specifications in Bhutan	From September 2013 - ongoing
Equipment distributed to identified beneficiaries	Equipment receipt by beneficiaries	From November 2013 - ongoing
Technical assistance provided	Feedback on implementation of technical assistance from NOU and beneficiaries	From December 2013 – ongoing

Activity Result 3	Retrofit Incentive Programme	Start Date: September 2013 End Date : December 2020
Purpose	Adoption of HCFC free alternatives and accelerated reduction in dependence on HCFCs	
Description	<ul style="list-style-type: none"> Procurement of ODS free alternative retrofit kits for small air conditioning units Retrofit/replacement of HCFC based equipment through incentives for end-users in commercial and industrial refrigeration and air conditioning applications Technical assistance workshops for end-users 	
Quality Criteria	Quality Method	Date of Assessment
Procurement of kits completed and distributed to identified service agencies	Receipt of kits by service agencies	From September 2013- ongoing
Retrofit incentives to target audience provided	Retrofit incentive paid to different target audience	From September 2013- ongoing
Technical assistance provided	Feedback on implementation of technical assistance from participants	From December 2013 – ongoing

Since the project extends over a time frame till 2025, the procurement and distribution of equipment for Activity Result 2 and 3 could continue over the time frame. This would also be subject to prioritization of the above activities in terms of quantities of equipment and funding levels.

VIII. LEGAL CONTEXT

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Bhutan and the United Nations Development Programme, signed by the parties on 14 July 1978.

Consistent with the Article III of the SBAA, the responsibility for the safety and security of the executing agency and its personnel and property, and of UNDP's property in the executing agency's custody, rests with the executing agency.

The executing agency shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the executing agency's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The executing agency agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

In addition, the following types of revisions may be made to this Project Document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the Project Document have no objections to the proposed changes:

1. Revision in, or addition of, any of the annexes of the Project Document;
2. Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation; and
3. Mandatory annual revisions that rephrase the delivery of agreed project inputs, or reflect increased expert or other costs due to inflation, or take into account agency expenditure flexibility.

IX: ANNEXES

Annex-I: Risk Analysis

Annex-II: HPMP for Bhutan submitted to the 63rd ExCom

Annex-III: Agreement between the Government of Bhutan and Executive Committee of Multilateral Fund to the Montreal Protocol on HPMP implementation

ANNEX I

RISK ANALYSIS

Description	Date identified	Type	Impact and Probability (Low 1 to High 5)	Counter Measures	Owner
Delay in completion of project deliverables	Project initiation date	Operational	Probability - 3 : Impact - 4	Close coordination with NOU-NEC and periodic monitoring of project tasks. Facilitating timely completion of tasks.	UNDP/ NOU-NEC
Delay in available cost-effective HCFC free options	Project initiation date	Operational	Probability - 3 : Impact - 4	Consultation with subject specialist technical experts on technical options, closely monitoring technical developments	UNDP/ NOU-NEC
Delay in implementation of regulations (i.e., HCFC supply controls) for promoting feasibility of HCFC	Project initiation date	Operational	Probability -2 : Impact - 4	Close coordination with NOU and regulatory agencies on expeditious implementation of regulations	NOU-NEC
Delay in endorsement of action plans by Government	Project initiation date	Operational	Probability - 2 : Impact 4	Work on project preparation through consultative process with stakeholders. Stakeholder endorsement prior to Government approval. Coordination with Government on providing necessary clarifications relating to project.	UNDP/ NOU-NEC

ANNEX-II

**HPMP for Bhutan submitted to the 63rd ExCom
(to be attached)**

ANNEX-III

AGREEMENT BETWEEN GOVERNMENT OF BHUTAN AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR PHASE-OUT OF CONSUMPTION OF HYDROCHLOROFLUROCARBONS

1. This Agreement represents the understanding of the Government of Bhutan (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 that there will be no more funding eligibility for any future HCFC phase-out 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 sub-paragraph 5(b) of this Agreement.

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

- (a) That the Country has met the Targets for all relevant years. Relevant years are all years since the year in which the hydrochlorofluorocarbons phase-out management plan (HPMP) was approved. Exempt are years for which no obligation for reporting of country programme data exists at the date of the Executive Committee Meeting at which the funding request is being presented;
- (b) That the meeting of these Targets has been independently verified, except if the Executive Committee decided that such verification would not be required;
- (c) That the Country had submitted tranche implementation reports in the form of Appendix 4-A ("Format of Tranche Implementation Reports and 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;

- (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 Reports and Plans") covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen; and
- (e) That, for all submissions from the 68th Meeting onwards, confirmation has been received from the Government that an enforceable national system of licensing and quotas for HCFC imports and, where applicable, production and exports is in place and that the system is capable of ensuring the country's compliance with the Montreal Protocol HCFC phase-out schedule for the duration of this agreement.

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. UNEP has agreed to be the lead implementing agency (the "Lead IA") and UNDP has agreed to be the cooperating implementing agency (the "Cooperating IA") under the lead of the Lead IA in respect of the Country's activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of any of the 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). This responsibility includes the necessity to co-ordinate with the Cooperating IA to ensure appropriate timing and sequence of activities in the implementation. The Cooperating IA will support the Lead IA by implementing the activities listed in Appendix 6-B under the overall co-ordination of the Lead IA. The Lead IA and Cooperating IA have entered into a formal agreement regarding planning, reporting and responsibilities under this Agreement to facilitate a co-ordinated implementation of the Plan, including regular co-ordination meetings. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 of Appendix 2-A.

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

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

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

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

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

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	0.31

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Parameter/Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020-2024	2025	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)*	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1	
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	0.31	0.31	0.28	0.28	0.25	0.25	0.2	0.2	0.1	0.1	0.007	
2.1	Lead IA (UNEP) agreed funding (US \$)	100,000		70,000			84,000					28,000	282,000
2.2	Support costs for Lead IA (US \$)	13,000		9,100			10,920					3,640	36,660
2.3	Cooperating IA (UNDP) agreed funding (US \$)	70,000		42,000			57,000					19,000	188,000
2.4	Support costs for cooperating IA (US \$)	6,300		3,780			5,130					1,710	16,920
3.1	Total agreed funding (US \$)	170,000		112,000			141,000					47,000	470,000
3.2	Total support costs (US \$)	19,300		12,880			16,050					5,350	53,580
3.3	Total agreed costs (US \$)	189,300		124,880			157,050					52,350	523,580
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)												0.303
4.1.2	Phase-out of HCFC-22 to be achieved through previously approved projects (ODP tonnes)												-
4.1.3	Remaining eligible consumption of HCFC-22 (ODP tonnes)												0.007

Note: The remaining HCFC consumption from 2025 to 2029 will be 0.007 ODP tonnes as servicing tail

*Figures based on Article 7 data, which are rounded to one decimal point.

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 REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plan will consist of five parts:
 - (a) A narrative report regarding the progress in the previous tranche, reflecting on the situation of the Country in regard to phase out of the Substances, how the different activities contribute to it and how they relate to each other. The report should further highlight successes, experiences and challenges related to the different activities included in the Plan, reflecting on changes in the circumstances in the Country, and providing other relevant information. The report should also include information about and justification for any changes vis-à-vis the previously submitted tranche plan, such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes. The narrative report will cover all relevant years specified in sub-paragraph 5(a) of the Agreement and can in addition also include information about activities in the current year;
 - (b) A verification report of the HPMP results and the consumption of the Substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in sub-paragraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;
 - (c) A written description of the activities to be undertaken in the next tranche, highlighting their interdependence, and taking into account experiences made and progress achieved in the implementation of earlier tranches. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall plan foreseen. The description should cover the years specified in sub-paragraph 5(d) of the Agreement. The description should also specify and explain any revisions to the overall plan which were found to be necessary;
 - (d) A set of quantitative information for the report and plan, submitted into a database. As per the relevant decisions of the Executive Committee in respect to the format required, the data should be submitted online. This quantitative information, to be submitted by calendar year with each tranche request, will be amending the narratives and description for the report (see sub-paragraph 1(a) above) and the plan (see sub-paragraph 1(c) above), and will cover the same time periods and activities; it will also capture the quantitative information regarding any necessary revisions of the overall plan as per sub-paragraph 1(c) above. While the quantitative information is required only for previous and future years, the format will include the option to submit in addition information regarding the current year if desired by the Country and 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 overall monitoring will be the responsibility of National Ozone Unit (NOU), Ministry of Industries.

2. The consumption will be monitored based on data collected from relevant government departments and crosschecking it with data collected from the distributors and consumers.
3. The NOU will be responsible for reporting and shall submit the following reports in a timely manner:
 - (a) Annual reports on consumption of Substances to be submitted to the Ozone Secretariat;
 - (b) Annual reports on progress of implementation of this Agreement to be submitted to the Executive Committee of the Multilateral Fund; and
 - (c) Project-related reports to the Lead IA.

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. The reporting requirements include the reporting about activities undertaken by the Cooperating IA;
 - (f) Ensuring that appropriate independent technical experts carry out the technical reviews;
 - (g) Carrying out required supervision missions;
 - (h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;
 - (i) Co-ordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;
 - (j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the Cooperating IAs, the allocation of the reductions to the different budget items and to the funding of each implementing or bilateral agency involved;

- (k) Ensuring that disbursements made to the Country are based on the use of the indicators; and
- (l) Providing assistance with policy, management and technical support when required.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent 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 6-B: ROLE OF COOPERATING IMPLEMENTING AGENCY

1. The Cooperating IA will be responsible for a range of activities. These activities can be specified in the respective project document further, but include at least the following:

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

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

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$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.