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United Nations Development Programme

**Project Document for directly implemented projects
financed by the GEF Trust Fund**

Project title: Complete HCFC Phase-Out in Tajikistan through Promotion of zero ODS, low GWP, Energy Efficient Technologies	
Country: Tajikistan	Implementing Partner: UNDP Tajikistan
Management Arrangements : Direct Implementation Modality (DIM)	
UNDAF/Country Programme Outcome: UNDAF OUTCOME 6: People in Tajikistan are more resilient to natural and human-disasters benefiting from improved policy and operational frameworks for environmental protection and sustainable management of natural resources.	
UNDP Strategic Plan Output: Strategic Plan signature solution 4: Promote nature-based solutions for a sustainable planet. Output 1.3. Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.	
UNDP Social and Environmental Screening Category: Low	UNDP Gender Marker: 2
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UNDP-GEF PIMS ID number: 6030	GEF ID number: 9712
Planned start date: September 2018	Planned end date: March 2022 (42 months duration)
PAC meeting date TBD	
Brief project description: To accelerate HCFC phase-out to achieve the 2020 compliance objectives and sustainably reduce the servicing tail. Understanding the implications of the Kigali Amendment, including conducting a comprehensive ODS Alternatives survey; facilitation of implementation of upgraded national legislation on control of import/export and use of HCFCs, other ODS and ODS alternatives; Upgrading storage capacity for mixed unusable ODS refrigerants; improvement of Customs capacity on import/export control and piloting a electronic sealing/tracking project for ODS entering the country; demonstration of zero-ODS and low-GWP energy efficient cooling technologies in various sectors of the economy both private and public ; and completing the upgrading and strengthening of the servicing sector capacity including tools and advanced refrigerant identifiers of various refrigerants currently in use. The project will also discuss resource mobilisation from International Financial Institutions and Bilateral Agencies and local stakeholders to increase the investment to the RAC sector; conduct comprehensive outreach activities to increase understanding of ozone related issues with a wide cross section of stakeholders and end users. Gender mainstreaming will also be addressed across various components to involve women in the business of Refrigeration and Air-Conditioning.	

FINANCING PLAN		
GEF Trust Fund	USD 1,585,430	
(1) Total Budget administered by UNDP	USD 1,585,430	
PARALLEL CO-FINANCING		
Committee of Environmental Protection under the <i>Government of Republic of Tajikistan</i>	USD 485,000	
<i>Custom Services under the Government of Republic of Tajikistan</i>	USD 600,000	
Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandart)	USD 200,000	
Non-governmental organizations (RAC)	USD 495,000	
Private Sector and Companies	USD 3,985,000	
(2) Total co-financing	USD 5,765,000	
(3) Grand-Total Project Financing (1)+(2)	USD 7,350,430	
SIGNATURES		
Signature: print name below	Agreed by Government	Date/Month/Year:
Signature: print name below	Agreed by Implementing Partner	Date/Month/Year:
Signature: print name below	Agreed by UNDP	Date/Month/Year:

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Abbreviations/Acronyms

CEIT	Countries with Economies in Transition
CIS	Commonwealth of Independent States
CFC	Chlorofluorocarbon
CoEP	Committee for Environmental Protection
ESMP	Environment & Social Management Plan
EU	European Union
FSP	Full Sized Project
GEF	Global Environment Facility
GEFSEC	Global Environment Facility Secretariat
GWP	Global Warming Potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
M&E	Monitoring and Evaluation
MEA	Multilateral Environmental Agreement
MLF	Multilateral Fund for the Implementation of the Montreal Protocol UN Environment
MSP	Medium Sized Project
NGO	Non-Government Organisation
NOU	National Ozone Unit
ODP	Ozone Depleting Potential
ODS	Ozone Depleting Substance
OEWG	Open Ended Working Group Meeting of the UNEP Ozone Secretariat.
PIC	Prior Informed Consent
PIF	Project Identification Form
PIR	GEF Project Implementation Report
POPP	Programme and Operations Policies and Procedures
PPG	Project Preparation Grant
RAC	Refrigeration and Air-Conditioning
RTA	Regional Technical Adviser
SBAA	Standard Basic Assistance Agreement
SDG	Sustainable Development Goals
SESP	Social and Environmental Screening Procedure
STAP	GEF Scientific Technical Advisory Panel
Tazikstandart	Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan
TE	Terminal Evaluation
UNDAF	United Nations Development Assistance Framework
UNDP-GEF	UNDP Global Environmental Finance Unit
UNDP-DIM	UNDP Direct Implementation Modality
UNDP POPP	UNDP Program & Operations Policies and Procedures
UNDP TRAC	UNDP targets for resource assignment from the core
UNEP	United Nations Environment Programme

II. DEVELOPMENT CHALLENGE

Problem to be addressed

Hydrochlorofluorocarbons (HCFCs) are used for cooling, refrigeration and other manufacturing processes such as foam manufacturing. Because of their ozone depleting potential, they are listed amongst the substances that are being phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer. The Copenhagen Amendment of the Montreal Protocol originally stipulated that non-Article 5 countries need to reduce their HCFC consumption to 65% of their baseline in 2004 and later, under Decision XIX/6, they had to accelerate phase out in accordance with a reduction of 75% of that level in 2010, to 90% by 2015, to 99.5% in 2020 and finally achieve full phase out in 2030.

Tajikistan only uses HCFC-22 which is used for comfort cooling, and commercial and industrial cooling and they import their entire requirement as they do not manufacture this refrigerant. The proposed project builds on the [current GEF regional HCFC project](#) which assisted four (4) Non-article 5 CEITs¹ in the CIS (Belarus, Tajikistan, Ukraine and Tajikistan) in meeting their accelerated Montreal Protocol HCFC phase-out requirements for 2015 reduction milestones and by preparing the countries to look into strategies to ensure 2020 milestone compliance is practically implementable. With help of the new proposed GEF/UNDP project, Tajikistan will be able to (1) comply with its Montreal Protocol's commitment of achieving 99.5% phase out by January 1, 2020 and (2) further strengthen the capacity to phase out the HCFC service tail of 0.5% by 2030 or earlier. This project will be the final project for achieving HCFC phase out.

Root Causes and Barriers

HCFC-22 continues to be used for comfort cooling as well as commercial and industrial cooling in Tajikistan. It has been the refrigerant of choice and has been used for decades. With more and more comfort cooling being used in the country, both in commercial establishments and domestic applications, the use of HCFC-22 has increased substantially. Uses of other HCFCs were discontinued through support from earlier projects.

The baseline for CEIT countries is calculated by adding up 1989 HCFC consumption and 2.8 per cent of 1989 CFC consumption (in ODP weighted terms). Tajikistan's baseline was calculated to be 18.70 ODP Tonnes or 340 MT approx. of HCFC-22. (It should be noted that Decision XXIII/28 of the Meeting of the Parties revised the baseline consumption data of Tajikistan for HCFCs for the year 1989 from 6.0 ODP-tonnes to 18.7 ODP-tonnes). It has successfully met the phase-out requirements of Montreal Protocol as follows, and with the current new project, the country will be on the right trajectory to meet its remaining obligations:

1996: freeze
2004: -35%
2010: -65%
2015: -90%

With respect to Article 7 data reporting requirements, the HCFC consumption data reported to the Ozone Secretariat, in ODP Tonnes, is as follows:

2010	2011	2012	2013	2014	2015	2016	2017*	Baseline
2.80	2.90	3.30	2.28	2.01	1.66	1.5	1.1	18.70

* Estimated

¹ Countries with Economy in Transition (CEITs)

As can be seen from the above data, Tajikistan has had a sustained phase out of HCFCs from 2012 onwards as a result of the continuous capacity building support from the GEF and UNDP which produced this cumulative effect. Some stabilization of the consumption in 2016 and 2017 years indicate residual reliance of private and public sectors on HCFC-22, which the new project is going to address with help of a pre-designed set HCFC phase-out activities aimed at ensuring the phase-out is sustainable over mid- to longer term.

Tajikistan is committed to promotion of zero ODS low GWP energy efficient technologies in its quest to phase-out HCFC-22. However, the main barrier to achieving the phase-out, till recently, has been the non-availability of commercially available, cost effective alternate low GWP technologies to HCFC-22. HFC based technologies, which are zero ODS, but high GWP technologies have been introduced since they are commercially available in the global market. The initial GEF-UNDP HCFC phase out project has been instrumental in introducing in a small way, R-290 as a refrigerant for room air-conditioners through a demonstration project, and this will provide impetus for this technology to be adopted faster.

The initial GEF 4 project identified that the principle issue in achieving and sustaining compliance with accelerated HCFC phase out in Tajikistan was curtailment of the continued rapid growth in HCFC consumption particularly that associated with refrigeration servicing, and to start a long-term process of reversing it. This required immediate action in laying the institutional and regulatory groundwork and formalizing national commitments and action plans entrenched in national policy, building institutional and technical capacity, and undertaking targeted investment in converting direct sources of consumption in the refrigeration servicing and initial strengthening of the refrigerants management infrastructure.

The GEF-4 regional HCFC project which assisted Tajikistan in meeting its 2015 HCFC phase-out requirements through stabilization and progressive reduction of HCFC consumption was successfully completed in early 2017. This was achieved by implementation of legislative and regulatory measures, capacity building related to servicing of equipment using HCFCs and customs controls, and targeted investment with particular emphasis on controlling demand in HCFC servicing sector.

Imports of HCFC based equipment were increasing rapidly, thereby increasing the dependence on HCFCs for servicing needs. Through the support of the initial GEF-UNDP project, the Government has instituted a ban on imports of any equipment which operate on HCFCs in order to better control HCFC servicing demand. This will further encourage the import and use of alternate technologies with modern design featuring better energy efficiency parameters and application of low-GWP refrigerants. As a matter of fact, one of Tajikistan's largest importers of such equipment, having nearly 60% of the market share, stopped importing HCFC based equipment in 2016.

In the following and final HCFC phase-out stage, in order to achieve the 2020 commitment of 99.5% phase-out and leave sustained capacity to address the remaining servicing tail, several actions are needed which are described in Section III – Strategy below.

THEORY OF CHANGE

LONG TERM IMPACT

- Promote policies and programmes aimed at achieving 99.5% HCFC phase-out by 2020 and remaining servicing tail by 2030 or earlier.
- Accelerate Tajikistan's contribution to the global efforts on the Ozone Layer protection.
- Demonstrate new approaches to reduce spread of high-GWP technologies in process of HCFC phase-out, and reduce negative impacts on the global environment
- Solidify national capacity to introduce and safely manage **HCFC-free** and more energy efficient RAC technologies, and further strengthen RAC business operations in various economic sectors, with promotion of women participation in such economic activities.

GOAL

- Meet Montreal Protocol commitments by phasing out HCFCs and ensure sustainability.
- Introduce technologies using zero-ODS/low-GWP alternatives.

RESULTS

- Implemented comprehensive national legislation.
- Strengthened customs and enforcement officers capacity.
- Reduced consumption of HCFCs in RAC equipment, including in assembly/manufacture sector.
- Strengthened HCFC re-use system.
- Implemented demonstration projects on HCFC replacement with zero-ODS/low-GWP alternatives.
- Continued Public Awareness activities with emphasis on gender.
- Piloted resource mobilization to RAC sector.

COMPONENT 1

National legislation and capacity building of customs and enforcement officers on control of HCFC and ODS alternatives import/export

COMPONENT 2

Strengthening the HCFC re-use system and implementation of demonstration projects on HCFC replacement

COMPONENT 3

Outreach and Resource Mobilisation.

COMPONENT 4

Gender Mainstreaming, Project Management, Monitoring & Evaluation

DEVELOPMENT CONTEXT

- Use of HCFCs in assembly/manufacturing of refrigeration and air-conditioning (RAC) equipment, and in the RAC servicing sector.
- Need to phase out the use of HCFCs in a controlled manner, to achieve 99.5% phase-out in 2020 by:
 - Legislation and Customs
 - Converting RAC assemblers/manufacturers to Hydrocarbon and other low global warming potential technologies.
 - Improving skills of RAC technicians to ensure reduced leakage while servicing.
 - Training RAC technicians in the use of alternative technology.
 - Strengthen HCFC recovery, recycling and reuse.

UNDP Sustainable Development Goals



III. STRATEGY

The proposed project will build on the experience and knowledge gained from the initial GEF-UNDP FSP regional project to assist Tajikistan achieve the 2020 compliance requirement of phasing out 99.5% of their HCFC baseline and the rest of the servicing tail to complete HCFC phase-out. It will carry out initial ODS alternative refrigerant survey and stakeholder consultations, and introduce zero ODS, low GWP energy efficient technologies into the mainstream.

In terms of its design, the project will consist of mainly two overall-assistance components. Component 1 will facilitate implementation of national legislation and strengthening capacity of Customs and enforcement officers on control of HCFC/ODS alternative import/export, while Component 2 will complete initial capacity building efforts and re-tooling to strengthen the HCFC re-use system and implement demonstration projects on HCFC replacement with zero-ODS/low-GWP alternatives. Component 3 deals with Public Awareness, and Component 4 addresses gender mainstreaming. Component 5 is related to project management, monitoring and evaluation.

The following describes activities envisioned under each component of the project, with expected Outcomes and Outputs to be achieved by each component:

Component 1: Facilitate implementation of national legislation; strengthening capacity of Customs and enforcement officers on control of HCFC import/export; facilitating development of standards for natural refrigerants; and capacity building for the RAC sector through hands on training of senior technicians followed by training/upgrading of technicians, including those in remote areas.

Outcome 1.1: ODS Alternative survey to determine national consumption and use.

The survey will determine the consumption and use of current alternatives to HCFCs which include a range of non-ODS options, including natural refrigerant solutions. This data will help the Government understand, in particular, emerging trends in importation and use of new technologies, including natural refrigerants such as carbon dioxide, ammonia, hydrocarbons, and synthetic gases of HFC and HFO groups, other technologies such as water absorbent, natural cooling, and heat pumps. This information will provide crucial data for planning HCFC phase-out processes with respect to substitute technologies coming to replace HCFCs, including not-in-kind approaches. It will also enable the government to understand what the implications of the Kigali Amendment to the Montreal Protocol on phasing down HFCs for Tajikistan will be.

Output 1.1.1: ODS Alternatives survey completed.

Outcome 1.2: National legislation on HCFC and ODS alternatives phase out and import/export control upgraded, through adaptation of advanced legislation experience from EU and other countries.

While there is a broad range of legislative instruments adopted in the country to ensure effective control over HCFCs importation and use, Tajikistan does not have legislation/regulation defining the standards for collection, storage, transport and disposal of ODSs. This Outcome proposes to support further participation of key stakeholders from the government and private sector in experience exchange at regional networking conferences/forums, organized either with MLF or bilateral support, and conduct study tours to the EU and other countries in order to be able to gain new knowledge and modify existing or develop additional legal amendments to the national legislation framework on HCFC phase out. Regulations on the procedure and conditions for dismantling and disposal/ destruction of equipment containing ODS (CFCs and HCFCs) are also not there and they need to be formulated. Further, procedures and conditions for issuing permits for the transboundary movement of ozone-depleting substances and products containing them also need to be reviewed and strengthened, including more efficient information exchange with Customs offices. With respect to building in-country capacity to ensure enforcement of updated legislation and preparing for the final HCFC phase-out stages, it is also proposed to supply

advanced refrigerant identifiers for the environmental inspectors to control authorized HCFC circulation in commercial sectors. This will be achieved with implementation of the following Outputs 1.2.1 and 1.2.2.

Output 1.2.1: Draft of upgraded legislation/regulation prepared and submitted to the government for approval and subsequent implementation.

Output 1.2.2: Experience exchanges carried out through study tours and/or regional conferences with attendance from countries with advanced experience in this field and regional networking.

Outcome 1.3: Strengthening the capacity of specialists of the State Customs Department to control import/export of ODS/ODS alternatives and equipment containing the same.

The previously completed GEF-HCFC programme assisted the Customs department in building its initial national capacity to back implementation of the country's HCFC control framework. Joint cooperation with the Committee for Environmental Protection has resulted in more effective and efficient information exchange on HCFC importation and cases of illegal trade. However, some capacity gaps still remain and in the current programme it is proposed to continue to support exposure of the State Customs Department to modern knowledge in this area and ensure that regional experience exchange on controlling import/export of ODS and ODS alternatives resumes with the new programme. In terms of physical control capacity, the Institute for Advanced Training of Customs officers will also be supplied with required advanced refrigerant identifiers which the previous project was unable to provide in sufficient quantities due to budgetary constraints. This equipment will be used to train Customs officers in its practical application at border entry points. It is expected that with such final round of support, the project can ensure sustainability of further training of regular and new Customs officers beyond project's timeframe and it is planned that around 100 personnel will have participated in such training over the project duration, and more personnel will be trained after the project is closed on continuous basis. Given a previously detected case of transboundary movement of HCFCs to other neighboring countries, under impression of Tajikistan's consumption left with exporting countries, State Customs Department have considered improvements in monitoring of such shipments and requested for a pilot sub-project on electronic sealing/tracking of ODS shipments entering Tajikistan by road, to electronically seal the consignment until arrival at destination and to be able to check whether the vehicle made any unscheduled stops and be able to pin point the location of cargo leaving transportation trucks. This will be applied for both refrigerants meant for Tajikistan and for goods in transit and will complemented by larger co-finance investment into similar equipment from the side of the government. Finally, Tajikistan is introducing a national system of electronic declaration of imports/exports of goods, and in this case, it will relate to HCFCs circulation, and it is proposed to train approximately 20 importers/clearing agents in the use of the new system. A set of following Outputs has been designed to achieve these goals.

Output 1.3.1: State Customs Department participates in existing networks on aspects of ODS import/export control and other required bilateral visits.

Output 1.3.2: Close cooperation with Institute for Advanced Training of Customs officers by upgrading the training equipment and material to facilitate continuous training of regular and new customs officials - 100 trained.

Output 1.3.3: Upgrade and enhance the capacity of Customs service laboratory, with 4-5 advanced refrigerant identifiers for ODS, HFC and Hydrocarbons.

Output 1.3.4: Enhance the capacity of Customs service (hardware, software for electronic sealing/tracking of imported refrigerants).

Output 1.3.5: Training of approximately 20 importers/clearing agents in use of newly introduced national system of electronic declaration of imports/exports.

Outcome 1.4: Standards for natural refrigerants.

Current business practices related to RAC equipment maintenance and repair are commonly based on HCFC and HFC gas technology for refrigerant side, with exception for minimal use of some natural refrigerants in the country as part of heritage from the fSU times. In this regard, any reputable plan for introduction and further expansion on HCFC-substitute low-GWP technologies has to be built on national refrigeration technicians' capacity to handle innovations in skillful and safe manner. Currently Tajikistan does not have in place modern standards for safe handling, storage and use of a new group of low-GWP natural refrigerant group related to carbon dioxide, hydrocarbons and others, except for aged fSU era overregulated standards on ammonia. . With this perspective in mind, the project proposes to assist the Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandart) to develop the necessary standards/technical regulations for the new refrigerants. This will take a form of capacity and knowledge base building on existing standards as applied in the Eurasian Economic Community and EU as the most directly relevant sources for such information. Further, drafting of standards related documentation will be supported, with associated stakeholder consultations to ensure high-quality regulations are proposed for review and adoption by the government. The Agency will also be equipped with a minimal required quantity of refrigerant quality assessment tools (1 or 2 advanced multi-gas analyzers) in order to introduce its technical personnel to this area of work, discuss testing equipment certification methodologies and use this equipment for certification of refrigerant quality, those allowed for testing by the equipment (HCFCs/HFCs, blends and hydrocarbons as a representative of natural refrigerant group of HCFC substitutes). This approach will assist in building initial national capacity on refrigerant safety standards and will be supported by the implementation of the following Outputs.

Output 1.4.1: Facilitate development of standards for safe handling, storage and use of natural refrigerants; and incorporate them in legal and other acts.

Outcome 1.5: Strengthening the capacity and capability of refrigeration and air-conditioning technicians in maintenance and repair of equipment including those with new and alternative technologies.

Tajikistan has an active Association for Refrigeration and Air-conditioning uniting professionals working in this field and they also conduct short term training for RAC engineers and technicians. When implementing initial capacity building programme, it became obvious that short-term training is a useful approach in filling in knowledge gaps for the national association; however, longer term training with on-work internship is important to solidify knowledge base in Tajikistan for a limited number of trainers. It is therefore proposed to provide for such practical training to 2 or 3 senior RAC engineers/technicians at a Russian speaking training facility abroad and have them develop a program and guidance for training of a broader range of national technicians on zero-ODS and low-GWP refrigerants that have good potential to substitute HCFCs, with a special emphasis on emerging non-HFC solutions as explained previously in the project document. Such deeper level train-the-trainer approach has a substantial potential to strengthen the RAC association's capacity to spread this knowledge further downstream to technicians working in the country's provinces and prepare grounds for establishing a RAC faculty at one of higher educational institutions of Tajikistan in the future. The longer period of training will depend on higher resource mobilization that can be done during implementation of the project to offset the overall cost. The selected trainers will receive regular salaries from their employers during the training/internship programme and will be guaranteed work seats upon return from the studies.

Using knowledge gained from the training abroad, series of 5-day training and refresher courses for a broader number of approximately 520 RAC technicians will be organized. The training will include theory and practice of operating with emerging technologies using refrigerants with zero-ODP and low-GWP effects, including natural refrigerants. The training for the technicians in the remote areas will be done by utilizing the mobile training centre described in Outcome 2.4.

Further, regional networking opportunities are supported by MLF-funded UNEnvironment-led experience exchange platforms and other other initiatives (Shecco, RAC technology Expos, etc). Participation in such conferences have proven to be of importance in gaining technical information with respect to emerging

technologies and their operation and maintenance (e.g. implementation of free cooling approaches in Tajikistan). This professional exposure to implementation of modern energy efficient technologies with zero-ODP and low-GWP in other countries will allow technical personnel to enhance their knowledge and operational specifics in local climatic conditions, and network with other professionals to encourage regional/global exchange of information.

This will be achieved through participation in regional network meetings, organized annually with MLF support, and regional and global technology related conferences. This approach will accelerate the transfer of such knowledge to a broader range of RAC technical personnel deployed in Tajikistan.

The above will be achieved with the help of the following Outputs.

Output 1.5.1: Batch of senior technicians selected by the Association to receive one to three months of hands on training on maintenance and repair of refrigeration and air-conditioning equipment with zero ODS low GWP technologies at a Russian speaking facility abroad.

Output 1.5.2: Close cooperation with the Association for Refrigeration and Air-conditioning technicians through the improvement of the curriculum and materials to facilitate the continuous training of regular and new members of the association and other technicians with new technologies using refrigerants with zero ODP and low GWP and natural refrigerants.

Output 1.5.3: Facilitate technical personnel participation in networking meetings and technology related conferences related to zero ODS, low GWP and energy efficiency.

Component 2: Strengthening the HCFC re-use system; implementation of demonstration projects on HCFC replacement; upgrading training institutions; and improving facility for storage of waste ODS.

Outcome 2.1: Strengthening the HCFC re-use system.

Along with associated legislative measures on technician certification and HCFC bulk chemical and equipment import/export controls, the national HCFC re-use system is considered as a foundational backbone for the transfer of both, new practical knowledge on HCFC-free technologies/servicing practices and modern HCFC R/R/R (recovery/recycling/reclaim) equipment and tools, which allows to achieve more effective HCFCs re-circulation in the country and therefore gradually reduce reliance their importation.

In the course of previous CFC and HCFC phase-out programmes supported by the GEF, starting as early as two decades ago in the former case, two (2) reclaim centres were established during the CFC phase-out era to address CFC-12 recycling and re-use in the servicing sector², and two (2) more were set up during the initial regional UNDP-GEF HCFC phase out project, approved in 2010, in order to support HCFC-22 re-use. While the latter group of centers was in the establishment process, modern R/R/R machines and other commonly used servicing tools were supplied, and the centers were put into operation. Those centers, and especially the ones located in rural areas, require only advanced refrigerant identifiers and complementary tools. Therefore, in principle, the current project will therefore aim to augment the previously started national re-tooling process of the remaining number service companies and field technicians (ca. 12-15 sets of basic equipment and tools) with essential portable HCFC recovery equipment and servicing tools and especially those which were not able to access such support in the initial project due to either budgetary constraints or ongoing technician training and certification process. In order to achieve these goals, the following Outputs were designed to support implementation of this Outcome.

² Tajikistan's CFC phase-out process was successfully accomplished in 2004.

Output 2.1.1: Strengthen reclaim centres with sophisticated refrigerant identifiers to support HCFC re-use system.

Output 2.1.2: Supply tools, portable recovery machines to remaining service companies and field technicians to complete support to the national refrigerant management program and complement the existing tools at the R&R centres.

Outcome 2.2: Demonstration of zero-ODS and low-GWP energy efficient refrigerant technologies including natural refrigerants.

Tajikistan has implemented successful natural cooling based solutions for cellular network providers, which allow to reduce reliance on HCFC-22 charged air-conditioning equipment for signal transmitting stations. This approach also documented substantial energy savings when applying such technology, and two companies decided to supplement this demonstration project with additional investments and install natural cooling units in their station networks across the country. Around 400 of such units have been in installation process, featured by importation of such components and local assembly to save on capital costs.

Installation, start-up and maintenance of natural refrigerants (non-HCFC) based equipment was completed at a number of public (social) sector facilities (orphanages, boarding schools, nursing home, nursing home and other specialized agencies) and small-medium enterprises (SMEs). For this, the project had selected a number of social sector organizations and appropriate SMEs with technology replicability potential in the future based on a competitive process.

At the same time, low-GWP HCFC-free technologies demonstrate a slow rate of appearance in Tajikistan, and the current project proposal intends, using experience from other countries of the region, to accelerate introduction, installation and practical use of such technologies in private and public sectors. Showcasing these technologies and understanding associated capital and prospective savings on operating costs will have an awareness raising effect in the country. In addition, the country's maintenance and servicing capacity, along with safety standards related work as described in Outcome 1.4, will be gradually improved to back further spread of such technologies on the local market.

Preliminary studies during PPG have shown that, in the past, centralized AC systems were completely dismantled and/or abandoned/sealed in public and social institutions, previously targeted for project's support and where larger capacity equipment with zero ODP and low GWP (for example, ammonia plants) could be used. In connection with this, it is instead proposed to demonstrate:

- 6-8 sets of medium-temperature / low-temperature equipment and medium-sized refrigerating chambers for storage of food, for the food blocks of large medical institutions and other social facilities, using new technologies with zero-ODP and low-GWP effects.
- 50-60 sets of medium and small air-conditioning equipment using new technologies for the social and public sector.

Further, the PPG team analysed agricultural production intensity across the country, and identified that the Districts of Republican Subordination (DRS), Dushanbe (capital), Sughd and Khatlon regions are the main centers of agricultural processing / production and storage, where most of the large refrigeration plants and enterprises for processing and storing agricultural and dairy products are located. Therefore, the demonstration of replacement of equipment containing HCFC for equipment with new HCFC-free alternative energy efficient technologies (preferably natural refrigerants, ammonia plants) will be carried out in 1 or 2 large facilities in three geographic centers (DRS, Dushanbe, Sughd region) in companies designed for storage and processing of agricultural products and food. The selection of recipients will be based on priorities based on a number of factors, including: a) the size of the equipment (the capacity of the coolant); b) the direct – GWP - impact of technology on climate; c) co-finance preparedness and d) energy efficiency potential.

In one specific sub-sector, data centers (data centers) and servers produce a huge amount of heat - the computer and storage systems that are in them make 90% of their input capacity into heat. For the equipment to function properly, this heat must be mechanically cooled or removed from the data center space. Even more complicating this task is the need to strictly maintain the proper air quality inside (dust and particulates harm operation of equipment) and data center security, which leads to additional costs, complexity of the design and operation of cooling the data center and servers.

In such data center and server rooms of modern enterprises, air conditioning systems must be able to operate 24 hours a day, 7 days a week (24/7) for 365 days a year, with an average power from 540 W / m² to 1,080 W / m². In this regard, the general idea of the cooling system of a "large" energy-efficient server is featured of the following. Such facility is operated by a precision cooling system (in combination with a natural cooling auxiliary system) and it deploys a refrigerant with zero-ODP and low-GWP characteristics. The room has raised floors for supplying cold air, with separation into cold and hot corridors, isolated from the general server room to ensure more accurate heat exchange. Most of the time, the system operates on direct free cooling benefiting from outside air cool content. With an increase in the temperature of the air pumped from outside ambient, an adiabatic cooling system is launched and connected to the server room. If permissible temperature limits are exceeded, a compressor or liquid cooling system is connected, i.e. air conditioning to reach required temperature regime inside of the facility.

In continuation of a similar, but small-scale free-cooling equipment component from previous GEF-funded programme, the demonstration of two (2) projects on the introduction of such combination of free-cooling energy-efficient alternative technologies with low GWP refrigerants in main cooling circuits for cooling large data center and server buildings and in other various sectors, including AC class equipment, will reduce both knowledge and investment barriers associated with the introduction of such technologies at the national level, and also lead to energy savings to create a wide demand for such technology and to stimulate the greatest scale in technological approaches in the future.

The following Output has been designed to achieve these goals.

Output 2.2.1: Mobilisation of national resources and ownership to demonstrate innovative conversion projects to introduce zero-ODS and low-GWP energy efficient technologies for R&AC in:

- a) public facilities (social entities, health facilities);*
- b) different commercial applications such as food product storage, agricultural products, and also cooling system of server and data centers, etc.*

Outcome 2.3: Pilot performance monitoring project for reduction of HCFC leakage at large facilities.

RAC equipment assembly and installation process receives important technical support from qualified engineers and technicians at the time of commissioning to ensure its performance optimization and energy use. However, with time passing by as such equipment continues to operate, its performance parameters decrease and become sub-optimal, in certain cases leading to mechanic breakdowns and the increased need to service it. In line with global developments in this field, the project will plan to implement a pilot programme to improve operational and maintenance procedures through a combination of on-site and remote monitoring performance measurement equipment and software in real-time format. This will be implemented with medium-to-large scale air-conditioning systems with 100 - 150 or more kg of HCFCs charge. Preliminary studies have shown that these equipment are mainly located in Dushanbe and Khujand cities and are used for shock-freezing food products, cold hardening of dairy products. Such programme will increase the capacity of maintenance personnel to diagnose, monitor and control the operation of equipment, its performance and to avoid and reduce major breakdowns and resulting leaks of HCFCs. It will also leave capacity in the country for future programming under GEF-Kigali amendment's window on understanding how performance optimization after RAC equipment's installation can lead to more energy efficient performance. The following Output will support these goals, and such activities will be planned in at least one (1) pilot site, possibly 2 or 3.

Output 2.3.1: Provide basic performance monitoring equipment and software to enhance capacity of RAC technicians and engineers to monitor in real time, diagnose and improve RAC system performance (including preventive maintenance) to reduce HCFC leakages.

Outcome 2.4: Upgrade and add to training equipment of Technical Institutions and Refrigeration Association and provide mobile training and recovery/recycling for remote areas.

Modern approaches in educating RAC technical personnel require adoption of required training tools which accelerate knowledge transfer from trainers to trainees. With the push to implement zero ODP low GWP energy efficient technologies it is necessary to equip the training institutions with the appropriate training equipment, such as training stands, heat pumps and RAC equipment for natural refrigerants and demonstrate their practical application and safe operations in order to bring RAC technician certification to a level higher and match that knowledge to international benchmarks. Apart from the centrally-located (Dushanbe city) Refrigeration Association, which plays a critical role in backing RAC engineers and technicians training, the project will support selected servicing companies and professional educational institutions/centers with such advanced training equipment to improve the quality of training overall in the country. This will take form of a rigorous selection process during project's implementation.

In addition the Association will operate a fully equipped mobile training, recovery/recycling and monitoring facility (with a basic minivan) to take training and recovery/recycling to the remote areas, for technicians who are unable to attend training programs held in Dushanbe or at the identified training centres. The mobile facility would also be used for recovery/recycling of refrigerants and monitoring of this activity in these remote areas.

Training equipment (3 sets) will be procured by the project, and consist of electronic boards, computer equipment sets (notebooks, printer/scanner with require connections), RAC training stands for AC, heat pump equipment, and servicing tools. Recipients of the equipment will provide training rooms, teachers and commit to ensure sustainability of such training beyond the project's timeframe.

Output 2.4.1: Provide training equipment for natural refrigerants to the Training Institutions and a Mobile training, recovery/recycling and monitoring facility created to train technicians and undertake and monitor recovery/recycling in remote areas.

Outcome 2.5: Waste ODS storage.

ODS waste continues to be accumulated in Tajikistan with its regular sources or routes coming from confiscated materials when Customs intercept mislabeled shipments, and residual contaminated material from the servicing sector as a result of equipment maintenance and single-use cylinders. As a result of awareness raising activities in the previous GEF/UNDP programme, some aged untouched ODS gas has been detected in existence in the industry, too. The Committee for Environmental Protection is concerned that waste non-reusable ODS and other refrigerants are dispersed in small quantities across the country and would like to consolidate them at one location until some decision can be taken on their disposal/destruction. To that end a request was made for the project to provide assistance in upgrading a dedicated storage facility, to be identified during project's implementation, to properly store the all waste refrigerants currently known in the country. Preliminary consultations identified one of hazardous pesticides' landfills as a suitable location, situated 135 km distance south from the capital city, and equipped with some modern storage structures as supported by the GEF in other, POPs related, programmes. The storage facility will serve for the near future as an accumulation point for ODS waste material.

Output 2.5.1: Storage facility upgraded for storage of waste ODS/ODS alternatives until government decides on disposal procedure.

Component 3: Public awareness.

Continuous implementation of awareness activities, targeting the general public and other specific target audiences is an important activity in the project. It serves to communicate up-to-date information on developments in the Montreal Protocol and HCFC control policies to public and private sectors and public at large. A specific public awareness campaign will be designed with the project's assistance and delivered by the project on annual basis.

Outcome 3.1: Implement activities on raising public awareness.

The project will continue previous efforts in this field, and relevant information materials and booklets related to the ozone layer and Montreal Protocol, the introduction of natural refrigerants will be published. TV programs and round table discussions will be regularly planned. In specific reference to annual celebrations of the World Environment Day (June each year) and Ozone Day (September each year), the project team along with the government and UNDP Country Office will arrange special dedicated events related to photo-contests and art competitions. Organization of an information tour for 10 – 12 journalists within the country to highlight achievements of the project will be integrated into this campaign. These will be achieved with support of Outputs 3.1.1 and 3.1.2.

Output 3.1.1: Continue activities to increase public awareness.

Output 3.1.2: Develop and publish information materials.

Component 4: Gender mainstreaming in refrigeration and air conditioning sector and monitoring and Evaluation

The technical and vocational level education and training system in Tajikistan is largely supply-driven. Most course structure and content are outdated, resulting in a mismatch between graduate skills and labor market demand. Physical conditions of educational facilities and the lack of modern curricula reinforce the generally low social image of technical and vocational education and contribute to the system's inability to attract students.

Primary technical and vocational education suffers from deficiencies in both quality and quantity. The total enrollment in 63 lyceums in 2014 was 21,593 students, of whom 18% were girls—an average enrollment size of 343 students per lyceum. This challenge will be approached by the project in collaboration with ADB's Strengthening Technical and Vocational Education and Training project³, that will help develop a demand-driven, quality-assured, and flexible technical and vocational education and training system responsive to labor market needs.

The project will encourage enrollment of women into RAC related technical and vocational education through introduction of stipend schemes (scholarships) for women and girls-graduates from secondary-level schools. The project will also ensure stronger cooperation between educational institutions and service centers through the placement of women and girls in such service centers dealing with RAC sector, for internships and further potential employment.

Materials on women's role in ozone business prepared and integrated into awareness activities. Participation of women technicians in the activities of the project encouraged. Women's organizations operating in Tajikistan and abroad identified and mutual cooperation agreements will be established. Partnerships with the Ministry of Higher and Secondary Special Education, Ministry of Labor, Committee on Women and Family Affairs under the Government of Republic of Tajikistan and NGOs promoting women's role in technology will be established. Joint awareness raising activities aimed at involvement of women in RAC sector will be implemented.

³ More information on ADB's project "Strengthening Technical and Vocational Education and Training" can be accessed here: <https://www.adb.org/sites/default/files/publication/214621/pb-taj-strengthening-tvet.pdf>

Outcome 4.1. Engagement of women-students to study RAC in the technical and vocational education institutions and partnerships with organizations to involve women in RAC related small business.

Currently, there are rare cases when women join this business area due to health risks associated with physical work (heavy weight equipment handling, welding, etc.). Such risk matrix and job categorization were established in the past in FSU times and had its rationale behind to provide safer working conditions in other economic areas. However, it is known to the project team which worked on PPG that individual cases of women being involved in management of RAC businesses exist. The project will look into these matters and identify areas for broader women involvement as far as the work with the Montreal Protocol is concerned.

In addition, strong partnerships will be established between the project and the line Ministries of Higher and Secondary Education, and Labour, as well the Committee on Women and Family Affairs to promote gender mainstreaming in ozone related business, including RAC sector. This will be achieved by conducting at least 10 public events on engaging girls graduating from schools into technical specialty vocational level studies in the RAC technology and prepare at least 5 publications on the women's role in RAC technology business, opportunities offered by such technical specializations etc. within different institutions tailored for girls in the final years of school. Study curricula of the vocational schools will be reviewed to include individual entrepreneurship and RAC business management principles (financials, business organization) for men and women to increase graduates' management knowledge in this area and improve self- and service-center based employment opportunities.

The above will be accomplished with help of the following Output.

Output 4.1.1: Introduction of stipend scheme for at least 30 women-students to study RAC in the technical and vocational education institutions; Placement of these students in internships with good private firms and Refrigeration Association of Tajikistan; and employment of at least 15 women-graduates in RAC with reputable service centers (private firms). Additionally, publications and public events aimed at girls in final years of school to encourage them take up RAC work will be undertaken.

Outcome 4.2: Project monitoring and evaluation implemented.

The project will undertake continuous monitoring and periodic progress reviews on development and operation of the overall project management system and associated effectiveness evaluation. The ongoing regional FSP project and the proposed project intend to share the results and knowledge both nationally as well as with other project partners. The knowledge and lessons learned will also be disseminated through participation in regional meeting arranged by UNEP and other regional forums as found appropriate. The current MSP project will undergo a final term evaluation in line with GEF requirements.

Output 4.2.1: M&E is applied to provide feedback to the project coordination process to capitalize on project needs.

Output 4.2.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.

IV. RESULTS AND PARTNERSHIPS

Expected Results:

The overarching objective of the GEF-6 Chemicals and Waste Results Framework for Ozone Depleting Substances (ODS) is to promote the sound management of chemicals throughout their lifecycle to minimize adverse effects on the global environment and health of women, children and men through the phase-out and reduction of ODS with a global indicator of 303.44 ODP tons of HCFC phased out.

The principle global environmental benefit from the project will be to reduce consumption of HCFCs by 99.5% to 0.09 ODP Tonnes of their baseline of 18.70 ODP Tonnes on January 1, 2020 and sustaining reductions in the servicing tail up to 2030 or earlier. This is the last round of GEF project support aimed at ensuring sustained HCFC phase-out in Tajikistan.

As a part of fulfilling commitments undertaken by the Republic of Tajikistan in connection with ratification of the Vienna Convention and the Montreal Protocol and its respective amendments, the Government of the Republic of Tajikistan has adopted a number of specific regulations aimed at ensuring the institutional process of reducing ODS (CFCs /chlorofluorocarbons/ and HCFCs /hydro chlorofluorocarbons). The most recent resolution specifically addresses HCFCs.

Resolution of the Government of the Republic of Tajikistan, No.643, dated 02 November 2015 "On measures on implementation of the Vienna Convention for the Protection of the Ozone Layer and of the Montreal Protocol on Substances that Deplete the Ozone Layer". In accordance with article 51 of the Law of the Republic of Tajikistan "On normative legal acts" and with the purpose to ensure the compliance with obligations of the Republic of Tajikistan under the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, the Government of the Republic of Tajikistan decrees:

1. To approve the Strategy on reducing the consumption of ozone-depleting substances (Annex 1).
2. To approve Regulations on the procedure to be followed for the import and export of ozone-depleting substances in the Republic of Tajikistan (Annex 2).
3. To approve a Unified list of ozone-depleting substances and products containing such substances to which bans on the import/export in/from the Republic of Tajikistan shall be applied (Annex 3).
4. To establish quotas for the period of 2015 - 2020 for the import of ozone-depleting substances into the Republic of Tajikistan (Appendix 4).
5. To prohibit from 1 January 2017 the import of products containing ozone-depleting substances, included into group I of the List C of the Montreal Protocol, into the Republic of Tajikistan.
6. To cancel the Resolution of the Government of the Republic of Tajikistan No. 477, dated 03 December 2002 "On measures on implementation of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on substances that deplete the Ozone Layer". (Relates to CFCs which have been phased out)

There is also a broader sound chemical management legislative framework adopted in the country, where ODSs management principles are reflected. The following provides a brief overview of such framework of such environmental protection Concepts and national environmental action plans.

National action plan on environment protection (NAPEP) of Republic of Tajikistan is approved by Decree of the Government of Republic of Tajikistan under No. 396 as of May 3rd, 2006. NAPEP contains the following proposals on the matters of conservation of Earth ozone layer and discontinuation of utilization of ozone-depleting substances. In summary, NAPEP plan provides an overarching umbrella for consolidation of legislation on sounds chemicals management, including ODS in particular, and contains guidance for development of standards and motivation for industrial enterprises on technology substitution of controlled ODS chemicals with

those solutions which have no harm for the environment. It also supports development of national capacity for monitoring and analysis of information on manufacture, import, utilization and processing of ODSs with the aim of providing the government with data necessary for decision-making over control and gradual reduction in consumption of these substances. NAPEP includes a special Action Plan that is featured by the above-mentioned goals, and requests a number of actions to support:

- Improvements of ODS control system;
- Development and implementation of state statistical reports on ODS usage rates;
- Modernization of existing laboratories on ODS identification;
Capacity building for enforcement authorities (taxation, Customs);
- Reduction in ODS importation and increase in ODS recycling, restoration and re-user rates;
- Awareness raising campaigns on the Ozone Layer protection aspects;
- National capacity building for refrigeration engineers and technicians;
- Establishment of consultative center for further training of personnel;

The Concept of environment protection in the Republic of Tajikistan approved by Decree of the Government of Republic of Tajikistan under No. 6 as of December 31st, 2008. This national concept in the field of environmental protection provides basis for the participation of Tajikistan in regional and global consultative processes and problems including prevention of anthropogenic changes of climate and protection of Earth ozone layer.

And, finally, the **Concept of transition of the Republic of Tajikistan to sustainable development approved by Decree of the Government of the Republic of Tajikistan under No. 500 as of September 1st, 2007**, declares that an important factor in contribution to achievement of sustainable development is the number of international agreements in the sphere of environment protection, ratified by Tajikistan, which include the Vienna Convention on the Ozone layer protection and Montreal Protocol on ozone-depleting substances, and related amendments to the Protocol.

The assembly of such overarching and more specific legislative and regulatory instruments create an enabling environment to support the gradual and effective HCFC phase-out process in Tajikistan.

Partnerships:

The nationally-driven HCFC phase-out process requires support from key stakeholders who are interested in making this process a success, and their functions are described below.

a) Committee for Environmental Protection (CoEP) under the Government of Tajikistan: Committee develops and implements policies for environmental protection, conservation of biological diversity and forest ecological systems, rational use of natural resources, and sustainable development of mountain areas and assure the state's ecological security. It organizes and implements government control over environmental protection and natural resources use; implements multilateral environmental agreements (MEAs); and licenses uses, releases, transport, storage and disposal of toxic materials and waste, including radioactive.

b) Agriculture and Environmental Protection Department of Executive Office of the President of the Republic of Tajikistan: This department will be involved for the purpose of advocacy and validation of HCFC regulatory framework updates that the project intends to propose in order to address identified weaknesses and further strengthen the current foundation to sustain the current process of HCFC phase-out in Tajikistan beyond 2020 as the next major and final HCFC reduction milestone. The Executive Office of the President is better positioned to facilitate legislations reforms than CoEP/Customs.

c) State Customs Department and Institute for Advanced Training of the customs officers at the Customs Service of Tajikistan: Customs regulates exports and imports of chemical substances and toxic wastes. The department has been a traditional Governmental partner in previous CFC phase-out programmes and currently for HCFC phase-

out. And, its Training Institute has been participating in the capacity building programmes for Customs' personnel to ensure continuous training for existing and new officers on a sustained basis.

d) Committee on women and Family Affairs under the Government of Tajikistan is considered state executive entity, undertakes and leads state policy on ensuring and protection of women's rights and women's interests, creating equal conditions and opportunities for protection of their rights and interests and achieving gender equality at all levels, strengthen and enlarge areas for active involvement and participation of women in decision-making process for resolution of social-economic affairs, management of governance and society problems, as well as advocating legal and policy regulations, ensures quality state services and management of state property;

e) Ministry of Justice: The Ministry carries out governmental registration of all normative-legal statements, and in this case, those related to sound chemicals management, including ODS/HCFE controls.

f) Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandart): The Agency issues standards and monitors their implementation. The importance of Tajikstandart for the project's activities is in the development and introduction of application and safety standards for the use of HCFCs, HFCs and alternative technologies such as natural refrigerants, as currently only old former Soviet Union's standards for CFCs, HCFC-22 and ammonia area available.

g) Ministry of Education: This Ministry supervises formulation and adoption of the occupational training and educational curricula for the purposes of capacity building to achieve more effective HCFC control in Tajikistan. More specific work is also planned in cooperation with the Committee for Women and Family Affairs on placing more focus on teaching women on basics of management of refrigeration business as explained in the related project sections.

h) The Agency on Statistics under the President of the Republic of Tajikistan: All reporting on import/exports is implemented through this agency i.e. CoEP, Customs etc. as well as importing/exporting business entities submit reports to the agency with regards to imported/exported goods. Notably, a unified (single) type of reporting for business entities (regardless of type of ownership) was introduced as of 1 January 2017. Further work on improving reporting on import/export operations, and specifically with respect to HCFCs and alternative refrigerant based RAC equipment, will be planned with the Agency on Statistics and Customs.

i) Refrigeration Association: The RAC Association unites major actors in the equipment servicing sector and serves the purpose to disseminate experiences and best practices in the sector, serves representation, organizational and client interest protection functions. Members are involved in assembly, design, delivery, maintenance of refrigeration and air conditioning equipment.

j) Private sector (servicing, equipment assembly): These sectors are the principle consumer of HCFCs which translates into overall country's dependence on these ODS-based chemicals. They are the ones primarily impacted by HCFC phase-out, and their cooperation is essential for the project progress.

Risks and Assumptions:

Overall, there is a low risk associated with implementation of this project, since Tajikistan has included HCFC phase out strategy in their national laws and they have the experience with the earlier CFC phase-out, and the recently completed initial capacity building for the HCFC phase-out. As such, national ownership of the phase-out is well demonstrated.

The National Ozone Unit (NOU) institutional arrangement is well established, and it reports annually to the Ozone Secretariat on HCFC consumption phase-out and incorporates the Montreal Protocol's mandates into national legislative and regulatory frameworks. As such, due to the legal commitments of the country to the related international MEAs, the long-term sustainability of the project results is better guaranteed.

UNDP will continue to utilize its established cooperation with UNEnvironment OzonAction programme on regional networking and experience exchange with other countries in the region. As part of the implementation of the current regional GEF-UNDP initial HCFC phase-out programme, there was also support provided to regional capacity building among the participating GEF countries. It was instrumental in making more coherent decision making on specific HCFC phase-out policies related to gradual or selective bans on HCFC equipment importation, single-use refrigerant containers, aspects related to ODS waste management in the region, and low GWP/HCFC-free technology demonstration projects. Special assistance was provided to Ukraine on reconstructing institutional capacity on HCFC management by bilateral support. Essentially, such country-to-country assistance and regional consultations on best practices in HCFC controls have both proven important in strengthening knowledge base and accelerating national HCFC phase-out processes in the participating countries.

With respect to new technology demonstrations which support further introduction of HCFC-free and low-GWP solutions, this process carries certain safety and servicing/maintenance risks reflecting type of technology selected (flammable, high-pressure or others) which will be gradually addressed with improvements in application and safety standards integrated into the project's design. And, as far as co-investment requirements from technology recipients are concerned, the project team, in the attempt to lessen risks of low resource mobilization, will follow strict eligibility requirements when carrying out more in-depth market research on a range of RAC technology replacement options and during calls for applications to access grant-based incentives for technological conversions.

Stakeholder engagement plan:

During the preparation of the project document, consultations were held with most of the key stakeholders described in the preceding section on Partnerships above. Respectively, the project will be implemented in close coordination and cooperation with relevant state institutions, regional authorities, industrial enterprises, state and local authorities and NGOs, as well as with other relevant projects in the region. Additional information is also contained in the Management arrangement's section on the use of the project steering committee to guide the project's implementation plans.

Gender equality and empowering women:

A set of key gender issues were identified during the project preparation phase, including during the gender assessment.

At the outset, it should be mentioned that training institutes and regulatory bodies such as State Environmental Affairs Committee, Customs, and Bureau of Standards have professional women working in their respective fields. There is participation in the project board meetings and in decision making at very senior level by women.

In Tajikistan, the ratio of female to male primary education enrolment is 98% and for secondary school enrolment it is 88%. Therefore, while the education gap between males and females is not significant, it exists, and rigid notions of men's and women's roles in society and in the home remain. It is believed that men should occupy the role of breadwinner and head of the household, whereas women should confine themselves to domestic and care work within the home. Further, women lack access to productive resources and technical training that would enable them to increase productivity above subsistence levels and increase wealth.

Some of the initiatives designed to address gender related issues in the target sectors are proposed by the project:

- Introduction of a stipend scheme for women-students studying RAC technologies in the technical and vocational education institutions;

- Placement of women-students studying RAC in the technical and vocational education institutions for the internships with reputable private RAC servicing firms and Refrigeration Association of Tajikistan, with onwards work placement of graduates;
- Further building of HCFC process management capacities of women in Customs and environmental services;
- Provision of assistance for RAC business-oriented women to access technical and financial support to accelerate business development opportunities, and increase management level knowledge and skills to run more successful businesses;
- Support to advocacy work for an increase in the number of women involved in decision making processes over the implementation of the Montreal Protocol's provisions in the country;
- Establish collaboration with the project-contracted businesses and international experts to continuously develop and implement mechanisms which may further strengthen the capacities of women of Tajikistan across the project planning domain.

Following UNDP's Gender Mainstreaming Strategy, the project will strive to strengthen capacities of governmental institutions and private sector to integrate gender mainstreaming principles in daily policy planning and operations.

South-South and Triangular Cooperation (SSTrC):

The project will support Tajikistan's participation in UNEnvironment's Compliance Assistance (CAP) Programme supported sub-regional/bilateral meetings on HCFC phase-out implementation experience, consistency in data collection and reporting, cross border impacts related to import/export issues and related enforcement. These annual conferences and previous forums established under the initial regional HCFC phase-out programme financed by the GEF are important in providing platforms for sharing accumulated expertise in improving operations of national Refrigeration as well as associated knowledge on technician certification process.

Discussion round tables on challenges and advantages faced during the introduction of newer RAC technologies and their commissioning and maintenance take increasing priority in the target countries and enable such best practices to spread in a larger number of countries based on individual country's experience. While the previous regional GEF programme allowed for enhanced cooperation between the funded GEF-supported countries, the current programme leaves this spirit of collaboration with the national level and further country-to-country experience exchange initiatives will be planned based on bilateral interests. As discussed earlier, such joint work was especially in demand in one of the countries from the same regional programme which experienced challenges in re-building its HCFC control framework due to complete loss of institutional structures and expertise in this area.

Participation in the Prior Informed Consent (PIC) network will also be promoted by the national programme. It helped reveal data reporting inconsistencies in terms of transit between exporting parties and countries of final destination for some of HCFC shipments in the past, in cooperation with the Ozone Secretariat. Based on that experience, the current project design includes activities to improve Customs' ability to track shipments. This cooperation becomes an integral part of the regular interaction between countries of the region.

The project will also assist in exchange of information with other similar projects, implemented in the region with the MLF assistance, and it will extend its support to enable participation of national Montreal Protocol focal points and lead RAC experts and from Tajikistan in technical meetings and Open Ended Working Group (OEWG) meetings conducted by the Ozone Secretariat in cases where there is no such support provided by the organizers.

Essential expert-to-expert technical discussions occur in RAC technology related conferences. New business partnerships are forged in those forums that allow for faster transfer of newer and low GWP technologies to reach Tajikistan's market. Participation in such annual technology exhibitions will be supported by the current programme.

Sustainability and Scaling Up:

Sustainability:

This is the final round of GEF assistance to Tajikistan to enable it to meet 2020 HCFC reduction targets and the remaining servicing tail by 2030. The currently proposed project builds on the efforts of the previous GEF-funded regional project which was aimed to initiate preparedness of Tajikistan to manage the continued growth in HCFCs use in the country.

The Committee of Environmental Protection and the National Ozone Unit have both been actively involved in all the ODS phase-out projects in the country, covering the CFC phase-out and the initial HCFC phase-out initiatives. In view of this, currently active HCFC controls framework, which lays out the foundations for sustained HCFC phase-out in the future, and the basic infrastructure created to support HCFC re-use will be in place to help the country meet the final HCFC reduction targets during the period 2020 to 2030. Proposed improvements in the HCFC legislation, extension of HCFC recovery and recycling capacity to provincial areas, and support to further introduction of low-GWP and HCFC-free technologies in agribusiness and food processing sector, green cooling approaches in private and public entities and other facilities such as in the medical sector will all together equip Tajikistan with best international practices and skills to maintain the HCFC phase-out momentum over the year to come, which will also partly avoid continued use of HFC technologies on the local market.

The project has entered into consultations to increase and capitalize on a number of partnerships as during its implementation so when preparing for public discussions on the Kigali amendment. It is currently planned to explore more of joint funding opportunities in cold storages and RAC technologies in agribusiness with EBRD's supported initiatives aimed at private sector development. EBRD has had domestic grant and loan support programmes in the same area, and such partnership has a good potential to unlock more capital to broaden the scope of positive changes in the private sector. And, with respect to social sector, in this case medical facilities and essential vaccine preservation and enabling access to Tajikistan's provinces and rural areas, the project will cooperate with GAVI Alliance to ensure that RAC technicians trained within UNDP/GEF project are engaged into quality servicing and maintenance of specialized refrigeration equipment that GAVI together with the Ministry of Health will be supplying to target hospitals and small clinics to improve public health.

With respect to capacity building for RAC engineers and technicians and Customs officers, initial work in these areas was launched in the currently closing regional HCFC phase-out programme. Customs department, and specifically its Training Institute, conducts regular training and refresher courses for their staff, and have included training on effective border controls over ODS imports as a mandatory module in their training courses. This will ensure sustainability of the training projects in the future, as newly recruited personnel as well as existing staff receive new information materials on state-supported HCFC management policies and required enforcement action on the ground to support implementation of such national strategy in response to the provisions of the Montreal Protocol. The Training Institute of Customs and the Refrigeration Association have been provided with up-to-date training material on best international practices, and HCFC re-use manuals are given to the technicians on a regular basis. Both institutions will be able to sustain the training and update the curriculum as and when needed to remain current. The Association has a website and a discussion forum where technical information on RAC technologies and HCFC phase-out process is made available. Further training for RAC technicians located in the regions of the country will be considered by the project provided that it was not addressed in the initial HCFC programme in Tajikistan, and key trainers from the Association and key service centers will be exposed to more in-depth coaching and internship opportunities abroad to transfer such new knowledge to Tajikistan. The mobile training facility based approach will support longer term and wider scope training for RAC technicians reaching out to rural areas and ensuring smooth pace and broader RAC technology knowledge and servicing skills enrichment across the country.

Scaling up:

As part of the project's implementation, it is planned to support further introduction of low-GWP and HCFC-free technologies in the public and private sectors. Previous regional GEF-supported project has proven that there are opportunities to mobilize additional resources from both sectors to complement GEF funds in the area of demonstration projects and increase the number of project demonstration sites by generating stronger interest in newer technologies with GEF support. While in public sector, it was found to be more challenging to locate require co-finance support, provided lengthy clearance procedures and general competition over limited resource among different branches of the social infrastructure, the private sector was faster in responding to cooperation proposals with investment-ready resources, especially in the cases of energy efficiency gains being clearly beneficial.

In the proposed project, as discussed in the respective strategy section, new demonstration projects to replace HCFC RAC equipment with zero ODS, low GWP energy efficient technologies will be designed and implemented. Cooperation agreements with public and private sectors will be planned to maximize GEF support cost-effectiveness rate with mobilization of public and private business resources. This will enlarge the scope of investments the target sectors. Further collaboration with EBRD and other interested parties will be explored during the GEF project implementation in order to grow the complementary resource base to a greater degree.

Such activities will be supported by public awareness campaign, and information on benefits associated with the transition to low-GWP RAC technologies will be made available to interested HCFC equipment users for making informed choices to participate in the national conversion process, thereby scaling up the results of the project.

V. PROJECT MANAGEMENT

Cost efficiency and effectiveness:

Several of the project stakeholders from the current GEF regional HCFC project, and specifically from its national component related to building initial HCFC infrastructure, will continue to support the new project in same roles and functions and this will help to deliver the most optimal results within the available resources package. And, new stakeholders will primarily be from the participants in the demonstration projects.

Since the currently closing GEF regional HCFC project also delivered such projects, the mechanism for their practical implementation has also been established. Cost efficiency and effectiveness of the use of GEF assistance will be ensured at each stage by adoption of tender-based (quality for affordable costs) UNDP procurement procedures for all the activities where tendering is required, including the selection of consultancy services and procurement of technologies/equipment, based on the best quality/cost ratio.

Project management:

The project unit will be based at the current facility of UNDP-Tajikistan's Programme Office (located in Dushanbe, Tajikistan). Implementation of project activities will be fully supported by the Energy & Environment Programme Officer and the Head of UNDP Energy and Environment Programme, as well as other programme staff. The Project manager will ensure synergy with all other relevant projects as implemented within the Programme so outside of UNDP by forming strategic partnerships in public and private sector and international financing organizations such as EBRD for more profound and scaled-up impact.

The project is fully embedded within the governance systems of Tajikistan and, as such, directly supports its structures, functions and strategic commitments. In this context, the project will implement its activities using the existing Montreal Protocol's structures in Tajikistan and ensure participation of relevant government stakeholders through the means of the Project Management Board (PMB). Project activities related to cooperation, training and

information sharing will aim to use already established, legitimate participatory bodies, as well as existing training and cooperation platforms.

The project oversight and assurance role will be provided by the UNDP Country Office in Dushanbe. In line with UNDP's Accountability Framework and Oversight Policy, UNDP Tajikistan has put in place an Internal Control Framework for DIM projects to ensure their effective and independent oversight and quality assurance. In particular, Energy & Environment Programme Officer will take primary responsibility for overseeing project implementation and regularly communicating the results of oversight work to relevant and concerned parties, the Government and other project partners. Where applicable, the UN Resident Representative, The Country Director, and the Deputy Country Director will ensure standard oversight and guidance. Additional quality assurance will be provided by the Istanbul-based UNDP Regional Technical Advisor as needed.

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information: To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy⁴ and the GEF policy on public involvement⁵.

⁴ See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

⁵ See https://www.thegef.org/gef/policies_guidelines

VI. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s):

12. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
13. Climate Action – Target: Integrate climate change measures into national policies, strategies and planning
5. Gender Equality – Target: Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women
8. Good Jobs and Economic Growth – Target: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors
9. Innovation and Infrastructure – Target: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: UNDAF OUTCOME #6: People in Tajikistan are more resilient to natural and human-made disasters resulting from improved policy and operational frameworks for environmental protection and sustainable management of natural resources

UNDAF Output 6.1: Effective legislative, policy and institutional frameworks in place for conservation, sustainable use, access and benefit sharing of natural resources management, biodiversity, ecosystems

UNDAF Indicator 6.1.1: Institutionalized coordinated environmental information management and monitoring system in place

This project will be linked to the following output of the UNDP Strategic Plan: SP Outcome 5. Countries are able to reduce the likelihood of conflict and lower the risk of natural disasters, including from climate change

	Objective and Outcome Indicators	Baseline ⁶ 7	End of Project Target	Source of verification	Assumptions
<p>Project Objective:</p> <p>To accelerate HCFC phase-out to achieve the 2020 compliance objectives and sustainably reduce the servicing tail. Understanding the implications of, and ratifying the Kigali Amendment (using co-financed funding); facilitation of implementation of</p>	<p>By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.</p>	<p>Tajikistan is in compliance with 2015-2017 Montreal Protocol (MP) mandated HCFC reduction targets, and implements MSP GEF programme to meet final milestones by 2020 and 2030 respectively</p>	<p>- Tajikistan reports MP provision compliance for 2020 with sustained infrastructure to address remaining servicing tail by 2030</p> <p>- Tajikistan completes ODS alternative data collection, including on HFCs, and public consultations on the process of ratification of the Kigali amendment</p>	<p>- Annual HCFC quota system information – Art.7 and CP reporting data</p> <p>- No cases of non-compliance reported to the Ozone Secretariat and Implementation</p>	<p>- MSP project is approved in Q3 of 2018, and required clearance from the Government is in place in Q4 of 2018</p> <p>- Project frontloads principal project activities, such as tendering key R/R/R equipment and main RAC demonstration technology, in 2019</p>

⁶ Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

⁷ Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

<p>upgraded national legislation on control of import/export and use of HCFCs, other ODS and ODS alternatives; improvement of Customs training capacity; demonstration of zero-ODS and low-GWP energy efficient technologies in the refrigeration and air conditioning sector; and completing the upgrading and strengthening of the servicing sector capacity.</p>				<p>committee</p>	<p>- Socio-economic situation does not prevent Tajikistan from planning ratification of the Kigali amendment</p>
<p>Component 1: Facilitate implementation of national legislation; strengthening capacity of customs and enforcement officers on control of HCFC import/export; facilitating development of standards for natural refrigerants; and capacity building for the RAC sector through hands on training of senior technicians followed by training/upgrading of technicians, including those in remote areas.</p>					
<p>Outcome 1.1: ODS Alternative survey to determine their consumption.</p>	<p>Quantities and uses by type of ODS alternatives prevalent in Tajikistan are obtained with help of Customs import information and importers/distributors and end-user data collection</p>	<p>No ODS alternatives data, and specifically on HFCs, is available to assist with policy and action planning to promote low-GWP technologies and avoid high-GWP solutions in the HCFC phase-out process.</p>	<p>- National survey of consumption of HFCs and other alternative cooling agents (natural cooling agents) and their uses undertaken for government to consider the impact of the Kigali Amendment on phase out of HFCs.</p>	<p>- Customs and NOU data, as well as survey of importers, distributors and end users of ODS alternatives, including HFCs</p>	<p>- Customs has records of imports of ODS alternatives. - Due level of cooperation from importers, distributors and end users of ODS alternatives in providing data for analysis.</p>
<p>Outcome 1.2: National legislation on HCFC and ODS alternatives phase out and import/export control upgraded, through adaptation of advanced legislation experience from EU and other countries.</p>	<p>Current regulatory HCFC control framework is improved with assistance of a number of proposals developed and provided for Government consideration</p>	<p>- Lack of regulations on recovery & recycling and proper dismantling and disposal of equipment containing ODS; - Lack of regulations, procedures and conditions for issuing permits for the transboundary movement of ozone-depleting substances and products containing them. - Lack of safety related standards on new low-GWP and HCFC-free RAC</p>	<p>- At least 2-3 Regulatory acts on HFC phase-out and ODS waste disposal drafted and presented to the Government consideration -</p>	<p>- Work reports from recruited international and national experts; - Drafts of legislation prepared for adoption; - Reports from roundtables and discussion forums on proposed draft</p>	<p>- Upgraded legislation will be adopted by Government depending on national legislation review procedures. - Project provides required support to the Government to accelerate adoption of such legislation.</p>

		technologies		legislation; - Mission reports based on study tours and regional conferences related to experience exchange on HCFC legislation improvements.	
Outcome 1.3: Strengthening the capacity of specialists of the State Customs Department to control import/export of ODS/ODS alternatives and equipment containing the same.	Technical capacity of Customs Services on HCFC import and exports enhanced and special equipment, including office inventory and training materials/identification and tracking (e-cargo) equipment provided to Custom Services, Environmental inspection, Tajikstandart and training centers for better control over HCFC movement and phase-out;	<ul style="list-style-type: none"> - Closure of the HCFC phase-out programme by 2020-2030 requires intensification of Customs training and effective HCFC importation/transit controls with sufficient quantity of HCFC identification equipment. - Participation in regional UNEnvironment supported CAP network meetings and conferences is constrained by limited in-house resources which impedes information exchange on modern HCFC control procedures; - Turnover of Customs staff constitute 50%, based on rotation and arrival of new personnel, with training materials requiring updates to match modernization of HCFC control legislation; - Customs proposed new system on electronic sealing of HCFC cargos requires knowledge base increase and practical piloting based on successful examples from other countries in the region - Cases of misreported HCFC transit shipments continue to occur, placing Tajikistan into potential non- 	<ul style="list-style-type: none"> - State Customs Department gradually improves information exchange and interaction with counterparts in other countries in the region, and Customs Department's laboratory, Environmental inspection office, Tajikstandart and training centers equipped with new instruments and tools; - Training program with support of the Customs Training Institute resumed and intensified with at least 100 new Customs officials (50% of personnel) trained and equipped to use up-to-date resources with respect to HCFC control legislation including iPIC procedures; - Twenty (20) importers/ clearing agents trained in the use of new HCFC importation declaration system. - E-cargo tracking system is in place, with number of cases of illegal trade minimized 	<ul style="list-style-type: none"> - Number of reports on illegal HCFC trade cases; - Mission reports by national experts/partners on participation in experience exchanges and regional networking and associated number of in-house trainings for Customs staff; - Number of bilateral visits on this subject; - Feedback from counterparts (UNEP, NOUs; Customs organizations etc.) - Copies of updated training materials; - Tender documentation on purchase of training equipment 	<ul style="list-style-type: none"> - State Customs Department continues to cooperate with the State Environmental Committee and their officials participate in identified regional conferences. - Any additional training will be organized at national level (with or w/o participation of international trainer). - Portable equipment is distributed to pre-approved recipients and required training provided to ensure its quality use; - Market costs for advanced refrigerant identifiers are optimal at the time of procurement and allow to purchase equipment for all listed stakeholders. - Fast-rate acceptance

		<p>compliance with MP provisions;</p>		<p>for the Training Institute;</p> <ul style="list-style-type: none"> - Reports from Customs on training workshops - Technical specifications for equipment and tools as developed by national experts; - Procurement documents of UNDP. - Copies of handover protocols - Copies of training programs; - Reports from trainers and workshops, with feedback from participants. - NOU assessments on improved expediency of data collection and Art 7 reporting. - Copies of equipment specifications and tender documentation; - Regular reports from Customs on the pilot programme. - Cases of illegal transit HCFC cargo shipments 	<p>of new e-system by users;</p> <ul style="list-style-type: none"> - Availability of computers and access to the electronic system of declaration provided. - Feedback mechanism on improvement of the e-system. - Suitable tamper proof electronic sealing and tracking technology and necessary hardware/software available. - Customs Department personnel is technically prepared to utilize the new system and track consignments - Customs Department is prepared to invest into broadening the scope of the system using in-house resources. National HCFC control system is further strengthened and sustained to provide better HCFC
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				prevented	
Outcome 1.4: Standards for HFC and natural refrigerants.	With introduction of flammable, high-pressure system and toxic refrigerants in order to demonstrate low GWP replacement opportunities to HCFCs, safety standards on handling, storage and use of refrigerants are required in Tajikistan.	<ul style="list-style-type: none"> - Introduction rate for new low-GWP technologies in the country is minimal and requires acceleration in support of the HCFC phase-out by 2020; - No modern standards for low-GWP natural refrigerants technology available, except for one old fSU standard for ammonia technology with related over-regulation on its application in unpopulated territories. 	<ul style="list-style-type: none"> - Capacity building, study tours and exchange programmes among state employees of Tajikstandart supported in consultation with key stakeholders and private sector to elaborate adequate standards which subsequently applied / implemented in standardization of ODS 	<ul style="list-style-type: none"> - Summary reports on experience consolidation from national/ international experts; - Drafts of developed standards; - reports from stakeholder discussion workshops; - Regular progress reports from Tajikstandart 	<ul style="list-style-type: none"> - Modern standards from North America, EU, Japan and other countries are available for review and adoption in Tajikistan; - Stakeholder (public and private) consultations on proposed standards are supportive to their introduction; - Government's procedures are fast-tracked to adopt new standards; - RAC technicians and technical inspections personnel are aware on new standards and their application.
Outcome 1.5: Strengthening the capacity and capability of refrigeration and air-conditioning technicians in maintenance and repair of equipment including those with new and alternative technologies.	A number of senior RAC engineers and technicians get hands-on, longer-term training on assembly, installation and operation of zero-ODS and low-GWP RAC technologies and become trainers on return for national technician workforce.	<ul style="list-style-type: none"> - Resource constraints in the initial HCFC phase-out programme resulted in time limited trainings on low-GWP technologies; - No longer-term internships in industry with assembly, commissioning and operation of such technology were provided resulting in limited practical skills available for trainers; - Initial HCFC phase-out covered basic HCFC management principles for RAC technicians in urban areas, leaving out rural areas; - Limited technical knowledge 	<ul style="list-style-type: none"> - Suitable training institutes with possibility to have practical internship programmes identified and selected for provision of special trainings for at least three (3) trainers from Tajikistan who will then continue national level capacity building on usage of low-GWP natural refrigerants based technologies for other country technicians; - Training program on low-GWP alternative technologies designed in cooperation with 	<ul style="list-style-type: none"> - Tender documentation related to selection and contracting of training institutions; - Reports from training institutions on training activities; - Copies of training programs/modules developed; - Reports from training workshops 	<ul style="list-style-type: none"> - Suitable training facility identified, with required training equipment on low-GWP technologies and qualified trainers in place and costs agreed on. - Target service centers support participants (future trainers) financially and guarantee job security upon return. - Trainers are back

		<p>relating to as regards HCFC alternative refrigerants (non-ODS/low GWP such as ammonia, carbon dioxide, etc)</p> <ul style="list-style-type: none"> - With closure of the initial HCFC phase-out programme, there is a risk that knowledge exchange momentum will be lost, and further participation in CAP networks is much needed to keep it 	<p>Output 1.5.1 and training modules are updated to reflect new HCFC controlling regulations as proposed in Output 1.2.1;</p> <ul style="list-style-type: none"> - In conjunction with mobile training facility described in Outcome 2.4, 520 technicians trained by the end of the project with available modern knowledge on low GWP technologies; - CAP networking meetings and technology related conferences related to zero ODS, low GWP and energy efficiency identified and participation plan developed and initiated; with at least 5 conferences attended with technical level participation; 	<p>and feedback from participants;</p> <ul style="list-style-type: none"> - Tender related documentation on procured training equipment; - Reports from Association and other training institutes; - NOU and project team consolidated progress reports; - Copies of participants presentations during such workshops; 	<p>from internships, and further deployed for the training at national level;</p> <ul style="list-style-type: none"> - Any additional training will be organized at national level only (with or w/o participation of international trainer) - Sustained interest and capacity in educational institutions to maintain educational programs - Active participation of technicians and partnership with education institutions and attendance of training events - Number of KM materials including technical guidelines and instructions guidebooks developed and widespread. - UNEnvironment CAP continues to support regional networking opportunities during the project's timeframe; - Qualified RAC engineers and technicians are selected for participation and report back to other technicians in a form of
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						technical workshops;
Component 2: Strengthening the HCFC re-use system; implementation of demonstration projects on HCFC replacement; upgrading training institutions; and improving facility for storage of waste ODS.						
Outcome 2.1: Strengthening the HCFC re-use system.	Comprehensive national HCFC re-use scheme is in place and fully operational. Remaining RAC technicians and service centers will be equipped with HCFC re-use tools and instruments, with approximately 12-15 sets of tools will be supplied.	<ul style="list-style-type: none"> - Two (2) HCFC reclaim centers in the region were equipped with main HCFC re-use equipment and require complementary equipment and tools to make them fully operational (advanced refrigerant identifiers, servicing tools, consumables/spares etc.). - Principle RAC service centers were supported with minimum required HCFC re-use equipment and tools during initial capacity building and technical assistance programme; - Some smaller service companies and technicians (especially those outside urban areas) could not be provided with portable recovery machines and tools due to budgetary constraints faced in the first phase of the HCFC phase-out 	<ul style="list-style-type: none"> - All 4 reclaim centers (2 set up during CFC phase out project and 2 set up during initial HCFC phase out project) in the country fully operative. - Finalized list of necessary equipment discussed and agreed with target recipients and Refrigeration Association's experts have been procured and distributed, to all large and medium service companies for good refrigerant management practices; 	<ul style="list-style-type: none"> - Monitoring visits reports; - Reports of independent consultants; - List of equipment and tools provided to re-use centers and transfer acts. - Tender documentation for procurement of HCFC re-use equipment and tools; - List of equipment and tools provided to re-use centers and transfer acts; - National experts' monitoring reports on HCFC recycling rates 	<ul style="list-style-type: none"> - Reclaim centers willing/able to pay for part of the conversion/retrofits. - Distribution of the equipment is aligned with training and certification of remaining technicians; - Selected service centers co-finance this initiative. <p>HCFC recovery and re-use activities are fully operational and carried out across the country</p>	
Outcome 2.2: Demonstration of zero-ODS and low-GWP energy efficient refrigerant technologies including natural refrigerants.	Slow rate of introduction of low GWP HCFC-free technologies into Tajikistan's market represents one of main challenges in accelerating transition to more sustainable alternative technological solutions and requires implementation of a number of demonstration projects using zero-ODS and low-GWP RAC technologies.	<ul style="list-style-type: none"> - 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) - 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 	<ul style="list-style-type: none"> - Procurement of new RAC technologies completed and all demonstration projects identified, implemented and finalized (6-8 low to medium temperature larger equipment, and 50-60 units of smaller equipment); - Awareness raising campaign on benefits of new technologies, supported to broaden project's positive impacts and exploration of 	<ul style="list-style-type: none"> - Tendering and procurement reports; - Project implementation reports (PIRs); - Monitoring visit reports 	<ul style="list-style-type: none"> - Local engineering companies interested/capable of delivering required expertise in assembly and operation of new RAC technologies; - Market costs of new RAC equipment are rationale and supportive to project implementation plans; - Project participants 	

			scale-up opportunities in partnership with other-than-GEF funding sources organized;		maintain their interest in the use of new equipment and co-finance local design for replication, installation and maintenance works; - Other funding sources to support further mobilization of resources accept cooperation with the GEF project
Outcome 2.3: Pilot performance monitoring project for reduction of HCFC leakage at large facilities.	Global trends identify new monitoring and maintenance approaches for the RAC equipment which focus on preventive care principle and are based on equipment's monitoring and optimization process. These innovative techniques will be implemented in Tajikistan with support of a pilot project to improve operational and maintenance procedures through remote monitoring equipment and software for remote access in real time format at a large HCFC using facility.	- Typically, RAC equipment is serviced after refrigerant leaks or other breakdowns (compressor burnouts etc.), and preventive maintenance is occasionally practiced and based on fixed-price service contracts that ensure regular physical verification and required maintenance of equipment for such clientele; - RAC equipment optimization is done at the installation time, or after major repairs, and modern online monitoring equipment is lacking and no real-time RAC equipment performance optimization is assured.	Number of suitable participants identified, and monitoring equipment procured and installed, and being used with regular reporting on results established for further awareness raising and scale-up of this initiative. - New approach generates replication interest in the industry	- Copies of tender documentation and procurement reports; - National experts' reports; - Reports from facility and associated service centers responsible for operation of new technology.	- Facility identified that is interested in participation - Monitoring technology, hardware and software available and are easily installed - There is a scope for replication of this approach on the market

<p>Outcome 2.4: Upgrade and add to training equipment of Technical Institutions and Refrigeration Association and provide mobile training and recovery/recycling for remote areas.</p>	<p>RAC Training institutions represent a backbone for continuous capacity building in the country, and require to be adequately equipped with the appropriate training equipment. As the transition in technologies goes away from HCFCs with consideration to avoid massive introduction of affordable HFCs, it is important to support demonstration of low GWP technologies, and operation of such substitutes requires that technicians acquire specialized practical knowledge.</p>	<ul style="list-style-type: none"> - General national-level 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.) - No training equipment available for introduction of good refrigerant management practices in low GWP technology category (flammable, toxic and other new refrigerants), and this is especially problematic in remote areas where technicians are unable to fully participate in training programs and updates. 	<ul style="list-style-type: none"> - Cooperation agreements with Training Institutions (centers) concluded, training stands, heat pumps and RAC equipment for natural refrigerants identified and procured, and at least 2-3 senior technicians trained in operation of new low GWP technologies; - Training stands, heat pumps and RAC equipment for natural refrigerants identified and procured; - Mobile training facility (minivan with equipment) organized to initiate regular training of RAC technicians, recovery/recycling and monitoring of same in rural areas. 	<ul style="list-style-type: none"> - Cooperation agreements with Training Institutions; - Tender documentation and procurement reports. - National experts' monitoring reports - Regular progress reports from Association and training centres. 	<ul style="list-style-type: none"> - Training institutions support cooperation and agree to co-finance such works to ensure the training is sustained after the project's closure; - Supplied equipment is adequately maintained and used by Association and training centers
<p>Outcome 2.5: Waste ODS storage</p>	<p>Existence of a dedicated ODS waste refrigerant storage is required and in place, as ODS waste keeps being generated</p>	<ul style="list-style-type: none"> - As part of awareness raising campaign implemented in the initial HCFC phase-out project, there were additional sources of ODS waste identified, including aging stocks of CFCs; - No consolidated ODS waste refrigerant storage is available presently. 	<ul style="list-style-type: none"> - Government identifies suitable waste storage facility; and upgrade requirements; - Upgrades completed and storage in operation. – 8.5 tons of ODS waste refrigerant in various locations moved to facility for safeguarded storage, and record keeping enabled. 	<ul style="list-style-type: none"> - EIA/SIA clearances from the Government for facility upgrade; - Tender documents related to sub-contracts in ODS waste storage upgrade - Monitoring/PIR reports. - Reports from Government on operation of the facility. 	<ul style="list-style-type: none"> - Suitable, cleared site identified and EIA/SIA procedures implemented to receive clearance for upgrade works; - Government allocates in-kind and cash co-finance as a baseline for the facility upgrade; - Government agrees to bear the cost of transporting waste refrigerants from various locations to storage facility. - Operational support and adequate security to the site provided by

					Government.
Component 3: Public awareness.					
Outcome 3.1: Implement activities on raising public awareness.	Continuous implementation of awareness activities, targeting the general public and other specific target audiences on the Montreal Protocol's specifics is required to support the closing stages of the national HCFC phase-out process.	<ul style="list-style-type: none"> - Awareness activities from previous project completed with its focus on building initial country's preparedness to address growing HCFC consumption; - New awareness activities to start, particularly regarding the closing stages of the national HCFC phase-out and introduction of zero ODS low GWP technology into Tajikistan. 	<ul style="list-style-type: none"> - Awareness materials and activities designed on the HCFC phase-out process with material made available in Russian and Tajik languages, covering 15,000 people. - Organization of an information tour for 10 – 12 journalists within the country to highlight achievements of the project will be integrated into this campaign. 	<ul style="list-style-type: none"> - Public awareness campaign reports; - Mass media records on posts, videos and publications; - PIRs/monitoring reports. - Public awareness campaign reports; - Mass media records on posts, videos and publications; - PIRs/monitoring reports 	<ul style="list-style-type: none"> - Government continues to provide political support to the implementation of the HCFC phase-out process, and initiates stakeholder discussions on the Kigali amendment
Component 4: Gender mainstreaming in refrigeration and air conditioning sector and Monitoring and Evaluation					
Outcome 4.1. Engagement of women-students to study RAC in the technical and vocational education institutions and partnerships with organizations to involve women in RAC related small business.	<p>Increase the number of women-students receiving the stipend scheme to study RAC in the technical and vocational education institutions;</p> <p>Achievement of higher job placement rates for women studying RAC sector related business is of importance to the project. This will be planned in coordination with the vocational schools and other training institutions to ensure that internships opportunities are open with good reputable service firms and Refrigeration Association of Tajikistan;</p> <p>Number of publications and</p>	<ul style="list-style-type: none"> - There is generally lack of awareness and information on job opportunities of technical or managerial type in this sector available for women - Number of applications from women to learn RAC technology and business organization aspects, and onward job placement in reputable RAC servicing companies, is minimal or zero; - No women applicants to technical and vocational schools receive stipend to study RAC sector related business. 	<ul style="list-style-type: none"> - Policy and technical level consultations ensured with Ministry of Labor and the Committee of Women and Family Affairs and at least 2 RAC service companies participate in the process on women's role activation in RAC business; - 30 women receive stipend to study and to graduate RAC sector, and eventually out of total number of women-students at least, 15 women are self-employed or employed in RAC sector by the end of the project; - At least 5 publications developed on the women's role 	<ul style="list-style-type: none"> - Copies of agreements with the training and vocational education schools; - Awareness campaign results; - PIR/annual monitoring reports; - Number of stipends offered and accepted by women applicants; - Copies of agreements with the service centers to ensure internship 	<ul style="list-style-type: none"> - Public awareness raising campaigns are designed to target women applicants to encourage application, and there is higher responsiveness rate with increased number of applications files; - Ministry of Education and Committee for Women and Family Affairs support the initiative under the umbrella of ADB's Strengthening Technical and Vocational Education

	public events on the women's role in technology, opportunities offered by technical specialization in RAC business		in RAC technology, and at least 10 public events conducted on engaging schoolgirls in opportunities offered by technical specializations including RAC, energy efficiency, etc.	<ul style="list-style-type: none"> opportunities; - Number of actual internship placements during the project's duration; - Number of actual jobs in RAC sector taken by women at the end of the project. - Survey. - Signed partnership agreements; - Project reports; Articles and other information materials in local and international mass media; - Reports from independent evaluators etc. 	<ul style="list-style-type: none"> and Training project. - Reputable service centers agree to cooperate with the project for internship placement opportunities for women graduates from RAC faculties. - Reputable service centers agree to cooperate with the project for job placement of women graduates from RAC faculties. - Ministry of Education and Committee for Women and Family Affairs support the initiative under the umbrella of ADB's ADB's Strengthening Technical and Vocational Education and Training project
Outcome 4.2: Project monitoring and evaluation implemented.	The project will undertake continuous monitoring and periodic progress reviews on development and operation of the overall project management system and associated effectiveness evaluation. The ongoing regional FSP project and the proposed project intend to share the results and knowledge both nationally as well as with other project partners.	- With the closure of initial HCFC phase-out programme, M&E activities are limited in scale and relate to HCFC licensing and quota system, and annual reporting of compliance regime to the Ozone Secretariat.	<ul style="list-style-type: none"> - Regular monitoring and evaluation of the project activities and results conducted and presented during Project Board meetings, which organized twice in a year and serve as guidance to project's implementation plan; - By the end of the project, a terminal evaluation (TE) has been conducted, and its results and lessons learned have been made available to all relevant 	<ul style="list-style-type: none"> - APR/PIR combined reports - TE and UNDP response to findings - Project inception report; - Project M&E reports; - Published lessons learned and best 	Lessons learnt are accumulated and distributed among project beneficiaries in the form of KM materials; replication and scale-out of best practices and new technologies without project support is enhanced and monitored

	Project staff and stakeholders are aware of lessons learned and best practices, including on gender mainstreaming in project monitoring and evaluation		parties. - KM products prepared throughout the project implementation on its achievements to inform wider audience in Tajikistan and in regional and international meetings;	practices	
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Risk and Risk Management have been addressed in Section XII.

VII. MONITORING AND EVALUATION (M&E) PLAN

The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP and UNDP Evaluation Policy](#). While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the [GEF M&E policy](#) and other relevant GEF policies.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Chemicals and Waste Tracking Tool) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.

M&E oversight and monitoring responsibilities

Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Manager will develop annual work plans based on the multi-year work plan included in Annex A, including annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc.) occur on a regular basis.

Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used by and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.

Audit: The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies.⁸

Additional GEF monitoring and reporting requirements

Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

- a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation including the formulation of detail criteria for selection of municipalities and participation in the final decision on their selection
- b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
- d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
- e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; SESP, Environmental and Social Management Plan and other safeguard requirements (for moderate and high risk projects only); the gender strategy; the knowledge management strategy, and other relevant strategies;
- f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and

⁸ See guidance here: <https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx>

g) Plan and schedule Project Board meetings and finalize the first year annual work plan.

The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

GEF Project Implementation Report (PIR): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area 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 the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

GEF Focal Area Tracking Tools: The following GEF Tracking Tool will be used to monitor global environmental benefit results: GEF-6 Chemicals and Waste Tracking Tool.

The baseline/CEO Endorsement GEF Focal Area Tracking Tool – submitted in Annex B to this project document – will be updated by the Project Manager/Team and shared with the terminal evaluation consultants before the required evaluation missions take place. The updated GEF Tracking Tool will be submitted to the GEF along with the completed Terminal Evaluation report.

Terminal Evaluation (TE): An independent TE will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser and will be approved by the Project Board. The TE report will be publicly available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report: The project’s terminal PIR along with the TE report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Table 1 Mandatory GEF M&E Requirements and M&E Budget

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ⁹ (US\$)		Time frame
		GEF grant	Co-financing	
Inception Workshop	UNDP Country Office	5,000	None	Within two months of project document signature
Inception Report	Project Manager and Chief Technical Advisor	5,000	None	Within two weeks of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly, annually
Risk Management	Project Manager UNDP Country Office	None	None	Quarterly, Annually
Monitoring of indicators in project results framework	Project Manager	None	None	Annually before PIR
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
Audit	UNDP CO	15,000		Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Manager			Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP Country Office			On-going
Stakeholder Engagement Plan	Project Manager UNDP Country Office			On-going
Gender Action Plan	Project Manager UNDP Country Office UNDP GEF team			On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office			On-going
Project Board meetings	Project Board UNDP Country Office Project Manager			At minimum annually
Supervision missions	UNDP Country Office	None ¹⁰		Annually

⁹ Excluding project team staff time and UNDP staff time and travel expenses.

¹⁰ The costs of UNDP Country Office and UNDP-GEF Unit’s participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ⁹ (US\$)		Time frame
		GEF grant	Co-financing	
Oversight missions	UNDP-GEF team	None ¹⁰		Troubleshooting as needed
GEF Secretariat learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	None		To be determined.
Independent Terminal Evaluation (TE) included in UNDP evaluation plan and management response	UNDP Country Office and Project team and UNDP-GEF team	35,000	<i>None</i>	At least three months before operational closure
Translation of MTR and TE reports into English	<i>UNDP Country Office</i>	<i>5,000.00</i>	<i>None</i>	<i>As required. GEF will only accept reports in English.</i>
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		<i>\$ 65,000</i>	<i>None</i>	

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Roles and responsibilities of the project's governance mechanism: The project will be implemented following UNDP's Direct Implementation Modality (DIM), in line with *Standard Basic Assistance Agreement* between the Government of Tajikistan and the United Nations Development Programme (UNDP) signed by the parties on 1 October 1993.

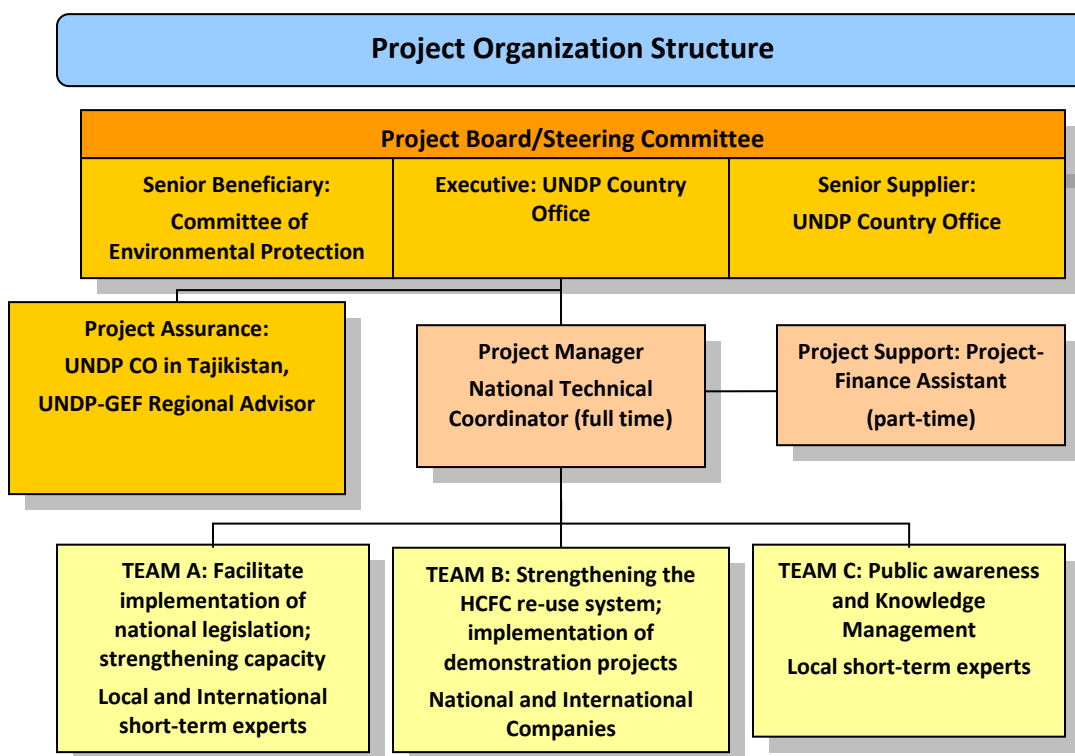
The **Implementing Partner** for this project is UNDP.

The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.

The Implementing Partner is responsible for:

- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

The project organisation structure is as follows:



Project Board: The Project Board (also called Project Steering Committee) is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions, and addressing any project level grievances. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager.

Specific responsibilities of the Project Board include:

- 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 on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Agree on project manager's tolerances as required;
- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the project manager's tolerances are exceeded; and
- Assess and decide to proceed on project changes through appropriate revisions.

The composition of the Project Board must include the following roles:

Executive: The Executive is an individual who represents ownership of the project who will chair the Project Board. This role can be held by a representative from the Government Cooperating Agency or UNDP. The Executive is:

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 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 organisation 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 relevant stakeholders about project progress;
- Organise and chair Project Board meetings.

Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned 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. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is:

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

- 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.

Senior Beneficiary: The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. The Senior Beneficiary is:

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. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people.

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

- Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- 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.

Project Manager: The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure 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.

The Implementing Partner appoints the Project Manager, who should be different from the Implementing Partner's representative in the Project Board.

Specific responsibilities include:

- Provide direction and guidance to project team(s)/ responsible party (ies);
- Liaise with the Project Board to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Responsible for project administration;
- Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
- Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors' work;
- Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
- Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified and 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;
- Capture lessons learned during project implementation;
- Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.
- Prepare the GEF PIR and submit the final report to the Project Board;

- Based on the GEF PIR and the Project Board review, prepare the AWP for the following year.
- Ensure the mid-term review process is undertaken as per the UNDP guidance, and submit the final MTR report to the Project Board.
- Identify follow-on actions and submit them for consideration to the Project Board;
- Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Project Board;

Project Assurance: UNDP provides a three – tier supervision, oversight and quality assurance role – funded by the GEF agency fee – involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. This project oversight and quality assurance role is covered by the GEF Agency.

Governance role for project target groups:

During the preparation of the project document, consultations were held with most of the key stakeholders described above.

The project will be implemented in close coordination and cooperation with relevant state institutions, regional authorities, industrial enterprises, state and local authorities and NGOs, as well as with other relevant projects in the region.

The key stakeholders and their functions are described below.

a) Committee for Environmental Protection (CoEP) under the Government of Tajikistan: Committee develops and implements policies for environmental protection, conservation of biological diversity and forest ecological systems, rational use of natural resources, and sustainable development of mountain areas and assure the state's ecological security. It organizes and implements government control over environmental protection and natural resources use; implements multilateral environmental agreements (MEAs); and licenses uses, releases, transport, storage and disposal of toxic materials and waste, including radioactive.

b) Agriculture and Environmental Protection Department of Executive Office of the President of the Republic of Tajikistan: This department will be involved for the purpose of advocacy and validation of HCFC regulatory framework updates that the project intends to propose in order to address identified weaknesses and further strengthen the current foundation to sustain the current process of HCFC phase-out in Tajikistan beyond 2020 as the next major and final HCFC reduction milestone. The Executive Office of the President is better positioned to facilitate legislations reforms than CoEP/Customs.

c) State Customs Department and Institute for Advanced Training of the customs officers at the Customs Service of Tajikistan: Customs regulates exports and imports of chemical substances and toxic wastes. The department has been a traditional Governmental partner in previous CFC phase-out programmes and currently for HCFC phase-out. And, its Training Institute has been participating in the capacity building programmes for Customs' personnel to ensure continuous training for existing and new officers on a sustained basis.

d) Committee on women and Family Affairs under the Government of Tajikistan is considered state executive entity, undertakes and leads state policy on ensuring and protection of women's rights and women's interests, creating equal conditions and opportunities for protection of their rights and interests and achieving gender equality at all levels, strengthen and enlarge areas for active involvement and participation of women in decision-making process for resolution of social-economic affairs, management of governance and society problems, as well as advocating legal and policy regulations, ensures quality state services and management of state property;

e) Ministry of Justice: The Ministry carries out governmental registration of all normative-legal statements, and in this case, those related to sound chemicals management, including ODS/HCFE controls.

f) Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandart): The Agency issues standards and monitors their implementation. The importance of Tajikstandart for the project's activities is in the development and introduction of application and safety standards for the use of HCFCs, HFCs and alternative technologies such as natural refrigerants, as currently only old former Soviet Union's standards for CFCs, HCFC-22 and ammonia area available.

g) Ministry of Education: This Ministry supervises formulation and adoption of the occupational training and educational curricula for the purposes of capacity building to achieve more effective HCFC control in Tajikistan. More specific work is also planned in cooperation with the Committee for Women and Family Affairs on placing more focus on teaching women on basics of management of refrigeration business as explained in the related project sections.

h) The Agency on Statistics under the President of the Republic of Tajikistan: All reporting on import/exports is implemented through this agency i.e. CoEP, Customs etc. as well as importing/exporting business entities submit reports to the agency with regards to imported/exported goods. Notably, a unified (single) type of reporting for business entities (regardless of type of ownership) was introduced as of 1 January 2017. Further work on improving reporting on import/export operations, and specifically with respect to HCFCs and alternative refrigerant based RAC equipment, will be planned with the Agency on Statistics and Customs.

i) Refrigeration Association: The RAC Association unites major actors in the equipment servicing sector and serves the purpose to disseminate experiences and best practices in the sector, serves representation, organizational and client interest protection functions. Members are involved in assembly, design, delivery, maintenance of refrigeration and air conditioning equipment.

j) Private sector (servicing, equipment assembly): These sectors are the principle consumer of HCFCs which translates into overall country's dependence on these ODS-based chemicals. They are the ones primarily impacted by HCFC phase-out, and their cooperation is essential for the project progress.

Project management

1. The Project unit will be based at the UNDP Programme Office (Tajikistan). Implementation of project activities will be fully supported by the Energy & Environment Programme Officer and the Head of UNDP Energy and Environment Programme, as well as other programme staff. The Project manager will ensure synergy with all ongoing relevant projects within the Programme for more effective impact.
2. The Project is fully embedded within the governance systems of Tajikistan and, as such, directly supports its structures, functions and strategic commitments. In this context, the Project will implement its activities using the existing structures in Tajikistan and ensure participation of relevant government stakeholders through the Project Board. Project activities related to cooperation, training and information sharing will aim to use already established, legitimate participatory bodies, as well as existing training and cooperation platforms.
3. The project oversight and assurance role will be provided by the UNDP Country Office. In line with UNDP's Accountability Framework and Oversight Policy, UNDP Tajikistan has put in place an Internal Control Framework for DIM projects to ensure their effective and independent oversight and quality assurance. In particular, Energy & Environment Programme Officer will take primary responsibility for overseeing project implementation and regularly communicating the results of oversight work to relevant and concerned parties, the Government and other project partners. Where applicable, the UN Resident Representative, The Country

Director, and the Deputy Country Director will ensure standard oversight and guidance. Additional quality assurance will be provided by the Istanbul-based UNDP Regional Technical Advisor as needed.

IX. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is \$7,350,430. This is financed through a GEF grant (\$1,585,430) and in parallel co-financing (\$5,765,000). UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Parallel co-financing: The actual realization of project co-financing will be monitored during the terminal evaluation process and will be reported to the GEF. The planned parallel co-financing will be used as follows:

Co-financing source	Co-financing type		Total Co-financing amount	Planned Activities/Outputs	Risks	Risk Mitigation Measures
	Co-financing in cash	Co-financing in kind				
Committee for Environmental Protection under the Government of the Republic of Tajikistan		485,000	485,000	National co-financing will consist of supporting the previously adopted HCFC phase-out strategy and will be reflected in legal consultations during the development of the necessary additional legislation and by-laws, departmental consultations at the level of key ministries, and also by the Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandart). Promotion of legislation at the level of decision-makers (Governments, Parliament). The maintenance of the premises of the National Ozone Center of Tajikistan and its provision with all engineering communications and payment of the relevant public services. Allocating a land plot for temporary storage of ODS waste, providing it with all engineering utilities. In general, the institutional coordinating role of government provides support for this component.	Government or public/private co-financing commitments do not materialize due to financial constraints and/or diversion of funding.	To strengthen these commitments, the project will closely coordinate the involvement of key government stakeholders and Project Steering Committee members (Inter-ministerial Working Group) into a decision-making process of project's implementation and maintain a regular dialogue with all involved parties.
Customs Service under the Government of the Republic of Tajikistan	500,000	100,000	600,000	National co-financing will be: the allocation of classrooms at the Institute for the Training of Customs Personnel, interagency coordination for the adoption of the updated curriculum, the provision of trainers from the Institute for the Training of Customs; Personnel and the payment of their salaries during training for continuous training of Customs officers during and after the end of	Delays in rendering Governmental support in project implementation due to on-going administrative reforms and limited number of staff available in relevant departments.	The project will inform the Government Partner and Project Steering Committee about implementation progress and achieved results on a regular basis, and request needed support well in advance. Co-finance related consultations on scaling up the e-sealing pilot project will be supported by the project team and UNDP-Tajikistan.

				the project, equipped with a warehouse with all engineering communications for seized and confiscated ODS and ODS-containing induction. Additional investment co-financing to improve the capabilities of Customs services through parallel programs for the implementation of the Regional Border Services Improvement Project, one of the components of which is the Single Window project, which includes electronic sealing of goods imported in bulk - in trucks that can contain cylinders and equipment containing HCFCs. The Customs Service will also engage in inter-agency coordination work to implement the HCFC phase-out strategy.	Scale-up opportunities for the e-sealing pilot programme depend on mobilization of additional resources by Customs Department	
Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandart)		200,000	200,000	National co-financing will consist of: developing, adapting and disseminating the necessary technical regulations and standards, in legal consultations during the development of the necessary additional legislative and by-laws, departmental consultations at the level of key ministries; implementation of state supervision over the turnover and certification of HCFC products containing it for compliance with the requirements of technical regulations; participation and assistance in ensuring inter-agency coordination at the highest level during the implementation of the project and after, by various interested institutions and organizations.	Availability of international benchmark material on current safety standards on low GWP/HCFC-free technologies is essential to this component. Delays in timely receipt of governmental support and increase in time, necessary for achievement of project objectives, especially in relation to the low-GWP demonstration projects.	Information availability will be supported by the project team, and with help of experience exchange visits related to regional ECA network conferences and other opportunities. The project will inform the Government Partner about implementation progress and achieved results on a regular basis, and request needed support well in advance.
The Republican Association of the NGO "Center of Artificial Cold" (Head Tech Center No. 1 and Training Center No. 2)	155,000	340,000	495,000	National co-financing will be closely linked to GEF funding, as it will consist of the provision of training facilities, including provision of a mobile training centre for taking training to technicians in remote areas, staff time, furniture, training coordination, etc., in the technical centers of the Refrigeration Equipment Maintenance Association.	Due to non-availability of Internet in some areas and lack of knowledge in the usage of personal computers, RAC technicians do not use online learning system There is a small	Mobile training center will be established (with a minivan) to reach out to remote area based RAC technicians. Carrying out sessions on the use of online learning system during onsite visits/trainings; preparing video instructions on the use of the system and sharing with technicians and key project partners; adapting the system to mobile devices

				<p>Training for technical staff will be conducted after the end of the project on the basis of self-financing, thus ensuring the sustainability of the project components. Individual service entities will provide co-financing by purchasing additional tools and equipment (including spare parts), conducting training for their staff after the end of the refrigeration equipment maintenance project. Trainings will also cover the cost of certification of technicians for the duration of the project and at the end of the project. Regular collection of information and reporting on the reuse of HCFCs and HFCs. Assistance in conducting a national survey and survey of consumption of HFCs and other alternative refrigerants (natural refrigerants) and their use.</p>	<p>or minimal number of stipend applicants to study RAC technology business, and women do not show strong interest in career in RAC sector due to lack of knowledge on prospective job and business creation opportunities.</p>	<p>and ensuring use by technicians. Ensure printed version of all KM and publications are reached the technicians in the remote areas of project command zone;</p> <p>In close cooperation with Women and Family Affairs' Committee under the GoT, the project will elaborate strategy how to involve women in RAC technology business activities, in particularly on managing small business, receive and record orders, maintain contact details and office management;</p> <p>Awareness raising to change wrong perceptions of RAC sector among women;</p>
LLC "Ekauđ" (Technical Center for Recycling)	22,500	362,500	385,000	<p>National co-financing will consist in the allocation of protected premises by each participating service center, to place R&R&R equipment, pay for utilities and equipment maintenance costs after the end of the project. Part of the costs are associated with training the Center's employees on new technologies in other countries (payments of the average monthly wages and all social taxes and insurance); The centers will plan to purchase the necessary spare parts for the equipment in order to keep the equipment in working order for a longer period. In addition, the centers committed themselves to regularly train their employees in the correct use of this complex equipment. Part of the co-financing is also the plans of the service centers to equip the mobile teams with basic tools. Operation and maintenance of equipment, both during the implementation of the project, and after its completion. Regular collection of information and reporting on the consumption, recovery / recycling / reuse of HCFCs, and their provision to the</p>	<p>Full preparedness of the service companies to enable more efficient HCFC re-use by 2020 HCFC phase-out milestone requires frontloading of their capacity building and technical support, especially in non-urban areas.</p> <p>RAC equipment assembly and service centers play important role in introduction of and technical support to new low GWP technologies, and untimely training of their personnel presents a risk to the project's demonstration component and agreement from private sector stakeholders to adopt such</p>	<p>Annual work plans of the project will be designed to frontload support to the main service centers and non-urban based individual service companies and technicians to enable their rapid capacity to address the critical final stages of the national HCFC phase-out.</p> <p>Full cooperation from this sector is required to enable the project's implementation and the project team will ensure coordination and partnership support mechanisms are in place and used.</p>
LLC "Vostok" (Volna) (Technical Center for Recycling)	20,000	330,000	350,000			
LLC "Tamiri Yadoñ" (Technical Recycling Center)	15,500	374,500	390,000			

				nation market. Provide logistic support for collection and transportation for the purification of ozone-depleting substances (ODS) / hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs).	technologies.	
"Babylon Mobile" CJSC	89,000	561,000	650,000	National co-financing includes the commitment of companies that have servers and data centers to participate, by providing sites for pilot projects, current and future investments in existing and planned centers, including engineering work, to adapt sites for technological improvements. Operating costs for the introduction of new technologies. Support activities in the field for the installation of pilot technologies on selected platforms (staff, local engineering work, missing components). In addition, companies will designate those responsible in their technical staff to monitor the performance of new technologies, and manage operating costs associated with sites where technological upgrades or optimization are required. Perform all local engineering work to replace the technology in accordance with national standards. Operation and maintenance of equipment, both during the implementation of the project, and after its completion. Companies will plan to mobilize complementary investment resources to expand the scope of the pilots, when positive results are obtained from demo-sites.	Absence or limited availability of advanced zero-ODS and low GWP technologies, applicable to Tajikistan's conditions, requires additional costs Catalytic effect of demonstrating zero-ODS and low-GWP technologies is limited due to perceived high cost and technical challenges of operating new refrigerated equipment	The project will work on fundraising (RM) on local, regional and international levels, with governmental/nongovernmental and other types of organizations. PPG phase explored partnerships with EBRD, and this potential will be further analyzed. During implementation of demonstration projects on transferring to zero-ODS and low-GWP technologies, the project will analyze the ways of reducing capital costs by using locally produced refrigerants where possible and applicable. Tender-based procurement can help get best value for money, and reduce costs burdens for the participating companies. Safety standards related work will be facilitated with Tajikstandart and private sector involvement.
"TT Mobile" CJSC	85,000	415,000	500,000			
LLC "Vostok Mercury 2014" (RRS)	975,000	-	975,000	National co-financing will consist of: modernization or construction and preparation of the main and auxiliary premises (heat-insulated premises with all utilities, workplaces, modernization works, utilities) designed to accommodate this equipment; participation and contribution to the preparation of design and	Absence or limited availability of advanced zero-ODS and low GWP technologies, applicable to Tajikistan's conditions, requires additional costs	The project will work on fundraising (RM) on local, regional and international levels, with governmental/nongovernmental and other types of organizations. PPG phase explored partnerships with EBRD, and this potential will be further analyzed. All available technologies with use of zero-ODS, low-GWP

LLC "Mehroch" (RRS)	735,000	-	735,000	survey works; on the basis of co-financing of the project, support purchase of components and parts including alternative refrigerants and oils, for modernization and safe, uninterrupted operation of equipment; support maintenance of equipment during the implementation of the project and in the future during the period of depreciation; carry out training for employees and permanent staff on the appropriate use of equipment, both during the implementation of the project, and at its conclusion. Costs associated with conducting certification (obtaining admission to work) for permanent staff and new employees. Companies will plan to mobilize complementary investment resources to expand the scope of the pilots, when positive results are obtained from demo-sites.	Catalytic effect of demonstrating zero-ODS and low-GWP technologies is limited due to perceived high cost and technical challenges of operating new refrigerated equipment	alternatives and energy-efficiency technologies are advanced and designed according internationally recognized safety standards. Each demonstration project on introduction of zero-ODS and low-GWP alternatives will include special activities, including theoretical and practical trainings, capacity development and introduction of internationally recognized safety standards. Tender-based procurement can help get best value for money, and reduce costs burdens for the participating companies. Safety standards related work will be facilitated with Tajikstandart and private sector involvement.
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1. **Budget Revision and Tolerance:** As per UNDP requirements outlined in the UNDP POPP, and GEF project implementation requirements, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF:
 - a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more;
 - b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.
2. Any over-expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).
3. **Refund to Donor:** Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.
4. **Project Closure:** Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.
5. **Operational completion:** The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the

relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

6. Financial completion: The project will be financially closed when the following conditions have been met:

- a) The project is operationally completed or has been cancelled;*
- b) The Implementing Partner has reported all financial transactions to UNDP;*
- c) UNDP has closed the accounts for the project;*
- d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).*

7. The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

X. TOTAL BUDGET AND WORK PLAN

TOTAL BUDGET AND WORK PLAN			
Atlas Proposal or Award ID:	00107571	Atlas Primary Output Project ID:	00107844
Atlas Proposal or Award Title:	Complete HCFC Phase-out in Tajikistan through Promotion of zero ODS low GWP Energy Efficient Technologies		
Atlas Business Unit	TJK10		
Atlas Primary Output Project Title	Complete HCFC Phase-out in Tajikistan through Promotion of zero ODS low GWP Energy Efficient Technologies		
UNDP-GEF PIMS No.	6030		
Implementing Partner	UNDP		

GEF Component/Atlas Activity	Responsible Party	Fund ID	Donor Name	Atlas Account Code	ATLAS Budget Description	2018 (USD)	2019 (USD)	2020 (USD)	2021 (USD)	2022 (USD)	Total (USD)	See Budget Note:
Component 1: Facilitate implementation of national legislation; strengthening capacity of Customs and enforcement officers on control of HCFC import/export; facilitating development of standards for natural refrigerants; and capacity building for the RAC sector through hands on training of senior technicians followed by training/upgrading of technicians, including those in remote areas	UNDP	62000	GEF	71200	International Consultants	-	21,600.00	-	-	-	21,600.00	1
				71300	Local Consultants	2,100.00	10,600.00	7,250.00	2,100.00	-	22,050.00	2
				71400	Contractual Services - Individ	5,104.00	15,312.00	15,312.00	15,312.00	2,552.00	53,592.00	3
				71600	Travel	1,700.00	10,200.00	5,700.00	1,700.00	6,200.00	25,500.00	4
				72100	Contractual Services-Companies	10,000.00	110,850.00	90,300.00	33,600.00	6,000.00	250,750.00	5
				72200	Equipment and Furniture	-	4,000.00	56,000.00	-	-	60,000.00	6
				74200	Audio Visual&Print Prod Costs	-	3,600.00	2,700.00	2,700.00	2,700.00	11,700.00	7
				72500	Supplies	500.00	500.00	500.00	500.00	-	2,000.00	8
				74500	Miscellaneous Expenses	-	800.00	800.00	690.00	-	2,290.00	9
Total Component 1						19,404.00	177,462.00	178,562.00	56,602.00	17,452.00	449,482.00	
Component 2: Strengthening the HCFC re-use system; implementation of demonstration projects on HCFC replacement; upgrading	UNDP	62000	GEF	71200	International Consultants	-	-	21,600.00	-	-	21,600.00	10
				71300	Local Consultants	-	2,100.00	6,650.00	7,350.00	4,200.00	20,300.00	11
				71400	Contractual Services - Individ	3,528.00	10,584.00	10,584.00	10,584.00	1,764.00	37,044.00	12
				71600	Travel	-	4,000.00	4,500.00	4,500.00	2,000.00	15,000.00	13

training institutions; and improving facility for storage of waste ODS				72100	Contractual Services-Companies	-	-	75,000.00	-	-	75,000.00	14
				72200	Equipment and Furniture	-	111,000.00	268,000.00	220,000.00	-	599,000.00	15
				72500	Supplies	-	1,000.00	2,000.00	2,000.00	800.00	5,800.00	16
				74500	Miscellaneous Expenses	1,000.00	3,000.00	3,000.00	2,000.00	1,000.00	10,000.00	17
				Total Component 2:				4,528.00	131,684.00	391,334.00	246,434.00	9,764.00
Component 3: Public awareness	UNDP	62000	GEF	71300	Local Consultants	1,400.00	1,400.00	6,720.00	700.00	-	10,220.00	18
				71600	Travel	5,000.00	20,000.00	16,980.00	16,000.00	5,000.00	62,980.00	19
				72100	Contractual Services-Companies	1,000.00	2,000.00	2,000.00	1,000.00	-	6,000.00	20
				74200	Audio Visual&Print Prod Costs	900.00	2,700.00	3,600.00	2,700.00	900.00	10,800.00	21
				Total Component 3:				8,300.00	26,100.00	29,300.00	20,400.00	5,900.00
Component 4: Gender mainstreaming in refrigeration and air conditioning sector and monitoring and Evaluation	UNDP	62000	GEF	71200	International Consultants	-	-	-	-	35,000.00	35,000.00	22
				71300	Local Consultants	-	-	2,800.00	2,800.00	1,400.00	7,000.00	23
				71400	Contractual Services - Individ	2,288.00	6,864.00	6,864.00	6,864.00	1,144.00	24,024.00	24
				71600	Travel	-	1,500.00	2,350.00	2,100.00	1,700.00	7,650.00	25
				72100	Contractual Services-Companies	1,500.00	1,500.00	7,500.00	7,500.00	1,000.00	19,000.00	26
				74100	Professional Services	-	5,000.00	5,000.00	-	5,000.00	15,000.00	27
				74200	Audio Visual&Print Prod Costs	-	-	4,500.00	2,700.00	1,800.00	9,000.00	28
				72500	Supplies	-	-	200.00	200.00	-	400.00	29
				74500	Miscellaneous Expenses	-	500.00	-	500.00	-	1,000.00	30
Total Component 4:				3,788.00	15,364.00	29,214.00	22,664.00	47,044.00	118,074.00			
Project Management	UNDP	62000	GEF	71400	Contractual Services - Individ	12,080.00	36,240.00	36,240.00	36,240.00	6,040.00	126,840.00	31
				72200	Equipment and Furniture	2,000.00	-	-	-	-	2,000.00	32
				73100	Rental & Maintenance-Premises	1,000.00	3,000.00	3,000.00	3,000.00	500.00	10,500.00	33
				72400	Communic & Audio Visual Equip	200.00	600.00	600.00	600.00	100.00	2,100.00	34
				73400	Rental & Maint of Other Equip	200.00	600.00	600.00	600.00	100.00	2,100.00	35
				72500	Supplies	100.00	200.00	200.00	-	-	500.00	36
				74500	Miscellaneous Expenses	-	-	-	90.00	-	90.00	37
Total Project Management:				15,580.00	40,640.00	40,640.00	40,530.00	6,740.00	144,130.00			
PROJECT TOTAL				51,600.00	391,250.00	669,050.00	386,630.00	86,900.00	1,585,430.00			

Summary of funds:

	Amount 2018 (Sep-Dec)	Amount 2019 (full year)	Amount 2020 (full-year)	Amount 2021 (full-year)	Amount 2022 (Jan-Feb)	Total
GEF	51,600	391,250	669,050	386,630	86,900	1,585,430
Parallel co-financing	100,929	1,345,430	2,696,613	1,498,717	123,311	5,765,000
TOTAL	152,529	1,736,680	3,365,663	1,885,347	210,211	7,350,430

Budget note number	Comments
1	Specialist on ODS legislation (international) (30 w/d * USD 720 = USD 21,600)
2	Short-term national consultants (200 w/d * USD 70 = USD 14,000) + Assistance in adapting new standards / technical regulations for ODS and HFCs (115 w/d * USD 70 = USD 8,050)
3	37% cost of Project Manager (@ \$26,400 annual cost) (USD 34,188) + 22% cost of Technical Coordinator (@ \$25,200 annual cost) (USD 19,404)
4	Study tours on legislation and standards (USD 8,000) + Study tours for customs officers (2 participants) (USD 9,000) + Promoting the participation of technical staff in networking meetings and conferences on new technologies (USD 8,500)
5	Organization of round-tables and discussions (USD 5,600) + Training of 100 customs officers (all training related costs) (USD 8,500) + Increasing the capacity of the Customs Service (equipment, software for electronic sealing of goods) in the electronic declaration of goods (USD 45,000) + Overview of the use of alternative refrigerants from the HFC Group (conducting a survey on alternatives to ODS, primarily HFCs) - a group of national consultants / experts, travel / transportation costs, organizing meetings and discussions, printing / publishing (USD 40,000) + Training of technicians on natural refrigerants (5 day 520 technicians and engineers, 26 groups) (USD 119,600) + Preparation of at least 20 importers / clearing agents in the use of the newly introduced national system of electronic declaration of import, export and re-export (USD 2,500) + Training of technicians on natural refrigerants 2-3 people. (30-45 days) (USD 29,550)
6	Capacity building (training equipment and publication) of training centers, associations, NOC, Customs Institute, Tajikstandart (USD 8,000) + Equipment for identification of ODS and HFCs of advanced (PRO) for CEP, Customs and Tajikstandart (USD 52,000)
7	Translation / printing / publication of information materials (USD 11,700)
8	Supplies (USD 2,000)
9	Miscellaneous Expenses (USD 2,290)
10	Specialist for zero ODS and low GWP energy-efficient and low-carbon technologies (international) (30 w/d * USD 720 = USD 21,600)
11	National short-term consultants and technology experts with low ODP and low power consumption GWP and safety standards (290 w/d * USD

	70 = USD 20,300)
12	42% cost of Technical Coordinator (@ \$25,200 annual cost) (USD 37,044)
13	Travel expenses within the country (USD 15,000)
14	Upgrade and reconstruction of a temporary storage center for ODS waste (under the CEP or Tajikhhimprom, Yavan) (USD 75,000)
15	Procurement update / equipment for existing 2 centers (refrigerant meter, additional equipment, filters, hoses, tools, etc.) (USD 30,000) + Mobile training facility (minivan with equipment) organized to initiate regular training of RAC technicians in rural areas (USD 28,000) + Equipment and basic software to monitor equipment containing Montreal Protocol controlled substances (remote access) for leaks (USD 18,000) + Sets of equipment and tools for enterprises (maintenance of refrigeration and air conditioning) (USD 39,000) + Demonstration projects on technologies of zero ODS with low GWP in the social sector and state institutions (USD 120,000) + Demonstration projects on technologies of zero ODS with low GWP, in the agricultural / processing and commercial sector of food storage (supermarket) (USD 240,000) + Demonstration energy-efficient project for the implementation of air conditioning technology with zero ODS and low GWP in large server rooms (USD 100,000) + Demonstration energy-efficient project to localize the master class of refrigeration equipment (stands) using ozone-friendly refrigerants with and low GWP (natural refrigerants) in technical training institutions and associations of refrigeration equipment workers (USD 24,000)
16	Supplies (USD 5,800)
17	Miscellaneous Expenses (USD 10,000)
18	National Consultant - Public Relations Specialist (60 w/d * USD 70 = USD 4,200) + Organization of info-tour for journalists within the country (10-12 journalists) (86 w/d * USD 70 = USD 6,020)
19	International travels (networks, forums etc.) (USD 60,000) + Travel expenses within the country (USD 2,980)
20	Activities on increasing public awareness (environment and ozone layer preservation days) (USD 6,000)
21	Development, publication, translation of information materials (USD 10,800)
22	Terminal Evaluation (50 w/d * USD 700 = USD 35,000)
23	Short-term national consultants (100 w/d * USD 70 = USD 7,000)
24	26% cost of Project Manager (@ \$26,400 annual cost) (USD 24,024)
25	Travel expenses within the country (USD 2,650) + In-country M&E visits (USD 5,000)
26	Organization of round-tables and discussions (USD 3,000) + Conduction of trainings for 45-50 women on safe equipment operation (USD 10,000) + PSC meetings (USD 6,000)
27	Audit cost (USD 15,000)
28	Development, publication, translation of information materials (USD 9,000)
29	Supplies (USD 400)
30	Miscellaneous Expenses (USD 1,000)

31	37% cost of Project Manager (@ \$25,800 annual cost) (USD 34,188) + 36% cost of Technical Coordinator (@ \$25,200 annual cost) (USD 31,752) + 50% cost of Project Assistant (@ \$16,560 annual cost) (USD 28,980) + 20% cost of AFA (@ \$22,800 annual cost) (USD 15,960) + 40% cost of Driver (@ \$11,400 annual cost) (USD 15,960)
32	Office equipment (USD 2,000)
33	20% cost of rent of premises (@ \$32,712 annual cost, including utilities) (USD 10,500)
34	8% cost of Internet and communication (@ \$7,500 annual cost) (USD 2,100)
35	UNDP-Dushanbe (EEP) programme provided, PMU used vehicle's technical servicing (USD 2,100)
36	Supplies (USD 500)
37	Miscellaneous Expenses (USD 90)

XI. LEGAL CONTEXT

Option a. Where the country has signed the [Standard Basic Assistance Agreement \(SBAA\)](#)

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Tajikistan and UNDP, signed on 01 October, 1993. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

This project will be implemented by UNDP in accordance with its 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. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XII. RISK MANAGEMENT

Option b. UNDP (DIM)

UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS).

UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the project funds¹¹ are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).

UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

¹¹ To be used where UNDP is the Implementing Partner

UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:

- a. Consistent with the Article III of the SBAA, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
 - i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
 - ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.
- b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.
- c. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.
- d. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.
- e. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.
- f. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

- g. UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement.

Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term “Project Document” as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

- h. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.
- i. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.
- j. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled “Risk Management” are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled “Risk Management Standard Clauses” are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

XIII. MANDATORY ANNEXES

- A. Multi year Workplan
- B. GEF Tracking Tool at baseline
- C. Overview of technical consultancies/subcontracts
- D. Terms of Reference for Project Board, Project Manager, Chief Technical Advisor and other positions as appropriate
- E. UNDP Social and Environmental and Social Screening Template (SESP) and Environmental and Social Management Plan (ESMP) for moderate and high risk projects
- F. Stakeholder Engagement Plan
- G. Gender Analysis and Action Plan
- H. UNDP Risk Log
- I. Additional agreements: such as letters of financial commitments.
- J. UNDP Project Quality Assurance Report (completed in UNDP online corporate planning system by UNDP Country Office)

Annex A: Multi Year Work Plan

Task/ Output	Responsible Party	Year 1				Year 2				Year 3				Year 4			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Component 1: Facilitate implementation of national legislation; strengthening capacity of customs and enforcement officers on control of HCFC import/export; facilitating development of standards for natural refrigerants; and capacity building for the RAC sector through hands on training of senior technicians followed by training/upgrading of technicians, including those in remote areas.																	
Outcome 1.1: ODS Alternative survey to determine their consumption.	CEP, Statistics Agency, Customs, RAC, UNDP																
Outcome 1.2: National legislation on HCFC and ODS alternatives phase out and import/export control upgraded, through adaptation of advanced legislation experience from EU and other countries. <i>Output 1.2.1: Draft of upgraded legislation/regulation prepared and submitted to the government for approval and subsequent implementation.</i> <i>Output 1.2.2: Experience exchanges carried out through study tours and/or regional conferences with attendance from countries with advanced experience in this field and regional networking.</i>	CEP, Tajikstandart, UNDP																
Outcome 1.3: Strengthening the capacity of specialists of the State Customs Department to control import/export of ODS/ODS alternatives and equipment containing the same. <i>Output 1.3.1: State Customs Department participates in existing networks on aspects of ODS import/export control and other required bilateral visits.</i> <i>Output 1.3.2: Close cooperation with Institute for Advanced Training of Customs officers by upgrading the training equipment and material to facilitate continuous training of</i>	Customs, CEP, Tajikstandart, RAC, UNDP																

Task/ Output	Responsible Party	Year 1			Year 2			Year 3			Year 4										
<p><i>regular and new customs officials - 100 trained.</i></p> <p><i>Output 1.3.3: Upgrade and enhance the capacity of Customs service laboratory, with 4-5 advanced refrigerant identifiers for ODS, HFC and Hydrocarbons.</i></p> <p><i>Output 1.3.4: Enhance the capacity of Customs service (hardware, software for electronic sealing/tracking of imported refrigerants).</i></p> <p><i>Output 1.3.5: Training of approximately 20 importers/clearing agents in use of newly introduced national system of electronic declaration of imports/exports.</i></p>																					
<p>Outcome 1.4: Standards for natural refrigerants.</p> <p><i>Output 1.4.1: Facilitate development of standards for safe handling, storage and use of natural refrigerants; and incorporate them in legal and other acts.</i></p>	<p>CEP, Statistics Agency, Customs, RAC, UNDP</p>																				
<p>Outcome 1.5: Strengthening the capacity and capability of refrigeration and air-conditioning technicians in maintenance and repair of equipment including those with new and alternative technologies.</p> <p><i>Output 1.5.1: Batch of senior technicians selected by the Association to receive one to three months of hands on training on maintenance and repair of refrigeration and air-conditioning equipment with zero ODS low GWP technologies at a Russian speaking facility abroad.</i></p> <p><i>Output 1.5.2: Close cooperation with the Association for Refrigeration and Air-conditioning technicians through the improvement of the curriculum and materials to facilitate the continuous training of regular and new members of the association and other technicians with new technologies using refrigerants with zero ODP and low GWP and natural refrigerants.</i></p> <p><i>Output 1.5.3: Facilitate technical personnel participation in networking meetings and technology related conferences related to zero ODS, low GWP and energy efficiency.</i></p>	<p>Customs, CEP, Tajikstandart, RAC, UNDP</p>																				

Task/ Output	Responsible Party	Year 1	Year 2	Year 3	Year 4
Component 2: Strengthening the HCFC re-use system; implementation of demonstration projects on HCFC replacement; upgrading training institutions; and improving facility for storage of waste ODS.					
<p>Outcome 2.1: Strengthening the HCFC re-use system.</p> <p>Output 2.1.1: Strengthen reclaim centres with sophisticated refrigerant identifiers to support HCFC re-use system.</p> <p>Output 2.1.2: Supply tools, portable recovery machines to remaining service companies and field technicians to complete support to the national refrigerant management program and complement the existing tools at the R&R centres.</p>	CEP, Ministry of Health, Private sector, UNDP				
<p>Outcome 2.2: Demonstration of zero-ODS and low-GWP energy efficient refrigerant technologies including natural refrigerants.</p> <p>Output 2.2.1: Mobilisation of national resources and ownership to demonstrate innovative conversion projects to introduce zero-ODS and low-GWP energy efficient technologies for R&AC in:</p> <p>a) public facilities (social entities, health facilities);</p> <p>b) different commercial applications such as food product storage, agricultural products, and also cooling system of server and data centers, etc.</p>	Owners of large HCFC-based installations, UNDP				
<p>Outcome 2.3: Pilot performance monitoring project for reduction of HCFC leakage at large facilities.</p> <p>Output 2.3.1: Provide basic performance monitoring equipment and software to enhance capacity of RAC technicians and engineers to monitor in real time, diagnose and improve RAC system performance (including preventive maintenance) to reduce HCFC leakages.</p>	RAC, UNDP				
<p>Outcome 2.4: Upgrade and add to training equipment of Technical Institutions and Refrigeration Association and provide mobile training and recovery/recycling for remote areas.</p> <p>Output 2.4.1: Provide training equipment for natural refrigerants to the Training Institutions and a Mobile training, recovery/recycling and monitoring facility created to train technicians and undertake and monitor recovery/recycling in remote areas.</p>	RAC, UNDP				
<p>Outcome 2.5: Waste ODS storage.</p> <p>Output 2.5.1: Storage facility upgraded for storage of waste ODS/ODS alternatives until</p>	COEP, UNDP, RAC				

Task/ Output	Responsible Party	Year 1				Year 2				Year 3				Year 4			
government decides on disposal procedure.																	
Component 3: Public awareness.																	
Outcome 3.1: Implement activities on raising public awareness.	UNDP, COEP, RAC																
Output 3.1.1: Continue activities to increase public awareness.																	
Output 3.1.2: Develop and publish information materials.																	
Component 4: Gender mainstreaming in refrigeration and air conditioning sector and Monitoring and Evaluation																	
<p>Outcome 4.1. Engagement of women-students to study RAC in the technical and vocational education institutions and partnerships with organizations to involve women in RAC related small business.</p> <p><i>Output 4.1.1: Introduction of stipend scheme for at least 30 women-students to study RAC in the technical and vocational education institutions; Placement of these students in internships with good private firms and Refrigeration Association of Tajikistan; and employment of at least 15 women-graduates in RAC with reputable service centers (private firms). Additionally, publications and public events aimed at girls in final years of school to encourage them take up RAC work will be undertaken.</i></p>	UNDP, Ministry of Higher and Secondary Special Education, Ministry of Labor, Committee on Women and Family Affairs under the Government of Republic of Tajikistan and NGOs promoting women's role in technology																

Task/ Output	Responsible Party	Year 1				Year 2				Year 3				Year 4			
<p>Outcome 4.2: Project monitoring and evaluation implemented.</p> <p>Output 4.2.1: M&E is applied to provide feedback to the project coordination process to capitalize on project needs.</p> <p>Output 4.2.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.</p>	UNDP, COEP, RAC																
Project management	UNDP																

Annex B: GEF Tracking Tool at baseline

Indicators	Number	Qualitative comments ¹ from the project team or the GEF Agency
<p>Indicator 1.1.1: ODS Alternatives survey completed.</p> <p>Indicator 1.2.1: Draft of upgraded legislation prepared and submitted to the government for approval and subsequent implementation.</p> <p>Indicator 1.2.2: Experience exchanges carried out through study tours and/or regional conferences with attendance from countries with advanced experience in this field and regional networking.</p> <p>Indicator 1.3.1: State Customs Department participates in existing networks on aspects of ODS import/export control and other required bilateral visits.</p> <p>Indicator 1.3.2: Close cooperation with Institute for Advanced Training of Customs officers by upgrading the training equipment and material to facilitate continuous training of regular and new customs officials - 100 trained.</p>	<p>At least one legislation document, by-law will be prepared for approval by GoT;</p>	<p>Overview of the use of alternative refrigerants to HCFCs (conducting a survey) - a group of national consultants / experts, travel / transportation costs, organizing meetings and discussions, printing / publishing</p> <p>Organization of round-tables and discussions; Study tours on legislation and standards</p> <p>Training of 100 customs officers (all training related costs); Study tours for Customs officers (2 participants);</p> <p>Increasing the capacity of the Customs Service (1 set of equipment, software for electronic sealing of goods) in the electronic declaration of goods; \$45,000</p>
<p>Indicator 1.3.3: Upgrade and enhance the capacity of Customs service laboratory, the environmental inspection, Tajikstandart and the training centers with advanced gas analyzers for ODS and HFC, and training and office equipment.</p> <p>Indicator 1.3.4: Training of approximately 20 importers/clearing agents in use of newly introduced national system of electronic declaration of imports/exports.</p> <p>Indicator 1.3.5: Enhance the capacity of Customs service by introducing a system of electronic sealing of goods (hardware, software for electronic sealing of goods).</p>	<p>20 importers; 2-3 people are trained; 100 training/ CB provided;</p>	<p>Preparation of at least 20 importers / clearing agents in the use of the newly introduced national system of electronic declaration of import, export and re-export</p> <p>Training of technicians on natural refrigerants 2-3 people. (30-45 days)</p> <p>Capacity building (3-4 sets of training equipment and publication) of training centers, associations, NOC, Customs Institute, Tajikstandart \$8,000</p> <p>Training of technicians on natural refrigerants (5 day 520 technicians and engineers, 26 groups</p>

<p>Indicator 1.4.1: Facilitate development of standards for safe handling, storage and use of HFC and natural refrigerants; and incorporate them in legal and other acts.</p> <p>Indicator 1.5.1: Batch of senior technicians selected by the RAC receive 1-3 months of hands on training on maintenance and repair of refrigeration and air-conditioning equipment with new technologies at a Russian speaking facility abroad.</p> <p>Indicator 1.5.2: Close cooperation with the Association of Refrigerators through the improvement of the curriculum and materials to facilitate the continuous training of regular and new members of the association and other technicians - 520 people.</p>		<p>7-8 sets of equipment for identification of ODS and HFCs of advanced (PRO) for CEP, Customs and Tajikstandart \$52,000;</p>
<p>Indicator 2.1.1: Strengthen reclaim centre (RAC) with sophisticated refrigerant analysers and a small portable chromatograph and additional equipment, tools, components and consumables to support HCFC and HFC</p>	<p>2 sets of equipment for existing RRR Center procured/ installed;</p>	<p>Establishment or reconstruction of a temporary storage center for ODS waste (under the CEP or Tajikhhimprom, Yavan) \$75,000</p>

<p>re-use system.</p> <p>Indicator 2.1.2: Supply tools to the remaining technicians to complete support to the national refrigerant management program and complement the existing tools at the R&R centres and large and medium service companies.</p> <p>Indicator 2.2.1: Mobilisation of national resources and ownership to demonstrate innovative conversion projects to introduce zero-ODS and low-GWP energy efficient technologies for R&AC in:</p> <p>a) public facilities (social entities);</p> <p>b) different commercial applications such as product storage, agricultural products, supermarkets, and also cooling system of server and data centers, etc. etc.</p>	<p>50-60 sets of medium and small air conditioning equipment using new technologies with zero ODS low GWP procured and installed in demonstration projects;</p>	<p>2 sets of equipment Procurement update / equipment for existing 2 centers (gas temple meter, additional equipment, filters, hoses, tools, minivan, etc.) \$58,000</p> <p>Promoting the participation of technical staff in networking meetings and conferences on new technologies;</p> <p>2-3 sets of equipment and basic software to monitor equipment containing Montreal Protocol controlled substances (remote access) for leaks \$18,000;</p> <p>12-15 equipment Sets of equipment and tools for enterprises (maintenance of refrigeration and air conditioning) \$39,000</p> <p>4-5 Equipment sets (6-8 sets of medium-temperature / low-temperature equipment and medium-sized refrigerating chambers for storage of food, for the food block of large medical institutions and other social facilities using new technologies with zero ODP low GWP) and 50-60 sets of medium and small air conditioning equipment using new technologies with zero ODS low GWP Demonstration projects on technologies of zero ODS with low GWP in the social sector and state institutions \$120,000;</p> <p>1 or 2 large facilities in three geographic centers (DRS, Dushanbe , Sughd region) in companies for storage and processing of agricultural products and food Equipment Demonstration projects on technologies of zero ODS with low GWP, in the agricultural / processing and commercial sector of food storage (supermarket) \$240,000;</p> <p>2 Equipment sets for Demonstration energy-efficient project for the implementation of air conditioning technology with zero ODS and low GWP in large server rooms \$100,000;</p>
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<p>Indicator 2.3.1: Provide basic performance monitoring equipment and software to enhance capacity of RAC technicians and engineers to monitor, diagnose and improve RAC system performance (including preventive maintenance) to reduce HCFC leakages.</p> <p>Indicator 2.4.1: Facilitate technical personnel participation in networking meetings and technology related conferences related to zero ODS, low GWP and energy efficiency.</p> <p>Indicator 2.5.1: Provide training stands for natural refrigerants.</p> <p>Indicator 2.6.1: Storage facility upgraded for storage of waste ODS/ODS alternatives until government decides on disposal procedure.</p>	<p>3 equipment sets procured for demonstration of energy-efficient procured and applied;</p>	<p>1-2 equipment sets for Demonstration energy-efficient project to localize the master class of refrigeration equipment (stands) using ozone-friendly refrigerants with and low GWP (natural refrigerants) in technical training institutions and associations of refrigeration equipment workers \$24,000;</p>
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[Phase out of ODS]

Indicators	Quantity (tons)		Cost ¹ (\$ per metric ton)	Qualitative comments ^{2,3} from the project team or the GEF Agency
	Project target	Achieved to date		
ODP Tonnes of ODS phased out (metric tons)	114.672 metric tons (or 6.307 ODP tons)	0	13,825	Remaining continuous HCFC consumption: 2015-2020 cumulative HCFC-22 use in the servicing sector is 97.622 metric tons or (5.369 ODP tons) and with 10 year servicing tail of 17.050 metric tons (0.938 ODP tons) equals to 114.672 metric tons (6.307 ODP tons)
Tonnes of CO2 equivalent phased out (metric tons)	207,556	0	7.64	GWP (R-22) = 1,810

Notes

1. Overall costs including packaging, transport, safe storage, and treatment or disposal as appropriate.

2. Please see introduction.

3. Provide information on disposal technology and whether in-country or abroad.

Annex C: Overview of Technical Consultancies

Consultant	Time Input	Tasks, Inputs and Outputs
For Project Management / Monitoring & Evaluation		
Local / National contracting		
Project Manager Rate: \$525/week	52 weeks a year over 3.5 years	The Project Manager (PM), together with the National Technical Coordinator will be responsible for the overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors. See the full TOR above for details.
For Technical Assistance		
Local / National contracting		
National expert on legislation and standards Rate: \$350/week	12 weeks/over 3,5 years	<p>Under the guidance of the Project Manager (PM) and the recommendations of the International Law and Standards Specialist, the National Legal Expert (Legal Expert) on legislation and standards will work closely with key partners, the Committee of Environmental Protection under the Government of Tajikistan, the Standardization Agency and other partners in legislation and standards related with the project under Results 1.2 and 1.4, and support the working group on improving and updating normative legal acts, standards and technical regulations by adapting best practices of the EU and other countries:</p> <ul style="list-style-type: none"> • Identification of existing gaps in national legislation on the management of ODS and ODS containing products; • Supplement to the legislation on the management of ODS, the development of regulations on the collection, storage, disposal and disposal of ODS waste and products containing ODS, which lose their consumer properties; • Assistance in developing legislative procedures and conditions for issuing permits for the transboundary movement of ozone-depleting substances and products containing them; • Assistance in the development of legislative acts regarding the regulation of procedures for the replacement of HCFCs with zero ODP and low GWP technology. • Assistance in the development of regulatory measures on mandatory reporting of HFC importers with high GWPs and their products containing high GWP. Introduction of the licensing institute for HFCs with high GWP. • Promote, in legislation, the development of standards and technical regulations for the safe handling and use of HFCs and natural refrigerants; • Assist in the development of additions and changes to existing technical regulations that are part of the legislation of the Republic of Tajikistan in the field of technical regulation of HFCs and natural refrigerants;

Consultant	Time Input	Tasks, Inputs and Outputs
		<ul style="list-style-type: none"> • Assistance in the adaptation and adoption by the Tajikstandart Agency of European standards, which will later be included in training and certification programs for personnel involved in the maintenance and repair of refrigeration systems, the reuse and recycling of all types of refrigerants, oils and coolants contained in refrigeration units and their parts.
<p>National expert (expert) on increasing the capacity of customs and environmental inspection</p> <p>Rate: \$350/week</p>	<p>12 weeks/over 3,5 years</p>	<p>A national Customs expert (Customs expert) in Customs capacity building, which, under the direct supervision of the Project Manager (PM), is responsible for carrying out activities to strengthen the capacity of customs officers and environmental inspectors, including an overview of alternatives to ODS, the development of training modules, introduction of electronic filling of cargoes and provision of control and measuring equipment for HCFCs and HFCs associated with the project under Results 1.1 and 1.3. In particular, he/she will perform the following duties:</p> <ul style="list-style-type: none"> • Assisting in the national review and survey of consumption of HFCs and other alternative refrigerants (natural refrigerants) and their use; • Preparation of a draft Terms of Reference for the development and provision of a training component and a training module for customs officials on HFCs, to facilitate the inclusion of training modules on the prevention of environmental crimes in the curriculum; • Study and proposal on the acceptability of harmonized HFC codes for the Republic of Tajikistan; • Implementation of activities on interaction between the Customs Service and the Committee for Environmental Protection under the Government of the Republic of Tajikistan to strengthen the overall concept of the sound management of chemicals; • Initiation of joint monitoring of illegal trade in ODS with the Customs Service and the Committee for Environmental Protection; • Effective training and capacity building for the training of 100 customs officers and environmental inspectors to identify and prevent the illicit import and trade of ODS; • Assistance in the training of 20 importers / clearing agents for the use of the newly introduced national electronic import / export declaration system; • Participation in the Informal Prior Informed Consent (IPIC) procedure for the import and export of ODS, including HCFCs; • Assistance and provision of technical assistance in the implementation of the electronic sealing system;

Consultant	Time Input	Tasks, Inputs and Outputs
<p>National expert on capacity building of refrigeration equipment technicians</p> <p>Rate: \$350/week</p>	<p>12 weeks/over 3,5 years</p>	<p>A national RAC training consultant (RAC training expert) in capacity building and training of technicians, under the direct supervision of the Project Manager (PM), will be responsible for overseeing capacity-building activities, including the development of training modules, and developing recommendations for improving the current training program for national training / technical institutions and the private sector (i.e. Service Centers). In this project, within the framework of Results 1.5 and 1.4, in particular, will perform the following duties:</p> <ul style="list-style-type: none"> • Assistance in training institutions and the Association of Refrigeration Sector Employees to initiate training and refresher courses for refrigeration and air conditioning technicians, as well as their certification and certification, to strengthen the capacity for servicing refrigeration and air conditioning systems and the development of a Memorandum of Understanding; • Development of a training program for refrigerants with zero ODS and low GWP and natural refrigerants and 5-day training and 520 refrigeration and air conditioning equipment technicians with new technologies using zero ODS and low GWP refrigerants and natural refrigerants. • Active cooperation with UNDP Contractors for training and practice for capacity building trainers, trainings for refrigeration technicians, laboratory personnel and employees of Recycling Centers; • Assist in the development of national training programs, manuals, instructions and assistance in their endorsement, including the management and safety of HCFCs and their alternatives; • Participation and assistance in the adoption and adaptation of European standards, which will later be included in the training and certification programs for personnel involved in the maintenance and repair of refrigeration systems, the reuse and disposal of all types of refrigerants, oils and coolants contained in refrigeration units and their parts.
<p>National expert on alternative technologies with zero ODP and low GWP and capacity building for reuse of HCFCs and HFCs</p> <p>Rate: USD350/ week</p>	<p>58 weeks/over 3,5 years</p>	<p>National expert on alternative technologies with zero ODS and low GWP and capacity building for reuse of HCFCs (RAC technology expert), which, under the direct supervision of the Project Manager (PM) and in close cooperation with the International Consultant on Alternative Technologies and ODS-free safety standards will fulfill the tasks of building the capacity of the HCFC re-use system, including the provision of equipment for the Technical Recycling Centers and technical assistance for the implementation of targeted investment programs to reduce HCFC consumption and demonstration projects for energy-efficient alternative technologies with zero ODP and low GWP. For this project, in the framework of Results 2.1, 2.2, 2.3, 2.4, 2.5 and 2.6 in particular, will perform the following tasks:</p> <ul style="list-style-type: none"> • Provision of training stands, instrumentation and special tools for technical schools, Association of technicians, Technical centers for recycling and service companies;

Consultant	Time Input	Tasks, Inputs and Outputs
		<ul style="list-style-type: none"> • Assistance and implementation, in close cooperation with the International Consultant on Alternative Technologies and Safety Standards, "Demonstration technologies with zero ODS and low GWP", including natural refrigerants; • Technical assistance for the implementation of a pilot monitoring project to reduce the leakage of HCFCs at large facilities; • Assistance and technical assistance in the organization / modernization of the warehouse for centralized storage of ODS waste and products containing them.
<p>National Consultant on Gender</p> <p>Rate: USD 350/ week</p>	<p>20 week/ over 3.5 years</p>	<ul style="list-style-type: none"> • <i>Develop a project Gender involvement strategy / plan, incorporate it with the annual work plans and update it annually in consultation with project stakeholders; coordinate its implementation</i> • <i>Monitor progress in implementation of the project Gender Action Plan ensuring that targets are fully met and the reporting requirements are fulfilled;</i> • <i>Oversee/develop/coordinate implementation of all gender-related work;</i> • <i>Review the Gender Action Plan annually, and update and revise corresponding management plans as necessary;</i> • <i>Work with the Project Manager and Communication Officer to ensure reporting, monitoring and evaluation fully address the gender issues of the project;</i> • <i>Coordinate the implementation of knowledge management outputs of the project;</i> • <i>Coordinate and oversee the implementation of public awareness activities of project component IV – Gender Mainstreaming;</i> • <i>Facilitate learning and sharing of knowledge and experiences relevant to the project on Gender Mainstreaming;</i>
International / Regional and global contracting		
<p>International consultant / expert on alternative technologies and safety standards, not containing ODS</p> <p>Rate: \$3600/week</p>	<p>6 weeks/over 3,5 years</p>	<p>The task of the international consultant on HCFC alternative technologies and safety standards is to support the project team in implementing the subcomponent of the project "Demonstration of technologies with zero ODS and low GWP, including natural refrigerants" and development of technical documentation for the effective implementation of demonstration projects. In fact, the responsibility of the international consultant is to ensure that the overall technical direction of this subcomponent is supported and flexibly adapted to meet the practical challenges facing implementation.</p> <p>Under the direct supervision of the UNDP Program Manager for Energy and Environment and the Project Manager, he will work with the project team, work closely and communicate with the National RAC technology Expert on alternative technologies with zero ODP and low GWP. In this project, within the framework of Results 2.2, in particular, it will perform the following tasks:</p>

Consultant	Time Input	Tasks, Inputs and Outputs
		<ul style="list-style-type: none"> • Consideration, selection of alternative and energy-efficient technologies with zero ODP and low GWP. Analysis of international experience in the use of alternative technologies with zero ODP and low, which are possible for demonstration in conditions of the existing high ambient temperature and climatic conditions of Tajikistan; • Providing a market valuation of the proposed technologies, as well as other alternatives for comparison and decision-making on assembled and ready-to-install packages or those that are priced at cost for import and local assembly that could improve national technical capabilities in processing these new technologies; • Development of technical documentation for demonstration projects on proposed energy efficiency technologies with zero ODP and low GWP, with site visits; • Development of a Manual and set of safety standards for the use of alternative and energy-efficient technologies with zero ODP and low GWP; •Mandatory steps to be taken and necessary conditions for the effective implementation of the proposed alternative and energy-efficient technologies. Recommendations for end-users on maintenance and technical maintenance of new technologies.
<p>International consultant on legislation and standards</p> <p>USD3,600/ week</p>	<p>6 weeks/over 3,5 years</p>	<p>In close coordination with the Project Manager the International Expert on Legislation and Standards will work with key partners and provide legislative and standards advice related to the project under Outputs 1.2 and 1.4 on improving and updating of national legislation, regulatory legal acts, standards and technical regulations by adapting the best practices of the EU and other countries:</p> <ul style="list-style-type: none"> • Analysis of existing national legislation and regulations on the management of ODS and ODS-containing products, , as well as safety and restrictions on the use of HCFC alternative substances, including natural refrigerants; • Recommendations and technical advice on the updating of national legislation and regulations on the handling, storage, disposal of HCFCs and the licensing system; • Analysis of existing national standards, technical conditions and technical regulations for the management of ODS and ODS-containing products, and safety of handling of zero ODP and low GWP alternatives/ technology, including natural refrigerants; • Recommendations and technical advice on updating, adapting and adopting new standards for technical conditions and technical regulations for the management of HCFC and HCFC-containing products, and the safety of handling of natural refrigerants;

Consultant	Time Input	Tasks, Inputs and Outputs
		<ul style="list-style-type: none"> • Technical assistance in the adaptation and adoption by the Tajikstandart Agency of European standards, which in future will be included in training and certification programs for personnel involved in the maintenance and repair of refrigeration facilities, the reuse and disposal of all types of refrigerants, oils and coolants contained in refrigeration units and parts thereof.

Annex D: Terms of Reference

Terms of Reference for the Project Board

The Project Board (PB) will serve as the project's decision-making body. It will meet according to necessity, at least twice each year, to review project progress, approve project work plans and approve major project deliverables. The PB is responsible for providing the strategic guidance and oversight to project implementation to ensure that it meets the requirements of the approved Project Document and achieves the stated outcomes. The PB's role will include:

- *Provide strategic guidance to project implementation;*
- *Ensure coordination between various donor funded and government funded projects and programmes;*
- *Ensure coordination with various government agencies and their participation in project activities;*
- *Approve annual project work plans and budgets, at the proposal of the Project Manager;*
- *Approve any major changes in project plans or programmes;*
- *Oversee monitoring, evaluation and reporting in line with GEF requirements;*
- *Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;*
- *Negotiate solutions between the project and any parties beyond the scope of the project;*
- *Ensure that UNDP Social and Environmental Safeguards Policy is applied throughout project implementation; and, address related grievances as necessary.*

These terms of reference will be finalized during the Project Inception Workshop.

Terms of Reference for the Technical Advisory Committee (TAC)

The TAC will provide technical advice and inputs relating to project implementation and will be chaired by the PD with support from the PM. The members of the TAC will consist of representatives from Government Ministry, UNDP, other relevant government agencies, research and educational organizations, NGOs, technical experts and other relevant stakeholders to be agreed by the Project Board. Technical experts may be invited in to discuss specific issues. Indicative Terms of Reference are as follows. These will be reviewed by the Project Board during project inception and may be extended as necessary.

- *Review planned activities and ensure that they are technically sound and that, wherever possible, there is integration and synergy between the various project components during planning and implementation;*
- *Promote technical coordination between institutions, where such coordination is necessary and where opportunities for synergy and sharing of lessons exist;*
- *Provide technical advice and guidance on specific issues concerning illegal and unsustainable wildlife trade;*
- *Share information on project progress and lessons learned with related stakeholders at the national level;*
- *The TAC or a subset of its members may be requested to undertake specific project-related tasks, such as preparing or reviewing analytical reports, strategies and action plans, etc.;*
- *Other tasks as indicated by the Project Board*

Terms of Reference for Key Project Staff

Project Manager

Background

The Project Manager (PM) will be locally recruited following UNDP procedures, with input to the selection process from the Project partners. The position will be appointed by the project implementing agencies and funded entirely from the Project. The PM will be responsible for the overall management of the Project, including the mobilisation of all project inputs, supervision over project staff, consultants and sub-contractors. The PM will report to the PD in close consultation with the assigned UNDP Programme Manager for all of the Project's substantive and administrative issues. From the strategic point of view of the Project, the PM will report on a periodic basis to the Project Board, based on the PD's instruction. Generally, the PM will support the PD who will be responsible for meeting government obligations under the Project, under the DIM execution modality. The PM will perform a liaison role with the government, UNDP and other UN agencies, CSOs and project partners, and maintain close collaboration with other donor agencies providing co-financing. The PM will work closely with the Project Implementation Unit Coordinators.

Duties and Responsibilities

- Support and coordinate efforts and contributions of consultants, staff, government counterparts, subcontractors, scientific and research institutes towards achievement of project objectives, including drafting terms of references and work plans as needed to provide specific consultancy and procurement services;
- In close consultation with the project partner organizations and stakeholders, prepare Annual Project Work Plans to be agreed upon by the Project Steering and Coordination Committee (PSC);
- Play the lead role in representing the project and reporting to the PSC on the progress of project implementation and achievement of project results in accordance with the project's logical framework matrix, and report back to participating agencies and individuals on the comments, recommendations and concerns;
- Develop a sound monitoring and evaluation system for the project. Contribute to development of a systematic and integrated approach to HCFC sector related data collection. Prepare substantial monitoring and review reports in cooperation with project national and international consultants;
- Prepare project progress reports (quarterly reports, Annual Progress Reports, Project Implementation Reports), information releases, as well as monitoring and review reports in accordance with UNDP/GEF monitoring and evaluation rules and procedures;
- Prepare project budget revisions and administrative arrangements as required by UNDP/GEF procedures;
- Ensure that all financial, recruitment and procurement procedures, in accordance with UNDP rules and regulations, are undertaken in an efficient and timely manner;
- Substantially contribute to preparation of funding proposals to donor organizations, monitoring, evaluation and lessons learned reports and other relevant programme-related documents, including correspondence for a) resource mobilization, b) partnership building, c) reporting;
- Assist in the development of field monitoring plans based on agreed upon progress and target indicator sets and undertake ongoing field and desk monitoring of project related interventions;
- Assist in the preparation of an exhaustive list of national regulatory and technical documents that regulate the national specifics in the management of ODS, HFCs and natural refrigerants.

- *Facilitate and participate in monitoring the research and review of alternatives to HCFCs to determine their consumption, including the collection of the necessary primary information on their disposal for further evaluation;*
- *Develop and implement program of courses and trainings for customs officers, environmental inspectors and refrigeration equipment technicians;*
- *Ensure technical support in the coordination at the local level of selection of pilot demo projects for the replacement and modernization of HCFC equipment for alternative technologies with zero ODP and low GWP and its implementation.*
- *Participate in the implementation of the sub-project for the storage of ODS waste, including the search for a pilot management company, negotiation, if necessary, a meeting with the owners, explaining the features of the pilot project for the temporary storage of ODS waste and other related activities. Preparation of recommendations (in cooperation with the expert), which should be taken into account in the implementation of the pilot project for the establishment of a temporary storage warehouse (WFS) of ODS;*
- *Participate in the publication of information materials and booklets devoted to the day of ozone layer protection, television programs and round tables "Preservation of ozone - the basis of sustainable development", on the implementation of projects for the protection of the ozone layer;*
- *Participate in development, translation and publication of information and training materials, manuals and instructions on new energy efficient technologies with zero ODP and low GWP inclusive natural refrigerants;*
- *Manage the transfer of project deliverables, documents, files, equipment and materials as per the standard UNDP procedures;*
- *Undertake regular monitoring visits to sub-project sites and report to UNDP CO on the status of activities including suggestions for improvements;*
- *Manage project administrative activities, and ensure effective execution of work by support staff;*
- *Coordinate and contribute into development and implementation of other activities within the Energy and Environment Programme, to ensure proper synergies, streamlining and harmonization between projects and activities as relevant;*
- *In consultation with CO Programme Analyst and EE Programme Manager develop/update monitoring and evaluation tools including forms, questionnaire, check lists etc.*
- *Regularly communicate with all relevant stakeholders in order to ensure their support to project objectives and results;*
- *Act as a resource person in relevant meetings, workshops and seminars with current and perspective partners as may be required;*
- *Be fluent in the areas of the UNDP operations and activities, which may include field visits;*
- *Keep proper filing and registration of activities;*
- *Perform any other relevant duties that may be required in the course of project implementation, as directed by Energy and Environment Programme Manager / UNDP CO Programme Analyst.*

Required skills and expertise

The candidate needs to have strong experience in working with specific development issues at practical level, as well as analytical skills and ability to digest complex policy, technical and legal documents quickly.

- *Excellent leadership, project management and communication skills are pre-requisite. Proven record of experience in managing complex projects is a must;*
- *University degree in engineering-mechanics, chemicals management, development economics, natural resource management or other related field;*
- *At least 5 years of experience in chemicals management, climate change mitigation and natural resource management;*
- *Excellent understanding of a multidisciplinary aspect of Ozone Depleting Substances and chemicals, sustainable development, climate change and environmental management;*

- *Ability to lead a team and work in multicultural environment, maintain good communication with project stakeholders and partners at national and local levels;*
- *Excellent strategic planning and project management skills;*
- *Fluency in written and spoken Tajik and Russian is essential, English is an asset;*
- *Demonstrated analytical skills; willingness and ability to learn and apply new concepts;*
- *Demonstrated knowledge and understanding of development challenges in Tajikistan;*
- *Understanding of UNDP rules and procedures would be an advantage;*

Competencies

- *Strong leadership, managerial and coordination skills, with a demonstrated ability to effectively coordinate the implementation of large multi-stakeholder projects, including financial and technical aspects.*
- *Ability to effectively manage technical and administrative teams, work with a wide range of stakeholders across various sectors and at all levels, to develop durable partnerships with collaborating agencies.*
- *Ability to administer budgets, train and work effectively with counterpart staff at all levels and with all groups involved in the project.*
- *Ability to coordinate and supervise multiple Project Implementation Units in their implementation of technical activities in partnership with a variety of subnational stakeholder groups, including community and government.*
- *Strong drafting, presentation and reporting skills.*
- *Strong communication skills, especially in timely and accurate responses to emails.*
- *Strong computer skills, in particular mastery of all applications of the MS Office package and internet search.*
- *Strong knowledge about the political and socio-economic context related to the Indonesian protected area system, biodiversity conservation and law enforcement at national and subnational levels.*
- *Excellent command of English and local languages.*

National Technical Coordinator

The National Technical Coordinator (NTC) will be locally recruited following UNDP procedures, with input to the selection process from the Project partners and key stakeholders. The position will be appointed by the project implementing agencies and funded entirely from the Project. The NTC will be responsible for overseeing capacity building activities including development of training modules, delivering HCFC measuring equipment to the project stakeholders, as well as elaborating recommendations for improving current training Curriculum for national education/ technical institutions and private sector (i.e. Service Centers). The NTC will report to the Project Manager and Team Leader on Climate Change, DRR, Energy and Environment for all of the Project's substantive and administrative issues. From the strategic point of view of the Project, the NTC will report on a periodic basis to the Project Board, based on the PD's instruction. Generally, the NTC will support the PM and Team Leader who will be responsible for meeting government obligations under the Project, under the DIM execution modality. The NTC will perform a liaison role with the government, UNDP and other UN agencies, CSOs and project partners, and maintain close collaboration with other donor agencies providing co-financing. The NTC will work closely with the Project Implementation Unit Coordinators.

Duties and Responsibilities:

- *Assistance in the preparation of an exhaustive list of national regulatory and technical documents that regulate the national specifics in the management of ODS, HFCs and natural refrigerants. Note: analysis and preparation of recommendations is provided by the hired international legal consultant in the framework of the project;*
- *Facilitate and participate in monitoring the research and review of alternatives to ODS to determine their consumption, including the collection of the necessary primary information on their disposal for further evaluation;*
- *Development and implementation of a program of courses and trainings for customs officers, environmental inspectors and refrigeration equipment technicians;*
- *Provision of technical support in the coordination at the local level of selection of pilot demo projects for the replacement and modernization of HCFC equipment for alternative technologies with zero ODP and low GWP and its implementation. Note: analysis and preparation of recommendations is provided by the hired international technical consultant, an expert on energy efficient technologies with zero ODS and low GWP energy-efficient in the framework of the project;*
- *Participation in the implementation of the sub-project for the storage of ODS waste, including the search for a pilot management company, negotiation, if necessary, a meeting with the owners, explaining the features of the pilot project for the temporary storage of ODS waste and other related activities.*
- *Preparation of recommendations (in cooperation with the expert), which should be taken into account in the implementation of the pilot project for the establishment of a temporary storage warehouse (WFS) of ODS;*
- *Participation in the publication of information materials and booklets devoted to the day of ozone layer protection, television programs and round tables "Preservation of ozone - the basis of sustainable development", on the implementation of projects for the protection of the ozone layer.*
- *Participation in development, translation and publication of information and training materials, manuals and instructions on new energy efficient technologies with zero ODP and low GWP inclusive natural refrigerants.*

Required skills and expertise

- University degree in any of the following areas: Engineering-Mechanical, Chemicals, Natural Resources Management, Management, Technologist or a related field.
- At least 10 years of working experience in Ozone depletion substances/ Hazardous Chemicals, Climate Change Mitigation, Production sector, Capacity building and Training provision;
- Fluent Russian and Tajik. Knowledge of English would be significant asset;
- Experience in working with state agencies, Customs, technologist and experts on HCFC, service & training institutions, vocational training centres and extension services;
- Excellent writing, reporting, research and analytical skills;
- Established contacts with sector experts and government authorities as well as line Ministries and state Committees.

Project Administrative and Finance Assistant

Under the guidance and supervision of the Project Manager-Technical Coordinator and in close cooperation with UNDP CO Team Leader, the Project Assistant will carry out the following tasks:

- *Perform a variety of standard tasks related to project development, including screening and collecting all project documentations;*
- *Support the Project Manager of HCFC Phase-2 Project and UNDP CO Programme Analyst in monitoring the progress of the project activities through regular site visits and collecting quantitative and, if appropriate, qualitative data and compiling;*
- *Support the HCFC Phase-2 Project team logistically in implementing project activities in accordance with the approved plans of operations (e.g. prepare draft budgets, organize workshops, seminars, liaise with contractors, etc);*
- *Collect, compile and provide information when required as well as provide assistance and support to programme and administrative staff in preparation of different presentation, reports and programme profiles;*
- *Keep records of project funds and expenditures, and ensure all project-related financial documentation are well maintained and readily available when required by the Project Manager;*
- *Review project expenditures and ensure that project funds are used in compliance with the Project Document and Gol financial rules and procedures;*
- *Provide necessary financial information as and when required for project management decisions;*
- *Provide necessary financial information during project audit(s);*
- *Review annual budgets and project expenditure reports, and notify the Project Manager if there are any discrepancies or issues;*
- *Consolidate financial progress reports submitted by the responsible parties for implementation of project activities;*
- *Liaise and follow up with the responsible parties for implementation of project activities in matters related to project funds and financial progress reports;*
- *Develop Procurement Action Plans for the project;*
- *Review procurement requests and initiate procurement procedures for project equipment, supplies and services in a transparent and cost-effective manner; recommend procurement decision;*
- *In coordination with Project Manager and UNDP CO Programme Analyst, participate in identification and formulation of the projects' components by compiling and analysing information in the subject areas of the project implementation;*
- *Receive, screen, log and route incoming and outgoing correspondence and documents for the coming to the project, attach necessary background information and maintain follow-up system;*
- *Organize meetings and appointments for the Project Manager, keep agendas and take notes at meetings, if necessary;*
- *Keep directories of names, addresses and contact numbers of government officials, international and national NGOs and other relevant organizations inside and outside of Tajikistan;*
- *Prepare Local Travel Authorizations (TA) for the project staff travelling to area and project sides with further registration of TAs in UNDP portal;*
- *Draft, prepare, and (when necessary) translate letters from Russian/Tajik into English and vice versa and provide interpretation, if necessary, during the meetings;*
- *Assist Project Advisors in effective use of strategic planning, results-based management and reporting;*
- *In close collaboration with the Project Manager and UNDP CO Programme Analyst draft annual projects' progress reports within the project;*
- *Communicate directly with various agencies involved in the project implementation on all types of activities specified in the project work plan;*

- *Participate in the identification and formulation of the projects' components, by compiling and analyzing information in the subject areas of the project; assistance to their national partners, drafts project documents and work plans and prepares tables and statistical data;*
- *Collect, classify, summarize and evaluate data and information, carry out technical review of the project documents (proposals, activity plans, financial forecasts), preparation of draft agreements, review of financial reports of the projects' partners;*
- *Accompany the Project Manager to meetings with partners;*
- *Support the advocacy by compiling and synthesizing relevant background material for use in discussions and public events. Establishes and maintains network of donor and public information contacts and provides assistance in organizing and conducting donor meetings and public information events;*
- *Fulfil any other responsibilities according to the needs of the project and of the UNDP Country Office.*

The Project Assistant will be recruited based on the following qualifications:

- *University degree in Business Administration, Economics, Accounting or other related subjects;*
- *Good computer skills, including the ability to apply text and spreadsheet programmes and develop administrative data bases;*
- *At least three years of previous experience in working for international organizations in administration, finance or related fields;*
- *High sense of responsibility, willingness to take initiative, excellent communication skills and team spirit are important assets;*
- *Strong communication and negotiation skills;*
- *Ability to work under time pressure;*
- *Ability to work as member of a team.*
- *Dedication to the United Nations' principles and a demonstrative ability to work harmoniously with persons of different national and cultural backgrounds;*
- *Being a good team member with an initiative and friendly personality and with a positive attitude; having an individual commitment and sense of responsibility, developed ability to cope with stress, full accuracy with figures.*
- *Fluent in oral and written English, Russian and Tajik languages is mandatory.*

Annex E: UNDP Social and Environmental Screening Procedure and plans as needed

SOCIAL AND ENVIRONMENTAL SCREENING TEMPLATE

Project Information

Project Information	
1. Project Title	Complete HCFC Phase-Out in Tajikistan through Promotion of zero ODS, low GWP, Energy Efficient Technologies
2. Project Number	00107571
3. Location (Global/Region/Country)	Tajikistan, countrywide

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the Project mainstreams the human-rights based approach

The project aims at accelerating HCFC phase-out to achieve the 2020 compliance objectives and sustainably reduce the HCFC servicing tail. It will facilitate the implementation of upgraded national legislation for controlling import/export and use of HCFCs, improvements of Customs office's capacity, demonstration of zero-ODS and low GWP energy efficient technologies in the refrigeration and air-conditioning sectors, and completing the upgrade processes in the equipment servicing sector.

Effectively, the project is a follow-up stage in order to help Tajikistan reach 2020 phase-out targets and complete its HCFC phase-out strategy and includes packages of capacity building and technical assistance to strengthen previous HCFC phase-out achievements for Tajikistan. The Project is featured by technical assistance with elements of investment for strengthening national capacity in the process of total phase-out of ozone-depleting substances, and transition to non-ODS and low GWP technologies, institutional regulatory components and, further improvement of the national capacity on HCFC re-use and general ODS waste management.

The project will support the Government as the duty-bearer in fulfillment the national obligations to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on ozone-depleting substances. At the same time, knowledge of ozone-friendly and energy efficient cooling equipment and home appliances by the end-users as the right-holders will help them to meet their obligations to use natural resources in an efficient way, as well as provide incentives encouraging both to invest in ozone friendly technologies/appliances with low potential of global warming.

The project is linked to provisions of the Universal Declaration of Human Rights.

Article 3. "Everyone has the right to life, liberty and security of person". The project will directly contribute to the protection of human health and the

environment by reducing the impacts caused by the unsound management of HCFCs. As such the project will contribute to protecting people's right to life.

Article 19. "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers." The project will ensure that stakeholders involved in the management of HCFCs will be engaged in the project's development and implementation, through appropriate consultation mechanisms, workshops and awareness raising events to allow them to participate in the decision-making process as during the project formulation so during its implementation, express their opinions on the project and its intended activities. Furthermore, project activities, objectives and results will be widely disseminated through various media channels throughout the project's implementation. The project will contribute to people's access to information and provide them with opportunities to express their opinions.

Article 23 (2) "Everyone has the right to work, to free choice of employment, to just and favorable conditions of work and to protection against unemployment". The project will help with further improvements in working conditions of refrigeration engineers and technicians who come into contact with HCFCs and replacement technologies such as ammonia (toxic), hydrocarbons (flammable) and carbon dioxide (high pressure). Infrastructure and skills required to manage HCFCs and their substitutes will be improved by the project in private and public sectors, vocational and high-level education institutions. As such the project will contribute to protecting people's right to favorable conditions of work and improve work skills to stay competitive in the business.

Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

The project will include consideration of gender aspects of HCFCs management, ensure the participation, representation and buy-in of vulnerable worker and community populations in the project's implementation and mainstream gender into related activities to be undertaken as part of the project as per the "UNDP Technical Guide on mainstreaming SMC" and the UNDP guidance note on "The why and how of mainstreaming gender in chemicals management".

According to common belief, ozone layer protection activities (ozone business), including Refrigeration and Air Conditioning (RAC) sector is considered as men-dominating sector. This is explained as follows: since refrigeration and air conditioning is mostly about servicing and maintenance of equipment, and men are more inclined, and able physically to do such work. However, this belief omits another, invisible part in the sector and that is managerial and secondary positions occupied by women. It does not also take into account the role played by women in dealing with refrigeration and air conditioning equipment indirectly, for example, in sales or purchaser's roles, managerial functions etc.

This project was developed based on the experience accumulated and lessons learned from parallel projects conducted in Tajikistan in previous years. One of the core lessons learned is that previous projects did not pay attention to gender issues and had *Gender Mark 0*. In contrast, the new project makes a strong emphasis on gender aspects, particularly on empowerment of women through Component IV, Outcome 4.1 - Gender Mainstreaming in Refrigeration and Air Conditioning Sector. The project seeks achieving an ambitious goal – intensifying role models and work activities in the RAC sector, with resulting strengthened women's empowerment and ensuring greater gender equality in this specific area. It will do so by contributing to activities, which enable significantly greater visibility of women in the ozone business; creating conditions for acknowledging women's indispensable role within the RAC sector; promoting status and prestige of women-technicians among the public; fostering crucial partnerships with women's organizations and other key stakeholders, for which RAC sector has not been accessible so far.

Briefly describe in the space below how the Project mainstreams environmental sustainability

The project’s overall objective is to ensure protection of human health and the environment through sound management of HCFCs and their zero-ODS and low GWP substitutes in Tajikistan. In particular the project will strive to achieve environmental sustainability through:

- Enhancing the national capacity to manage the phase-out of HCFCs, through strengthening of associated regulatory frameworks, solid capacity building and re-tooling/infrastructure improvements in the country in these related sectors.
- Introducing best available technologies (zero-ODS and low GWP) to substitute HCFCs.

The project is explicitly designed to mainstream environmental sustainability by introducing alternative and energy efficient technologies in RAC sector of Tajikistan to complete HCFC phase out by 2020. The introduction of alternative zero-ODS, low-GWP and, where technically feasible, energy efficient technologies will support the country in smooth transition to environmental sustainable economy. It will contribute to integrating the principles of sustainable natural resource use into policymaking, legislation and institutions to ensure sustainable natural resource management for the benefit of this and future generations.

Part B. Identifying and Managing Social and Environmental Risks

<p>QUESTION 2: What are the Potential Social and Environmental Risks?</p> <p><i>Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any “Yes” responses). If no risks have been identified in Attachment 1 then note “No Risks Identified” and skip to Question 4 and Select “Low Risk”. Questions 5 and 6 not required for Low Risk Projects.</i></p>	<p>QUESTION 3: What is the level of significance of the potential social and environmental risks?</p> <p><i>Note: Respond to Questions 4 and 5 below before proceeding to Question 6</i></p>			<p>QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?</p>
<p>Risk Description</p>	<p>Impact and Probability (1-5)</p>	<p>Significance (Low, Moderate, High)</p>	<p>Comments</p>	<p>Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.</p>

<p>Risk 1: Women may not show interest in career in RAC sector due to lack of knowledge and understanding</p>	<p>I = 2 P = 1</p>	<p>Low</p>	<p>This baseline situation will continue to result in wrong understanding that the RAC business is only about technical and physically intense work and lead to low interest of doing career in this area. Gaining specific business management knowledge, and opening more opportunities for women are among the key principles in starting to address gender disparity in the RAC sector.</p>	<p>Improved partnerships within the government to increase attention to bring more gender supportive approach in this sector, partnerships between the private sector and vocational training institutions on internships and job placements are designed in to ensure gradual transition away from traditional way of looking at the RAC sector. Backed by awareness raising to change wrong perceptions of RAC sector among women; seeking strong support in changing perceptions of organizations, dealing with women’s promotion, the project is on a right track to achieve considerable positive results.</p>
<p>Risk 2: Risk to communities and workers’ health and safety posed by the improper handling of HCFCs and their substitutes. Misuse in introduction of Zero-ODS and low-GWP alternative, which are toxic, flammable or high pressure may result in occurring emergency situations.</p>	<p>I = 2 P = 1</p>	<p>Moderate</p>	<p>All available technologies with use of zero-ODS and low-GWP alternatives are in advanced development stage and designed according internationally recognized safety standards.</p> <p>Each demonstration project on introduction of zero-ODS and low-GWP alternatives will include special activities, including theoretical and practical trainings, capacity development and introduction of internationally recognized safety standards.</p> <p>Due level national capacity though requires longer term support and regular training</p>	<p>The project aims to equip the country with additional modern equipment servicing tools, skills (with certification) and non-HCFC technologies (with safety standards applied) to smoothly manage the ongoing HCFC phase-out activities. Appropriate training and safety guidelines will be formulated with support of the direct stakeholders from the HCFC use business sectors, and involved state authorities (environmental protection, standardization etc)</p>

			during operation of such equipment, and its usage should occur with acceptable safety standards which project will be seeking to develop and implement.	
Risk 3: Demonstration projects on replacement of outdated equipment working on HCFC-22 (ozone depleting substance) with zero-ODS and low-GWP alternatives may potentially result in the generation of waste of HCFCs (ODS).	I = 1 P = 1	Low	ODS waste keeps being accumulated in the country, on a routine basis, with majority of it consisting of the current dominating ODS refrigerants – HCFCs. Additional demonstration projects will replace outdated equipment containing HCFCs, and depending on the purity level, these may represent ODS waste which will have to be addressed by the project.	Project will implement activities on establishment HCFCs recycling/reclaim centers, where these ODS refrigerants will be recycled/reclaimed for further use, in line with the Montreal Protocol’s provisions. In addition, the project will support strengthening a qualified ODS waste storage facility to improve safety and support responsible care of such waste until solutions are found for its processing.
QUESTION 4: What is the overall Project risk categorization?				
Select one (see SESP for guidance)			Comments	
<i>Low Risk</i>			X	Overall, the project overall risk category is Low, with some areas requiring special attention as described above that are important. The project will support demonstration projects beneficiaries in planning and implementation of related to application of zero-ODS and low-GWP alternatives to HCFCs carrying some inherent risks with risk management capabilities by deploying modern in-built safeguards and training/certification of servicing

			<p>engineers and technicians. The technologies in question are featured by toxic (ammonia), flammable (hydrocarbons) or high-pressure (carbon dioxide) operating parameters, which may result in occurring of localized emergency situations, if equipment is misused and no regular technical oversight is provided. The project will involve national and international consultants to improve capacities and knowledge of local beneficiaries on dealing with such alternative refrigerants and safety measures will be undertaken.</p> <p>Awareness raising to change wrong perceptions of RAC sector among women; seeking strong support in changing perceptions of organizations, dealing with women's promotion.</p>
	Moderate Risk	<input type="checkbox"/>	
	High Risk	<input type="checkbox"/>	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		Comments
	Principle 1: Human Rights	<input type="checkbox"/>	
	Principle 2: Gender Equality and Women's Empowerment	X	Women may not show interest in career in RAC sector due to lack of knowledge and understanding of job opportunities this sector creates, and traditionally men dominated area of business.
	1. Biodiversity Conservation and Natural Resource Management	<input type="checkbox"/>	
	2. Climate Change Mitigation and Adaptation	X	HCFCs replacement with newer low GWP technologies can avoid excessive reliance on high-GWP HFCs and result in climate change mitigation.
	3. Community Health, Safety and Working Conditions	X	Misuse of safety standards and precautions during the introduction of Zero-ODS and low-GWP alternative, which are toxic, flammable or high pressure may result

			in occurring emergency situations.
	4. Cultural Heritage	<input type="checkbox"/>	
	5. Displacement and Resettlement	<input type="checkbox"/>	
	6. Indigenous Peoples	<input type="checkbox"/>	
	7. Pollution Prevention and Resource Efficiency	<input checked="" type="checkbox"/>	Demonstration projects on replacement of outdated equipment working on HCFC22 (ozone depleting substance) with zero-ODS and low-GWP alternatives may potentially result in the generation of waste of HCFCs (ODS).

Final Sign Off

Signature	Date	Description
QA Assessor		Ms. Nargizakhon Usmanova, Team Leader, UNDP CO Tajikistan
QA Approver		Mr. Maksim Surkov, RTA- Chemicals, UNDP IRH
PAC Chair		Ms. Sanja Bojanic, Deputy Country Director, UNDP Tajikistan

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
Principles 1: Human Rights	Answer (Yes/No)
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? ¹²	No. The project strives to improve employment opportunities and improve competitiveness opportunities of trained RAC engineers and technicians on the national and regional workforce markets.
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No. The project will work on bringing in modern technical skills and special tools to equip trained technicians (individual and from service companies) to build national capacity in managing HCFCs and other technologies. Support to vocational education system will allow better training for those willing to obtain such profession.
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No. Demonstration projects will go through EIAs where required by national legislation. Otherwise, usually these happen within industrial or municipal areas, in existing business companies or public buildings.
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts	No

¹² Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to “women and men” or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

among and/or the risk of violence to project-affected communities and individuals?	
Principle 2: Gender Equality and Women’s Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No. The project, as designed, attempts to support women in learning new skills, as technical so managerial in specific relation to the RAC business, and bring in more partnerships on internships and job placements.
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No. See description above.
3. Have women’s groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women’s ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	NO No. the project will be encouraging women to gain new management and technical skills to open job opportunities in the RAC sector.
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? <i>For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes</i>	No
1.2 Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3 Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions	No

	and/or limitations of access to lands would apply, refer to Standard 5)	
1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction</i>	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? <i>For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.</i>	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant ¹³ greenhouse gas emissions or may exacerbate climate change?	No. HCFCs have GWP features and are commonly used in refrigeration and air-conditioning equipment. The project aims to improve the re-use of HCFCs via best practices in recovery and recycling and

¹³ In regards to CO₂, ‘significant emissions’ corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

	<p>better equipment maintenance to avoid excessive leaks.</p> <p>HFC technologies, as substitutes for HCFCs, will be avoided in the demonstration component of the project.</p> <p>Newly demonstrated technologies will be based on natural refrigerants with minimal or no GWP effect. These technologies are modern and will result in better energy-efficiencies as compared to older equipment subject to replacement.</p>
2.2	<p>Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?</p> <p>No</p>
2.3	<p>Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)?</p> <p><i>For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding</i></p> <p>No</p>
Standard 3: Community Health, Safety and Working Conditions	
3.1	<p>Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?</p> <p>No. Demonstration projects will be implemented in existing facilities.</p>
3.2	<p>Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?</p> <p>Partially yes. Demonstration projects will follow safety standards during installation and operation of such new equipment. And, ODS waste accumulated across the country will be removed from their sources and relocated to reconstructed ODS waste storage.</p>
3.3	<p>Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?</p> <p>No</p>
3.4	<p>Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)</p> <p>No</p>
3.5	<p>Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic</p> <p>No</p>

	conditions?	
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No. This is not the intent of the project, however, some aspects related to knowledge, skills and safety measures related to the operation of low GWP HCFC-free technologies require attention in terms of quality capacity building and technical assistance as designed by the project to minimize associated risks.
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No. Project activities will be implemented in existing facilities (private or public).
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions? ¹⁴	No

¹⁴ Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling,

5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	<p>Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)?</p> <p><i>If the answer to the screening question 6.3 is “yes” the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.</i></p>	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No

residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

Standard 7: Pollution Prevention and Resource Efficiency		
7.1	<p>Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?</p>	No
7.2	<p>Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?</p>	<p>Partially yes. However, during HCFC recycling operations some part of the material can be waste (in part chlorinated gas) which could be a result of compressor burn-outs when refrigeration and air-conditioning equipment can naturally malfunction. Also, when replacing older RAC equipment with newer low GWP technologies, depending on quality of previous HCFC gas, it can be subject to categorization as ODS waste material.</p> <p>The project will also help create storage facilities for accumulated and confiscated HCFC gas (from RAC servicing sector and Customs).</p>
7.3	<p>Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs?</p> <p><i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol</i></p>	<p>No. However, the trade in HCFCs and other chemicals to substitute them are a natural economic activities taking place as a baseline. The project's aim is to further reduce the country's dependence on HCFCs and demonstrate natural refrigerant technologies.</p>
7.4	<p>Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?</p>	No
7.5	<p>Does the Project include activities that require significant consumption of raw materials, energy, and/or water?</p>	No

Annex F: Stakeholder Engagement Plan

During the preparation of the strategy for phase-out of HCFCs and this project document, consultations were held with the following partners

Ministry / Office	Activities
Committee for Environmental Protection under the Government of the Republic of Tajikistan	Develops and implements a policy of environmental protection, conservation of biological diversity and forest ecological systems, promotes rational use of natural resources, sustainable development of mountain areas and ensuring environmental safety of the state. The Committee carries out state control over the protection of the environment and the use of natural resources; implements multilateral environmental agreements (MEAs), as well as the use of licenses, transportation, storage and disposal of toxic materials and wastes, including chemical and radioactive.
Committee on Women and Family Affairs	Committee on women and Family Affairs under the Government of Tajikistan is considered state executive entity, undertakes and leads state policy on ensuring and protection of women's rights and women's interests, creating equal conditions and opportunities for protection of their rights and interests and achieving gender equality at all levels, strengthen and enlarge areas for active involvement and participation of women in decision-making process for resolution of social-economic affairs, management of governance and society problems, as well as advocating legal and policy regulations, ensures quality state services and management of state property;
State Customs Service under the Government of the Republic of Tajikistan	Regulates the export and import of chemicals and toxic waste. The Customs Division is a traditional government partner in previous and current programs to reduce consumption of CFCs and HCFCs.
Ministry of Justice	Carries out the state registration of all normative-legal acts connected with chemical substances.
Agency for Standardization, Metrology, Certification and Market Inspection under the Government of the Republic of Tajikistan (Tajikstandart)	Issues and controls the implementation of standards. The importance of the agency is to develop and implement standards for the use of HCFCs, HFCs and alternative technologies. However, at present only old standards of the former Soviet Union on CFCs, HCFC-22 and ammonia are available.
Ministry of Education	Supports the development and adoption of vocational education and training programs for the project goals and capacity building to achieve more effective HCFC regulation
Association of workers in the refrigeration and air conditioning sector	Encompasses the main participants in the equipment maintenance sector and serves to exchange experience and best practices in the field of refrigerating equipment, represents the interests of the organization and customers. Users take part in the design, design, supply, and maintenance of refrigeration equipment and air conditioners
Private sector (maintenance, assembly of equipment)	Consumes and depends on consumption of HCFCs and HFCs. This sector is primarily influenced by HCFCs and HFCs, and cooperation with the sector plays an important role in the implementation of the project.

The project will be implemented in close coordination and cooperation with relevant state institutions, regional authorities, industrial enterprises, state and local authorities and NGOs, as well as with other relevant projects in the region.

Annex G: Gender Analysis and Action Plan

The direct involvement of women as technicians in refrigeration and air-conditioning systems has its specific challenges, both in the mentality of our society (the refrigeration equipment technician has always been a purely masculine profession) and on the legislative aspects that forbid the employment of women's labor in heavy and underground work, harmful labor conditions (Labor Code of the Republic of Tajikistan, CHAPTER 16. "Peculiarities of the regulation of labor of women and other persons with family responsibilities", Resolution of the Government # 521 of 31.12.2002 "On the list of industries, shops, professions and positions with harmful and difficult working conditions").

The list of works on which the use of women's labor is prohibited and the maximum permissible standards of lifting loads is approved by the Government of the Republic of Tajikistan (many categories of work with refrigeration equipment and air conditioning systems are work associated with occupational hazards such as welding and lifting and moving heavy equipment by hand). This is also tracked back to fSU times when similar limitations were in place. Generally speaking, there lack of attractiveness to implement such works from the side of women, in order to better understand these and other aspects related to the RAC sector, in close cooperation with the Committee on Women and Family Affairs under the GoT, the project will elaborate a strategy how to involve women in RAC activities, in particularly on managing small business, receive and record orders, maintain contact details and office management, and where of interest, encourage more scholarships and internships for enhanced job placement in the RAC industry.

Tajikistan ranked 102nd out of 142 countries in the World Economic Forum's 2014 Global Gender Gap Index, with a score of 0.665, indicating limited progress from its 2007 score of 0.658. While its scores for educational attainment and for health and survival are relatively high, scores for both economic participation and opportunity (labor force participation, wage equality, and the numbers of senior, professional, and technical workers) and political empowerment (women in parliament and ministerial positions) are low, and offset the other positive indicators of equality. There are no differences in the relative rates for men and women, but female-headed households are more at risk for poverty and extreme poverty than households headed by males. National surveys indicate that households headed by females are less likely to have valuable goods such as cars, trucks, computers, land, and livestock. With a trend that the number of households headed by females appears to be increasing, women's limited access to and control over assets has serious repercussions for a considerable portion of the population. The national framework for gender equality, specifically the Law on State Guarantees of Equal Rights and Opportunities for Men and Women, lacks clear implementation processes. Other laws aim at protecting women's rights and security, such as those combating human trafficking, preventing domestic violence, and raising the legal age of marriage to 18 years. With national gender policy passed in 2010, the National Strategy for Enhancing the Role of Women in the Republic of Tajikistan proposes concrete actions to improve women's participation in education, the labor market, entrepreneurship, and in politics, albeit without identifying responsible agencies, timeframes with milestones, funding sources, and monitoring plans. The female labor force participation rate is 45% and varies by region. In 2013, women's average monthly wages were only 63.3% of those of men's, which is already an improvement over the last decade. It is not clear whether the narrowing wage gap is due to salary increases for women or to decreasing men's wages. Only part of the gender wage gap can be accounted for in variables such as differing employment patterns. Gender discrimination and stereotypes also figure in women's lower pay as they are assumed to have other sources of support.

Male and female employment patterns differ: according to the most recent Labor Force Survey, men's level of economic activity is almost double that of women. The majority of the economically inactive female population is between the ages of 25 and 49; the sharp decline in women's economic activity at this age corresponds directly to when they leave the labor market, marry, start families and have increased household obligations. In addition to domestic task distribution inequalities, women's generally lower level of education (especially vocational education), lack of professional qualifications, and high fertility rate combine with the absence of childcare

facilities and gender stereotypes to place women in a weak employment position. Even among the working population, women are more commonly members of producers' cooperatives, as compared to men who generally work as employers or are self-employed (as own-account workers). A considerable segment of the population works in informal employment, and the majority of such workers are men. Still, many women work informally doing hard physical agricultural labor for long hours, in poor working conditions, and with a lack of such social protections as maternity leave and pension payments. Labor legislation protects women and their reproductive functions, but also reinforces stereotypes about women's primary responsibility for the family. All women are prohibited from working in mining, in hazardous conditions, and in jobs involving manually lifting and moving heavy loads. In many instances, protective women's employment legislation has backfired. Employers perceive women as costlier to employ and prefer to hire men. In some instances, the law is even manipulated to exclude women from any post (even office-based) in construction or other industries interpreted to constitute "heavy work".

Gender and Education:

Access to education is one of the most critical issues for girls and young women today. Faced with the stark problem of girls' decreasing enrollment and completion rates, the government has prioritized gender parity in educational reform. The National Strategy for Enhancing the Role of Women in the Republic of Tajikistan for 2011–2020 also recognizes obstacles to education such as gender stereotypes and substandard school conditions. In the 2013–2014 academic year, 89.1% of all female students in secondary vocational education studied either health or education (62.2% and 26.9%, respectively). In technical subjects, such as economics and management, construction, transport, agriculture, energy, metallurgy, and mechanical engineering, men made up virtually 100% of the student population. Such clear gender segregation patterns in academic subjects suggest that there has been little to no attention paid to identifying and removing barriers to women's entering technical areas of study in vocational institutions. Furthermore, the absence of women in technical fields of study means that investment in infrastructure will not directly benefit women in terms of employment opportunities. In addition to gendered employment differences, the labor market in Tajikistan exhibits segregation—both horizontal (the sectors where women and men work) and vertical (women's and men's position in employment hierarchies). Considering the structure of male and female employment, women are concentrated in unskilled jobs. These findings indicate the persistence of barriers to women's career advancement and the need to expand opportunities for them to gain a range of professional skills.

The gender inequalities that exist in secondary education are magnified in both technical and vocational education and training and in higher education. Poverty and isolation from urban centers are also barriers to technical and vocational education.

The technical and vocational education and training system in Tajikistan is largely supply-driven. Most course structure and content are outdated, resulting in a mismatch between graduate skills and labor market demand. The condition of physical facilities and the lack of modern curricula reinforce the generally low social image of technical and vocational education, and contribute to the system's inability to attract students, especially women. Primary technical and vocational education suffers from deficiencies in both quality and quantity. The total enrollment in 63 lyceums in 2014 was 21,593 students, of whom 18% were girls—an average enrollment size of 343 students per lyceum.

Action Plan

The project will encourage enrollment of women into RAC related technical and vocational education through introduction of stipend schemes (scholarships) for women and girls-graduates from secondary-level schools. The project will also ensure stronger cooperation between educational institutions and service centers through the placement of women and girls in such service centers dealing with RAC sector, for internships and further potential employment.

Materials on women's role in ozone business prepared and integrated into awareness activities. Participation of women technicians in the activities of the project encouraged. Women's organizations operating in Tajikistan and abroad identified and mutual cooperation agreements will be established. Partnerships with the Ministry of Higher and Secondary Special Education, Ministry of Labor, Committee on Women and Family Affairs under the Government of Republic of Tajikistan and NGOs promoting women's role in technology will be established. Joint awareness raising activities aimed at involvement of women in RAC sector will be implemented.

In addition, strong partnerships will be established between the project and the line Ministries of Higher and Secondary Education, and Labour as well the Committee on Women and Family Affairs to promote gender mainstreaming in ozone related business, including RAC sector. This will be achieved by conducting at least 10 public events on engaging girls graduating from schools into technical specialty in RAC technology business. Further study curricula of the vocational schools will be reviewed to include individual entrepreneurship and RAC business management (financials, business organization) for men and women to increase graduates' management knowledge in this area and improve self- and service-center based employment opportunities.

Annex H: UNDP Risk Log

#	Description	Type	Impact & Probability	Countermeasures / Management response
1	Government or public/private co-financing commitments do not materialize due to financial constraints and/or diversion of funding.	Financial	Failure to achieve project objectives. P = 1 I = 2	<p>To strengthen these commitments, the project will closely coordinate the involvement of key government stakeholders and Project Steering Committee members (Inter-ministerial Working Group) into a decision-making process of project's implementation and maintain a regular dialogue with all involved parties.</p> <p>Preparing a roadmap to explore resource mobilization options with the private sector, IFIs and other sources will be an integral part of the project's operations to minimize these risks.</p>
2	Delays in rendering Governmental support on behalf of National Partner in project implementation due to ongoing administrative reforms and limited number of staff available in relevant departments.	Organizational	Delays in timely receipt of governmental support and increase in time, necessary for achievement of project objectives P = 2 I = 3	<p>The project will inform the Government Partner and Project Steering Committee about implementation progress and achieved results on a regular basis, and request needed support well in advance.</p> <p>Regular PSC meetings will involve all key governmental stakeholders to ensure the implementation of the national HCFC phase-out strategy is well coordination, especially in its final stages (2020 and beyond).</p>
3	General limited availability of advanced zero-ODS and low GWP technologies, applicable to Tajikistan's conditions,	Financial/Strategic	The project may need additional financial resources to cover costs	The project will analyze the ways of reducing capital costs by using locally produced

	requires additional investment costs to introduce these technologies. Also, catalytic effect of demonstrating zero-ODS and low-GWP technologies is limited due to high cost of new refrigerated equipment.		related to application of new/advanced technologies. The project will not be able to promote application of advanced, ozone-friendly technologies in RAC sector beyond own resources. Transfer of RAC sector from ODS based technologies to zero-ODS and low-GWP technologies may take more time. P = 3 I = 3	refrigerants where possible and applicable. With active involvement of PSC (IMWG) elaborate strategy / mechanism for resource mobilization and mapping all international organizations/donors in the country, which will help in approaching them strategically and raise additional funding to achieve project objectives. The project will also work on fundraising (RM) on local, regional and international levels, with governmental/nongovernmental and other types of organizations, and place more emphasis on co-finance in order to expand the scale of demonstration projects and improve cost effectiveness of GEF funds use. Energy efficiency considerations are the added benefits which will be used in raising more awareness on longer term operational savings in case of such investments in order to attract more attention to this technology conversion business.
4	Lack of technical know-how and misuse in introduction of Zero-ODS and low-GWP alternative, which are toxic, flammable or high pressure may result in occurring emergency situations.	Other	Additional resources, both financial and time may require for development and introduction of internationally recognized safety standards. P = 1 I = 1	All available technologies with use of zero-ODS, low-GWP alternatives and energy-efficiency technologies are advanced and designed according internationally recognized safety standards. Each demonstration project on introduction of zero-ODS and low-GWP alternatives will include special activities, including theoretical and practical trainings, capacity development and introduction of internationally recognized safety standards.
5	In remote areas, where due to lack of electricity and internet coverage and sophisticated means – rural people	Organizational	RAC technicians will not be able to update their knowledge on	The project is designed to reach out to remote areas to ensure comprehensive

	<p>have limited access to online courses or self-education programmes. Due to non-availability of Internet in some areas and lack of knowledge in the usage of personal computers, RAC technicians do not use online learning system and do not have access to up-to-date training with other means.</p>		<p>refrigeration equipment and servicing, hence, achievement of the important outcome in Component 2 on HCFC re-use capability a will be under jeopardy.</p> <p>P = 4 I = 4</p>	<p>coverage of the RAC technicians as in urban so in rural areas with means of a mobile training facility proposed in Component 2. Further, carrying out sessions on the use of online learning system during onsite visits/trainings; preparing video instructions on the use of the system and sharing with technicians and key project partners; adapting the system to mobile devices and ensuring use by technicians. Ensure printed version of all KM and publications are reached the technicians in the remote areas of project command zone;</p>
6	<p>Women do not show interest in career in RAC sector due to lack of knowledge and understanding on prospective job opportunities</p>	Other	<p>This will result in wrong understanding that RAC sector is only about physically intense work as RAC technicians and lead to low interest of doing career, while refrigeration and air-conditioning technologies are used in various economic sectors.</p> <p>P = 1 I = 2</p>	<p>In close cooperation with the Committee on Women and Family Affairs under the GoT, the project will elaborate a strategy how to involve women into RAC activities, in particularly on managing small business, receive and record orders, maintain contact details and office management;</p> <p>Awareness activities targeted specifically at women will be conducted and the project will encourage enrollment of women into RAC related technical and vocational education through introduction of stipend schemes (scholarships) for women and girls-graduates from secondary-level schools.</p>