

United Nations Development Programme
Country: UZBEKISTAN
Project Document



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Project Title PIMS 4309 (FSP): “Initial Implementation of Accelerated HCFC Phase Out in the CEIT Region”

UNDAF Outcome(s): Principles of sustainable development integrated into country policies and programs

Expected CP Outcome(s):
(Those linked to the project and extracted from the CPAP) 2.1 Increased availability of institutional products and services for the conservation and sustainable and equitable use of natural resources

Expected Output(s):
(Those that will result from the project and extracted from the CPAP) 2.1.1 Concrete interventions on sustainable natural resources use, including water, land, biodiversity resources, and on climate change (mitigation, adaptation and carbon financing) complemented with environment education/ training component

National Executing Partner: State Committee for Nature Protection of the Republic of Uzbekistan

Responsible parties: UNDP, GEF, State Committee for Nature Protection, State Customs Committee, Agency “Uzstandard”, Ministry of Higher and Secondary Specialized Education, Tashkent State Technical University, private sector.

Brief Description

The current full-size proposal is a response to the obligations incurred by Uzbekistan under the phase out schedule for HCFCs of the Montreal Protocol. It is a timely capacity building effort (with investment elements for the servicing sector) that is designed to improve regulatory measures to help address the accelerated HCFC phase-out in the medium and longer term, and to strengthen the country’s preparedness for the complete phase-out of HCFCs from current use. In terms of its design it consists of the following capacity building elements:

- Component 1 (Regional information exchange and networking component), which addresses barriers associated with incomplete knowledge and awareness and which is aligned with PIF Component 1; Outcomes 1(a-d).
- Component 2 (National capacity building and technical assistance component), which targets support to the adoption of the fully completed HCFC phase-out strategy (with selected legislative options to control HCFC import/use), capacity building and supply of analytical and servicing equipment/tools for Customs Department and refrigeration technicians, modernization of HCFC re-use scheme in the country and demonstration of alternative technologies in refrigeration equipment and A/C sectors, ODS destruction, the current absence of effective regulatory instruments and need to support ongoing institutional development and is aligned with Outcome 2 (d) - Uzbekistan.

Programme Period:	2012-2015	Total resources required	US\$ 6,580,000
Atlas Award ID:	00063869	Total allocated resources:	
Project ID:	00080735	• Regular: UNDP TRAC	US\$ 250,000
PIMS #	4309	• Other:	
Start date:	July 2013	o GEF	US\$ 1,430,000
End Date	July 2016	o Government	US\$ 2,050,000
		o In-kind	
		o Other	US\$ 2,850,000
Management Arrangements	NIM	In-kind contributions	
		o	US\$ 950,000

**AGREED BY THE
STATE COMMITTEE FOR NATURE PROTECTION OF THE REPUBLIC OF UZBEKISTAN:**

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DATE:

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List of Abbreviations and Acronyms

A/C	Air Conditioner
CEIT	Countries with Economies in Transition
CFC	Chlorofluorocarbons
CIS	Commonwealth of Independent States
EU	European Union
ExCom	Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol
GEF	Global Environmental Facility
GDP	Gross Domestic Product
GWP	Global Warming Potential
HCFC	Hydrochlorofluorocarbons
HFC	Hydrofluorocarbons
HFO	Hydrofluoroolefins
HPMP	HCFC Phase Out Management Plan
DTIE	Division of Trade Industry and Environment (UNEP)
KW	Kilo Watt
IA	Implementing Agency
iPIC	Informal Prior Informed Consent
MAC	Mobile Air Conditioning
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MP	Montreal Protocol
MSP	Medium Size Project
MT	Metric Ton
NOU	National Ozone Unit
ODP	Ozone Depleting Potential
ODS	Ozone Depleting Substance
PU	Polyurethane
QPS	Quarantine Pre-Shipment
RAC	Refrigeration and Air Conditioning
RMP	Refrigerant Management Plan
TA	Technical Assistance
TEAP	Technology and Economic Assessment Panel
TEWI	Total Equivalent Warming Impact
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Programme

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1 Situation Analysis

1.1 Global context and significance

1.1.1 Issue background and baseline

HCFCs, a group of ozone-depleting chemicals, are used in a variety of applications such as refrigerants, foam-blowing agents, solvents, fire extinguishers and aerosols. In some cases HCFCs have replaced CFCs use due to their lower ozone depleting potential (ODP). The use of HCFCs is controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal protocol).

The Montreal Protocol was designed to reduce the production and consumption of ozone depleting substances in order to reduce their abundance in the atmosphere, and thereby protect the earth's fragile ozone Layer. The original Montreal Protocol was agreed on 16 September 1987 and entered into force on 1 January 1989. The Montreal Protocol includes a unique adjustment provision that enables the Parties to the Protocol to respond quickly to new scientific information and agree to accelerate the reductions required on chemicals already covered by the Protocol. The Parties to the Montreal Protocol have amended the Protocol to enable, among other things, the control of new chemicals and the creation of a financial mechanism to enable developing countries to comply. Specifically, four Amendments – the London Amendment(1990), the Copenhagen Amendment(1992), the Montreal Amendment(1997) and the Beijing Amendment(1999) have been made to the Protocol. Amendments must be ratified by countries before their requirements are applicable to those countries¹.

TheCopenhagenAmendmentoftheMontrealProtocolof1992stipulatedthat Article 2 (non-Article 5) countries need to reduce their HCFC consumption to 35% of their baseline in 2004 (or to be 65%), to be reduced by 35% of that level in2010, to 10% by 2015, to 0.5% in 2020 and finally achieve full phase out in 2030. The Beijing Amendment of 1999 extended control measures for HCFCs to production with a freeze in production by 2004 at the baseline. In September 2007, MOP19 adopted the Montreal Adjustment on Production and Consumption of HCFCs which is anticipated to enter into force by mid-2008. This requires that Article2 countries accelerate both HCFC consumption and production to 25% of the baseline year of 2004 in 2010.

A number of GEF CEIT countries that fall under non-Article 5 of the Montreal Protocol, are lagging in their phase-out progress. These countries are generally eligible for GEF funding in support of HCFC phase out, subject to having ratified the Copenhagen amendment which Uzbekistan did in 1998. Uzbekistan, being non-Article 5, is therefore eligible for technical assistance.

The current full-size proposal is the response to obligations incurred by Uzbekistan under the phase out schedule for HCFCs of the Montreal Protocol, as amended by the Copenhagen amendment and the subsequent adjustment adopted by the Parties to the Montreal Protocol at MOP 19 in September 2007. Respectively, it is a timely capacity building effort (with investment elements largely geared towards the servicing sector) that is well placed to improve regulatory measures to help address the accelerated HCFC phase-out in the medium and longer term, and strengthen the country's preparedness for complete phase-out of HCFCs from current uses.

¹http://ozone.unep.org/new_site/en/montreal_protocol.php

In terms of initial response to the GEF-4 cycle programme, a draft strategy document (HCFC phase-out strategy for Uzbekistan) was developed in conjunction with the National Ozone Office of the State Committee for Nature Protection of the Republic of Uzbekistan. This was formulated as part of a regional GEF supported project with UNDP acting as the lead implementing agency for Uzbekistan. The main objective of the strategy was to help prepare the country for implementing customized regulatory changes and follow-up investment programmes in support of reducing dependence on HCFCs imports, and ensure that the party is in respect of its obligations assumed under Decision XIX/6 of the Parties to the Montreal Protocol on the accelerated phase of HCFCs.

The strategy provides a detailed description of the country's current regulatory framework and specifically control measures applied to HCFCs and historical reporting of HCFC consumption based on the country's established import licensing system. Using an analysis of regulatory control data related to HCFC consumption and direct surveys applied to distributors and end users of HCFCs, consumption estimates have been updated and the nature of that consumption by application, sector and region have been characterized. Likewise, analysis has been undertaken for HCFC based equipment and products and on the utilization of non-ODS alternatives and technologies in the country.

The following paragraphs summarize the baseline situation as collected during the work on the previous project and PPG team during 2010 and 2011.

Uzbekistan acceded to the Vienna Convention and Montreal Protocol in 1993 shortly after independence and followed with accession to the London and Copenhagen Amendments in 1998 and with ratification of the Montreal and Beijing Amendments in 2006 making it up to date on assumption of all current obligations under the MP. Targeted action on the issue began in 1997 with the development of the Country Program, which was completed and adopted in 2000. This also allowed the country to qualify for international assistance for CFC phase out as a non-Article 5 CEIT, eligible to receive support from GEF.

International assistance on ODS phase out began in 1998 with the inclusion in the GEF pipeline of a Full Size Project (FSP) entitled "Programme for Phasing Out Ozone Depleting Substances"² with UNDP and UNEP acting as joint implementing agencies. The project included a project preparation grant utilized between 1997 and 1999 to do detailed project document preparation, develop the Country Program³ and support formation of a formal National Ozone Unit (NOU) in the Committee for Nature Protection. The project implementation phase undertaken between 1999 and 2009 consisted of two investment sub-projects and various technical assistance/capacity strengthening sub-components. The investment sub-project addressed phase out of CFC-12 refrigerants and CFC-11 for foam applications in a domestic refrigeration manufacturer, and establishing basic refrigerant recovery and recycling capability in the refrigeration service sector. Technical assistance provided by UNEP covered capacity building in the form of NOU support, awareness programs, training and equipment for customs authorities, and refrigeration technician training. In total US\$33,566,194 in GEF assistance was provided.

Additional international support from the GEF has since been received through a UNEP administered regional capacity-strengthening project for the period 2008 through 2010 entitled

²<http://www.gefonline.org/projectDetailsSQL.cfm?projID=594>

³ National Programme on Phasing Out Ozone Depleting Substances was adopted as Annex 1 to the Resolution of the Cabinet of Ministers "On measures on implementation of commitments of the Republic of Uzbekistan within the international treaties on protection of the Ozone Layer" #20 of 24.01.2000. <http://zakonuz.com/?document=12098>

“Continuing Institutional Strengthening Support for CEITs to meet Obligations under the Montreal Protocol”⁴. Specific assistance to prepare the country for the HCFC phase out, as documented herein, was covered by the recently completed regional GEF MSP programme on HCFC consumption surveys, and a follow up PIF/PPG work on formulation of a regional GEF FSP programme entitled “Initial HCFC Phase-Out Implementation in the CEIT Region”⁵. The latter was technically cleared and included in the GEF-4 pipeline, and represents the current project document.

The principal elements and achievements of international assistance, primarily as a result of the GEF project completed in 2003, are detailed in the prepared draft HCFC phase-out strategy. In summary, Uzbekistan completed the phase out of Annex A and B substances in 2002 and has maintained compliance with the London Amendment control measures since that time. Similarly, it has complied with control measures in latter amendments regarding complete phase out of Methyl Bromide. The only current reported consumption of ODS in the country is HCFCs, almost entirely in the form of HCFC-22 utilized for refrigeration servicing with small-scale foam manufacturing with application of HCFC-141b based polyols.

In this process, the country has demonstrated that it can meet the highest levels of global control measures under the MP applied to developed countries even though its economic status is much more comparable to developing countries operating under Article 5 of the MP. The effectiveness of relatively small amounts of international assistance mobilized by the GEF initially was highly effective in supporting this and shows that even in such circumstances, the institutional capacity to continue ODS phase out efforts can be sustained with this initial stimulation. This is evidenced by the continued phase-out compliance over the over the last years largely supported by the country on its own, although modest institutional strengthening funding has been important.

However, an important parallel lesson is that initial one time funding for key institutional and human resource capacity activities is difficult for such CEITs to sustain indefinitely and degradation of this capacity will develop. This could result in associated risks to continued compliance and difficulty for the country to meet new compliance obligations into the future as a non-Article 5 country. While the country remains a small consumer of HCFCs, almost exclusively in the refrigeration servicing sector, its geographical location exposes it to ready access to affordable HCFCs and HCFC based equipment to meet increasing demand in the country and potentially for transshipment elsewhere in Central Asia and the CIS generally. To address this it is apparent that a renewed emphasis should be placed on upgrading regulatory, customs control and enforcement, and refrigeration servicing capacity. In particular, the country needs to examine its regulatory controls consistent with the non-article 5 country control measures, renew its customs control and enforcement capacity for ODS, and perhaps most importantly ensure that human resource and technical capacity for effective refrigerant management is in place. The latter would include ensuring capacity to accommodate the anticipated increasing emphasis on use of low GWP refrigerants.

The officially reported consumption of HCFC-22 has remained relatively constant since 2000 despite the elimination of CFC-12 achieved later in that decade. The country’s current official HCFC baseline is 74.7 tons taking into consideration the ODP and in 2004, it was consuming 2%

⁴<http://www.gefonline.org/projectDetailsSQL.cfm?projID=3185>

⁵<http://www.gefonline.org/projectDetailsSQL.cfm?projID=4102>

of this baseline, which was roughly the same in 2009. This is substantially below the 65% limit set by the Copenhagen Amendment for Article 2 countries during the 2004-2009 and initially suggested that the 75% of the limit set and the further reduction steps by 2010 could readily be met without posing significant challenges on the way to sustain compliance.

Uzbekistan has developed a relatively comprehensive legal and regulatory system that controls HCFC imports and exports. As documented in the strategy document, reportedly low levels of official HCFC imports are well within the current control measures, and these appear not to be increasing. In theory projecting the official data into the future would suggest that there would not likely be an issue until 2020 when HCFC phase should be eliminated except for a small servicing allowance. However, this assumption is believed to underestimate the future demand in HCFCs due to creation of a “consumption bubble” of HCFCs resulting from latent servicing demand.

The bottom up survey and analysis work (inclusive of individually completed HCFC demand forecasts developed by NOU) indicated that the country officially reported HCFC consumption may not fully characterize the situation. Notwithstanding a general trend on slowly increasing use of non-ODS alternatives including the traditional preferential use of ammonia in larger size commercial and industrial installations, the country has a significant bank of relatively new HCFC based as well as older; CFC-to-HCFC retrofitted refrigerated equipment⁶. Currently, both the import and local assembly of new HCFC based equipment continues.

This growing bank represents a large latent future demand for HCFCs for equipment servicing. Current estimates indicate that this is approximately six (6) times the officially reported consumption and in a business-as-usual scenario it would imply an approaching future compliance issue respecting the accelerated phase-out. This is further explained in the following sections.

In 2010, the officially reported HCFC-22 consumption in the country, based on licensed imports, has dropped from 1.8 tons ODP in 2009 to 0.9 tons ODP, correlating with slight lead time to generally applicable global HCFC consumption trends. However, the survey and assessment of potential HCFC consumption based on the numbers of HCFC equipment in the country indicated that Uzbekistan has a future latent HCFC demand for an estimated 236.9 metrical tons ODS/year of HCFCs (for HCFC - 12.98 tons taking into account ODP/year), largely in the form of HCFC-22.

The following table summarizes the results of the survey work for purposes of estimating national HCFC consumption. It demonstrates, comparably to other hot climate countries such as neighboring Tajikistan, for instance, that the dominant sector in this demand is the small A/C equipment servicing sub-sector (52% of total consumption).

⁶During the period 2003 through 2007, consumption of HCFC-21 and HCFC-142b was reported as constituents along with HCFC-22 in drop-in blends used in residual CFC-12 based equipment. Imports were primarily Russian manufactured blends trade marked as “M1LE A” (HCFC 22 - 50%, HCFC 21 - 20%, HCFC 142b- 30%) and “M1LE B” (HCFC 22 - 65%, HCFC 21- 5%, HCFC 142b).

Sector	Estimated Annual HCFC Consumption (ODS metrical tons)	% of Total Consumption
Refrigeration Equipment Servicing	28.10	11.9
Transportation	2.5	1.1
Large Industrial/Commercial Refrigeration Equipment	3.4	1.4
Small Commercial Refrigeration Equipment	51.9	21.9
Large Cooling and A/C Equipment	4.1	1.7
Small A/C Equipment	114.0	48.1
Manufacturing	32.9	13.9
Total	236.9	100

More specifically, the estimated annual HCFC servicing requirements for two largest sub-sectors (small A/C and commercial refrigeration appliances) are provided below:

Sector/ Application	Estimated # of Units	% HCFC Based	Average Annual Servicing Requirement/Unit (kg/year)	Estimated Annual Consumption (Kg)
Small Domestic A/C units	1,266 400	100%	0.09	113,977
Trade Enterprise – Food Distribution/Retail				
Display Appliances	110,971	85%	0.09	8,489
Refrigeration Appliances	99,290	30%	0.09	2,680
Cold Stores	30,663	90%	1.00	27,596
Sub-Totals	240,924			38,765
General Trade Enterprises				
Display Appliances	7,307	85%	0.09	559
Refrigeration Appliances	30,558	30%	0.09	825
Cold Stores	11,957	90%	1.00	10,761
Sub-Totals	49,822			12,145
Institutional Applications (Military, Education, Health Care)				
Display Appliances	2,000	85%	0.09	153
Refrigeration Appliances	8,258	30%	0.09	223
Cold Stores	652	90%	1.00	587
Sub-Totals	10,910			962
Overall Totals	1,568,056			165,850

Based on this analysis, it appeared that a substantial proportion of the servicing requirement was not reflected in the import data, particularly in relation to at least the latent servicing requirements for small domestic air conditioners and small commercial equipment in the food retail and distribution sectors.

With further aging of imported equipment, the dependence on HCFCs, mainly R-22, will deteriorate with initial impacts expected shortly before 2015. In this regard, the strategy

document clearly determined that the country should implement reductions in and ultimately the elimination of the import of HCFC based equipment so that compliance issues in 2015 and later do not arise.

The situation is further complicated by lack of HCFC servicing tools as a general trend and insufficient information on and experience with alternative technologies in the servicing sector which would minimize GWP impacts and perform well in hot climatic conditions:

- surveys on availability of technical tools to back the operations of HCFC re-use scheme (servicing, retrofits), indicated that majority of previously supplied instruments were primarily designed to handle only the CFC group of substances⁷;
- despite substantial level of natural refrigerant use in the form of ammonia in the large industrial sector (mainly, in old-aged equipment of former Soviet Union production with a total charge of 213 ODS tons), there a low penetration of other alternatives (i.e. CO₂, hydrocarbons, and HFCs);

These two factors represent technical challenges which require to be addressed through specific GEF assistance.

The technical capacity involved in servicing remains predominately in small enterprises and individuals rather than in larger service companies. It is estimated that 1,876 individuals are involved in the distribution and end use of HCFCs of which 267 (14%) are considered refrigeration technicians actively involved in servicing the national bank of RAC equipment. Additionally, slightly more than 120 technicians are classed as being individual entrepreneurs or attached to small enterprises. An unknown number are employed directly by end users and 275 are employed by larger service enterprises.

The following table provides the profile of the servicing sector in terms of number of companies by region, and technicians.

#	Regions	Number of Companies	Number of Technical Staff	Companies with 5 and more technicians
1	Republic of Karakalpakstan	7	18	0
2	Andizhan	2	20	2
3	Bukhara	3	24	1
4	Dzhizak	9	11	0
5	Kashkadarya	2	7	0
6	Navoi	9	186	7
7	Namangan	14	44	0
8	Samarkand	14	45	2
9	Surkhandarya	1	5	1
10	Sirdarya	1	1,096	1
11	Tashkent	3	10	0
12	Fergana	14	55	2
13	Khorezm	3	14	1
14	Tashkent city (capital)	31	341	17
Total		113	1,876	34

A demographic survey of refrigeration servicing technicians was also undertaken. The following table below gives the results of this survey and indicates a reasonable age distribution of

⁷Some HFC-134a modules supplied only for MAC related recycling centers.

technicians with some indications of pronounced aging of personnel. It is estimated that 1,211 new entry level trained technicians are required annually and this number will increase in the medium term. Currently, within the national education system, the system of professional level training of this particular occupation requires further improvements.

Age (years)	Number	%
18 - 30	225	12
30 - 50	1084	58
50 - 60	561	30
>60	0	0

With respect to manufacturing sector, as described before, it is considered as a comparatively small user of HCFCs, partly due to the fact some larger enterprises were previously converted to non-ODS technologies, and some are joint ventures with developed countries which discourage the use of ODS based solutions. During the surveys, the following manufacturers/assemblers of refrigeration equipment were identified:

- JSC “SINO” –manufacturing of domestic refrigeration equipment (HFC-134a/c-pentane),
- CSC "GM Uzbekistan" - assembling and filling of MACs for cars (HFC-134a),
- “Roison Electronics Ltd⁸” –assembling household A/Cs (HCFC-22),
- JV “Roison White Goods” - home refrigerators (HFC 134a/R-600a),
- “Zenit Electronics Ltd” - assembling household A/Cs (HCFC-22),
- “AZN Techno”–manufacturing commercial refrigeration equipment (HCFC-22),
- “DAIICHI AVTO PARTS” Ltd IP - manufacturing PU products (HFC-134a based)

Out of manufacturers that rely on HCFCs, the main consumption of HCFC-22 is with Zenit Electronics Ltd. and Roison Electronics Ltd; however, for a variety of reasons including late production start-up dates and resulting assistance eligibility issues as well as suspended⁹ commercial activity in 2011, these enterprises have decided to convert their assembly processes using their internal resources. Additionally, ORABIK and LMC Ltds. which previously regularly consumed polyols with HCFC-141b stopped their respective production processes during 2009 and not applied for issuance of HCFC import licenses since that time. From the rest of the group, only AZN Techno, the largest organized manufacturer of HCFC-based commercial equipment was found to be eligible for technical assistance. On average, it regularly consumes 0.6 tons of HCFC-22 for equipment charging, and approximately 4-to-5 tons of HCFC-141b.

The country also experiences challenges with unwanted ODS waste. A regular monitoring of non-licensed and confiscated import of ODSs since 2005 has indicated that approximately 2 ODS tons have been placed in storage at Customs without technically suitable means to eliminate this stock^{10,11}. Additional estimates from the servicing sector, based on experts’ opinion, indicate that at least 0.5 ODS tons/yearly of unwanted HCFCs¹² will be generated from

⁸ Partnership with South Korea

⁹ Documented during field visits in June 2011

¹⁰ For example, a recent seizure of 247 CFC containing refrigerators from the EU to the region mis-declared as ‘humanitarian aid’

¹¹ Risk Assessment of Illegal Trade in HCFC - UNEP - 2011 - ISBN: 978-92-807-3151-4

¹² HCFC-22 and its, formerly very widely used, CFC-12 replacement drop-in mixture M1LE

retrofits of older equipment, with the main portion of material coming from the railroad refrigerated transport¹³.

In the attempt to resolve the problem of confiscated material, in past, the country attempted to dispose of 328 kg of HCFC chemicals by incineration. This was carried out in a controlled laboratory type of setting simulating cement kiln incineration to the destruction capability and test resulting emissions.

The results of this prototype experiment were not conclusive as it was realized that the temperatures reached by the equipment were not high enough and hence led to the releases of unwanted chemical substances, including persistent pollutants(dioxins/furans, HCl and HF). In addition to safety requirements, the process was very time consuming and inefficient. Based on the experience accumulated, a decision was made to not proceed further and to ensure attempts were made to identify and test other alternatives as/when available on the market and pilot them in the country to attempt addressing the problem of growing unwanted ODS stockpiles.

In summary, the principal observations made from the HCFC consumption study are as follows:

- There is a low reported licensed import of HCFCs currently which may grow in future due to latent demand;
- Latent demand for HCFC (servicing) is estimated at the level of 236.9 metrical tons with almost 50% of this total related to small A/C splits;
- HCFC use dominates the large A/C sector but current growth is in HFC based equipment;
- HCFC based equipment also dominates the transportation sector, and specifically the railroad;
- HCFCs have been used in the manufacturing of A/C and commercial equipment, though the majority of such companies are recent establishments or suspended their operations in 2011;
- Leakage rates for HCFCs in the large industrial/commercial refrigeration sector and the large cooling and A/C sectors are 27% and 10% respectively;
- There is a substantial level of natural refrigerant use in the form of ammonia in the large industrial sector where it dominates but otherwise a low penetration of other alternatives (i.e. HC, CO₂, HFCs with low GWP);
- The servicing sector is dominated by small enterprises or individuals with somewhat aging personnel.

It is further important to note that the country's geographical location exposes it to ready access to affordable HCFCs and HCFC based equipment (inclusive of unwanted confiscates) to meet increasing domestic demand and potentially for transshipment elsewhere in Central Asia and the CIS generally. To address this is it is currently required that a renewed emphasis should be placed on upgrading regulatory, import control and enforcement measures, and refrigeration servicing capacity, all of which have been declining in recent years. The latter would include ensuring capacity to accommodate the anticipated increasing emphasis on use of low GWP refrigerants. Another important conclusion is that the initial one-time funding for key institutional and human resource capacity activities is difficult for such CEITs as Uzbekistan to sustain indefinitely and degradation of this capacity will develop. This may result in associated risks to maintain compliance in longer run.

¹³ This is similar to reported data from railroad transport sector in Belarus

In order to address all identified HCFC challenges and build the technical capacity of the country to sustain HCFC phase-out process, the following list of key actions was recommended for approval and implementation by the Government through the draft HCFC phase-out strategy:

- Initiate a range of regulatory actions utilizing the existing framework to upgrade quota requirements on the import of HCFCs consistent with Decision XIX/6 of MOP 19, license HCFC containing equipment, introduce selective restrictions (and gradual) on such imports including banning import of used equipment and direct that new installations utilize available non-ODS technology;
- Undertake strengthening of the Customs capacity to ensure sustainable enforcement of licensing and import controls on HCFCs and HCFC containing equipment, and of refrigeration servicing technician qualifications to minimize the use of HCFCs;
- Support the above with appropriate investment in refrigerant management and destruction infrastructure; the introduction of non-ODS and current low GWP technology, where feasible, through retrofit/replacement programs and demonstration projects in the servicing sector (inclusive of industrial/commercial refrigeration and A/C sub-sectors, and railway transport); and
- Provide opportunities to sustaining institutional capacity of the country and regional experience exchange with other Art.5 and non-Art.5 parties to improve quality of HCFC phase-out approaches in general

Given the concentration of HCFC consumption in the servicing sector, the country has to expect creation of an HCFC consumption bubble (latent demand) in the medium to longer term due to future increased need for equipment servicing due to more frequent equipment failures, especially household A/C splits.

The current full-size proposal – a regional GEF Full Scale Project (FSP) - builds on past CFC phase-out efforts and recent preparatory activities, and is entitled “Initial HCFC Phase Out Implementation in the CEIT Region”¹⁴. It represents a package of technical assistance to help the country address HCFC related challenges and is a response to the obligations incurred by Uzbekistan under the phase out schedule for HCFCs of the Montreal Protocol, as amended by the Copenhagen amendment and the subsequent adjustment adopted by the Parties to the Montreal Protocol at MOP 19 in September 2007. Respectively, it is a timely capacity building effort (with investment elements for the servicing sector) that is well placed to improve regulatory measures to help address the accelerated HCFC phase-out in the medium and longer terms, and to strengthen the country’s preparedness for the complete phase-out of HCFCs from their current use.

All of the above mentioned interventions and others designed by the PPG team in response to detailed stakeholder discussions are proposed for implementation and presented in detail in this proposal. As documented previously, this project provides a rapid follow up to the previous GEF regional HCFC project, which developed detailed survey data on HCFCs in CEITs and phase-out strategies to meet these compliance targets. Overall, this project will sustain the initial GEF-4 work in CEITs committed to move forward with accelerated phase-out, by implementing more targeted investment action as and when required, in coordination with parallel work financed in Article 5 countries in the region undertaken under the MLF. This includes end-of-life schemes in the refrigeration sector for which separate PIFs could be developed if appropriate.

¹⁴<http://www.gefonline.org/projectDetailsSQL.cfm?projID=4102>

Implementation of these actions will be supported by financing from GEF, along with national co-funding. The section below provides detail on the two main components.

1.1.2 Global and environmental benefits

The principal global environmental benefit from the project is the phase-out of HCFC import and consumption in Uzbekistan to assist the country to gradually reduce dependence on HCFCs and implement its Montreal Protocol obligations.

This will be achieved directly during the project period through activities related to building the capacity of the country in controlling the imports of HCFCs and HCFC based equipment on one side and handling the demand for HCFCs by implementing HCFC re-use system on the other. Component 1 will support the country in exchanging important experiences with other Governments in the region, and, thus, improving HCFC management approaches at the national level. Component 2 will build the Government and private sectors' capacity to gradually reduce their dependence on imports of HCFCs through strengthening the equipment maintenance practices and HCFC re-use scheme. Demonstration of alternative technologies (CO₂, HFC, ammonia through skilled and wider equipment retrofit/replacement) in various servicing sub-sectors such as commercial, industrial, A/C and transport refrigerated equipment, will help reduce barriers related to the acceptance of such technologies on the national level (accessibility, performance, costs of retrofits etc.) and will also lead to energy savings to generate wider interest in these and incentivize larger scale technological transitions in future when HCFCs import will be limited. An ODS pilot destruction project will further assist the country in disposing of unwanted ODS and waste (coming from the State Customs Committee confiscate and accelerated HCFC phase-out¹⁵) with the potential broader benefit of providing access to this capacity regionally in Central Asia.

The following summarizes specific global environmental benefits attached to phase-out of HCFCs in Uzbekistan that will be derived from the project:

- The principal global environmental benefit from the project is country's current and future compliance with the Montreal Protocol by phasing out 16,867 metrical tons of HCFCs in terms of direct imports and preparing the country to sustain this achievement in light of the expected considerable latent demand (236 metrical tons) for HCFCs in the period starting 2015 and beyond;
- Creating a high level of awareness by policy makers, stakeholders and the public on the need for HCFC phase-out, which will stimulate sustained attention to the issue and timely responses;
- Strengthened institutional capacity of the country to improve decision-making related to HCFC phase-out approaches. This will be achieved through regional experience exchange with other Parties to the Montreal Protocol from the region, improvements in the current legislation as well as through building capacities of the State Customs Committee to detect HCFCs/blends/equipment at the entry points and enforce regulatory measures as required by the law;
- Resulting enhanced knowledge base in terms of information management and technical capacity to sustain planning, decision making and program execution related to HCFC phase-out, as well as engage in effective information exchange nationally and globally;

¹⁵ Considerable amount of HCFC/CFC refrigerants is expected to come from refrigerated wagon retrofits

- Improved Recovery/Recycling/Reclaim infrastructure to help strengthen the HCFC re-use scheme in the country to minimize the need for HCFC import and reduce HCFC emissions into the atmosphere;
- Strengthened unwanted ODS waste storage capacity at the level of service centers in support of HCFC re-use scheme and to capture unusable quantities of HCFCs and unrecognizable blends containing HCFCs;
- Pilot destruction demonstration project aiming to destroy unusable and/or contaminated/unrecognizable blends. This capacity will in addition provide regional destruction capability within Central Asia; and
- Demonstration of strong synergies between the ozone layer depletion (HCFC phase-out) and climate change benefits (reduced HCFC emissions and energy-savings) when piloting alternative technologies retrofits/replacement in the servicing sector (commercial, industrial, A/C and transport refrigerated equipment) and testing the system of HCFC re-use/unwanted ODS storage.

In the context of inter-departmental cooperation, the project will improve collaboration between key Governmental departments (State Committee for Nature Protection, State Customs Committee, Agency “Uzstandard”) to strengthen overall sound chemicals management concepts.

1.1.3 Linkages with CP, UNDAF and CCA

This project seeks to give input to the adoption and implementation of a formal HCFC Phase out strategy and action plan consistent with Decision XIX/6 MOP 19 and which serves as direct input to the updating of the existing Country Program on ODS phase-out. The formal adoption of Decision XIX/6 control measures within Uzbekistan’s legal and regulatory system, will give practical substance to being able to achieving and maintaining country compliance as committed to by countries through their ratification of current amendments to the Montreal Protocol.

The country has ratified the Montreal Protocol and all its amendments as indicated below and therefore has fully assumed these obligations which form the basis for national level action for HCFC phase-out on the national level:

Convention/Agreement	Signature	Ratification/ Accession (a)
Vienna Convention	n/a	18/05/1993(a)
Montreal Protocol	n/a	18/05/1993(a)
– London Amendment to the Montreal Protocol	n/a	10/06/1998(a)
– Copenhagen Amendment to the Montreal Protocol	n/a	10/06/1998(a)
– Montreal Amendment to the Montreal Protocol	n/a	31/10/2006
– Beijing Amendment to the Montreal Protocol	n/a	31/10/2006

The project is aligned with the Country Programme in ODS phase-out - specific policy priorities and commitments related to ODS phase-out are defined by Resolution of the Cabinet of Ministers “On measures on implementation of commitments of the Republic of Uzbekistan within the international treaties on protection of the Ozone Layer”#20 of 24.01.2000. It is a part of the national measures, programmes, and projects such as:

- Program of Actions for Environmental Protection (2008-2012) adopted by the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan #212 of 19 September 2008;
- Development and implementation of the National Strategy for phase-out of

hydrochlorofluorocarbons (HCFC) approved by the Complex of Additional Measures aimed at achieving the UN Millennium Development Goals in Uzbekistan during 2011-2015 in accordance with the Appendix 1 to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan “On additional measures aimed at achieving UN Millennium Development Goals in Uzbekistan” #21 of 26 January 2011;

- List of technical assistance projects (grants) in 2012 have been preliminary agreed with the donor-countries, international and foreign government and non-government organizations that was endorsed by the Appendix 1 to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan“ On measures aimed at attracting technical assistance (grants) from donor-countries, international and foreign government and non-government organizations in 2012 to the Republic of Uzbekistan” #75 of 19 March 2012.

Finally, the project is consistent with UNDAF and Country Programme Action Plan through the following outcomes and outputs:

- UNDAF (2010-2015) outcome:
Principles of sustainable development integrated into country policies and programs
- Country Programme Action Plan (2010-2015) outcome:
Increased availability of institutional products and services for the conservation and sustainable and equitable use of natural resources
- Country Programme Action Plan (2010-2015) outputs:
Concrete interventions on sustainable natural resources use, including water, land, biodiversity resources, and on climate change (mitigation, adaptation and carbon financing) complemented with environment education/ training component.

1.2 Key Barriers

Uzbekistan, while proactively assuming national obligations under the Montreal Protocol has faced serious gaps related to lack of technical assistance to continue with the successful implementation of such obligations that emphasizes the need to international support. At a more specific level, the following major barriers can be identified and which are being explicitly targeted in the project’s design:

- *Wide fragmentation of the servicing sector with resulting low level knowledge and skills of refrigeration mechanics (technicians):* With the closure of previous CFC related programmes, the level of awareness at the technical level has generally reduced due to significant fragmentation of the servicing sector (many individual workshops). Proliferation of new HCFC/HFC/HC blends requires additional capacity building and specialized trainings for technicians and equipment service centers;
- *Continued illegal trade in ODS and mislabeling of containers:* There are reported seizures of illegally imported HCFCs and lack of dedicated storage capacity to place such wastes. Gas analytical equipment that is utilized by the State Customs Committee to detect controlled gases is outdated and requires replacement. As there is a range of chemicals (HCFCs, HFCs and HCs) that enter the country, new analytical equipment is needed to deal with these

chemicals as well as their mixtures. The existing general storage houses at the State Customs Committee are not suited for special gaseous substances and require urgent safety upgrades;

- *Sustainability of institutional capacity:* At a general level, the sustainability of Uzbekistan's good performance in ODS phase out requires maintenance of its historically strong institutional capacity in this area. Recently, support from the international community was declined and could represent a significant risk to its progress in ODS phase out generally. This limits the country from participating in regional knowledge sharing platforms and collaboration with other Governmental partners to assimilate and implement best available approaches in controlling HCFC import and phase-out. In order to help the country stay up-to-date with the current developments in the Montreal Protocol, assistance is required to continue regional and sub-regional cooperation of NOOs and other project partners such as the State Customs Committee and refrigeration association;
- *Absence of effective regulatory instruments to limit import of HCFC containing equipment that creates a long-term HCFC "consumption bubble":* The necessary detailed regulations to ensure that HCFC based equipment is no longer allowed into the country remain to be put in place. Such controls will help avoid creation of a long-term problem with the availability of a large number of HCFC based equipment in the country that would require frequent repairs in the future while the country will face limited imports of virgin HCFCs and HCFC blends to comply with the provisions of the Montreal Protocol on reducing HCFC consumption in 2015 and beyond;
- *Limited availability of technical tools to test gas composition and quality as well as to limit emissions of HCFCs during equipment maintenance:* There are gaps in technical capacity in the form of required analytical capability to test the content and quality of incoming HCFCs as single substances and in blends. Current portable analytical equipment is seriously outdated as it deals with the identification of CFCs-12, HCFC-22 and in some cases HCs only and is generally out-of-order due to elapsed operational time since its supply in the beginning of the previous decade. It should be replaced with modern multi-gas analyzers and the capacity of the country to perform more sophisticated tests using modern GCs should be further strengthened in support of HCFC re-use system. The overall tooling of the servicing sector is also limited to previous R/R equipment supplies with such equipment having exceeded its allowed operational life-cycles. The country also needs recovery/recycling/reclaim equipment and tools able to handle HCFCs and their blends and alternatives;
- *Limited exposure to alternative technologies and understanding of energy-saving aspects of new modern equipment operational on new technologies:* There is a limited penetration of low GWP alternative technologies, except for domestic refrigeration (hydrocarbons) and large old-aged industrial refrigeration applications (ammonia). Such limited exposure to low GWP alternative technologies and understanding of energy-saving aspects of new modern equipment operational on new technologies are the main barriers in the equipment assembly and servicing sectors – demonstration projects are required;
- *Lack of capability to address the growing amounts of unwanted ODSs:* Country has been monitoring the growth in obsolete ODSs (mostly, confiscated and then stored), and expects that the HCFC phase-out process will further increase the stockpile of HCFCs and their mixtures not suitable for recycling and re-use. With further accumulation of such waste, the country requires capability to address these growing stocks.

1.3 Stakeholder analysis

During the formulation of the HCFC phase-out strategy and preparation of the current project a stakeholder analysis was performed which is summarized below.

Ministry/Department	Function
State Committee for Nature Protection	Implementation of government control over environment protection, utilization and reproduction of natural resources; Implementation of integrated and coordinated inter-agency management of environment protection activities; Development and implementation of the unified environment protection and resources saving policy; To ensure positive and improved status of environment, improving environment, State Committee for Nature Protection implements activities aimed at fulfillment of a number of multilateral environmental agreements (MEAs); implements government regulating import/export of particular goods and commodities, including substances and products containing ODS.
State Customs Committee	Implements the unified customs policy that is an integral part of the foreign and national policy of the Republic of Uzbekistan. The main objectives of the national customs policy are ensuring efficient customs control over and regulating of bargaining implemented at the customs zone of the Republic of Uzbekistan, promoting development of national economy, and protecting of domestic markets. The department has been a traditional Governmental partner in previous CFC phase-out programmes and currently for HCFC phase-out.
Agency “Uzstandard”	It issues standards and implements monitoring of requirements set up by the standards. The importance of the Agency “Uzstandard” will be development and introduction of standards for the use of HCFCs, HFCs and alternative technologies as currently only old former Soviet Union’s standards for CFCs, HCFC-22 and ammonia available.
Ministry of Higher and Secondary Specialized Education	The Ministry implements training of the highly qualified professionals, who are able to think critically and creatively, ensure and contribute to scientific and technical, social and economic, and cultural progress of the society. It ensures development of sciences, techniques and technologies through scientific researches and creative activities by the scientists and educational professionals as well as students and trainees. This corresponds to the project objectives and capacity building to achieve more effective HCFC control.
Private/Public sector HCFC users	These sectors consume and are dependent on HCFC. They are the ones primarily impacted by HCFC phase-out, and their cooperation is essential for the project progress.

The project will be implemented in close coordination and collaboration with relevant government institutions, regional authorities, industries, public and local authorities and NGOs, as well as with other related relevant projects in the region through enhanced networking.

There are a number of related international initiatives in Uzbekistan and regionally with which this project will coordinate activities.

The following lists these specific initiatives:

- Regional MSP GEF/UNDP/UNIDO/UNEP/WB: “Preparing for HCFC phase out in CEITs: needs, benefits and potential synergies with other MEAs: Bulgaria, Kazakhstan,

Ukraine, Tajikistan, Belarus, Uzbekistan, Azerbaijan and the Russian Federation” which has been instrumental in collecting HCFC consumption related data and formulating draft outlines of HCFC phase-out strategies for the involved countries;

- Regional FSPGEF/UNDP “Initial Implementation of Accelerated HCFC Phase Out in the CEIT Region: Ukraine, Belarus, Tajikistan and Uzbekistan” that helps to develop approaches to accelerated phase-out of HCFC in the region through regional information and experience exchange;
- MLF/UNDP/UNEP project on implementation of HPMP (HCFC phase-out management plan) in Kyrgyzstan (Stage 1 until 2015), which was approved in 2010 and is currently under implementation. The project has been designed to explore similar activities;
- MLF/UNIDO project on implementation of HPMP in Turkmenistan (Stage 1 until 2020), which was approved in 2010 and is currently under implementation. The project has been designed to explore similar activities;
- MLF/UNDP/UNEP project on implementation of HPMP in Armenia (Stage 1 until 2015), which was approved in 2010 and is currently under implementation. The project has been designed to explore similar activities;
- MLF/UNDP project on implementation of HPMP in Moldova (Stage 1 until 2015), which was approved in 2010 and is currently under implementation. The project has been designed to explore similar activities;
- MLF/UNDP project on implementation of HPMP in Georgia (Stage 1 until 2020), which was approved in 2010 and is currently under implementation. The project has been designed to explore similar activities;
- MLF/UNDP PRP for formulation of ODS waste destruction project in Georgia.

The project will also cooperate with other HCFC phase-out initiatives in the region once those are formulated and approved for implementation.

1.4 Baseline analysis

In the absence of international assistance and specifically GEF funding, it is reasonable to assume that progress on the implementation of the HCFC phase-out strategy in the country would expectedly slow down with only limited activities initiated to modernize HCFC regulatory measures. While in shorter term, the country is considered as being able to control HCFC consumption, longer term perspective indicates that the country will enter into a non-compliance regime due to significant latent demand for HCFCs. This is related to currently unconstrained growth in HCFC imported equipment will consequently and inevitably result in servicing “consumption bubble”. Therefore, in the absence of international assistance and specifically GEF funding, it is reasonable to assume that progress in implementing the formulated HCFC phase-out strategy in the country and further efforts toward compliance with the Montreal Protocol would have been minimal and limited.

In response to these challenges (baseline), GEF assistance will serve to support HCFC phase-out in the country, as was the case in the past with CFC phase-out.

2 Strategy

2.1 Project Rationale and Policy Conformity

The project is designed to be aligned with GEF strategic programs and priorities, and specifically the GEF Operational Strategy for ODS. This project is a response to the obligations incurred by Uzbekistan as CEITs (non-Article 5) under the phase-out schedule for HCFCs of the Montreal Protocol, as amended by the Copenhagen amendment and Decision XIX/6MOP 19.

At a high level, the project directly supports the overarching GEF goal for the ODS focal area to protect human health and the environment by assisting countries to phase out consumption and production, and prevent releases of ozone-depleting substances (ODS) according to their commitments to the Montreal Protocol phase-out schedules, while enabling energy-efficient alternative technologies and practices, and consequently contribute generally to capacity development for the sound management of chemicals. In meeting this overall objective, the project was designed to address the ODS focal area's strategic programme, which is aimed at phasing out of HCFC (from production and consumption) and strengthening of capacities and institutions in participating countries. More specifically, this is in reference with the GEF Focal Area Strategy and Strategic Programming for GEF-4 document on Ozone (GEF/C, 31/10 May 11, 2007), which contains the following main objective:

- *For the period of GEF-4, the GEF will assist eligible countries in meeting their HCFC phase out obligations under the Montreal Protocol, and strengthening capacities and institutions in those countries that still are faced with difficulties in meeting their reporting obligations.*

More specifically, the project addresses the following two Outcomes of Strategic Program 1 on phasing out HCFCs and strengthening of capacities and institutions for GEF-4:

- (a) HCFCs are phased-out according to Montreal Protocol schedule, or faster, in GEF-eligible countries;
- (b) GEF-eligible countries meet their reporting obligations under the Montreal Protocol

The GEF goal and its strategic objective are directly addressed in the project objective and its overall design. Similarly the project outcomes and the indicators match the impacts and main indicators defined in the GEF strategy as related to HCFCs, and the project meets the requirements of the Strategic Program 1 in the following Indicators:

- (a) Tons of HCFCs phase-out from consumption at taking into consideration ODS – For Uzbekistan, the project will reduce consumption by 0.9 tons considering ODS in direct phase-out, and prevent the future growth in consumption at the level of 12.98 tons of HCFCs at taking into consideration ODS;
- (b) Percentage reduction in HCFC consumption in the participating countries - the project will achieve country's early compliance with the Montreal Protocol by phasing out 100% of remaining HCFC consumption;
- (c) Percentage of GEF-funded countries that meet their reporting obligations under the Montreal Protocol – Uzbekistan will have sufficient capacity to meet its reporting obligations under the Montreal Protocol, thus, reducing the number of eligible countries.

In line with the GEF's requirements for the type of projects to be supported, the present project is of a dual nature: (1) enabling-type of activities (such as regional Component 1 on experience exchange and networking as well as the full formulation and adoption of the HCFC phase-out strategy) and (2) technical assistance and capacity building activities (re-tooling of the State Customs Committee and technicians with required trainings, modernization of R/R/R capacity, establishment of destruction pilot demonstration project, and demonstration of alternative technologies in the servicing sector through limited end-user equipment retrofits/conversions in private and public sectors).

Through the combination of two such approaches (regional and national), the project is expected to achieve the GEF-4 indicators listed out above, and thus facilitate the country's compliance with the Montreal protocol's requirements.

An additional aspect that needs to be considered is the integration of HCFC Phase out with other global environmental priorities as promoted by both Decision XIX/6 MOP and the GEF-4 Operational Strategy for the Ozone Focal Area¹⁶ and looking forward to the GEF-5 Chemicals Focal Area Strategy¹⁷ that ODS interventions are a part of. The project is aligned with and reinforces broader global environmental priorities related to climate change and the principles of sound chemicals management.

Minimizing climate change impacts as part of HCFC phase out will generally involve the integration of the use of low GWP non-ODS alternative technology, and implementation of phase out measures that enhance energy efficiency such that the lowest Total Equivalent Warming Impact (TEWI) is achieved. This will mean that due to market availability issues, HFC technologies with higher GWPs are the ones that will tend to proliferate. This effectively mirrors the past and current experience in advanced non-Article 5 countries. However, the anticipated rapid commercialization of a number of low GWP options in these countries, particularly the EU and in China, will create opportunities to introduce and demonstrate these technologies as they become more widely used and increasingly cost competitive in more mature markets.

Additionally, the strategy's emphasis on upgrading refrigeration-servicing capacity capitalizes on the linkage between improved maintenance and recovery practice with lower leakage rates (hence GHG emissions) and improved energy efficiency. ODS waste destruction will also provide benefits to climate change by reducing amount of ODSs reaching atmosphere.

¹⁶http://www.thegef.org/gef/sites/thegef.org/files/documents/GEF_4_strategy_ODS_Oct_2007.pdf

¹⁷<http://www.thegef.org/gef/sites/thegef.org/files/documents/GEF5%20Focal%20Area%20Strategies.pdf>

3 Project Goal, Objectives, Outcomes and Outputs/Activities

The overarching theme that underlies the GEF Project Scenario described below is providing the country with the tools to sustain effective compliance with respect its obligations in front of the Montreal Protocol and the objective of protecting human health and the environment by assisting countries to phase out consumption and production, and prevent releases of ozone-depleting substances.

The project design has been developed to specifically address the principal barriers identified above within the overall project component framework set out in the original PIF but with appropriate expansion of outcomes and outputs based on the PPG work.

In the following the two primary project components listed in the Project Framework are described along with the sub-components each of which are aligned with the outcomes and outputs as elaborated in Annex A:

- Component 1 (Regional information exchange and networking component). It addresses barriers associated with incomplete knowledge and awareness and is aligned with the PIF Component 1; Outcomes 1(a-d).
- Component 2 (National capacity building and technical assistance component) targets support to the adoption of completed HCFC phase-out strategy (with selected legislative options to control HCFC import/use), capacity building and supply of analytical and servicing equipment/tools for the State Customs Committee and refrigeration technicians, modernization of HCFC re-use scheme in the country and demonstration of alternative technologies in refrigeration equipment and A/C sectors, ODS destruction, and need to support ongoing institutional development, and is aligned with Outcome 2 (d) - Uzbekistan.

3.1 Component 1 - Regional accelerated phase-out capacity building (GEF financing US\$ 207,497 (inclusive of 45,000 for regional PMC); National co-financing US\$ 400,000); to be implemented by UNDP Bratislava Regional Center

The component consists of four sub-outcomes to clearly identify the institutional capacity building efforts through regional networking with non-Art 5 as well Art 5 countries (through MLF/UNEP-CAP assisted ECA network).

Activities are in full alignment with the original PIF design. These are listed below and their details are provided the table following this list.

Given that activities above are interlinked with similar activities in the rest of participating countries in this regional project, it is expected to achieve savings in some of the budget items such as translation of materials (in case if materials are homogeneous in thematic focus and the language of translation is common) and further publication at one source. In this sense, it is planned to utilize the remaining resources at the end of the project more flexibly giving priority to the support of additional participation of NOUs in the network meetings.

3.1.1 Outcome 1a - Legislative and Policy Options for HCFC phase-out and control (US\$ 36,110)

The countries are provided with information resources and the necessary level of decision maker awareness to undertake national level updating of ODS legislation, regulations, licensing and reporting systems, economic instruments and qualification requirements necessary to ensure

control of HCFC import and use consistent with phase-out obligations (inclusive of quota systems).

3.1.2 Outcome 1b - Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities(US\$ 36,110)

Russian language resource documentation and national trainers will be prepared for undertaking national working level training in Component 2 to equip customs and environmental/ technical inspection authorities in the enforcement of HCFC control measures related to import and application of HCFCs and HCFC containing equipment.

3.1.3 Outcome 1c - Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GHG reduction elements(US\$ 72,222)

User awareness tools, training modules and national trainers delivered for undertaking national working level training in Component 2 refrigeration technicians related to HCFCs and alternatives, taking Energy efficiency and GHG reductions into consideration, and enhancing the sustainability of such training by embedding it in national institutions

3.1.4 Outcome 1d - Support for the development of regional institutions, capacity, and cooperation(US\$ 18,055)

Regional cooperation, information exchange, and joint initiatives in areas of collective interest and concern, namely:

- Development of a regional network of RAC associations;
- Data collection and regional planning for ODS destruction;
- Development of robust Prior Informed Consent (PIC) mechanisms across the region;
- Ongoing and expanded participation of non-Article 5 countries in the ECA regional network.

Component 1 - Regional accelerated phase-out capacity building¹⁸(to be implemented by UNDP Bratislava Regional Center)

Outcome/Output	Description	GEF budget (US\$)
Outcome 1(a) - Legislative and Policy Options for HCFC phase-out and control		36,110
Output 1a.1Preparation of Russian language resource materials	The materials will be prepared for use by NOUs, customs authorities and other stakeholder government agencies on the legislative and regulatory actions required for HCFC phase-out (i.e. step down quotas, bans, single use and container size restrictions, prior informed consent measures, proof of origin documentation, certification systems for technicians, and fiscal instruments to promote price equalization). In addition an assessment of the different modalities for ensuring the rapid and effective incorporation of HCFC phase-out elements and HFC monitoring in national ODS licensing mechanisms and associated regulations will be undertaken for each country.	6,110
Output 1a.2 Awareness training on legislative and regulatory actions	Training sessions for national decision-makers and NOUs respecting legislative and regulatory actions required for HCFC phase-out will be carried out in each of the four countries. An environmental expert (International Consultant) will be requested to prepare the required materials to be delivered during an intensive training seminar. The costs associated cover fees, travel and home based work for international expertise and costs associated with local organization of the workshops.	10,000
Output 1a.3 Regional networking	Regional networking between countries on implementation experience, consistency and cross border impacts related to HCFC control measures.	20,000
Outcome 1b - Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities		36,110
Output 1b.1 Russian language resource documentation and Training of National Trainer	Russian language resource documentation and national trainers will be compiled and translated for undertaking national working level training in Component 2 to equip customs and environmental/ technical inspection authorities in the enforcement of HCFC control measures related to import and application of HCFCs and HCFC containing equipment.	3,110
Output 1b.2 Awareness raising activities	These will take place at the management level of enforcement authorities on HCFC entry-point control measures, major enforcement issues involved (packaging, labeling, identification, container sizes) and collectively identify the detailed scope, trainee numbers and supporting equipment requirements for Component 2.	5,000
Output 1b.3 Training of Trainers	This activity aims to establish national cadres of trainers via "TOT" training of customs and environmental authority decision-making staff to enforce the HCFC control measures related to import/export, distribution, and application of HCFCs and HCFC containing equipment.	10,000
Output 1b.4 PIC Network	Technical support for comprehensive PIC network for ODS import/transit/export in the region linked bilaterally with major producing countries.	3,000
Output 1b.5 Regional networking	Networking will be implemented through exchanges on implementation experience, consistency and cross border impacts related to import/export issues and related enforcement. This activity will link to existing UNEP CAP CIS sub-regional/bilateral meetings on related topics to ensure cost-effectiveness. It is expected that one cross fertilization workshop will take place per year which will allow for all participants to learn from successes and challenges in order to facilitate.	15,000
Outcome 1c - Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GHG reduction elements		72,222
Output 1c.1Preparation of Russian language training manuals and information materials	Publishing and/or procuring (or translating) ready sufficient number of copies in Russian of resource materials will take place in support of targeted national awareness on HCFCs and energy efficiency for leaders in the refrigeration sector (major users and service sector association representatives), NOUs and agencies responsible for certification on: (i) Addressing long-term HCFC demand, and benefits of energy-efficient retrofit/replacement and the use of	50,000

¹⁸To be implemented on a regional basis by BRC in cooperation with other countries. Amounts shown are for Uzbekistan only and will be complemented by budgets from other countries.

	'natural', low GWP refrigerants; (ii) Identifying the scope, trainee numbers and supporting equipment requirements for national level training for technicians in Component 2; (iii) Strengthening of Refrigeration Associations; (iv) Enhanced certification of service organizations and technicians; and (v) Sustainable mechanisms for future training.	
Output 1c.2 ToT on Best Refrigeration Practices	Enhanced general best practices "TOT" training at the regional level for selected principal staff from technical universities and training centers involved in educational programmes for refrigeration technicians to incorporate handling of HCFCs, promotion of 'natural'/low GWP alternatives, energy efficiency aspects etc., with commensurate updating of national certification training curricula.	22,222
Outcome 1d - Support for the development of regional institutions, capacity, and cooperation		18,055
Output 1d.1 Preparation of Russian language information materials	These will be prepared on RAC technical issues, PIC, ODS destruction and other subjects of collective interest.	2,055
Output 1d.2 Promotion of Information exchange mechanisms	These will be actively promoted between RAC associations (i.e. web site, workshops, training/certification practice) and with major international networks and resources (i.e. IIR, AREA, ASHRA).	4,000
Output 1.d3:Facilitation of regional dialogue	This will focus in particular on and plans for ODS destruction including requirements for capture and secure storage and linkages to general chemicals waste management in the region.	12,000
Project Management for regional component		45,000
<p>GEF financing of this component will be directed to international experience inputs as required, contractual services for compilation and translation of the documents as requested by the country, publication of materials in local language and facilitation of regional dialogues and networking with partner countries (including attendance of CAP assisted networks and sub-regional meetings).</p> <p>National co-financing will be provided through staff and coordination logistics related cost contributions (for example when/if the country plays the role of a host country for any of thematic sub-meetings for the rest of participating non Art 5 countries) from principal institutional stakeholders in the government involved in regulatory and import control of ODS, as well as from higher education institutions which will be responsible for technician trainings in the country in long term.</p>		

The following section details work to be undertaken under **Component2**, and have been numbered as per the approved PIF which alphabetically assigned Component 2(a) to Belarus, Component 2(b) to Tajikistan, Component 2(c) to Ukraine, and, finally, Component **2(d)** to Uzbekistan.

3.2 Component 2d - HPMP, National Level Capacity Strengthening and HCFC Phase Out Investment (GEF finance – US\$ 1,265,000; national co-finance – 4,200,000)

This Component constitutes the major component of the project for Uzbekistan and it is directed to achieve the following goals:

1. An adopted HPMP based on an accelerated phase-out strategy;
2. Implementation of national level training for the servicing sector and customs/enforcement authorities; and
3. Targeted HCFC phase out investment demonstrations projects/pilots undertaken in priority areas as described below.

It is fully aligned with Outcome 2d and is further expanded based on work undertaken during PPG phase and related to detailed discussion with national level project partners.

3.2.1 Formal HCFC Phase-out strategy and action plan endorsed

During the previously completed regional MSP project on developing the outlines of HCFC phase-out strategies for several non-Article 5 countries in the region, GEF/UNDP assisted Uzbekistan with the HCFC data collection and formulation of an advanced draft of the HCFC Action Plan. However, the adoption of the HCFC strategy and its implementation depends on additional assistance from the GEF.

Amongst the actions considered in the draft HCFC phase-out strategy are the strengthening of the capacities of environmental and Customs enforcement officers and refrigeration technicians via training (training of trainers) and equipment/tool supply, as well as specific investment activities and demonstration projects in the servicing sector.

With the full deployment of the activities contemplated in this strategy, the country expects to have an integral control system for HCFCs, monitoring the substances, which import was authorized and through sale, distribution, transport, storage, treatment and recycling, among other stages. A registry for refrigerated installations operated locally that would allow the in situ monitoring of the management and handling of these substances will complement the control system, as well as a certification scheme for technicians.

The main activities under this output will serve to facilitate a workshop for the main line-ministries and their relevant staff and will support endorsement of a finalized HPMP, based on the accelerated phase out strategy. This will include finalization of the strategy with updated information, translation of materials and support costs to ensure the full participation of stakeholders.

The cost estimate for this activity is provided below.

US\$	GEF	Co-Financing	Total
Cost estimate for Output	15,700	50,000	65,700

GEF financing will provide assistance for national level support to finalize the HCFC strategy with updated information, such as recent HCFC consumption trends, inputs from the regional component on final legislative options to control HCFCs import and use (HCFC equipment import quotas, improvement of inter-departmental cooperation on HCFC control between NOU and customs, update of codes of commodity classification applied to the external economic activities etc.), regional

cooperation on thematic areas (such as illegal trade, mislabeling of gas canisters etc.), translate the documentation into local language, hold wider stakeholder discussions on adopting the draft resolution to be further formally approved by the Government.

National co-financing will be based on the Governmental support to the adoption of the HCFC Phase out strategy through allocation of experts and legal personnel to draft required resolution and detailed consultations at line-Ministries' level as well as development of corresponding justifications to defense of the draft resolution at the decision-making level of authority (Cabinet of Ministers). The overall institutional coordination role of the Government is provided to support this output.

3.2.2 Output 2d.2: Trained and equipped working level Customs and enforcement officials, and refrigeration technicians using resources (trainers and training materials) from Component 1 with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best practices

The draft HCFC phase-out strategy specifies the need for additional HCFC management capacity building in Uzbekistan. In order to continue building such capacities of Customs, enforcement officials and refrigeration technicians, the national component will provide for trainer-to-audience workshops and equipment supply in support of the practical implementation of such hands-on trainings. This will be done using resources (trainers for decision-makers from Customs and training materials) from Component 1 with respect to HCFC import and management control legislation and regulations (HCFC and HCFC equipment import quota system, HCFC use and registration controls at end-user level, safety standards for alternative technologies), refrigeration equipment servicing techniques (certification of technicians, equipment repair/maintenance standards, R/R/R equipment requirements), and general best-practices.

This project proposes, on one side, to strengthen the National Customs Service's ODS import control procedures and plans for this activity to be fully harmonized with the functions of the Environmental Protection Committee and other key Government stakeholders and agencies to ensure full support. Such support will allow to control the import of HCFCs and HCFC based equipment in quantities allowed by country-specific provisions of the Montreal Protocol and possess analytical, training and knowledge capacity to prevent illegal trade in HCFCs chemicals that may continue to take place in the region (and upgrade Customs' storage capacity for confiscated HCFC materials). At the other end – HCFC consumption sector, as well, the continuity and improvement of the good practices in the refrigeration training plan is proposed for technicians and HCFC equipment service centers, in order for them to improve their practices in the daily use and handling of refrigerating HCFC gases – avoiding HCFC emissions from equipment, and thus, reducing HCFC consumption domestically which will gradually reduce the need for HCFC import. To do so, contents of the customs training and technicians training programs will be updated and information diffusion channels will be improved to reach the largest possible number of trained technicians.

The cost estimate for the proposed GEF support is presented in the summary table below. Each sub-item is discussed in the following sections.

US\$	GEF	Co-Financing	Total
Cost estimate for Output	635,800	1,500,000	2,135,800
Customs	187,000	500,000	687,000
Technicians	448,800	1,000,000	1,448,800

Customs training and equipment support to enhance Customs control capability

US\$	GEF	Co-Financing	Total
Customs	187,000	500,000	687,000
Training	60,000		
Equipment	115,000		
TA (national/international)	12,000		

The HCFC Phase Out strategy preparatory work and the PPG's FSP formulation activities revealed gaps in the current capacity at the Customs level. These relate to:

- during the regular training of the customs officers issues related to new developments in the area of HCFC and HCFC-based equipment import control measures/procedures are considered with some delays;
- outdated information and training materials are used;
- lack of new gas analyzing equipment to control HCFC/HFC/hydrocarbons, and outdated/non-standard portable analytic equipment is used to control CFC

In order to fill in the identified gaps that prevent the effective implementation of Customs' function to control the import of HCFCs, PPG team had detailed discussions with the Customs office and agreed on the assistance package detailed below.

The project will support supply of 20 pieces of last generation gas analyzers for border posts located at the principal points of entry and territorial Customs offices where the latter will ensure coverage of mobile Customs interception groups with 1-2 multi-gas analyzers. The supply of this equipment will also be supported by spare parts such as accumulators, filters, connecting hoses and sampling tips in sufficient quantities so as to ensure their successful and continued use for the duration of the project. The Government will continue to maintain the equipment after the project closure.

One complete set of gas analytical equipment will be supplied to the Higher Military Customs Institute to equip one dedicated classroom for regular trainings of new staff of the State Customs Committee, as well as for regular updating of previously trained ones. The implementing partner has committed to allocate such a space in the Institute, equip it with required furniture for trainings, and also to ensure that a new study curricula be developed and adopted in the Institute to continue with Customs training in the time beyond the project duration. The Higher Military Customs Institute will allocate trainers, and in combination with established training curriculum, this will make any future training of the State Customs Committee's officers more sustainable as compared to one-time trainings that prevailed in the past.

The Customs training component will feature three important elements:

- Training-of-trainers by invited international Customs specialist (5 trainers trained and 10-15 officers from the central administration of the State Customs Committee office);
- Immediate training (by trainers) for an estimated 300 working level Customs officers who operate in the main territorial Customs departments and main posts affiliated with those offices;
- Regular training of new staff by the Training Institute (mandatory for all new staff).

The training sessions will be from 3 to 5 days long to ensure quality delivery and practical experience with use of all materials, tools and equipment.

The equipment supply will be preceded by the initial TOT trainings for 5 trainers (one of which will come from the Higher Military Customs Institute). The invited trainer can also cover a limited number of trainings of Customs officers from the central administration of the State Customs Committee (10-15 officers). A number of workshops will then be supported by the project in order to deploy the trained personnel to the regions and train local personnel in each district.

This will be supported using resources (trainers and training materials) from Component 1 with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best-practices.

GEF financing will provide assistance, as described above, for capacity building and technical assistance to the State Customs Committee (and its dedicated Higher Military Customs Institute) to enhance training of Customs officers and equip the Committee with required analytical tools to effectively implement HCFC import controls.

National co-financing will focus on allocating an auditorium in the Higher Military Customs Institute (furniture and utility fees), the inter-departmental coordination for adoption of an updated training curriculum, providing trainers from the Higher Military Customs Institute and their salaries during and beyond the project duration for the sustainable training of Customs officers after the project's closure, additional investment co-finance on improving general incoming goods scanning capacity (through parallel Customs modernization programs on establishing scanners for selective identification of goods imported in bulk – in trucks - which may contain HCFC cylinders and equipment). The State Customs Committee will also engage in inter-departmental coordination work on the implementation of HCFC Phase Out strategy.

Refrigeration technicians training and equipment support to enhance refrigeration-servicing practices

US\$	GEF	Co-Financing	Total
Technicians	448,800	1,000,000	1,448,800
Training	160,000		
Equipment	268,800		
TA (national/international)	20,000		

The area that will most likely have an impact on the achievement of the accelerated phase-out is the technical capacity to maintain and service the current bank of HCFC containing equipment to a reasonable standard of practice. The relatively high overall leakage rates noted in the HCFC strategy's survey work are associated in part with current deficits in maintenance and refrigerant recovery practices, although it is acknowledged that Uzbekistan appears to be better in these areas than many comparable countries.

Nonetheless, there is a need for a higher standard of servicing practice in terms of HCFC recovery and equipment maintenance, something that is directly linked to availability of an appropriately sized force of skilled technicians operating with modern equipment and tools. The initial training undertaken during earlier projects has expired to a significant degree and needs renewal to face the new realities imposed by the alternative refrigerants and new tools of the trade.

Currently, the number of active technicians is estimated to be of around 1,900, including those working directly for end users and organized service enterprises and in small enterprises and, as individual operators. Recognizing the annual replacement requirement of approximately 250 technicians it is also important that sustainable capacity be created to continuously train both existing and new technicians. Developing this capacity would at least initially be based on the centers

established during the earlier GEF funded project with appropriate upgrading for HCFCs and alternative refrigerants.

The development of such capacity would be coupled with the establishment of a formal certification system for refrigeration technicians and the linkage that will have to the contemplated for application of EU type refrigerant management regulations.

On this basis it is envisioned that this component would involve the following activities:

- Entry level and refresher training for existing qualified technicians with emphasis on HCFCs and modern maintenance and refrigeration management practices including proper equipment handling: for 250 individuals and 750 individuals respectively;
- Development of nationally supported formal entry level and refresher refrigeration training capacity focused on the existing training center-the Tashkent State Technical University);
- Development of a national certification system for refrigeration technicians and service providers;
- Organization of an association of refrigeration service providers and major end users with sustaining capability to act as a technical information dissemination vehicle, focal point for international networking on alternatives and modern practice, implementation of refrigeration technician certification, and ongoing training facilitation.

With regard to the basic recovery/servicing tools, most became dysfunctional with time and are no longer in use. It should be also noted that the equipment was designed and then supplied to handle the CFC, which in most cases seriously limit or preclude their application towards HCFCs and HFCs. Further, the project team has detected the presence of old recovery and recycling machines at larger enterprises only. What is worthwhile to highlight is that many equipment pieces have broken down and their parts were used to backstop the operation of working equipment, which is in high demand in Uzbekistan. This all created a need to replenish the supply of tools for technicians that would also meet the current market demands, e.g. to deal with HCFCs, HFCs and blends, which would also include hydrocarbons.

In response to these limitations, the project will support the continued training and equipment supply (tools and equipment kits) for technicians, as well as for existing higher education technical institutions which cover currently training functions. These institutions will provide trainers and classrooms to assist in project implementation and it is expected that this will take place in close coordination with all actors involved in these efforts.

In total it is expected that around 125 kits will be procured for distribution to technicians and these will include a set of basic tools (manifold and hoses, piercing pliers, tube benders, leak detector, thermometer, voltmeter, etc.) as well as equipment (portable recovery unit, portable recycling kit, reusable recovery cylinder, etc.) in support of best refrigeration practices.

The principal training center (Tashkent State Technical University) will receive a set of modern teaching equipment (laptop with software, LCD projector and screen) to replace the outdated ones received under the previous CFC-12 phase-out programme. Standard servicing tools for hands-on training will be also provided to such training centers. Such support will, just opposite to one-time trainings of CFC phase-out era, ensure sustained coaching of personnel over longer terms to increase cost-effectiveness of the project.

Five (5) trainers will be selected and then trained to help with country level trainings, as and when necessary (1 trainer will take 1 session each (theory and practice respectively)). It is expected that with the above, an estimated 800 technicians in Tashkent and other regions will be trained during 40 workshops. The duration of the theoretical and hands on trainings will be 3-4 days long and will include updates on recent advances in refrigeration, blends and their respective characteristics, information on new blends being tested, as well as practical sessions on the use of the most advanced and modern equipment to apply good refrigeration practices.

GEF financing will support the trainings, international and national expertise for the implementation of train-the-trainer element of the project and monitoring of R/R equipment used by individual technicians and technical centers. Further, the support will cover the supply of basic tools for refrigeration servicing sector and an update of the training curriculum for technicians.

National co-financing will be attached to the GEF support in terms of allocation of training rooms (staff time, furniture, coordination of trainings, utility fees) at the Tashkent State Technical University. The trainings of technicians will be supported beyond the project duration to ensure sustainability of results on a self-sustained basis. Technical service centers and small workshops will co-finance the project by supporting complementary equipment (basic tools) purchase, maintenance and operational costs for the tools and equipment (inclusive spare parts), self-training (sub-contracting of training centers) of their staff beyond the project duration on recovery/best practices in preparing refrigerated equipment – the training will involve the cost of technician certification during the project and beyond.

3.2.3 Targeted HCFC Phase-out Investment Program & Demonstration Projects

Another principal component of the project is the investment programme that was developed in support of:

- Technical Assistance to convert from HCFC-22 in refrigeration manufacturing for AZN Techno enterprise;
- Demonstration and Replacement Programme for the Refrigeration Sector (public and private enterprises);
- Railway Freezer Retrofit project for refrigerated transport sector – JSC “Yo’lreftrans”;
- Upgrades of HCFC re-use system through strengthening R/R/R centers; and
- Pilot Destruction Project for Obsolete ODS.

The cost estimate for the proposed GEF support is presented in the summary table below. Each of sub-items is discussed in the following sections.

US\$	GEF	Co-Financing	Total
Cost estimate for Output	613,500	2,650,000	3,263,500
TA for AZN Techno conversion	70,000	350,000	420,000
Demonstration of retrofit/replacement	195,000	600,000	795,000
Retrofit project - Refrigerated Transport Sector	53,500	350,000	403,500
Upgrades of HCFC re-use system	110,000	800,000	910,000
Unwanted ODS destruction Pilot project	185,000	550,000	735,000

3.2.3.1 Technical Assistance programme for AZN Techno:

US\$	GEF	Co-Financing	Total
TA for AZN Techno conversion	70,000	350,000	420,000
Equipment	50,000		
TA (national/international)	20,000		

This sub-project aims to support conversion from HCFC-141b and HCFC-22 production process to water based technology for foam and HFC-134a/404a for refrigeration in a commercial manufacturing plant.

AZN Techno has planned its self-conversion from the current use of HCFC-141b to water blown foams and receive GEF assistance only for HCFC-22 substitution with HFCs-134a/404a refrigerants. The choice of replacement technology is dictated by suitability and performance of the selected technologies for commercial equipment in line with prevalent trends elsewhere.

AZN Techno is the only manufacturing facility of this category in the country that has a larger scale operation. The rest of the enterprises participating in this sector are small equipment assembly companies. The enterprise was created in 1999 with 7 staff, partnering with a small private enterprise association "Nazirov A.Z." and renting a warehouse from the plant "Uzbekkishlokmach".

The production and processing equipment dates from fSU period and was purchased in a worn-out and incomplete condition and then restored. In 2003 the company expanded. The company is 100% locally owned and was the first to produce HCFC-22 refrigerating show-windows and industrial refrigerating equipment. It is now certified ISO 9001:2008 (Quality Management System); ISO 14001:2004 (Ecological Management System); ISO 22000:2005 (Food Safety Management System).

In 2005 AZN Techno bought previously used foam-filling equipment to manufacture heat-insulating elements (lining) for show-windows, cases and sandwich panels, which now are in high demand in the home market.

AZN is the only company in Uzbekistan providing the country supermarkets and shops with turnkey installations. These include display-windows, racks, refrigerating equipment, vending machines and numerous others. The company offers integrated solutions, from design of premises to equipment assembly and servicing and its equipment is installed in tens of large supermarkets and hundreds of shops all around Uzbekistan. All equipment is provided with guarantee and post guarantee servicing.

The company is economically stable, has prospects of development and is ready to take part and co-finance the GEF project. At present the enterprise plans for a considerable expansion of production, requiring modernization and technical re-equipment to deal with increased demand.

With regard to HCFC consumption, on average it reaches:

- for HCFC-22 (equipment filling and servicing)- 600kg/year;
- for HCFC-141b based polyols – 25 tons of polyols with 16% content of HCFC-141b.

The supplier of the raw material for foam manufacturing is DOW in the Russian Federation.

AZN would partner at its own cost with the current chemical supplier to substitute HCFC-141b used for water based technology without technological changes to the equipment, though technical assistance would be required in support of calibration of the existing two foaming lines to ensure smooth transition without any intermediary reliance on HCFC-141b, and optimal operation under different seasonal conditions. Support will also be provided to ensure that the storage conditions for the chemicals involved are upgraded to new industry approved standard for these chemicals.

For equipment filling with refrigerants, the company currently uses very rudimentary tools more in line with practices in the servicing sector than in the manufacturing sector, which consists of a scale, gauge manifold and direct connection to a gas cylinder (13.6 kg). In order to meet approved industry standards, the GEF assistance will supply a dual gas refrigerant filling system (HFC-134a/HFC-404a)

in replacement of the currently used one to ensure that proper and verifiable operation standards are met.

Given the scale of assistance to the company it is considered as a cost effective measure in line with the expressed company plans to expand its production capacity and improve its industrial safety practices. Indeed the company is in the process of investing in expansion of its infrastructure to increase production processes.

GEF financing will cover technical assistance to calibrate two foaming lines to be used with the water based technology (through international expert assistance), improvements for polyol storage center, and supply of a dual gas refrigerant charging station.

National co-financing will relate under this component to local engineering and construction works on improving facility's production infrastructure in order to support its self-conversion to water blown technology for foam part, staff and GEF supplied equipment maintenance and operational costs. The co-finance will also cover supporting complementary equipment (basic tools) purchase, maintenance and operational costs for the tools and equipment (inclusive spare parts) as AZ Techno will receive basic tools for technicians being servicing center. All technical staff will be trained during the project and beyond on the adequate use and maintenance of new equipment. The company is also committed to ensure proper data collection on energy efficiency savings realized with the new technology and to relay these back to the government.

3.2.3.2 Demonstration and Replacement Programme for the Refrigeration Sector(public and private enterprises)

US\$	GEF	Co-Financing	Total
Demonstration of retrofit/replacement	195,000	600,000	795,000
Equipment	155,000		
TA (national/international)	30,000		
Regional workshop	10,000		

As documented previously there is an immediate need to demonstrate alternative non-ODS/low GWP technologies in order to maximize the capital, operational costs, performance and energy savings where those can be achieved and proved.

In this context, the country plans to extensively test and demonstrate different proven technologies and adapt them to climatic conditions and demands of the country. In particular, pilot projects will demonstrate alternative energy efficient technologies and energy performance in demanding weather conditions. This will include CO₂/NH₃/HC based equipment in several applications (supermarkets, centralized refrigeration and A/C systems). Apart from that, the component will directly serve to increase technical capacities of equipment assembling, nationally-based companies (who also perform functions of equipment servicing centers) to handle these new technologies. This will also assist in updating national safety standards to allow wider use of the alternatives across the country.

In terms of implementation procedures, a first selection process (through UNDP tender procedures) will be carried out to identify the recipient enterprises (during PPG some potential bidders have already been identified) will be carried out and will include conditions that recipients finance technology design, local engineering works, installation and maintenance, while the project will provide the identified new equipment operating on alternative technologies. A second tender process to select companies that can design, assemble and provide the necessary technical support to ensure the

maintained operation of the new systems developed around centralized unit clusters. National expertise (collection of technology related data, support to IC, monitoring of equipment use and performance, report 1yr/part time), as well as international TA, trials, testing and audit & reporting will all be included in the project.

Reporting on achieved results to highlight benefits and disadvantages resulting from pilot demonstration projects will be widely disseminated in a workshop setting and related publications, and will include monitoring results on energy and functional performances. In order to ensure this result, data loggers will be supplied to maintain a proper/verifiable registry of energy consumption.

GEF financing will be designed to cover the procurement costs of refrigerated equipment packages designed to work with alternative technologies. It will further support national/international expertise to help with monitoring of equipment performance and safety audits, and a workshop to disseminate the results of the demonstration project.

National co-finance will involve local level support by the recipients of such equipment which will involve allocation of commercial/public areas to place new technologies, technology design costs, all local engineering works in support of the project's objectives, installation of equipment and maintenance costs to ensure effective use of the new technology during the project and beyond. Selected recipients of equipment will ensure required performance data reporting to the Government and provide staff for the coordination of all works.

3.2.3.3 Railway Freezer Retrofit project for refrigerated transport sector – JSC “Yo’lreftrans”

US\$	GEF	Co-Financing	Total
Retrofit project - Refrigerated Transport Sector	53,500	350,000	403,500
Equipment and spares/materials	53,500		

One of principal and strategic users of HCFC-22 contained in the «M1LE» blend, which was identified during surveys, is the JSC “Yo’lreftrans”, a public joint stock venture that operates a large number of refrigerated wagon sections. These refrigerated wagons are used for transport of food products (vegetables, meat, dairy, fruits etc.) domestically and in the region. The history of the company dates back to fSU times when it was the second largest railway transportation company and operated thousands of refrigerated sections.

Currently, the company maintains and uses 260 refrigerated sections (each section is 5 wagons), and each individual wagon is equipped with dual air-cooling systems which refrigerate cold rooms. Air-coolers are based HCFC-22 (10 to 15kg each, for an approximate consumption of 12kW). The fleet of the cars is so large (1,300) and the equipment is so old (manufactured from 1978 to 1989) that it requires regular monitoring of the system performance and timely maintenance to keep products delivered fresh to final destinations and hence safe for consumers.

In the view of upcoming HCFC import restrictions, the company piloted a number of retrofits (conversions) of HCFC-22 based equipment and test solutions suitable for this mode of transportation that could be applicable to the sector as a whole.

Low GWPs technologies such as natural hydrocarbon based refrigerants for medium-level cooling temperatures were not found suitable for the type and age of refrigerated circuits used, specifically given the mobile type of application with regular metal structure pressures during train movements. However, feasibility of replacement of HCFC with HFC has been proven with a few technical difficulties faced. These were related to synthetic oils requirements as compared to HCFC-22 (based

on mineral oils). More specifically, these retrofits demanded a thorough flushing of original systems to ensure quality and effective operation with new refrigerant substitute - HFC-134a –currently, the only technically possible solution.

The approach to stimulate the retrofits/replacements in the traditional concept of end-user incentive does not represent a cost-effective solution due to equipment age and design, and after technical discussions with the company's technical personnel and management, it was agreed that the best way forward would be to equip the company with the required flushing equipment (industrial category), and an initial supply of solvents and alternative refrigerant.

One side benefit of this sub-component will also be the accumulation of HCFC-22 which can be recycled and re-used within the country to reduce dependence on imports and that will also eventually feed into the destruction capability to be established for obsolete stocks of chemicals and wastes, as described below.

Given the GWP effect of the replacement refrigerant, the company's capacity¹⁹ to exercise best practices will be strengthened in particular as regards tooling and equipment and training in order to minimize refrigerant losses.

GEF financing will cover the procurement of modern recovery/recycling equipment with required tooling to replace the outdated ones and supply of industrial-grade flushing systems for thorough cleaning of oil/debris/residuals in the circuits. The retrofits will be also initially supported by a limited stock of HFC-134a and a stock of synthetic oil for start-up activities.

National co-financing will relate to the actual retrofit costs to cover the whole fleet of wagon sections, procurement of additional stocks of solvents, of HFC-134a/synthetic oils and system components as required by retrofits, training of technician staff to operate the supplied R/R equipment and maintenance of this equipment during and beyond the duration of project, as well as management of stocks of recovered HCFC for recycling and/or destruction. The company will also provide regular reports to the Government on progress achieved.

3.2.3.4 Upgrades of HCFC re-use system through strengthening R/R/R centers

US\$	GEF	Co-Financing	Total
Upgrades of HCFC re-use system	110,000	800,000	910,000
Training (supplier as part of tender)	0		
Equipment	102,000		
TA (national)	8,000		

Under the initial round of GEF assistance which ended in 2005/2006 the CFC re-use capacity was built in eleven (11) regional centers; however this equipment is currently generally outdated/obsolete, in part given that it was supplied to address CFCs, which was the only substance controlled in the refrigeration servicing sector at that time. This was confirmed during the technical visits to the major R&R centers having previously received equipment, where it was established that equipment had exceeded its capacities (lifespan, usefulness, obsolescence) and was not considered by enterprises as meeting the needs dictated by the currently used HCFCs/HFCs and their blends.

In addition, some of this equipment was never fully utilized in part due to the fact some of the recipient companies were, as it turned out, not financially stable and contact with them was lost, hence getting a

¹⁹ The company employs approximately 1,200 technicians (2 mechanics per train section in shifts, hence 4 per section).

good read on the state of equipment was not always possible. In order to avoid a similar situation, the new project will be designed to require the targeted selection of recipient enterprises using prior and long term operation criteria established by the recipient country (companies in existence for at least 5 years, size, solvability, reliability, number of qualified technicians, etc.)

In order to maximize the use of resources, the country feels that it would be wise to site the R\R centers across the country, within the previously established (and functional) structures whenever possible, as this initial implantation design already took into account the principal demand points as regards concentration of equipment and/or technicians. This project will therefore to the extent possible support the strengthening, at least, five (5) previously established recovery and recycling (R&R)²⁰, inclusive of one at JSC “Yo’lreftrans”, and one gas regeneration/storage center establishing at the basis of center on ODS destruction.

The Reclaim (Destruction) Center will be fully equipped with reclamation equipment with capability to restore contaminated gas to high purity levels, identify contaminated blends (GC) and certify quality of reclaimed refrigerants for follow-up re-use.

The reclaim equipment will be supplied to the State Inspectorate on Analytical Control (GosSIAC) as a part of the State Committee for Nature Protection, for centralized HCFC regeneration activities.

Finally, the NOU considers it critical to supply additional spare parts for any new equipment, in sufficient number, as well as to condition selection of a supplier (to be selected through standard UNDP procedures) to cooperate with a national partner enterprise on R/R/R equipment warranty maintenance which will also have the access to the supply of additional spare parts when required in the long-term. An alternate option could be that of having, if the local partnership is not feasible, at least regional representation of the supplier company to CIS countries and preferably in Central Asian location(s). The above will apply to any purchase of equipment to be made during the life of the project.

GEF financing will support the establishment of such an R/R/R infrastructure and implementation support through deployment of a part-time national expert to help monitoring of distributed equipment use.

National co-financing will be geared towards allocation of protected safe-storage facilities by each of the participating service centers to place R/R/R equipment, utility charges and equipment maintenance and staff costs to operate it. The centers also plan to procure required spare parts to keep the equipment operational for the longer term – beyond the project duration. Additionally, centers have committed to regularly train their staff on the adequate use of this sophisticated equipment. The main part of co-finance is also coming from the centers’ plans to complementary equip their mobile repair brigades with basic tools mentioned in the technicians training component above - those who will not receive assistance from the GEF – as approximately 50% of brigades will be equipped by the hosting centers. Companies will commit to procure additional gas containers as required by the operation and without additional assistance from the GEF. Technical centers will ensure that reports on R/R rates are compiled regularly by their staff and presented to the Government.

3.2.3.5 Pilot Destruction Projectfor Obsolete ODS

²⁰ These centers have been contacted during project formulation and have provided co-finance letters: Shomur, Hladomotaz, Yolreftrans, Holod System, Panchenkoentrepreneur

US\$	GEF	Co-Financing	Total
Unwanted ODS destruction Pilot project	185,000	550,000	735,000
Equipment	155,000		
TA	20,000		
Regional workshop	10,000		

The NOU has repeatedly requested UNDP to plan for inclusion of a plasma arc type, small-scale destruction pilot into this project and further to this, UNDP held initial exploratory discussions with the GEF and it was determined at that stage that a pilot project, whose experience and results could be shared regionally, could be explored. This technology will be extensively tested in a first stage in the integrated storage facility. Given the mobility of the technology, if necessary this will be deployed to the different storage facilities throughout the regions, depending on need/costs. The equipment will be delivered to and hosted under strict control of the Environmental Committee (combined with the reclaim center) and measures will be put in place to ensure that the operation of machine complies with all the local environmental and health and safety standards and regulations. In particular regarding wastewater discharge, the plasma arc machine has been found to meet with local standards.

There are approximately 3.47 kg of CaF₂ & CaCl₂ generated for every kg of CFC-12 or 2 kg of HCFC-22 destroyed. In a year, there are about 16.6 tons of CaF₂ & CaCl₂ generated if 4.8 t of CFC-12 or 9.6 t HCFC-22 are destroyed from one plasma arc machine. As there is no market for these by-products, the CaF₂ & CaCl₂ could either be land-filled or mixed with concrete cement as is the practice, for example, in Japan. One plasma arc machine could annually destroy 4,800 kg of CFC-12 or 9,600 kg of HCFC-22 over a 20-hour/day batch.

This pilot will help to demonstrate how to further reduce the operation costs through economies of scale and by increasing labor and machine productivity through efficient management and minimization of down time. Furthermore, the advantage of having a local destruction facility in Tashkent will provide the opportunity to train local staff through ODS destruction technology transfer and serve to educate and demonstrate to local consumers the environmental benefits of ODS destruction for reducing carbon and ODS emission into the atmosphere.

Given these advantages, the Government of Uzbekistan is very keen to acquire one plasma arc machine to demonstrate the safe and efficient disposal of ODS wastes in the region. In future, a regional workshop to share these results, potentially linked to network activities of Europe/CIS CAP team, will be organized.

The equipment will be supplied to GosSIK as a part of the State Committee for Nature Protection.

GEF financing of this component will be directed to procurement of a mobile ODS destruction unit, spares for 1 year of operation, technical assistance from a supplier of the technology to commission installation and monitor the performance. A regional workshop will be further arranged with GEF funds to report on the results.

National co-finance will support the allocation of facility to host the ODS destruction center, staff and utility costs to operate it in the longer term, also beyond the project duration. Furthermore, local facility design, engineering works and safety measures will be covered by national co-finance as well as EIA costs and coordination efforts within the Governmental structures. The government will also be responsible for utilization costs of resulting waste products and strict emission/release controls during the operation of the station. All staff will be trained to handle the equipment. Maintenance costs after the first year of operation will also be taken up under national co-finance.

Component 3 - Monitoring, learning, and adaptive feedback, outreach and evaluation

(GEF US\$ 35,000)

This component links to Outcome 3, namely that the project results are sustained and replicable with outputs being i) M&E and adaptive management applied to project in response to needs and extract lessons learned (Output 3.1) and ii) Lessons learned and best practices are replicated at the national level (Output 3.2). Details are provided in Part I Section H: Budgeted Monitoring and Evaluation plan.

The table below provides a summary cost estimate covering the proposed GEF scenario by Component and Sub-Component described above:

		Cost (US\$)		
Project Outcome	Outputs	GEF	Co-financing	Total
Component 1: Reducing the HCFC Servicing Demand - Regional Accelerated Phase-out Capacity Building (to be implemented by UNDP Bratislava Regional Center)				
Outcome 1a: Legislative and Policy Options for HCFC phase-out and control	Output 1a.1: Preparation of Russian language resource materials	36,110		
	Output 1a.2: Awareness training on legislative and regulatory actions			
	Output 1a.3: Regional networking			
Outcome 1b: Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities	Output 1b.1: Russian language resource documentation and Training of National Trainer	36,110		
	Output 1b.2: Awareness raising activities			
	Output 1b.3: Training of Trainers			
	Output 1b.4: PIC Network			
	Output 1b.5: Regional networking			
Outcome 1c: Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GHG reduction elements	Output 1c.1 Preparation of Russian language training manuals and information materials	72,222		
	Output 1c.2 ToT on Best Refrigeration Practices			
Outcome 1d: Support for the development of regional institutions, capacity, and cooperation	Output 1d.1 Preparation of Russian language information materials	18,055		
	Output 1d.2 Promotion of Information exchange mechanisms			
	Output 1.d.3: Facilitation of regional dialogue			
	Project management for Regional component	45,000		
	Total for Regional Component	207,497	400,000	607,497
Component 2(d): National HPMP, National Level Capacity Strengthening and HCFC Phase-out Investment –Uzbekistan				
Outcome 2(d): Finalized and adopted HCFC phase-out strategy and action plan, implementation of national level training for the servicing sector and customs/enforcement authorities, and targeted phase-out investment demonstrations undertaken in priority areas	Output 2d.1: Formal HCFC Phase-out strategy and action plan developed and endorsed	15,700	50,000	65,700
	Output 2d.2: Trained and equipped working level Customs and enforcement officials, and refrigeration technicians using resources (trainers and training materials) from Component 1 with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best practices	635,800	1,550,000	2,185,800
	Customs training and equipment support to enhance Customs control capability	187,000	550,000	737,000

	Refrigeration technicians training and equipment support to enhance refrigeration servicing practices	448,800	1,000,000	1,448,800
	Output 2d.3 - Targeted HCFC Phase-out Investment Program and Demonstration projects	613,500	2,650,000	3,263,500
	Technical Assistance AZN Techno	70,000	350,000	420,000
	Demonstration and replacement programme for the refrigeration sector	195,000	600,000	795,000
	Railway Freezer Retrofit project for refrigerated transport sector – JSC “Yo’lrefrans”	53,500	350,000	403,500
	Upgrades of HCFC re-use system	110,000	800,000	910,000
	Unwanted ODS Pilot Destruction Project	185,000	550,000	735,000
	Sub-total	1,265,000	4,250,000	5,515,000
Component 3(d): Monitoring, learning, adaptive feedback, outreach and evaluation – Uzbekistan				
	Output 3d.1: M&E and adaptive management applied to project in response to needs and extract lessons learned	35,000	-	35,000
	Output 3d.2: Lessons learned and best practices are replicated at the national level			
	Sub-total	35,000	-	35,000
	Sub-total for activities	1,300,000	4,250,000	5,550,000
	Project Management for National Component (10%)	130,000	450,000	580,000
	Total for National Component	1,430,000	4,700,000	6,130,000
	Total Project Costs	1,637,497	5,100,000	6,737,497

3.3 Project Indicators, Risks and Assumptions

The overall risk rating attached to project is considered small recognizing previous and current state of the country's response to implementation of the Montreal Protocol.

Climate change risks are associated with the project in part related to the substitution of HCFCs with HFCs with high GWP though the project addresses these risks from the side of substantially improving equipment servicing techniques, and thus avoiding emissions. Further, the project will demonstrate, on a limited basis, non-ODS/low GWP (such as ammonia, hydrocarbons, carbon dioxide) technologies in refrigerated equipment. This also has an additional balancing effect in showcasing more energy efficient equipment. Finally, a component on unwanted ODS destruction has been designed in the project to address end-of-life ODSs to set up a complete cycle of ODS management in the country to minimize HCFC (and HFC) emissions into the atmosphere.

The following provides an overall risk matrix that identifies and rates specific risks identified and mitigation strategy adopted (Annex 1).

3.3.1 Incremental Reasoning and Incremental Cost Analysis

International institutional and capacity building assistance for Uzbekistan on ODS phase out began as early as in 1998 (detailed in previous sections). The capacity built at that time was instrumental in addressing CFC phase-out challenge and strengthening the institutional capacity of the country to coordinate the implementation of the Montreal Protocol.

The assistance though was not designed to prepare to address HCFC phase-out and there is a serious technical and institutional capacity gap. The initial effort related to latter group of ODS - HCFC substances took form of a regional MSP project to enable the collection of HCFC consumption data and prepare outline of HCFC phase-out strategies. Developed documentation can serve as a basis for amendment of the existing National Programme on ODS phase-out as the second stage of the Programme implementation to meet requirement of the Montreal Protocol. As the Programme's strategic trend includes:

- "...observation of ODS phase-out schedule set up by the Annex C of the Montreal Protocol applied to countries included into the Article 2 of the Protocol; and
- acceleration of ODS replacement as regards the schedules envisaged by the international agreements...";

The formulated outline of the HCFC strategy can be considered as a full-fledged strategic document since the initial objectives of project for Uzbekistan were exceeded.

The strategy sets clear directions for the country on how to effectively address the growth in HCFC consumption and relies on the technical assistance of the GEF as literally no capacity building action has been taken to upgrade the existing CFC management potential of the country which has become redundant in the absence of CFC issues in the servicing sector.

In the current project formulated in line with the HCFC phase-out strategy forming the Government's action plan to eliminate dependence on HCFCs, GEF funds are to be directed to achieving project outcomes which meet the project environmental objective – avoided HCFC consumption and compliance reporting to the Montreal Protocol. In terms of the project's design, the outcomes and the resultant global environmental benefits match with the GEF goals, objectives and strategic programs for the ODS Focal Area during GEF-4 as described above.

In the absence of GEF assistance, it would not have been possible to leverage co-finance resources in support of achieving accelerated HCFC phase-out and Montreal Protocol's compliance - the main global environmental benefit of this project - through:

- immediate reduction of 0.9 ODP tons in direct phase-out, and
- prevention of the future growth in consumption at the level of 12.98 ODP tons of HCFCs.

It is acknowledged that there are national benefits from the project overall and from the GEF's contribution, which both relate to enhanced institutional and technical capacity to be in position to address the country's dependence on HCFC imports as well the pursuit of linkage to climate change mitigation benefits at the national level (through demonstration of energy efficient technologies) by primarily addressing HCFC (ODS) dependence challenge with an element of information dissemination in the regional/sub-regional contexts. These benefits also apply equally in a regional and global context.

Technical and regulatory strengthening co-financed by the GEF brings additional benefits related to the capacity and knowledge to improve the general environmental protection system as it functions as of now in the country. It will engage close inter-departmental cooperation on solving complex environmental challenges such as sound chemical management.

The level of global environmental benefit in terms of reduction in import and consumption of HCFC would not occur in the absence of the GEF's intervention as the HCFC phase-out Strategy will not be initiated for implementation. Therefore, this programme is considered as incremental.

The Incremental Cost Matrix below provides an overall summary of the incremental costs, both the GEF and co-financing estimated for the project, linked specifically to the project outcome from Annex A, the baseline, and global environmental benefits.

Country Ownership: Country Eligibility and Country Drivenness

Uzbekistan is a signatory and/or Party to a range of international agreements and conventions related to the environment. The principal ones with some relation to ozone protection issues are listed in the table below:

Convention/Agreement	Signature	Ratification/ Accession (a)
Vienna Convention	n/a	18/05/1993(a)
Montreal Protocol	n/a	18/05/1993(a)
– London Amendment to the Montreal Protocol	n/a	10/06/1998(a)
– Copenhagen Amendment to the Montreal Protocol	n/a	10/06/1998(a)
– Montreal Amendment to the Montreal Protocol	n/a	31/10/2006
– Beijing Amendment to the Montreal Protocol	n/a	31/10/2006

Uzbekistan acceded to the Vienna Convention and Montreal Protocol in 1993 shortly after independence and followed with accession to the London and Copenhagen Amendments in 1998 and with ratification of the Montreal and Beijing Amendments in 2006 making it up to date on assumption of all current obligations under the MP. Targeted action on the issue began in 1997 with the development of the Country Program which was completed and adopted in 2000. This also allowed the country to qualify for international assistance for CFC phase out as a non-Article 5 CEIT, eligible to receive support from GEF.

Further, the proposed project is aligned with the Country Programme in ODS phase-out - specific policy priorities and commitments related to ODS phase-out are defined by Resolution of the Cabinet of Ministers "On measures on implementation of commitments of the Republic of Uzbekistan within

the international treaties on protection of the Ozone Layer” #20 of 24.01.2000. It is a part of National Programmes, such as:

- Program of Actions for Environmental Protection (2008-2012) adopted by the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan #212 of 19 September 2008;
- Development and implementation of the National Strategy for phase-out of hydrochlorofluorocarbons (HCFC) approved by the Complex of Additional Measures aimed at achieving the UN Millennium Development Goals in Uzbekistan during 2011-2015 in accordance with the Appendix 1 to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan “On additional measures aimed at achieving UN Millennium Development Goals in Uzbekistan” #21 of 26 January 2011;
- List of technical assistance projects (grants) in 2012 have been preliminary agreed with the donor-countries, international and foreign government and non-government organizations that was endorsed by the Appendix 1 to the the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan “On measures aimed at attracting technical assistance (grants) from donor-countries, international and foreign government and non-government organizations in 2012 to the Republic of Uzbekistan” #75 of 19 March 2012.

As regarding the update the Country Programme to include HCFC controls, Uzbekistan has formulated a HCFC phase-out strategy and the current project intends to provide technical assistance to support its implementation.

Type of Financing Support Provided

The project is designed to provide continuity with the initial GEF regional HCFC survey project.

The financing support provided will be in the form of a grant that will cover costs where foreign expenditures are required, recognizing the limited government and enterprise resources available to address HCFC phase-out. However, the GEF grant will leverage cash co-financing for the project that would otherwise not be channeled towards this global issue. This type of Grant funding is consistent with the GEF Focal Area Strategy as described above.

Sustainability

The principal sustainability requirement for the project is the upgraded capacity of the country that will be used to effectively control the import and use/re-use of HCFCs to stay in compliance with the Montreal Protocol’s obligations on phasing-out HCFC imports.

In terms of its design, the project aligns the technical assistance in specific sub-components to the stakeholder national institutions and private sector that have accumulated CFC phase-out expertise and strengthen the overall system to address HCFC challenge. By doing so, the project will ensure that a required level of ownership is achieved to ensure sustainable results.

The project will also re-establish connections to the current regional, Montreal Protocol related information exchange platforms which involve a number of Art 5 countries from Europe/CIS, to help with adopting more effective HCFC control measures based on other country experiences.

Within the above framework, the detailed project design, at the component and sub-component level, has a number of features that are intended to promote sustainability as noted below:

- The project places emphasis on the regional information exchange and assistance in support of effective HCFC import and consumption regulatory controls, training of trainers to further

disseminate knowledge and strengthen skills of Customs, environmental inspectors, refrigeration technicians, as well to provide support to the establishment of Refrigeration Association. Required Russian/local language materials will be formulated to help improve practical working level skills in ODS management and control. High degree of interconnection to the so far accumulated materials under MLF assistance in the region will be ensured to bring in best practices. The materials that will be developed will also be of use to Art 5 countries in the region, where HPMP implementation started in 2011.

- The emphasis is also placed for hands-on training of relevant project partners at the national level in support of the implementation of the national component. All training (regional and national) conducted under the project will utilize written and replicable training materials and a “train the trainer” approach. The new and updated training modules will be introduced into the study curriculum of national training institutions in the country such as the Higher Military Customs Institute, Tashkent State Technical University and also a number of other training and educational institutions;
- Changes in HCFC handling practices will require strengthening basic capacities of individual technicians and technical centers in terms of availability of equipment servicing and HCFC re-use tools, something the project will provide the basis for through procurement and supply of such instruments. Upon the closure of the project, the tools/machinery will be transferred to reliable users to make sure the capacity is sustained beyond the projects duration.
- The project will contribute to strengthen and sustain the capacity for HCFC phase-out in the longer term through its support to the implementation of the HCFC phase-out strategy and which will provide the Government with a “road map” in addressing future HCFC related challenges.

An appropriate level of international expertise and technology transfer will be facilitated with GEF support to provide the country with sustaining capacity in HCFC management.

The programme will assist in improving the capability of the country to re-use HCFCs and demonstrate best practices in managing end-of-life HCFCs in order to address its HCFC consumption in a comprehensive manner. ODS destruction capability will address unwanted ODSs and demonstrate experience in the regional, Central Asian context.

Demonstration of energy efficient equipment working on alternatives will be essential in order to assist the country, and other countries in the region, to make the appropriate and most efficient choices to ensure that low/non ODP and low/no GWP technologies are demonstrated in practice.

Replicability

Through the implementation of this technical assistance project, the experience accumulated will be available to other countries in the region which operate both under non-Art 5 status as well as Art 5. The regional information exchange component will ensure all replicable results of the project are shared with interested countries on the regional basis.

3.4 Project Results Framework

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: Increased availability of institutional products and services for the conservation and sustainable and equitable use of natural resources.					
Country Programme Outcome Indicators: Indicator: Number of such products and services available Baseline: Limited at all levels Target: Significant increase in such products and services					
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 4.2Catalyzing environmental finance					
Applicable GEF Strategic Objective and Program: Objectives: To protect human health and the environment by assisting countries to phase out consumption and production and prevent releases of ODS according to their commitments to Montreal Protocol phase-out schedules, while enabling low-GHG (Greenhouse Gas) alternative technologies and practices. Program: For the period of GEF-4, the GEF will assist eligible countries in meeting their HCFC phase-out obligations under the Montreal Protocol, and strengthening capacities and institutions in those countries that still are faced with difficulties in meeting their reporting obligations.					
Applicable GEF Expected Outcomes: (1) HCFCs are phased-out according to Montreal Protocol schedule, or faster, in GEF-eligible countries (2) GEF-eligible countries meet their reporting obligations under the Montreal Protocol					
Applicable GEF Outcome Indicators: (1) Indicators for Outcome 1: (a) ODP adjusted tons of HCFCs phased-out from consumption (GEF-4 replenishment target: HCFCs: 50-70 ODP tons) (b) Percentage reduction in HCFC consumption in the participating countries (2) Indicators for Outcome 2: (a) Percentage of GEF-funded countries that meet their reporting obligations under the Montreal Protocol					

Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
Objective: To achieve compliance of Uzbekistan with the accelerated Montreal Protocol HCFC phase-out requirements through stabilization and progressive reduction of HCFC consumption.	Uzbekistan is in compliance with the MP obligations for 2015 and is prepared to meet 2020 targets	<ul style="list-style-type: none"> • Lack of approved HCFC phase-out strategy; • Unconstrained import of HCFC based equipment that creates long-term demand for HCFCs; • Gaps in HCFC control and institutional capacity • Weak HCFC re-use capacity and low-level of technical 	<ul style="list-style-type: none"> • HCFC phase-out strategy fully formulated and recommended for adoption and implementation; • Effective regulatory instruments to limit import of HCFC containing equipment and reduce HCFC imports; • Printed materials on various aspects related to HCFC 	<ul style="list-style-type: none"> • Status of HCFC phase-out strategy as a formal government strategic document; • Art 7 of MP reporting to Ozone Secretariat on HCFC import and monitoring of HCFC import reduction; • National legal and 	<ul style="list-style-type: none"> • Overall government commitment and assumption of appropriate responsibility. • Regulatory enforcement resources and capacity available. • Project stakeholders actively participate in the project

Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
		<p>knowledge and instrumentation to address HCFC in the servicing sector;</p> <ul style="list-style-type: none"> Continued illegal trade in ODS and mislabeling of containers; Limited availability of technical tools to test gas composition and quality as well as to limit emissions of HCFCs during equipment maintenance; Limited technical knowledge relating to good refrigeration practices as regards alternative refrigerants (non-ODS/low GWP such as ammonia, carbon dioxide, etc.); No current information products and programs Limited exposure to alternative technologies and understanding of energy-saving aspects of new modern equipment operational on new technologies 	<p>phase-out (policy control options, enforcement and illegal trade, alternative technologies and energy-efficiency, best refrigeration practices etc.) available;</p> <ul style="list-style-type: none"> Current capacities of project stakeholders strengthened through capacity building and investment support to the public and private sectors 	<p>regulatory registers</p> <ul style="list-style-type: none"> Project Progress and M/E reports 	<p>implementation and realization of HCFC phase-out strategy;</p> <ul style="list-style-type: none"> Accurate monitoring and reporting.
Outcome 1: Regional accelerated phase-out capacity building (containing four sub-components)					
Outcome 1 (a): Legislative and Policy Options for HCFC phase-out and control	<ul style="list-style-type: none"> Russian language resource materials on HCFC control options prepared Awareness training for decision-makers on legislative and regulatory actions accomplished Regional networking on the country with Art 5 and other non-Art 5 countries in the region is supported 	<ul style="list-style-type: none"> Key stakeholders generally have limited awareness of the issue or actions required on the higher or technical level to address HCFC phase-out; Decision-makers from enforcement department (State Committee for Nature Protection, State Customs Committee) have limited knowledge and lack practical skills on the regulatory 	<ul style="list-style-type: none"> Availability of key guidance documentation in Russian, or local languages, where required, on HCFC control options, Customs enforcement approaches and methodologies, refrigeration sector capacity building, energy-efficiency, ODS destruction etc.; High-level decision-makers of the State Committee for Nature 	<ul style="list-style-type: none"> National legal and regulatory registers Equivalence comparison to international standards Number of regional/sub-regional meetings attended by each country, and specific department (organized by 	<ul style="list-style-type: none"> In-country interagency coordination is sustainable through high-level Government support and allows for timely participation of various department sin regional meetings MLF/UNEP-CAP regional and sub-regional conferences and meetings

Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
Outcome 1 (b): Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities	<ul style="list-style-type: none"> •Russian language resource documentation •Awareness raising activities •Training of Trainers •PIC Network •Regional networking 	<p>approaches to effectively control HCFC related challenges;</p> <ul style="list-style-type: none"> •Limited number or lack of trained trainers on enforcement and best refrigeration aspects; •Required materials in Russian or local languages, on HCFC control options, Customs enforcement approaches and methodologies, refrigeration sector capacity building, energy-efficiency, alternative technologies and their application, illegal trade and PIC, technician certification and ODS waste management related issues are limited in availability or absent; 	<p>Protection, State Customs Committee, territorial inspectorates, other Governmental agencies such as Ministry of Higher and Secondary Specialized Education, Agency “Uzstandard” are well informed about the objectives of HCFC consumption phase-out and measures to address this process;</p> <ul style="list-style-type: none"> •Training of a selected number of trainers on the technical level (Customs controls and refrigeration practices) is complete on regional level to initiate trainings on national level 	<p>MLF/UNEP-CAP team or by the current project)</p> <ul style="list-style-type: none"> •Number of materials, in Russian, or local languages, prepared and used by the countries •Number of decision makers and trainers trained in each country •Monitoring of press and media coverage •Project Progress and M/E reports 	<p>are organized on HCFC phase-out subjects etc.</p> <ul style="list-style-type: none"> •Trainers are further deployed for the training at national level •Any additional training will be organized at national level (with or w/o participation of international trainer)
Outcome 1 (c): Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GWP reduction elements	<ul style="list-style-type: none"> •Preparation of Russian language training manuals and information materials •ToT on Best Refrigeration Practices 	<p>approaches and methodologies, refrigeration sector capacity building, energy-efficiency, alternative technologies and their application, illegal trade and PIC, technician certification and ODS waste management related issues are limited in availability or absent;</p> <ul style="list-style-type: none"> •Regional networking with other partner countries in the region is lacking which prevents information and experience exchange [see topics above]; •Cooperation between non-Art 5 countries on effective action standards is minimal or absent 	<p>Training of a selected number of trainers on the technical level (Customs controls and refrigeration practices) is complete on regional level to initiate trainings on national level</p> <ul style="list-style-type: none"> •Regional networking with non Art 5 and other Art 5 countries re-established, contacts re-engaged, and overall supports accelerated capacity building of the country as well as essential experience exchange on important HCFC phase-out related topics 		
Outcome 1 (d): Support for the development of regional institutions, capacity, and cooperation	<ul style="list-style-type: none"> •Preparation of Russian language information materials •Promotion of Information exchange mechanisms •Facilitation of regional dialogue 				

Outcome 2: National level phase-out capacity building					
Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
Outcome 2 (d – Uzbekistan): HPMP, National Level Capacity Strengthening and HCFC Phase Out Investment	Formal HCFC Phase-out strategy and action plan developed and endorsed	<ul style="list-style-type: none"> • No formal HCFC strategy is adopted and enforced through regulatory measures • Inter-agency coordination to address HCFC phase-out is limited • No updated HCFC and HCFC equipment import quota and use system is in place • Low level of awareness related to HCFC phase-out across stakeholders and general public • No current information products and programs 	<ul style="list-style-type: none"> • HCFC phase-out strategy fully formulated, packaged as draft legislation for Government approval and cleared by line Ministries/departments for final endorsement • Widely accessible information on HCFC phase-out strategy and its elements • Inter-agency coordination related to HCFC phase-out is improved • Effective regulatory measures (quotas etc.) are updated and enforced • Main stakeholders are informed about HCFC phase-out strategy and regulatory measures related to HCFC import and use control 	<ul style="list-style-type: none"> • National legal and regulatory registers • Equivalence comparison to international standards • Confirmation correspondence from Government to UNDP • Monitoring of press and media coverage • Project Progress and M/E reports 	<ul style="list-style-type: none"> • Government commitment to timely processing of required HCFC action plan and regulations • Art 7 compliance reporting to Ozone Secretariat • Interagency coordination is sustainable through high-level Government support • Stakeholders support updated regulations

	<p>Trained and equipped working level Customs and enforcement officials, and refrigeration technicians using resources (trainers and training materials) from Component 1 with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best practices</p>	<ul style="list-style-type: none"> • Key Government stakeholders as well as working level officials have limited awareness of HCFC phase-out issue, challenges to address it and skills/tools to enforce HCFC control measures in practice • Limited active educational efforts or tools are available • Illegal trade in ODS continues unregistered and unnoticed • No current information products and programs • Lack of portable HCFC analytical equipment • General absence of basic servicing tools to strengthen HCFC re-use system 	<ul style="list-style-type: none"> • Inclusion of HCFC control issues into curricula of Customs and enforcement officials' training institutions • Update of study plans for refrigeration technicians at specialized training centers and Tashkent State Technical University • Well informed stakeholder community engaged in addressing HCFC phase-out issue with required level of understanding and technical capacity • Re-tooling (basic portable analytical and instrumentation for servicing sector) of main stakeholder groups implemented • Illegal trade is registered and stopped at entry points 	<ul style="list-style-type: none"> • Prepared and registered educational curricula • Attendance at training information sessions and events • Customs reporting information • Procurement documents on supply of equipment • Project Progress and M/E reports 	<ul style="list-style-type: none"> • Interagency coordination (Ministry of Higher and Secondary Specialized Education is supportive of changes to curricula) is sustainable through high-level Government support • Sustaining interest and capacity in educational institutions to maintain educational programs • Active participation and partnership with education institutions and large scale attendance of training events
	<p>Targeted HCFC Phase-out Investment Program and Demonstration projects</p>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
	<p>Technical Assistance AZN Techno</p>	<ul style="list-style-type: none"> • The only organized and economically stable refrigerated equipment manufacturer in country depends on HCFCs in manufacturing processes • Alternative technologies are scarcely available for access and transfer, not tested and lack instrumentation for practical introduction • Refrigerated equipment continues to be manufactured and maintained by the company with the use of HCFCs 	<ul style="list-style-type: none"> • AZN Techno technologically converted to non-ODS technologies (HCFC-141b polyols to water-based technology and HCFC-22 to HFCs for commercial refrigeration equipment) • HCFC use at AZN Techno stopped and company committed not to use HCFCs any longer • Technical staff is knowledgeable on correct use of new technologies and equipped with basic servicing instrumentation to ensure equipment servicing as per allowed international practices 	<ul style="list-style-type: none"> • Attendance of company staff at training information sessions/events • Procurement documents on supply of equipment • Mission and site visits reports of international and national consultants • Company's written commitments to stop usage of HCFCs in manufacturing processes • Project Progress and M/E reports 	<ul style="list-style-type: none"> • In foam part, AZN Techno converts itself from HCFC-141b to water-blown or other non-ODS acceptable technology • Government requires regular reporting and performs monitoring of works • Supplied equipment is adequately maintained and used by company

	Demonstration and replacement programme for the refrigeration sector	<ul style="list-style-type: none"> • Limited proliferation of alternatives to HCFCs in refrigerated equipment • Safety standards for new alternatives do not exist • Generally low awareness on new alternative technologies in the servicing sector and benefits in energy savings (co-benefits for economic operations as well as for climate change) • No current information products and programs • Lack of experience with, knowledge of and skills to assemble, install, operate and maintain HCFC-free commercial/industrial equipment using non-ODS/low-zero GWP technologies (NH3, CO2 double stage, HCs etc.) • Low readiness for/acceptance of new technologies by users 	<ul style="list-style-type: none"> • Non-ODS/low-zero GWP (ammonia, CO2, HCs) technologies in the servicing sector demonstrated and promoted • Stakeholder community (private/public HCFC equipment user sector) well informed about new alternative technologies and their benefits • Local engineering companies gain knowledge and skills to assemble and operate such technologies in future • Safety standards for new alternatives reviewed and adopted • Performance of new equipment is regularly recorded • Market is more prepared for the acceptance of new alternatives 	<ul style="list-style-type: none"> • National legal and regulatory registers on safety standards • Equivalence comparison to international standards • Procurement documents on supply of equipment • Mission and site visits reports of international and national consultants • Monitoring of press and media coverage • Project Progress and M/E reports 	<ul style="list-style-type: none"> • Interagency coordination (Agency “Uzstandard” is supportive of changes to standards) is sustainable through high-level Government support • Costs of new equipment does not exceed project budget • Project participants maintain their interest in the use of new equipment and co-finance local design, installation and maintenance works
	Railway Freezer Retrofit project for refrigerated transport sector – JSC “Yo’lretrans”	<ul style="list-style-type: none"> • Weak basic servicing tooling of staff responsible for maintenance of the fleet and high refrigerant emissions due to transport and use specifics • Limited scale retrofit of railway refrigerated equipment takes place which does not allow to reduce dependence on HCFCs - lack of specialized industrial sized circuit flushing units to allow for change from mineral to synthetic oils during retrofits • Generally outdated refrigerant recycling equipment to address HCFC re-use in longer term 	<ul style="list-style-type: none"> • Fleet retrofit at JSC “Yo’lretrans” enterprise implemented and sustained during and beyond project duration • Company is fully equipped with required tools and seed funding for substitute materials to initiate large-scale retrofits of the refrigerated wagons fleet • Staff is trained on correct use of equipment and tools, and applies best retrofit and equipment maintenance practices across workspace 	<ul style="list-style-type: none"> • Attendance of company staff at training information events • Procurement documents on supply of equipment • Mission and site visits reports of international and national consultants • Regular reports by company on number of retrofits implemented • Project Progress and M/E reports 	<ul style="list-style-type: none"> • JSC “Yo’lretrans” company implements retrofits as planned • Government requires regular reporting and perform monitoring of works • Supplied equipment is adequately maintained and used by company

	Upgrades of HCFC re-use system	<ul style="list-style-type: none"> • HCFCs are not re-used domestically – lack of a comprehensive HCFC re-use system, and country depends on imports • Lack of HCFC re-cycling and reclaim equipment, or network, and previous system used for CFCs is outdated and not suited for HCFCs • Analytical equipment for servicing sector does not exist to ensure quality of re-cycled/reclaimed HCFC refrigerants and confidence of buyers • Limited active educational efforts or tools are available 	<ul style="list-style-type: none"> • HCFC re-use system upgraded through strengthening R/R/R centers across the country in strategic locations – country's technical capacity is improved • HCFC re-use system is implemented in practice allowing to reduce dependence on import of HCFCs • Technical center staff is trained on adequate use of equipment and best refrigeration practices in equipment maintenance and retrofits • Well informed stakeholder community engaged in addressing HCFC phase-out issue with required level of understanding and technical capacity 	<ul style="list-style-type: none"> • Attendance of company staff at training information events • Procurement documents on supply of equipment • Mission and site visits reports of international and national consultants on refrigerant recovery/recycling and reclamation rates • Project Progress and M/E reports 	<ul style="list-style-type: none"> • Government informs the stakeholder community on HCFC restrictions, HCFC phase-out strategy and further limits HCFC and HCFC equipment imports • Economic taxation instruments against HCFCs introduced • Government requires regular reporting and perform monitoring of works • Supplied equipment is adequately maintained and used by company
	Unwanted ODS Pilot Destruction Project	<ul style="list-style-type: none"> • Limited experience of ODS destruction in a lab setting and inefficient control of emission produced during ODS destruction using lab equipment • Further accumulation of illegally imported ODS, wastes, obsolete ODS and therefore there is no need to transport them large outside sites for disposal • Small quantities of obsolete ODS waste to generate interest for export to major hazardous waste destruction sites • Lack of integration of ODS disposal into HCFC re-use system to complete ODS management cycle • Generally lack of appropriate ODS destruction experience in Central Asia region 	<ul style="list-style-type: none"> • Small-scale forbidden for import and/or confiscated, obsolete ODS wastes destruction capacity established on a pilot basis • Staff trained to operate and maintain equipment • Stockpiles of forbidden for import and/or confiscated ODS and obsolete ODS destroyed by supplied technology • Dissemination of results performed on the regional scale 	<ul style="list-style-type: none"> • Procurement documents on supply of equipment • Mission and site visits reports of international and national consultants on refrigerant destruction rates • Project Progress and M/E reports 	<ul style="list-style-type: none"> • Government supports the acceptance of this technology and supervises its application and performance

Outcome 3: Monitoring, learning, adaptive feedback, outreach and evaluation	M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted.	<ul style="list-style-type: none"> •No Monitoring and Evaluation system •No evaluation of project output and outcomes 	<ul style="list-style-type: none"> •Monitoring and Evaluation system developed during year 1. •Mid-term-evaluation of project output and outcomes conducted with lessons learnt at 30 months of implementation. •Final evaluation report ready in the end of project 	<ul style="list-style-type: none"> •Project document inception workshop report. •Independent mid-term evaluation report. •Final evaluation report 	<ul style="list-style-type: none"> •Availability of reference material and progress reports •Cooperation of stakeholder agencies and other organizations.
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<p><i>Outcome 1 (a): Legislative and Policy Options for HCFC phase-out and control</i></p> <p>Output 1.1: Russian language resource materials on HCFC control options prepared</p> <p>Output 1.2: Awareness training for decision-makers on legislative and regulatory actions accomplished</p> <p>Output 1.3: Regional networking on the country with Art 5 and other non-Art 5 countries of the Montreal Protocol in the region is supported</p>
<p><i>Outcome 1 (b): Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities</i></p> <p>Output 1.4: Russian language resource documentation</p> <p>Output 1.5: Awareness raising activities</p> <p>Output 1.6: Training of Trainers</p> <p>Output 1.7: PIC Network</p> <p>Output 1.8: Regional networking</p>
<p><i>Outcome 1 (c): Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GWP reduction elements</i></p> <p>Output 1.9: Preparation of Russian language training manuals and information materials</p> <p>Output 1.10: ToT on Best Refrigeration Practices</p>
<p><i>Outcome 1 (d): Support for the development of regional institutions, capacity, and cooperation</i></p> <p>Output 1.11: Preparation of Russian language information materials</p> <p>Output 1.12: Promotion of Information exchange mechanisms</p> <p>Output 1.13: Facilitation of regional dialogue</p>
<p><i>Outcome 2 (d – Uzbekistan): HPMP, National Level Capacity Strengthening and HCFC Phase Out Investment</i></p> <p>Output 2.1: Formal HCFC Phase-out strategy and action plan developed and endorsed</p> <p>Output 2.2.: Trained and equipped working level Customs and enforcement officials, and refrigeration technicians using resources (trainers and training materials) from Component 1 with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best practices</p> <p>Output 2.3: Targeted HCFC Phase-out Investment Program and Demonstration projects</p>
<p><i>Outcome 3: Monitoring, learning, adaptive feedback, outreach and evaluation</i></p> <p>Output 3.1: M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted.</p> <p>Output 3.2: Lessons learned and best practices are replicated at national level</p>

3.5 Total Budget and Workplan

Award ID:	00063869	Project ID(s):	00080735
Award Title:	PIMS 4309FSP Regional Ozone – Uzbekistan		
Business Unit:	UZB10		
Project Title:	Initial Implementation of Accelerated HCFC Phase Out in the CEIT Region – Uzbekistan		
PIMS no.	4309		
Implementing Partner (Executing Agency)	UNDP Uzbekistan		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Total (USD)	See Budget Note:
OUTCOME 1: Regional accelerated phase-out capacity building (to be implemented by UNDP Regional Center in Slovakia)										
OUTCOME 2: HPMP, National Level Capacity Strengthening and HCFC Phase Out Investment										
Output 2.1: Formal HCFC Phase-out strategy and action plan developed and endorsed	NIM	62000	GEF	72100	Contractual services (workshops, rent, equipment, etc.)	\$9,000	\$0	\$0	\$9,000	x
				72100	Contractual services (publications etc.)	\$6,700	\$0	\$0	\$6,700	x
					Sub-total	\$15,700	\$0	\$0	\$15,700	
Output 2.2.: Trained and equipped working level Customs and enforcement officials, and refrigeration technicians using resources (trainers and training materials) from Component 1	NIM	62000	GEF	72200	Equipment (Customs and technicians)	\$150,000	\$150,000	\$61,800	\$361,800	x
				72100	Contractual services (Training of Customs and technicians)	\$80,000	\$80,000	\$60,000	\$220,000	x
				72200	Office equipment (Training equipment for institutions)	\$12,000	\$0	\$0	\$12,000	x
				71200	International Consultants (to deliver trainings)	\$10,000	\$10,000	\$0	\$20,000	x
				71300	National consultant	\$5,000	\$5,000	\$3,000	\$13,000	x
				72100	Contractual services (publications etc.)	\$5,000	\$4,000	\$0	\$9,000	x
					Sub-total	\$262,000	\$249,000	\$124,800	\$635,800	

Output 2.3: Targeted HCFC Phase-out Investment Program and Demonstration projects										
Technical Assistance AZN Techno	NIM	62000	GEF	71200	International Consultant (TA)	\$20,000	\$0	\$0	\$20,000	x
				72200	Equipment	\$30,000	\$20,000	\$0	\$50,000	x
					Sub-total	\$50,000	\$20,000	\$0	\$70,000	
Demonstration and replacement programme for the refrigeration sector	NIM	62000	GEF	72200	Equipment	\$0	\$155,000	\$0	\$155,000	x
				71200	International Consultant (TA)	\$0	\$10,000	\$6,000	\$16,000	x
				71300	National consultant	\$2,000	\$6,000	\$6,000	\$14,000	x
				72100	Contractual services (workshops, rent, equipment, etc.)	\$0	\$0	\$10,000	\$10,000	x
					Sub-total	\$2,000	\$171,000	\$22,000	\$195,000	
Railway Freezer Retrofit project for refrigerated transport sector – Y’olRefTrans	NIM	62000	GEF	72200	Equipment	\$0	\$35,000	\$0	\$35,000	x
				72300	Materials and goods	\$0	\$18,500	\$0	\$18,500	x
					Sub-total	\$0	\$53,500	\$0	\$53,500	
Upgrades of HCFC re-use system	NIM	62000	GEF	72200	Equipment	\$0	\$52,000	\$50,000	\$102,000	x
				71300	National consultant	\$0	\$8,000	\$0	\$8,000	x
					Sub-total	\$0	\$60,000	\$50,000	\$110,000	
Unwanted ODS Pilot Destruction Project	NIM	62000	GEF	72200	Equipment	\$0	\$0	\$155,000	\$155,000	X
				71200	International consultant	\$0	\$20,000	\$0	\$20,000	
				72100	Contractual services (workshops, rent, equipment, etc.)	\$0	\$0	\$10,000	\$10,000	X
					Sub-total	\$0	\$20,000	\$165,000	\$185,000	
					Total Outcome 2	\$329,700	\$573,500	\$361,800	\$1,265,000	
OUTCOME 3: Monitoring, learning, adaptive feedback, outreach and evaluation – Uzbekistan										
OUTCOME 3: Monitoring, learning, adaptive feedback, outreach and evaluation - Uzbekistan	NIM	62000	GEF	71200	International Consultants	\$0	\$15,000	\$20,000	\$35,000	X
					Total M & E	\$0	\$15,000	\$20,000	\$35,000	
Project Management Budget (PMB)	NIM	62000	GEF	71300	Local Consultants	\$30,000	\$30,000	\$30,000	\$90,000	X
				71600	Travel	\$4,000	\$4,000	\$4,000	\$12,000	X
				72200	Equipment	\$22,000	\$0	\$0	\$22,000	X

				74500	Miscellaneous (audit)	\$2,000	\$2,000	\$2,000	\$6,000	X
					Total Management national	\$58,000	\$36,000	\$36,000	130,000	
					PROJECT TOTAL national w/o PMB	\$329,700	\$588,500	\$381,800	\$1,300,000	
					PROJECT TOTAL national	\$387,700	\$624,500	\$417,800	\$1,430,000	

3.7 Project Results and Resource Framework (UNDP)

Intended Outcome as stated in the Country Programme Results and Resource Framework: Increased availability of institutional products and services for the conservation and sustainable and equitable use of natural resources				
Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets: Indicator: Number of such products and services available Baseline: Limited at all levels Target: Significant increase in such products and services				
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 4.2 Catalyzing environmental finance				
Objectives: To protect human health and the environment by assisting countries to phase out consumption and production and prevent releases of ODS according to their commitments to Montreal Protocol phase-out schedules, while enabling low-GHG (Greenhouse Gas) alternative technologies and practices. Program: For the period of GEF-4, the GEF will assist eligible countries in meeting their HCFC phase-out obligations under the Montreal Protocol, and strengthening capacities and institutions in those countries that still are faced with difficulties in meeting their reporting obligations.				
Applicable GEF Expected Outcomes: (3) HCFCs are phased-out according to Montreal Protocol schedule, or faster, in GEF-eligible and countries GEF-eligible countries meet their reporting obligations under the Montreal Protocol Applicable GEF Outcome Indicators: (1) Indicators for Outcome 1: (a) ODP adjusted tons of HCFCs phased-out from consumption (GEF-4 replenishment target: 50-70 tons at taking into account ODP of HCFC) (b) Percentage reduction in HCFC consumption in the participating countries (2) Indicators for Outcome 2: (a) Percentage of GEF-funded countries that meet their reporting obligations under the Montreal Protocol				
Partnership Strategy: State Committee for Nature Protection is the National Implementing Partner. Other partners are the State Customs Department, Ministry of Justice, Agency "Uzstandard", Ministry of Higher and Secondary Specialized Education, Tashkent State Technical University, and private sector				
Project title and ID (ATLAS Award ID): Initial Implementation of Accelerated HCFC Phase Out in the CEIT Region - Uzbekistan, Project ID # 00080735 (ATLAS Award ID # 00063869)				
INTENDED OUTPUT	OUTPUT TARGETS FOR YEARS	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
Compliance of Uzbekistan with the accelerated Montreal Protocol HCFC phase-out requirements achieved through stabilization and progressive reduction of HCFC	2013 Target 1: 1.1 High-level decision-makers of the State Committee for Nature	Activity Result 1: Regional phase-out capacity building accelerated (containing four sub-components) (DIM) Component 1 (a): Legislative and Policy Options for HCFC phase-out and control	Activity Result 1: UNDP Regional Center in Bratislava, State Committee for Nature Protection, State Customs Committee, Agency "Uzstandard",	TOTAL for Activity 1 (DIM): N/A TOTAL for Activity 2 (NIM): GEF: \$1,265,000 Government: \$1,965,000

<p>consumption</p> <p>Baseline 1:</p> <p>1.1 Lack of approved HCFC phase-out strategy;</p> <p>1.2 Cooperation between non-Art 5 countries on effective action standards is minimal or absent and regional networking with other partner countries in the region is lacking which prevents information and experience exchange</p> <p>Indicator 1:</p> <p>1.1 HCFC phase-out strategy adopted in Uzbekistan;</p> <p>1.2 Regional networking on the country with Art 5 and other non-Art 5 countries in the region is supported</p> <p>Baseline 2:</p> <p>2.1 HCFCs are not re-used domestically due to lack of a comprehensive HCFC re-use system, and country depends on imports;</p> <p>2.2 Gaps in regulatory and institutional frameworks resulted in unconstrained import of HCFC based equipment that creates long-term demand for HCFCs;</p> <p>2.3 Lack of portable HCFC analytical equipment and instrumentation;</p> <p>2.4 Continued illegal trade in ODS and mislabelling of containers</p> <p>Indicator 2:</p> <p>2.1 Comprehensive HCFC re-</p>	<p>Protection, State Customs Committee, territorial inspectorates, other Governmental agencies such as Ministry of Higher and Secondary Specialized Education, Agency “Uzstandard” are well informed about the objectives of HCFC consumption phase-out and measures to address this process;</p> <p>1.2 Regional networking with non-Art 5 and other Art 5 countries re-established and contacts re-engaged</p> <p>Target 2:</p> <p>2.1 Required level of understanding and technical capacity of relevant stakeholder community engaged in establishing in-country HCFC re-use system identified;</p> <p>2.2 Regulatory measures aimed at limiting import of HCFC containing equipment to be incorporated into national practices presented and accepted by main stakeholders;</p> <p>2.3 Needs in portable HCFC analytical equipment and instrumentation of main stakeholder groups identified</p> <p>Target 3:</p> <p>3.1 At least one key guidance documentation in Russian and /or Uzbek languages on energy-efficiency and alternative technologies is available;</p> <p>3.2 Stakeholder community (private/public HCFC equipment user sector, at focusing on gender related aspects) well informed about at least 2 new</p>	<p>Action: Prepare Russian and Uzbek languages key guidance documentation on HCFC phase-out and control options implemented by Customs authorities, and ODS destruction, etc.;</p> <p>Action: Accomplish awareness training for decision-makers on legislative and regulatory actions</p> <p>Action: Support re-establishing regional networking on the country with Article 5 and other non-Article 5 countries in the region</p> <p>Component 1 (b): Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities</p> <p>Action: Develop Russian and/or Uzbek languages resource documentation on Custom enforcement approaches and methodologies, illegal trade and Prior Informed Consent (PIC) system</p> <p>Action: Implement awareness raising activities</p> <p>Action: Conduct Training of Trainers</p> <p>Action: Establish Informed Consent (PIC) system National Network</p> <p>Action: Establish Regional networking joining State Customs Committee and environmental/technical inspection authorities on enforcement of HCFC control measures</p> <p>Component 1 (c): Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GHG reduction elements</p> <p>Action: Prepare Russian and/or Uzbek languages training manuals and information materials on refrigeration sector capacity building, energy-efficiency</p>	<p>Ministry of Higher and Secondary Specialized Education</p>	<p>Private sector: \$2,850,000</p> <p>Year 2013: GEF: \$60,000 (International consultants, National Consultants, Contractual services for workshops, rent, equipment, Office equipment, Materials and goods)</p> <p>Government: \$56,800(Working hours of local specialists, phone communication lines etc., in-cash)</p> <p>Private sector: \$150,000(In-cash and in-kind contributions into pilots and equipment)</p> <p>Year 2014: GEF: \$599,500 (International consultants, National Consultants, Contractual services for workshops, rent, equipment, publications, training of customs and technicians; Equipment, including for customs and technicians; Office equipment, including training equipment for institutions; Materials and goods)</p> <p>Government:\$1,049,000(Working hours of local specialists, phone communication lines etc., in-cash)</p> <p>Private sector: \$1,350,000 (In-cash and in-kind contributions into pilots and equipment)</p>
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<p>use national system is in place;</p> <p>2.2 # of regulatory and institutional instruments introduced to limit import of HCFC containing equipment and reduce HCFC imports;</p> <p>2.3 Type of portable HCFC analytical equipment and number of stakeholders equipped;</p> <p>2.4 # cases of HCFC based equipment registered and stopped annually at entry points</p> <p>Baseline 3:</p> <p>3.1 Lack of current information products and programs in the servicing sector on alternatives to HCFCs in refrigerated equipment;</p> <p>3.2 Low awareness on new alternative technologies in the servicing sector and benefits in energy savings (co-benefits for economic operations as well as for climate change)</p> <p>Indicator 3:</p> <p>3.1 # of information products and programs in the servicing sector and benefits in energy savings can be used by stakeholders;</p> <p>3.2 # of alternative technologies demonstrated and used by private/public HCFC equipment users, and their economic and climate change benefits</p> <p>Baseline 4:</p> <p>4.1 Refrigerated equipment</p>	<p>alternative technologies and their benefits</p> <p>Target 4:</p> <p>4.1 At least one non-ODS technology can be used by local company to manufacture and maintain refrigerated equipment identified</p> <p>4.2 Technical tools and seed funding required to initiate retrofitting railway refrigerator fleet identified</p> <p>4.3 Specialized equipment required for small-scale destruction of illegally imported, confiscated and waste ODS identified</p> <p>Target 5:</p> <p>5.1 Monitoring and Evaluation system developed and is operational</p> <p>2014</p> <p>Target 1:</p> <p>1.1 Inter-agency coordination related to HCFC phase-out improved;</p> <p>1.2 Regional networking with non-Art 5 and other Art 5 countries supports accelerated capacity building of the country on HCFC phase-out</p> <p>Target 2:</p> <p>2.1 Technical centers' staff trained on adequate use of HCFC re-use equipment and best refrigeration practices in equipment maintenance and retrofits;</p> <p>2.2 At least two effective regulatory measures (quotas etc.) related to HCFC import and use control introduced and/or updated and enforced;</p>	<p>and GHG reduction elements</p> <p>Action: Conduct ToT on Best Refrigeration Practices</p> <p>Component 1 (d): Support for the development of regional institutions, capacity, and cooperation</p> <p>Action: Prepare Russian language information materials on regional-based approaches related to Policy Options for HCFC phase-out and control</p> <p>Action: Promote regional level information exchange mechanisms</p> <p>Action: Facilitate regional dialogue on HCFC phase-out and control</p> <p>Activity Result 2: National level phase-out capacity building such as HPMP, National Level Capacity Strengthening and HCFC Phase Out Investment implemented (NIM)</p> <p>Action: Develop and endorse formal national HCFC Phase-out strategy and action plan (including gender relevant mainstreaming)</p> <p>Action: Train and equip the working level staff of the State Customs Committee and enforcement officials, and refrigeration technicians with skills and knowledge to use trainers and training materials (at considered relevant gender aspects) with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best practices</p> <p>Action: Update of study plans for refrigeration technicians (with collecting gender disaggregated data) at specialized training centers and Tashkent State Technical University</p>	<p>Activity Result 2: State Customs Committee, Agency "Uzstandard", Ministry of Higher and Secondary Specialized Education, Tashkent State Technical University, and private sector</p>	<p>Year 2015: GEF: \$486,000 (International consultants, National Consultants, Contractual services for workshops, rent, equipment, publications, training of customs and technicians; Equipment, including for customs and technicians; Office equipment, including training equipment for institutions; Materials and goods) Government: \$782,000 (Working hours of local specialists, phone communication lines etc., in cash)</p> <p>Private sector: \$1,000,000 (In-cash and in-kind contributions into pilots and equipment)</p> <p>Year 2016: GEF: \$119,500 (International consultants, National Consultants, Contractual services for workshops, rent, equipment, publications, training of customs and technicians; Equipment, including for customs and technicians; Office equipment, including training equipment for institutions; Materials and goods) Government: \$77,200 (Working hours of local specialists, phone communication lines etc., in cash)</p>
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<p>continues to be manufactured and maintained with the use of HCFCs;</p> <p>4.2 Weak basic servicing tooling of staff responsible for maintenance of railway fleet and high refrigerant emissions due to transport and use specifics;</p> <p>4.3 Lack of integration of ODS disposal into HCFC re-use system to complete ODS management cycle at national level</p> <p>Indicator 4:</p> <p>4.1 # of non-ODS technologies used by trained local company manufacturing and maintaining refrigerated equipment;</p> <p>4.2 # technical tools, seed funding and trained staff required for retrofitting railway refrigerator fleet</p> <p>4.3 Specialized equipment for obsolete ODS destruction is in place, and kg of obsolete ODS destroyed</p> <p>Baseline 5:</p> <p>5.1 No Monitoring and Evaluation system;</p> <p>5.2 No evaluation of project output and outcomes</p> <p>Indicator 5:</p> <p>5.1 Monitoring and Evaluation system is in place;</p> <p>5.2 Project outputs and outcomes evaluated at mid and final points of project implementation cycle, and lessons learned codified</p>	<p>2.3 At least 5 stakeholders (working level Customs and enforcement officials, and refrigeration technicians) provided with basic portable HCFC analytical equipment and instrumentation</p> <p>Target 3:</p> <p>3.1 One set of safety standards for new alternatives reviewed and adopted;</p> <p>3.2 At least two energy-efficiency and alternative technologies deployed by local engineering companies gained knowledge and skills to assemble and operate them</p> <p>Target 4:</p> <p>4.1 Technical staff is knowledgeable on correct use of new technologies and equipped with basic servicing instrumentation to ensure equipment is servicing as per international practices;</p> <p>4.2 JSC “Yo’lreftrans” fully equipped with required tools and seed funding for substitute materials to initiate large-scale retrofits of the refrigerated wagons fleet;</p> <p>4.3 Required specialized equipment is in place and destruction of 100 kg of illegally imported, confiscated and waste ODS piloted</p> <p>Target 5:</p> <p>5.2M&E and adaptive management applied to project in response to needs, mid-term evaluation conducted and its findings extracted</p> <p>2015</p>	<p>Action: Implement re-tooling (basic portable analytical equipment and instrumentation for servicing sector) of main stakeholder groups</p> <p>Action: Develop targeted HCFC Phase-out Investment Program and Demonstration projects:</p> <p>1 Demonstration and replacement programme for the refrigeration sector:</p> <ul style="list-style-type: none"> • <i>Technical Assistance to AZN Techno:</i> <ul style="list-style-type: none"> ▪ Convert AZN Techno technologically into non-ODS technologies (HCFC-141b polyols to water-based technology and HCFC-22 to HFCs for commercial refrigeration equipment); ▪ Train staff (at considered relevant gender aspects) on correct use of new technologies and equip with basic servicing instrumentation to ensure equipment servicing as per allowed international practices • <i>Railway Freezer Retrofit project for refrigerated transport sector – JSC “Yo’lreftrans” Company:</i> <ul style="list-style-type: none"> ▪ Equip Company with required servicing tooling and ensure seed funding for substitute materials to initiate large-scale retrofits of the refrigerated wagons fleet; ▪ Retrofit railway refrigerated equipment to reduce dependence on HCFCs through specialized industrial sized circuit flushing units to allow for change from mineral to synthetic oils during retrofits; ▪ Train staff (at considered relevant gender aspects) on correct use of equipment and tools, and application of best retrofit and equipment maintenance practices 		<p>Private sector: \$350,000 (In-cash and in-kind contributions into pilots and equipment)</p> <p>TOTAL for Activity 3: GEF: \$35,000 Government:\$85,000</p> <p>Year 2013: GEF: \$0 Government: \$10,000(Working hours of local specialists, phone communication lines etc.)</p> <p>Year 2014: GEF: \$15,000 (International consultants) Government: \$25,000(Working hours of local specialists, phone communication lines etc.)</p> <p>Year 2015: GEF: \$5,000 (International consultants) Government: \$25,000(Working hours of local specialists, phone communication lines etc.)</p> <p>Year 2016: GEF: \$15,000 (International consultants) Government:\$25,000(Working hours of local specialists, phone communication lines etc.)</p> <p>TOTAL for Activity 4: GEF: \$130,000 UNDP: \$250,000</p> <p>Year 2013:</p>
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	<p><u>Target 1</u></p> <p>1.1 HCFC phase-out strategy formulated; cleared by line ministries/departments for final endorsement, and packaged as draft legislation for Government approval;</p> <p>1.2 Regional networking with non-Art 5 and other Art 5 countries supports essential experience exchange on important HCFC phase-out related topics</p> <p><u>Target 2:</u></p> <p>2.1 HCFC re-use system upgraded through strengthening R/R/R centers across the country in strategic locations;</p> <p>2.2 At least two issues on HCFC import and use control included into curricula of Higher Military Customs Institute and enforcement officials' training institutions;</p> <p>2.3 5 of working level Customs and enforcement officials, and refrigeration technicians trained and skilled in use of portable HCFC analytical equipment and instrumentation;</p> <p>2.4 At least 7 cases of HCFC based equipment registered and stopped using sets of basic portable analytical tools and instruments provided to main stakeholder groups, including State Customs Committee</p> <p><u>Target 3:</u></p> <p>3.1 2-3 study plans for refrigeration technicians of specialized training centers and Tashkent State Technical University</p>	<p>across workspace</p> <p>2 Upgrade of HCFC re-use system:</p> <ul style="list-style-type: none"> Strengthen R/R/R centers across the country in strategic locations; Train Technical center staff on adequate use of equipment and best refrigeration practices in equipment maintenance and retrofits (with collecting gender disaggregated data) <p>3 Unwanted ODS:</p> <ul style="list-style-type: none"> Implement small-scale piloting of obsolete ODS destruction; Train staff (at considered relevant gender aspects) on how to operate and maintain equipment ; Destroy stockpiles of obsolete ODS using supplied technology; Disseminate of results on obsolete ODS destructed regionally <p><u>Activity result 3: Monitoring, learning, adaptive feedback, outreach and evaluation conducted (NIM)</u></p> <p>Action: Apply M&E and adaptive management to project in response to its needs, including Inception phase, workshop and report</p> <p>Action: Conduct mid-term evaluation and extract findings with lessons learned</p> <p>Action: Conduct final project evaluation in the end of the project</p> <p><u>Activity result 4: Project Management</u></p>	<p>Activity Result 3: State Committee for Nature Protection and UNDP</p> <p>Activity Result 4: UNDP</p>	<p>GEF: \$25,000 (National Consultants, Travel, Equipment, Miscellaneous (audit))</p> <p>UNDP: \$38,000 (Individual Contractual services for core project staff; communication; supplies, IT and office equipment, rental & maintenance equipment, miscellaneous)</p> <p><u>Year 2014:</u> GEF: \$45,000 (National Consultants, Travel, Miscellaneous (audit))</p> <p>UNDP: \$80,000 (Individual Contractual services for core project staff; communication; supplies, IT and office equipment, rental & maintenance equipment, miscellaneous)</p> <p><u>Year 2015:</u> GEF: \$42,000 (National Consultants, Travel, Miscellaneous (audit))</p> <p>UNDP: \$82,000 (Individual Contractual services for core project staff; communication; supplies, IT and office equipment, rental & maintenance equipment, miscellaneous)</p> <p><u>Year 2016:</u> GEF: \$18,000 (National Consultants, Travel, Miscellaneous (audit))</p> <p>UNDP: \$50,000 (Individual Contractual services for core project staff; communication; supplies,</p>
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	<p>improved and included information on non-ODS technologies;</p> <p>3.2 At least two non-ODS/low-zero GWP (ammonia, CO₂, HCs) technologies can be used in the servicing sector demonstrated and promoted</p> <p><u>Target 4:</u></p> <p>4.1 Local Company AZN Techno technologically converted to non-ODS technologies (HCFC-141b polyols to water-based technology and HCFC-22 to HFCs for commercial refrigeration equipment);</p> <p>4.2 JSC “Yo’lreftrans” staff trained and is able correctly use the supplied equipment and tools, and applies best retrofit and equipment maintenance practices across workspace;</p> <p>4.3 Professionals trained in operation and maintenance of the supplied specialized equipment, and managed destruction of more 200 kg of illegally imported, confiscated and waste ODS</p> <p><u>Target 5: N/A</u></p> <p><u>2016</u></p> <p><u>Target 1</u></p> <p>1.1 HCFC phase-out strategy adopted by Government and information on HCFC phase-out strategy and its elements is available and is widely accessible;</p> <p>1.2 Results achieved disseminated on the regional scale</p>			IT and office equipment, rental & maintenance equipment, miscellaneous)
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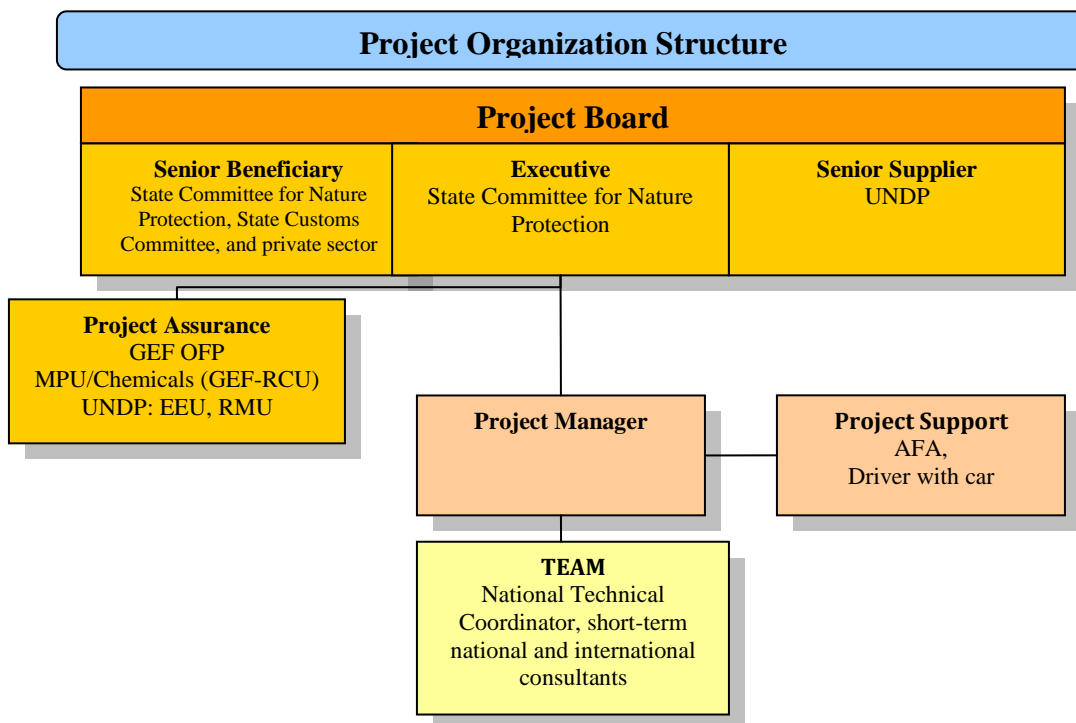
	<p><u>Target 2</u></p> <p>2.1 HCFC re-use system allowing to reduce dependence on import of HCFCs implemented in practice;</p> <p>2.2 Effective regulatory instruments to limit import of HCFC containing equipment and reduce HCFC imports are available and used;</p> <p>2.4 Cases of illegal imported ODS registered and stopped at entry points</p> <p><u>Target 3</u></p> <p>3.1 5 information products and programs on relevant energy-efficiency and new alternative technologies and their benefits are available and used by stakeholder community (private/public HCFC equipment user sector);</p> <p>3.2 Economic and climate change co-benefits generated by the demonstrated technologies identified and publicized</p> <p><u>Target 4</u></p> <p>4.1 HCFC use at AZN Techno stopped and company committed not to use HCFCs any longer due to introduction of non-ODS technology;</p> <p>4.2 Fleet retrofit at JSC “Yo’lreftrans” implemented and sustained during and beyond project duration;</p> <p>4.3 Stockpiles (at least 500 kg) of illegally imported, confiscated and waste ODS destroyed by supplied specialized equipment; and dissemination of results performed on the regional scale</p>			
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	<u>Target 5</u> 5.2 Final evaluation conducted in the end of project, and its results and lessons learned are available			
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3.8 Management Arrangements

The project will be implemented through National Implementation Modality (NIM), as described in the UNDP Programme and Operations Policies and Procedures (POPP), with DIM modality deployed for the regional component. At the national level, the project will be executed by the State Committee for Nature Protection as the National Implementing Partner.

Overall guidance will be provided by the Project Board (PB) (for more details please see roles and responsibilities of the Project Board below and see TOR enclosed in Annex 2). This will include representation by the State Committee for Nature Protection of the Republic of Uzbekistan as the Executive and Senior Beneficiary and, UNDP as the Senior Supplier, but key national governmental and non-governmental agencies, appropriate local level representatives, representatives of local governments and industry, and independent third-parties such as international or national NGOs can attend the augmented PB meetings as observers as well. The PB will be balanced in terms of gender.



The Project Board will be responsible for making management decisions for the project, in particular when guidance is required by the Project Manager (PM). It will play a critical role in project monitoring and evaluations by assuring the quality of these processes and associated products, and by using evaluations for improving performance, accountability and learning. The Project Board will ensure that required resources are committed. It will also arbitrate on any conflicts within the project and negotiate solutions to any problems with external bodies. In case a consensus cannot be reached, final decision shall rest with the UNDP. Project reviews by PB are made at designated decision points during the running of a project (at least once a year), or as necessary when raised by the PM. In addition, it will approve the appointment and

responsibilities of the PM and any delegation of its Project Assurance responsibilities. Based on the approved Annual Work Plan, the Project Board can also consider and approve the annual plan and also approve any essential deviations from the original plans.

In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance to standards²¹ that shall ensure best value to money, fairness, integrity, transparency and effective international competition.

Potential members of the Project Board will be reviewed and recommended for approval during the Project Appraisal Committee (PAC) meeting. The Project Board will contain three distinct roles:

Executive Role: This individual will represent the project "owners" and will chair the group. It is expected that the State Committee for Nature Protection will appoint a senior official to this role who will ensure full government support of the project and serve as the National Project Coordinator (NPC) (see TORs enclosed in Annex 2).

Senior Supplier Role: This role requires the representation of the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Board will be to provide guidance regarding the technical feasibility of the project. This role will rest with UNDP Uzbekistan represented by the UNDP RR/DRR or designated official.

Senior Beneficiary Role: This role requires representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board will be to ensure the realization of project results from the perspective of project beneficiaries. The principal project beneficiary is the State Committee for Nature Protection but other project stakeholders listed below will be duly involved and consulted during the strategic decision-making and monitoring process during the augmented Project Board meetings.

The State Customs Committee, Ministry of Justice, Agency "Uzstandard", Ministry of Health, Ministry of Higher and Secondary Specialized Education, Tashkent State Technical University, private sector will benefit from project results through development of their capacity to participate in the decision-making and progress-monitoring processes. In addition, all stakeholders will be covered by the corresponding training, education, and outreach activities, and will also benefit from an improved environment at national, regional and global levels resulting from HCFC phase-out. These stakeholders can also establish an Inter-Agency Coordination Committee to provide advisory services and strategic recommendations to the Project Board and can meet either on regular (e.g. quarterly) or ad-hoc basis.

Project Assurance: The Project Assurance role supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. The Project Assurance role will rest with UNDP Uzbekistan (Environmental and Energy Unit (EEU) supported (when needed) by the Resource Management Unit (RMU) of the UNDP CO Uzbekistan.

²¹UNDP Financial Rules and Regulations: Chapter E, Regulation 16.05: a) The administration by executing entities or, under the harmonized operational modalities, implementing partners, of resources obtained from or through UNDP shall be carried out under their respective financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. b) Where the financial governance of an executing entity or, under the harmonized operational modalities, implementing partner, does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition that of UNDP shall apply.

A Project Implementation Unit (PIU) will be established comprised of core staff including: the Project Manager, and Project Administrative and Financial Assistant (see TORs enclosed in Annex 3). The PIU will assist the State Committee for Nature Protection in performing its role as the National Implementing Partner. The PM will be recruited in accordance with UNDP's regulations to manage actual implementation of the project and will be based in Tashkent. The PM will be responsible for overall project coordination and implementation, consolidation of work plans and project papers, preparation of quarterly progress reports, reporting to the project supervisory bodies, and supervising the work of the project experts and other project staff. The PM will also closely coordinate project activities with relevant government institutions and hold regular consultations with other project stakeholders and partners. Under the direct supervision of the PM, the Administrative Assistant will be responsible for administrative and financial issues, and will get support from the existing UNDP administration.

To achieve the project outputs and implement the project activities, the Project Manager will also be supported by national experts (from research institutes, relevant ministries, NGOs etc.) and international consultant(s) recruited by UNDP based on the approved Annual Plan on project activities. The PM will be responsible for the consultants' timely deliverables in accordance with the terms of reference set up as well as their contributions to the overall project outputs.

The State Committee for Nature Protection will provide office premises for the project team as well as telephone communication lines, and the required expertise and services of their corresponding staff. Local transport to visit demo sites by international consultants to conduct periodic monitoring, support of their relevant subdivisions and staff, and ensuring required access to relevant units will also be covered. This is considered as in-kind contribution to the project implementation to be provided by the Government of Uzbekistan. The State Customs Committee, Ministry of Justice, Agency "Uzstandard", Ministry of Health, Ministry of Higher and Secondary Specialized Education, Tashkent State Technical University will contribute to the project by making their personnel/staff and expertise available as and when required, as well as by participating in relevant expert, seminars, workshops or management meetings and/or providing meeting/teaching/storage venues/locales as and when required. Private/public sector (HCFC users) will co-finance the project according to the type of technical assistance to be received and in line with their co-finance letters.

The office and technical equipment will be procured within the project will be handed over to the corresponding national organizations and/or private companies as grant-based technical assistance at agreement of the national partner Implementing Agency (National Committee for Nature Protection).

Use of institutional logos on project deliverables: In order to accord proper acknowledgement to GEF for providing funding, a GEF logo will appear on all relevant GEF project publications, including, among others, project hardware purchased with GEF funds. Any citation on publications regarding this project will also accord proper acknowledgment to GEF.

At the same time, in order to accord proper acknowledgement to UNDP for providing funding, UNDP should appear on all relevant project publications, including among others, project hardware purchased with UNDP funds. Any citation on publications regarding projects funded by UNDP should also accord proper acknowledgment to UNDP. The UNDP logo should be more prominent - and separated from any other logo, if possible, as UN visibility is important for security purposes.

Audit Arrangements: The Audit will be conducted in accordance with the established UNDP procedures set out in the Programming and Finance manuals by the legally recognized auditor.

Procurement and transfer of technologies and equipment: The corresponding technologies and equipment procured within the project will be immediately, i.e. right after procurement and delivery to the country, transferred to the State Committee for Nature Protection (and/or local organizations/companies jointly identified and nominated by the State Committee for Nature Protection and UNDP) in accordance with the required national regulations, rules and provisions. The decision will be taken during the Project Board meeting and reported in the minutes. Access to the installed equipment shall be granted by the recipients to representatives of the State Committee for Nature Protection and UNDP as well as to the project staff to conduct monitoring of operation and maintenance of supplied equipment during the whole project implementation cycle and beyond. In case of non-purposed and/or inefficient utilization of the transferred technologies and/or equipment by the recipient, decision on technologies/equipment withdrawal and hand over to another recipient will be taken jointly by the State Committee for Nature Protection and UNDP based on decision of the Project Board meeting recorded in the corresponding minutes.

3.9 Monitoring and Evaluation

The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

Recruitments of M&E experts will be managed regionally through COA from UNDP Country Offices.

Project start:

A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

The Inception Workshop should address a number of key issues including:

- i) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- ii) The GEF-4 and as appropriate GEF-5 Focal Area Strategy inclusive of targets will be presented and linked to project outcomes, outputs and indicators
- iii) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.

- iv) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- v) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- vi) Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly:

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually:

- Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits:

UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. The international expert undertaking independent monitoring, particularly in relation to environmental safeguards will be part of these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

Mid-term of project cycle:

The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (December 2014). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#).

The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

End of Project:

An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. This will include input from the Independent expert undertaking environmental safeguards monitoring on the overall environmental performance achieved in relation to ODS phase-out activities. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#).

The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned (Component 1). The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

M&E Work Plan and budget

Type of M&E activity	Responsible Parties	Budget US\$	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> Project Manager UNDP CO, UNDP GEF International Technical Support/Safeguards Expert 	Staff time	Within first two months of project start up
Measurement of Means of Verification of project results.	<ul style="list-style-type: none"> UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members. 	None	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on <i>output and implementation</i>	<ul style="list-style-type: none"> Oversight by Project Manager Project team 	None	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	<ul style="list-style-type: none"> Project manager and team UNDP CO UNDP RTA UNDP EEG 	None	Annually
Periodic status/progress reports	<ul style="list-style-type: none"> Project manager and team 	None	Quarterly
Mid-term Evaluation	<ul style="list-style-type: none"> Project manager and team UNDP CO UNDP RCU External Consultants (i.e. evaluation team) 	Indicative cost: 15,000	At the mid-point of project implementation.
Final Evaluation	<ul style="list-style-type: none"> Project manager and team, UNDP CO UNDP RCU External Consultants (i.e. evaluation team) 	Indicative cost: 20,000	At least three months before the end of project implementation
Project Terminal Report	<ul style="list-style-type: none"> Project manager and team UNDP CO local consultant International Technical Support/Safeguards Expert 	Staff time	At least three months before the end of the project
Audit	<ul style="list-style-type: none"> UNDP CO Project manager and team 	None (cost in PM Budget)	Yearly
Visits to field sites	<ul style="list-style-type: none"> UNDP CO UNDP RCU (as appropriate) Government representatives 	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US\$ 35,000 ²²	

²²Costs only for International Consultant supporting M&E as part of Technical support/safeguards monitoring. It is estimated that additional US\$15,000 from project management salaries will be devoted to M&E activities. Audit costs in the Project Management component are US\$6,000.

Quality Management for Project Activity Results

OUTPUT: Compliance of Uzbekistan with the accelerated Montreal Protocol HCFC phase-out requirements achieved through stabilization and progressive reduction of HCFC consumption		
Activity Result 1 (DIM) (Atlas Activity ID)	Regional phase-out capacity building accelerated (containing four sub-components)	Start Date: 01.06.2014 End Date: 30.06.2016
Purpose	To develop a) legislative and policy options for HCFC phase-out and control by national stakeholders; b) build capacities of customs and environmental/technical inspection authorities for enforcement of HCFC control measures; c) build capacity of refrigeration sector to incorporate energy efficiency and GHG reduction elements; and d) provide support for the development of regional institutions, capacity, and cooperation to phase-out HCFC	
Description	<p>Component 1 (a): Legislative and Policy Options for HCFC phase-out and control</p> <p>Action: Prepare Russian and Uzbek languages key guidance documentation on HCFC phase-out and control options implemented by Customs authorities, and ODS destruction, etc.;</p> <p>Action: Accomplish awareness training for decision-makers on legislative and regulatory actions</p> <p>Action: Support re-establishing regional networking on the country with Article 5 and other non-Article 5 countries in the region</p> <p>Component 1 (b): Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities</p> <p>Action: Develop Russian and/or Uzbek languages resource documentation on Custom enforcement approaches and methodologies, illegal trade and Prior Informed Consent (PIC) system</p> <p>Action: Implement awareness raising activities</p> <p>Action: Conduct Training of Trainers</p> <p>Action: Establish Informed Consent (PIC) system National Network</p> <p>Action: Establish Regional networking joining the State Committee for Nature Protection and environmental/technical inspection authorities on enforcement of HCFC control measures</p> <p>Component 1 (c): Capacity Building for the Refrigeration Sector, Incorporation of Energy-Efficiency and GHG reduction elements</p> <p>Action: Prepare Russian and/or Uzbek languages training manuals and information materials on refrigeration sector capacity building, energy-efficiency and GHG reduction elements</p> <p>Action: Conduct ToT on Best Refrigeration Practices</p> <p>Component 1 (d): Support for the development of regional institutions, capacity, and cooperation</p> <p>Action: Prepare Russian language information materials on regional-based</p>	

	<p>approaches related to Policy Options for HCFC phase-out and control</p> <p>Action: Promote regional level information exchange mechanisms</p> <p>Action: Facilitate regional dialogue on HCFC phase-out and control</p>	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification, what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
# of legislative and policy options for HCFC phase-out and control adopted by government agencies	Government resolutions, national agencies' reports	Regularly during each year (2014-2016)
# of HCFC control measures enforced by customs and environmental/technical inspection authorities	Technical reports of customs and environmental/technical inspection authorities; government agencies' reporting, public records; customs and environmental/technical inspection feedback, questionnaires and structured interviews, impact survey	Regularly during each year (2014-2016)
# of energy efficiency and GHG reduction elements incorporated by the refrigeration sector public and private actors	Technical reports of refrigeration public and private companies; public and private companies questionnaires and structured interviews, impact survey	Regularly during each year (2015-2016)
# of national and regional users benefited from regional institutions, capacity building, and cooperation and information exchange mechanisms related to HCFC phase-out and control	Reports on regional events, participants feedback, questionnaires and structured interviews; reports of regional institutions, public records	Regularly during each year (2014-2016)
Activity Result 2 (NIM) (Atlas Activity ID)	National level phase-out capacity building such as HCFC Phase Out Management Plan (HPMP), National Level Capacity Strengthening and HCFC Phase Out Investment implemented	Start Date: 01.01.2014 End Date: 30.06.2016
Purpose	To build capacity of the working level staff of the State Customs Committee and enforcement officials, and refrigeration technicians in development and implementation of HCFC Phase Out Management Plan, and promote investments through HCFC Phase-out Investment Program and demonstration projects	
Description	<p>Action: Develop and endorse formal national HCFC Phase-out strategy and action plan (including gender relevant mainstreaming)</p> <p>Action: Train and equip the working level staff of the State Customs Committee and enforcement officials, and refrigeration technicians with skills and knowledge to use trainers and training materials (at considered relevant gender aspects) with respect to legislation, regulations, customs controls, refrigeration servicing techniques, and general best practices</p> <p>Action: Update of study plans for refrigeration technicians (with collecting gender</p>	

	<p>disaggregated data) at specialized training centers and Tashkent State Technical University</p> <p>Action: Implement re-tooling (basic portable analytical and instrumentation for servicing sector) of main stakeholder groups</p> <p>Action: Develop targeted HCFC Phase-out Investment Program and Demonstration projects:</p> <p>Demonstration and replacement programme for the refrigeration sector:</p> <ul style="list-style-type: none">• Technical Assistance to AZN Techno• Railway Freezer Retrofit project for refrigerated transport sector – JSC “Yo’lreftrans” Company <p>Upgrade of HCFC re-use system:</p> <ul style="list-style-type: none">• Strengthen R/R/R centers across the country in strategic locations;• Train Technical center staff on adequate use of equipment and best refrigeration practices in equipment maintenance and retrofits (with collecting gender disaggregated data) <p>Unwanted ODS:</p> <ul style="list-style-type: none">• Implement small-scale piloting of obsolete ODS destruction;• Train staff (at considered relevant gender aspects)on how to operate and maintain equipment ;• Destroy stockpiles of obsolete ODS using supplied technology;• Disseminate of results on obsolete ODS destructed regionally	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
# of working level customs and enforcement officials trained and skilled with respect to HCFC phase-out legislation, regulations, customs controls, refrigeration servicing techniques, and application of general best practices	Annual Review Reports (UNDP), Project Implementation Reports (GEF), lists of participants of related trainings, questionnaires and structured interviews, impact survey, customs and enforcement officials reporting and documentation	Regularly during each year (2014-2016)
# of refrigeration technicians (with gender disaggregated data) trained at specialized training centers and Tashkent State Technical University	Annual Review Reports, Project Implementation Reports (GEF),lists of participants of related trainings, questionnaires and structured interviews, impact survey; reporting of refrigeration companies	Regularly during each year (2014-2016)
# of stakeholder groups equipped with basic portable analytical equipment and instrumentation for servicing sector	Quarterly and Annual Review Reports, Project Implementation Reports (GEF), lists of stakeholder groups equipped and lists of equipment provided; stakeholders’ feedback; questionnaires and structured interviews, impact survey	Regularly during each year (2014-2016)

Amount of investments attracted in HCFC Phase-out	Government reports, Quarterly and Annual Review Reports, Project Implementation Reports (GEF),	Regularly during each year (2014-2016)
# of demonstration projects implemented by local companies/institutions in servicing sector, and resulted in upgrading HCFC re-use system and destruction of unwanted ODS	Quarterly and Annual Review Reports, Project Implementation Reports (GEF), lists of companies/institutions; stakeholders' feedback; questionnaires and structured interviews, impact survey	Regularly during each year (2014-2016)
Activity Result 3 (NIM) (Atlas Activity ID)	Monitoring, learning, adaptive feedback, outreach and evaluation conducted	Start Date: 01.08.2013 End Date: 30.06.2016
Purpose	To track project progress, monitor achieving planned targets and assure quality of project activity results, and undertake the mid-term and final project evaluations	
Description	<p>Action: Apply M&E and adaptive management to project in response to its needs, including Inception phase, workshop and report</p> <p>Action: Conduct mid-term evaluation and extract findings with lessons learned</p> <p>Action: Conduct final project evaluation in the end of the project</p>	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification, what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
# of monitoring visits to project office and pilot sites conducted by UNDP Regional Center and Country Office	Monitoring reports produced by UNDP Regional Center and Country Office	At least twice during each year by CO and once a year by UNDP Regional Center
Mid-term evaluation conducted and findings with lessons learned extracted	MTE Report, MTE management response is available and implementation of MTE recommendations is tracking by CO in Atlas; Annual Review Reports, Project Implementation Reports (GEF)	End of 2014 – beginning of 2015
Final evaluation conducted and project output and outcomes evaluated, and lessons learned extracted	Final Evaluation Report; Annual Review Reports, Project Implementation Reports (GEF), FE management response is available and FE recommendations is considered and used by CO	April 2015

LEGAL CONTEXT

Direct UNDP Country Office Support Services to the Programme Implementation

In accordance with the provisions of the letter of agreement signed on 30 April, 2010, and the approved Country Programme Action Plan 2010-2015, the UNDP country office shall provide support services for the Project as described below.

The UNDP and State Committee for Nature Protection have agreed that the UNDP Country Office will provide the following support services for the project activities at the request of the State Committee for Nature Protection for the whole duration of the project cycle:

- Identification and/or recruitment and solution of administrative issues related to the project personnel;
- Procurement of commodities, labor and services;
- Identification and facilitation of training activities, seminars and workshops;
- Financial monitoring and reporting;
- Processing of direct payments;
- Supervision of project implementation, monitoring and assistance in project assessment.

The UNDP country office may provide support services for assistance with reporting requirements and direct payment. In providing such support services, the UNDP country office shall ensure that the capacity of the State Committee for Nature Protection is strengthened to enable it to carry out such activities directly.

When providing the above support services, the UNDP Country Office will recover the costs for providing Implementation Support Services on the basis of actual costs and transaction fee based on the latest and actual version of the Universal Price List. According to the corporate guidelines, these costs are an integral part of project delivery and, hence, will be charged to the same budget line (account in AWP) as the project input itself.

The procurement of goods and services and the recruitment of project personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. If the requirements for support services by the country office change during the life of a project, the list UNDP country office support services is revised with the mutual agreement of the UNDP resident representative and State Committee for Nature Protection.

The relevant provisions of the Standard Basic Assistance Agreement (SBAA) between the Government of Uzbekistan and the UNDP, signed by Parties on 10th June 1993, including the provisions on liability and privileges and immunities, shall apply to the provision of such support services.

The State Committee for Nature Protection shall retain overall responsibility for this nationally managed project and will appoint the National Project Coordinator (NPC). Direct responsibility of the NPC will be provision of strategic advice, as well as coordination of the project activity taking into account interests of the Government (for more details please see roles and responsibilities of the Project Board's Executive).

Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this document shall be handled pursuant to the relevant provisions of the SBAA.

4 Annexes

4.1 Annex 1 - Risk Analysis

Risk	Risk rating	Risk mitigation strategy
Government or private/public co-financing commitments do not materialize due to diversion of funding and allocation of staff elsewhere	Low	The indicated co-finance commitments have been leveraged in a view of planned international assistance by GEF. With the imminent placement of GEF support in place, this risk is at the low level. In order to further re-enforce these commitments, the project will closely coordinate the involvement of stakeholders into a decision-making process of project's implementation and maintain a regular dialogue with all involved parties.
Delays in adopting HCFC phase-out strategy that delays or reduce the effectiveness of other activities related to HCFC phase-out	Low	The previous regional GEF project on HCFC data collection and formulation of HCFC phase-out strategies had initiated exchanges between stakeholders (inclusive of some important line ministries) on policy options to address HCFCs. The project will also, through regional experience exchange and national stakeholder facilitation, prioritize this process at the project start. Certain delays can be still expected due to the lengthy Government approval procedures – to address this barriers NOU will maintain a high level dialogue among involved Ministries
HCFC phase-out is delayed and country is not in compliance with Montreal Protocol in 2015	Low	The project will ensure timely implementation of all planned procurement activities and effective monitoring of R/R/R use by recipients. Awareness raising activities will receive priority to inform country's wider community and servicing sector about coming further restrictions on HCFC import and implementation of HCFC phase-out strategy.
Catalytic effect of demonstrating low GWP alternative technologies is limited due to high cost of new refrigerated equipment	Medium	It is recognized that this is not a prime objectives of the project. While this risk is recognized at a medium level due to initial high capital costs of new technologies (based on survey results of domestically available equipment suppliers and assemblers), the project will be able to initiate such demonstration, equip equipment assemblers with practical skills on handling such technologies and widely raise awareness on benefits of using them (operational savings on refrigerant costs and energy gains). The project will attempt to leverage additional co-finance from an additional number of interested equipment recipients to use limited project budget more effectively and expand the number of demonstrations. In doing so the project will inform stakeholders about costs of new technologies, remove concerns on their performance and distribute information on HCFC import restrictions to re-enforce the approach. This is believed to help sustain the

Risk	Risk rating	Risk mitigation strategy
		catalytic effect during and beyond the project. On technician educational side, to improve the overall effect, demo projects will be attached to technician training activities to improve local knowledge and skills related to such non-ODS/low GWPs alternative technologies and sources which supply them.
Unwanted ODS quantities are insufficient to fully demonstrate pilot ODS destruction and its benefits for a complete cycle of ODS re-use	Low	The country has accumulated around 2 MT of confiscated ODS, and expects that with HCFC phase-out strategy in place at least an additional annual amount of 0.5 MT of ODS may become available for processing. For a period of next five years (inclusive of 3 years of project operation), the amount of ODS waste may reach at least 4 MT. If GWP impact of only HCFC-22 (1,780) is to be taken into account for this amount, a climate change risk will be mitigated by approximately 7,120 CO ₂ t/total for project duration.

Agreements

GEF OFP Endorsement letter is attached to the submission package

4.2 Annex 2. Terms of Reference for Project Board and National Project Coordinator

PROJECT BOARD

Composition and organization: The Project Board contains three roles, including (1) **an executive**: individual representing the project ownership to chair the group; (2) **senior supplier**: individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project; and (3) **senior beneficiary**: individual or group of individuals representing the interests of those who will ultimately benefit from the project.

I. Specific responsibilities

1. Initiating a project:

- Agree on PM's responsibilities, as well as the responsibilities of the other members of the Project Management team;
- Delegate any Project Assurance function as appropriate;
- Review and appraise detailed Project Plan and AWP, including Atlas reports covering activity definition, quality criteria, issue log, updated risk log and the monitoring and communication plan.

2. Running a project:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the Project Manager;
- Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- Agree on Project Manager's tolerances in the Annual Work Plan and quarterly plans when required;
- Conduct regular meetings to review the Project Quarterly Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans.
- Review Combined Delivery Reports (CDR) prior to certification by the Implementing Partner;
- Appraise the Project Annual Review Report, make recommendations for the next AWP, and inform the Outcome Board about the results of the review.
- Review and approve end project report, make recommendations for follow-on actions;
- Provide ad-hoc direction and advice for exception situations when project manager's tolerances are exceeded;
- Assess and decide on project changes through revisions;

3. Closing a project:

- Assure that all Project deliverables have been produced satisfactorily;
- Review and approve the Final Project Review Report, including Lessons-learned;
- Make recommendations for follow-on actions to be submitted to the Outcome Board;
- Commission project evaluation (only when required by partnership agreement)
- Notify operational completion of the project to the Outcome Board.

II. Executive

The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The Executive has to ensure that the project gives value for money, ensuring a cost-conscious approach to the project, balancing the demands of beneficiary and supplier. Specific Responsibilities (as part of the above responsibilities for the Project Board) include:

- Ensure that there is a coherent project organization structure and logical set of plans
- Set tolerances in the AWP and other plans as required for the Project Manager
- Monitor and control the progress of the project at a strategic level
- Ensure that risks are being tracked and mitigated as effectively as possible
- Brief Outcome Board and relevant stakeholders about project progress
- Organize and chair Project Board meetings

III. Senior Beneficiary

The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. This role represents the interests of all those who will benefit from the

project, or those for whom the deliverables resulting from activities will achieve specific output targets. The Senior Beneficiary role monitors progress against targets and quality criteria. Specific Responsibilities (as part of the above responsibilities for the Project Board) include:

- Ensure the expected output(s) and related activities of the project are well defined
- Make sure that progress towards the outputs required by the beneficiaries remains consistent from the beneficiary perspective
- Promote and maintain focus on the expected project output(s)
- Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes
- Resolve priority conflicts

The assurance responsibilities of the Senior Beneficiary are to check that:

- Specification of the Beneficiary's needs is accurate, complete and unambiguous
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target
- Impact of potential changes is evaluated from the beneficiary point of view
- Risks to the beneficiaries are frequently monitored

IV. Senior Supplier

The Senior Supplier represents the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. Specific Responsibilities (as part of the above responsibilities for the Project Board) include:

- Make sure that progress towards the outputs remains consistent from the supplier perspective
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management
- Ensure that the supplier resources required for the project are made available
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts

The supplier assurance role responsibilities are to:

- Advise on the selection of strategy, design and methods to carry out project activities
- Ensure that any standards defined for the project are met and used to good effect
- Monitor potential changes and their impact on the quality of deliverables from a supplier perspective

Monitor any risks in the implementation aspects of the project

NATIONAL PROJECT COORDINATOR – EXECUTIVE

The National Project Coordinator (NPC) / Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The Executive has to ensure that the project gives value for money, ensuring a cost-conscious approach to the project, balancing the demands of beneficiary and supplier.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organization structure and logical set of plans
- Approve and sign basic project and financial documents and other plans as required for the Project Manager
- Monitor and control the progress of the project at a strategic level
- Ensure that risks are being tracked and mitigated as effectively as possible
- Brief Outcome Board and relevant stakeholders about project progress
- Organize and chair Project Board meetings

The Executive is responsible for overall assurance of the project. If the project warrants it, the Executive may delegate some responsibility for the project assurance functions.

The following documents shall be signed by the NPC:

1. *Administrative and financial documents:*

- Project revisions (if the project total budget or duration of the project is being changed)
- Combined Delivery Reports
- Transfer of Assets Form
- Delegation of signature for some day-to-day payments

2. *Monitoring and evaluation of the project*

- Minutes of the Project Board meetings
- Annual reports
- Final review report

4.3 Annex 3. Terms of Reference for Key Project Personnel

4.3.1 Project Manager

I. Position Information	
Position Title:	Project Manager
SC range:	SC-9
Project Title:	
Duration of the service:	1 year (with possible extension subject to satisfactory performance)
Work status	Full-time
Reports To:	Head of Environment and Energy Unit
II. Background	
Under supervision of UNDP Uzbekistan, manages the project	
III. Functions / Key Outputs Expected	
<ul style="list-style-type: none"> • Responsible for day-to-day management, administration and decision-making for the project; • Oversees strategic planning process for the project and ensures its implementation in accordance with the signed project document; • Responsible for ensuring that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost; • Manage the realization of project outputs through activities; • Ensures that project contributes to the promotion of gender equality by reaching, involving and benefiting both women and men in its activities (gender mainstreaming); • Provide direction and guidance to project team(s)/ responsible party (ies); • Identifies partnership strategies with regard to providers of specialized expertise and possible co-financiers, and assists in resource mobilization for project components; • Identify and obtain any support and advice required for the management, planning and control of the project; • Liaise with any suppliers; • Perform other duties related to the scope of work of the PM as required <p>Running a project</p> <ul style="list-style-type: none"> • Plan the activities of the project and monitor progress against the initial quality criteria; • Mobilize goods and services to initiative activities, including drafting TORs and work specifications; • Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement; • Manage and monitor the project risks, submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log; • Be responsible for managing issues and requests for change by maintaining an Issues Log; • Prepare the quarterly and annual financial and progress reports and submit the reports to the Project Board, UNDP and GEF; • Monitors the implementation of project components, analyses problems that hamper their implementation and takes appropriate measures to ensure timely delivery of required inputs and achievement of project-wide results; • Monitors and reports to UNDP on all financial and procurement matters of the project, including proper utilization of funds and delivery, budget revisions, availability of funds, reconciliation of accounts, establishment of internal control mechanisms. Acts as a focal point to liaise with auditors and ensures follow-up actions. Ensures the accuracy and reliability of financial information and reporting; • Monitors and facilitates advocacy and mass media outreach activities, writing of success stories, newspapers coverage, PR campaigns; • Organize workshops, seminars and round tables to introduce project outputs to all stakeholders involved. Render support to related UNDP thematic activities such as publications, sharing of 	

<p>knowledge and group discussions;</p> <ul style="list-style-type: none"> • Liaises with other UNDP and UNDP-GEF funded projects to implement possible synergies. <p>Closing a Project</p> <ul style="list-style-type: none"> • Ensure proper operational, financial and programmatic closure of the project; • Prepare Final Project Review Reports to be submitted to the Project Board and the Outcome Board; • Identify follow-on actions and submit them for consideration to the Project Board; Manage the transfer of project deliverables, documents, files, equipment and materials to national beneficiaries; • Prepare final CDR for signature by UNDP and the Implementing Partner. 	
IV. Recruitment Qualifications	
Education:	Master's degree in any of the following areas: Chemicals, Natural Resources Management, Business Administration, Management or a related field.
Experience:	At least 5-years relevant experience. Working experience in international organizations is an advantage.
Language Requirements:	Excellent command of spoken and written English, Uzbek and Russian are essential
Others:	Understanding of development issues, national public institutional arrangements, knowledge of and experience in gender mainstreaming is an asset; Initiative and strong leadership skills; Result and client-orientations; Strong analytical, communication and management skills; Excellent interpersonal and cross cultural communication skills, ability to work in a team and to work under pressure and with tight deadlines, ethics and honesty; Ability to use information and communication technology as a tool and resource

4.3.2 Administrative and Finance Assistant

I. Position Information	
Position Title:	Administrative and Finance Assistant
SC range:	SC-6
Project Title:	
Duration of the service:	1 year (with possible extension subject to satisfactory performance)
Work status	Full-time
Reports To:	Project Manager
II. Background	
Under direct supervision of Project Manager, AFA is fully responsible for operational and programmatic management of the project according to the project document, UNDP corporate rules and procedures and for fulfilling the following functions.	
III. Functions / Key Outputs Expected	
<ul style="list-style-type: none"> • Be responsible for logistics, procurement, finance and recruitment for the project, in accordance with corporate UNDP rules and regulations; • Prepare all financial and administrative documents related to the project implementation; • Develop quarterly and annual budget plans for recruitment of personnel; maintain financial records and monitoring systems to record and reconcile expenditures, balances, payments and other data for day-to-day transaction and reports; • Advise and assist Project staff, experts and consultants on all respects of allowances, salary advances, travel claims and other financial and administrative matters, and calculate and authorize payments due for claims and services; • Prepare detailed cost estimates and participates in budget analysis and projections as required to handle 	

<p>all financial operations of the project office and reconcile all accounts in required time frame;</p> <ul style="list-style-type: none"> • Maintain, update and transmit inventory records of non-expendable equipment in accordance with UNDP rules; • Perform cash custodian's duties being primarily responsible for project's cash disbursements and maintain project's petty cash book and payrolls related to the regional offices; • Ensure leave monitoring of project staff, check the accuracy and proper completion of monthly leave reports; • Analyze the potential problems concerning administrative-financial issues and take respective measures to provide adequate project's resources in time for implementation of the project activities; • Define the cost-effective measures for optimal use of resources of the project; • Ensure full compliance of administrative and financial processes and financial records with UNDP rules, regulations, policies and strategies; • Encourage awareness of and promotion of gender equality among project staff and partners; • Perform other duties related to personnel, administrative and financial issues of project as required. 	
IV. Recruitment Qualifications	
Education:	Higher education in any of the following areas: Economics, Finance, Business administration, Management or a related field.
Experience:	At least 3-years relevant experience. Working experience in international organizations is an advantage.
Language Requirements:	Fluency in English, Russian and Uzbek
Others:	<p>Strong analytical, communication and management skills, result and client-orientation, ability to work in a team;</p> <p>Ability to work under pressure and with tight deadlines, ethics and honesty;</p> <p>Ability to use information and communication technology as a tool and resource;</p> <p>Experience in handling web-based management systems</p> <p>Ability to handle multiple tasks simultaneously and ability to prioritize</p>

3. Driver with own vehicle

I. Job Information	
Job title:	Driver with own vehicle
SC range:	SC-2
Project Title:	
Duration of the service:	1 year (with possible extension subject to satisfactory performance)
Work status (full time / part time):	Full time
Reports To:	Project Manager
II. Background	
Under direct supervision of Project Manager, driver with own vehicle is fully responsible for fulfilling the following functions in accordance with UNDP corporate rules and procedures.	
II. Functions / Key Outputs Expected	
<p><i>Operational Functions:</i></p> <ul style="list-style-type: none"> • Drive own vehicle for the transport of authorized personnel; • Deliver and collect mail, documents and other items, meet official personnel at the airport and facilitates immigration and custom formalities and make errands for the project as required; • Be responsible for the day-to-day maintenance of the assigned vehicle, checks oil, water, battery, brakes, tires, etc.; • Perform minor repairs and arranges for another repairs; • Ensure that the vehicle is kept clean; log official trips, daily mileage, gas consumption, oil changes, greasing; • Ensure that the steps required by rules and regulations are taken in case of involvement in accident; • Perform other duties, as required by Project Manager; 	

• Perform other duties and responsibilities as required.	
IV. Qualification Requirements	
Education:	Secondary education
Experience:	At least 5 years of relevant work experience. Working experience with governmental agencies and work in any international organization is an advantage.
Language Requirements:	Proficiency in Uzbek and Russian. Basic knowledge of English is an asset.