Completion of the Phase Out of HCFCs Consumption with Support of Low GWP Technologies

Part I: Project Information

GEF ID
9756

Project Type
MSP

Type of Trust Fund
GET

Project Title
Completion of the Phase Out of HCFCs Consumption with Support of Low GWP Technologies

Countries
Belarus

Agency(ies)
UNDP

Other Executing Partner(s):

Government of Belarus

Executing Partner Type
Government

GEF Focal Area
Chemicals and Waste

Taxonomy
Focal Areas, Chemicals and Waste, Stakeholders, Civil Society, Private Sector, Communications, Gender Equality, Gender results areas, Gender Mainstreaming, Capacity, Knowledge and Research, Knowledge Generation, Knowledge Exchange, Learning, Theory of change, Influencing models, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Deploy innovative financial instruments, Academia, Public Campaigns, Strategic Communications, Behavior change, Capital providers, Individuals/Entrepreneurs, Type of Engagement, Partnership, Participation, Information Dissemination, Consultation, Sex-disaggregated indicators, Capacity Development, Knowledge Generation and Exchange, Ozone, Beneficiaries, Non-Governmental Organization, Awareness Raising, Education, SMEs, Access to benefits and services, Participation and leadership, Innovation, Workshop, Training, Seminar, Field Visit, Peer-to-Peer, South-South

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 0

Climate Change Adaptation
Climate Change Adaptation 0

Duration
48In Months

Agency Fee($)
163,020.00

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-2_P5	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.	GET	1,716,000.00	6,935,000.00
		Total Project Cost($)	**1,716,000.00**	**6,935,000.00**

B. Project description summary

Project Objective

The project aims to accelerate the national HCFC phase-out to prepare for the 2020 compliance objectives and sustainably reduce the servicing tail from 2020 to 2030. It will further assist with a comprehensive ODS Alternatives survey; practical implementation of upgraded national legislation on control of import/export and use of HCFCs and their alternatives; improvement of Customs capacity on import/export control; demonstration of zero-ODP and low-GWP energy efficient cooling technologies in various sectors of the economy; completing the upgrading and strengthening of the servicing sector capacity including recovery/recycling/reclamation of refrigerants and temporary storage of waste/unusable refrigerants. In the current design, it will also coordinate with the scaled-up resource mobilisation process, at reduced interests to private sector, from the Development Bank of Belarus in order to increase the investments into the RAC sector; conduct comprehensive awareness raising programs to increase understanding of ozone related issues for wider audience of stakeholders and end users playing imporant role in the HCFC phase-out process. Gender mainstreaming will also be addressed to involve women in the business of Refrigeration and Air-Conditioning.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: Removal of regulatory and technical barriers to the final phase-out of HCFCs and adoption of low GWP technology	Technical Assistance	Outcome 1.1: Overview of ODS alternatives to determine national consumption and use.	Output 1.1.1: ODS Alternatives survey completed.	GET	388,500.00	480,000.00
		Outcome 1.2: Strengthening the capacity of State Customs Service to control the import / export of ODS and equipment containing them.	Output 1.2.1: The State Customs Service participates in existing networks in terms of ODS import / export control, and other necessary bilateral visits.			
			Output 1.2.2: Improve the capacity of the Customs Laboratory with refrigerant sampling equipment and HCFC-standards for calibrating the GC-MS for strengthening control over the movement of HCFCs across the customs border of the Republic of Belarus.			
			Output 1.2.3: Close cooperation with the Institute for Advanced Studies of Customs Officers by improving training equipment and materials to facilitate the			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Facilitation of complete HCFC phase-out in Belarus by strengthening the HCFC reuse system, creating conditions for the storage of ODS waste; implementation of HCFC replacement demonstration projects; and improving educational institutions.	Investment	Outcome 2.1: Strengthening of HCFC reuse system.	Output 2.1.1: Strengthening the 4 recycling centers to support the HCFC reuse system with advanced refrigerant identifiers, collection stations and refrigerant transfer systems, additional cylinders and tanks for collecting and storing HCFCs, as well as Test station at one location to test reusable cylinders used for storing and processing HCFC refrigerants, and have a replacement pool of service cylinders	GET	892,700.00	5,819,000.00
			Output 2.1.2: Supply 15 – 18 sets of tools and portable recovery devices for the remaining service companies and field technicians to complete support for the national refrigerant management program and complement existing tools at R & R centers.			
			Output 2.1.3: Storage facilities at 2 locations upgraded to store ODS waste until the			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3: Public Awareness and Gender Mainstreaming	Technical Assistance	Outcome 3.1: Implement activities on raising public awareness.	Output 3.1.1: Continue activities to increase public awareness.	GET	121,300.00	320,000.00
		Outcome 3.2. Project stakeholders have improved overview of gender differences in RAC sector through the generation of national sector-specific statistics.	Output 3.1.2: Develop and publish information materials.			
			Output 3.2.1: Sector-specific, gender-relevant quantitative and qualitative data are generated, analyzed and published to highlight the gaps in the sector and raise public awareness on possible changes.			
		Outcome 3.3: Contribution of female project staff and participants is visibly presented and justly recognized.	Output 3.3.1. Enhanced visibility of women at strategic project events.			
			Output 3.3.2.Provide support to help combine work interests with family obligations for professionally qualified women to attend project events that are long-term or require intense travel.			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4: Project Monitoring and Evaluation	Technical Assistance	Outcome 4.1: Project monitoring and evaluation implemented	Output 4.1.1: M&E is applied to provide feedback to the project coordination process to capitalize on project needs.	GET	157,500.00	160,000.00
			Output 4.1.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.			
			Sub Total ($)		**1,560,000.00**	**6,779,000.00**
Project Management Cost (PMC)						
				GET	156,000.00	156,000.00
			Sub Total($)		**156,000.00**	**156,000.00**
			Total Project Cost($)		**1,716,000.00**	**6,935,000.00**

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount($)
Government	Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (MNREP)	In-kind	750,000.00
Private Sector	RAC Association “APIMH”	Grant	450,000.00
Private Sector	RAC Association “APIMH”	In-kind	120,000.00
Beneficiaries	Enterprises	Grant	1,400,000.00
Beneficiaries	Enterprises	In-kind	950,000.00
Others	Development Bank of Belarus	Loans	3,000,000.00
GEF Agency	UNDP	Grant	215,000.00
GEF Agency	UNDP	In-kind	50,000.00
		Total Co-Financing($)	**6,935,000.00**

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount($)	Fee($)
UNDP	GET	Belarus	Chemicals and Waste	Ozone Depleting Substances	No	1,716,000	163,020
				Total Grant Resources($)		**1,716,000.00**	**163,020.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required

☐

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount($)	Fee($)
UNDP	GET	Belarus	Chemicals and Waste	Ozone Depleting Substances	No	50,000	4,750
				Total Project Costs($)		**50,000.00**	**4,750.00**

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	0	148597	0	0
Expected metric tons of CO_2e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)				
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)		148,597		
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting		2020		
Duration of accounting		4		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	81.80	0.00	0.00

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.3 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	81.80		

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
	1		

Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		50		
Male		500		
Total	0	550	0	0

PART II: Project JUSTIFICATION

1. Project Description

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Problem to be addressed

Hydrochlorofluorocarbons (HCFCs) are used for cooling, refrigeration and other manufacturing processes such as foam manufacturing and as solvents. 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 the 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 rejection from these substances in 2030.

At this time, Belarus only uses HCFC-22 which is applied in comfort cooling, and in commercial and industrial refrigeration and air-conditioning (RAC), and they import their entire requirement as they do not manufacture this refrigerant in the country. The proposed project builds on the currently closed GEF regional programme which was designed to build initial national capacity for four participating non-article 5 CEITs in the CIS (Uzbekistan, Tajikistan, Ukraine and Belarus) to meet the accelerated Montreal Protocol HCFC phase-out requirements through stabilization and progressive reduction of HCFC consumption by 2015 phase-out targets. Through the new project Belarus will be able to comply with its Montreal Protocol commitment of achieving 99.5% phase out by January 1, 2020 and further strengthen the capacity to phase out the 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 in residential sector and in commercial and industrial cooling in Belarus. It has been the refrigerant of choice, and has been used for two decades. With more and more cooling being used in the country, both in commercial establishments and domestic applications, the use of HCFC-22 had increased substantially. The uses of HCFCs for manufacture of the PU foam and as solvents were discontinued through support from the earlier project, and the consumption stays in the servicing sector.

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). Using this principle, Belarus's baseline was calculated to be 50.0 ODP Tonnes or 909 MT of HCFC-22. Up to this date, the country has successfully met the phase-out requirements of the Montreal Protocol as indicated below:

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

More specifically, the HCFC consumption data reported to the Ozone Secretariat, in ODP Tonnes, is as follows:

2010	2011	2012	2013	2014	2015	2016	2017	Baseline
10	9.02	8.05	6.95	5.56	4.5	3.45	2.62	50

As can be seen from the above data, Belarus has had a steady phase out of HCFCs from 2010 to 2015 and onwards as a result of the initial capacity building support from the GEF and UNDP which produced this cumulative effect. There still is a demand for HCFC-22, which the new project will address by ensuring the phase-out is sustainable over mid- to longer term during the period up to 2030 with the completion of the servicing tail's demand.

Belarus is committed to the promotion of zero ODP low GWP energy efficient technologies in its quest to completely reduce its dependence on 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. Higher GWP technologies have been partially introduced since they dominated in the global market. The initial regional GEF financed and UNDP supported HCFC phase out project has been instrumental in building foundations for training and improving the skills of specialists to work with a number of HCFC-free technologies, and specifically with R-290 (propane) in split air-conditioning units. This knowledge, when supported further in the new program, will serve as a base for providing activities for the introduction of RAC units that operate on propane and other low GWP solutions.

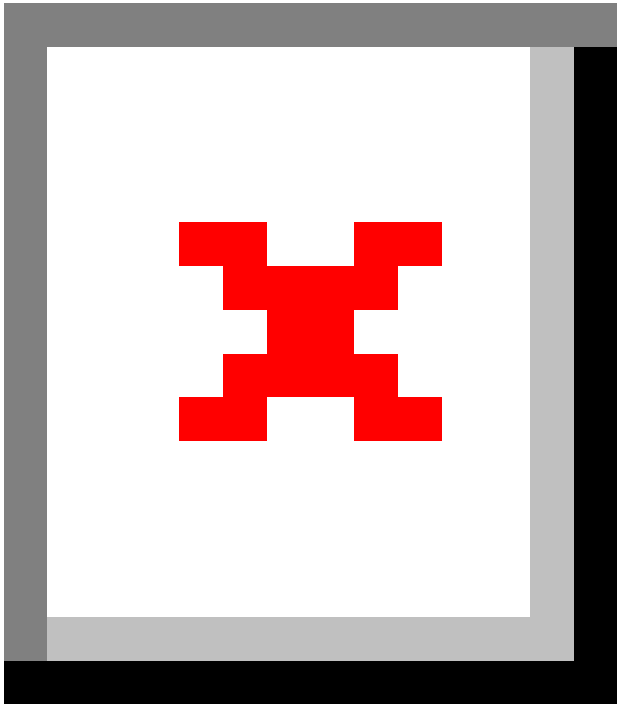
The initial GEF 4 project identified that the principle issue in achieving and sustaining compliance with the accelerated HCFC phase out in Belarus was the curtailment of the continued rapid growth in HCFC consumption, other non-article 5 countries in the region alike, particularly that associated with refrigeration servicing, and to start a long-term process of reversing it. This required immediate initial 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 investments in converting direct sources of consumption in the manufacturing sectors (PU foam and solvents) and initial strengthening of the refrigerants management infrastructure.

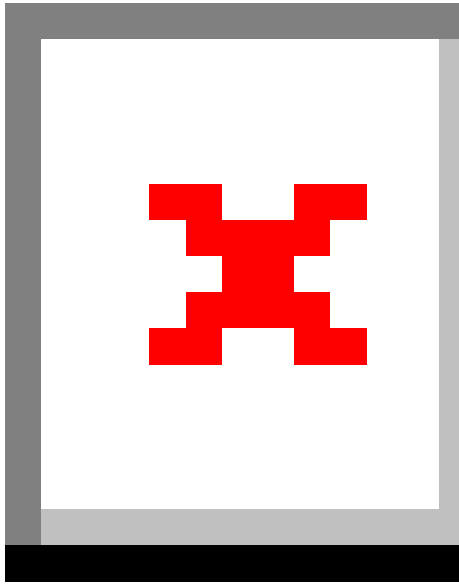
The first GEF-4 regional HCFC project, which had assisted Belarus in meeting its 2015 HCFC phase-out requirements through the stabilization and progressive reduction of HCFC consumption, was successfully completed in early 2017. This was achieved by the implementation of legislative and regulatory measures,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

Through the support of the initial project, the Government has instituted a ban on imports of any equipment which operates 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.

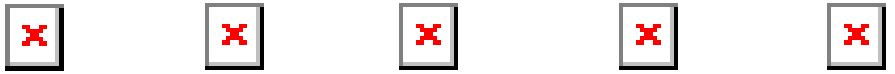
In the following and final HCFC phase-out stage, in order to achieve the 2020 commitment of 99.5% phase-out and leave sustained capacity to address the remaining servicing tail in the following decade, till 2030, several actions are needed which are described in Section III – Strategy below, and summarized in the Theory of Change.

THEORY OF CHANGE





UNDP Sustainable Development Goals



2) The baseline scenario or any associated baseline projects

Between 1993 and 1995, the Ministry of Natural Resources and Environment Protection of the Republic of Belarus (MEPNR) with the assistance of the Danish Government and the International Bank for Reconstruction and Development (IBRD) developed a National Program (Country Program) to end the use of ozone-depleting substances in Belarus, specifically in respect to the London Amendment and the Phase out of Annex A and B substances. This was formally adopted by Decree of the Cabinet of Ministers No. 115 in February 1996. It resulted in preparation of a GEF project entitled "Republic of Belarus: Ozone Depleting Phase Out Project" supported by a GEF project preparation grant and was approved by the GEF and IBRD for implementation in May 1997. This project, which involved US$6.9 million in GEF funding and US$7.9 million in national co-financing, was completed at the end of 2000.

The overall result of this project was the removal from use of more than 600 tons of CFC-11, CFC-12 and CFC-113 along with a significant improvement of the technological level and the competitiveness of manufactured products with introduction of the latest technological equipment. It also supported the establishment of the national regulatory and licensing system.

Belarus achieved the distinction of being the first country in the Former Soviet Union to meet its London Amendment obligations for Annex A and B ODS phase out and has generally been viewed as one of the most advanced countries in the region in addressing the ODS issue. Consistent with global practice, the replacement of CFC based technology occurred in part through the use of HCFCs.

A strategy document (HCFC phase-out strategy for Belarus) was developed in conjunction with the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (MNREP) and approved on 28 February 2013. The main objective of the strategy was to help ensure that the country be in respect of the obligations assumed under Decision XIX/6 of the Parties to the Montreal Protocol on the accelerated phase of HCFCs. It was prepared as part of a regional medium-sized Global Environmental Facility (GEF) project[1][1]

with UNDP/UNEP assistance, and forms the basis for an intervention[2][2] on continued capacity building of the country to implement the Montreal Protocol, and for investment support to strengthen national capabilities in dealing with HCFCs by:

§ Strengthening regulatory controls on HCFC consumption, limits and bans on import and licensed use of HCFC based equipment and products and enhanced regulation of refrigerant distribution and application practice;

§ Strengthening institutional and technical capacity through training of environmental enforcement, customs and refrigeration servicing personnel;

§ Elimination of HCFC consumption in the manufacturing sector with investment in conversion to non-ODS alternatives;

§ Upgrading technical capability in the refrigeration servicing sector with investment in refrigerant management equipment and infrastructure; and

§ Implementation of demonstration projects for low GWP refrigerants and application of incentives for HCFC equipment retrofit/replacement.

In August 2012, GEF Sec approved the implementation of this latter Project 4102 (Initial Implementation of Accelerated HCFC Phase Out in the CEIT Region), which aimed to ensure that Belarus met its Montreal Protocol obligation to reduce consumption to 10% of baseline by 2015 by supporting the above described phase out strategy. The project was extended and a number of work programmes were in that period finalized within the remit of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (MNREP).

That project consisted of two overall assistance components:

Component 1 -- an enabling activity, conceived as a regional strategy (regional component), that included four main sub-components:

§ Legislative and Policy Options for HCFC control and phase out;

§ Capacity Building for Enforcement of HCFC control measures by customs and environmental/technical inspection authorities;

§ Capacity Building for incorporation of Energy-Efficiency and GHG reduction elements; and

§ Support for the development of regional institutions, capacity, and cooperation.

Component 2 (HPMP, National Level Capacity Strengthening and HCFC Phase out Investment) involved a country specific programme to apply the above tools for:

§ Implementation of enhanced HCFC regulation/import control, enhanced licensing systems, and introduction of HCFC monitoring inclusive of working enforcement level training;

§ HCFC phase-out in PU foam/solvents, and training on strengthening of the operational refrigeration servicing sector (training, certification, RAC Association strengthening) including promotion of GHG reductions during servicing;

§ Provision of inputs and support for the national preparation and adoption of HCFC Phase out strategy and action plans; and an investment program.

Current Situation

The baseline project has achieved significant results and the HCFC consumption has been dramatically reduced through the combination of policy, legislative and technology-related interventions. The remaining challenge is to address the service sector with the remaining HCFC demand, without encouraging the adoption of high GWP solutions, and to improve control of the illegal ODSs. The officially submitted report on consumption of ODS in Belarus in 2015 was perceived to include underestimated numbers of actual consumption. The reasons for this situation are the high tax on import of ODSs to Belarus, which was 5 USD per kg, and the lack of effective Customs control at the former country borders within the Customs Union territory, where Belarus neighbors with the Russian Federation and where the goods now move freely under new economic integration rules. Since the repeal of the tax on import of ODS to country in 2016, the official import of ODS is likely to increase if no further national action is taken to control the situation there and at the end-use level.

Most recent estimates indicate that majority of the HCFC consumption is used for the service and maintenance of existing refrigeration and air-conditioning equipment. The reported data (4.5 ODP t) however did not fully represent the true consumption due to the open borders. Conservative estimates, based on interviews with service companies and technicians, would indicate that the volume of HCFC (primarily HCFC-22) required for maintaining the existing stock of equipment, and is in the order exceeding 81.8 MT or 4.5 ODP tons.

Given the bank of 549 tons of HCFCs in current equipment (see table below), the national-level efforts are required to maintain sustained compliance and ensure transition to new, low GWP technologies.

A review of the current status of HCFC consumption shows that:

§ There is a significant level of unofficial consumption of HCFCs, due in large part to movement of goods within the Eurasian Economic Free Trade zone.

§ There is little penetration of natural (CO2, hydrocarbons) and new HFO refrigerants as yet.

§ Although the use of ammonia has been widespread, though in very outdated, risk-prone technologies – over-regulation is resulting in reluctance of operators to install ammonia systems, and in fact some operators are actively replacing ammonia systems with HFC systems.

§ The majority of HCFCs are used across a very wide range of legacy systems and equipment, much of which is old and potentially inefficient, there are many old R22 units in shops, schools, canteens, dairy farms and cold stores.

An initial desk survey of the status of the RAC sector in Belarus indicates that there is a large number of different refrigeration and air conditioning systems running on HCFCs (mainly R-22) in operation in Belarus. HCFC-22 is most commonly found in low-power equipment, imported into the country since 2000.

Official import statistics indicate that from 2004 to 2009, the country imported 4,459 units of refrigeration equipment and 59,678 air conditioners with R-22 (more than 80 tons of R-22). During formal license checks of equipment owners, inappropriate equipment labelling was detected (for instance, equipment is designated for use with R-404a but is actually designed for R-22).

Approximately 24,000 air conditioners were produced in Belarus by Horizont company between 2006 to 2010 as well as refrigerated cabinets manufactured by Brimstone-Bel, and R-22 based commercial refrigeration systems were designed and assembled on site by local contractors. In addition to this, there are many second-hand milk coolers using R-22, which have been imported from Europe. And, a large amount of equipment manufactured before the year 2000 continues to operate, albeit with high service requirements.

In 2015, the Ministry of Environment conducted an inventory of refrigeration equipment containing more than 3 kg of ODS, and the survey covered 770 of the 62,000 registered enterprises and organizations, equivalent to 1.3% of the total number in the country. The equipment of these 770 companies was found to contain more than 30 tons of HCFCs. An inventory desk study has outlined the main consumption sub-sectors, and indicated HCFC banks in equipments as follows:

Application	Estimated Number	Total Charge (t)
Large storage for fruits and vegetables	312	62
Milk coolers	13,000	56
Milk coolers large	124	33
Trade - small and medium stores	35,500	168
Catering establishments	19,000	92
Meat and dairy industry	800	40
Communications (data centres, base stations etc)	14,800	23
Air -conditioners	95,000	75
Total		**549**

It is clear that the final phase out of HCFCs could have significant social and economic impact on small and medium sized enterprises and some public institutions, and this will particularly impact rural communities and put at risk the integrity of the cold chain, which could have public health implications.

Further support will be required to maintain and increase the control over the movements of undeclared ODS shipments. This is highlighted by a recent case, where the Belorussian Customs officers seized 20 MT of ozone-depleting substances. The shipment documents indicated that the chemicals were not from the ozone depleting group but the analysis showed HCFC-141b and CFC-113 in the packaging. Both chemicals are controlled under the Montreal Protocol. Import of CFC-113 into the Eurasian Economic Union is banned and import of HCFC-141b is restricted and subject to licensing. The Minsk (central) customs office initiated a criminal case on the grounds of an offense under Part. 1, Art. 228 of the Criminal Code of the Republic of Belarus (moving in a large amount of goods prohibited or restricted for such movement).

And, although the baseline project has provided training for technicians in service practice, which has helped to reduce leakage in newer systems and improve overall awareness of refrigerant handling requirements, there is a lack of technical capacity in designing, operating and servicing new generation systems using natural, low-GWP refrigerants, which are expected to replace HCFC use in some important applications as well as to avoid high GWP solutions to the extent technically possible.

3) The proposed alternative scenario, GEF focal area[3][3] **strategies, with a brief description of expected outcomes and components of the project**

The proposed project will build on the experience and knowledge gained from the initial GEF financed and UNDP implemented regional project. It has been designed to assist Belarus 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 by 2030 or earlier.

The project consists of four (4) central components all aimed at facilitating the complete phase out of HCFCs in Belarus. Component 1 includes an ODS Alternatives survey; strengthening and implementation of national legislation to accelerate HCFC phase out; strengthening the capacity of Customs and environmental authorities to control the import / export of HCFCs; promoting the development of standards for natural refrigerants; and capacity building for the RAC sector by training technicians and re-qualifying technicians in the use of zero ODP/low GWP refrigerants. Component 2 contains activities to strengthen the HCFC re-use system, carry out a scaled-up initiative on HCFC replacement demonstration projects in various economic sectors; and improve educational and training institutions. Component 3 addresses Public Awareness and Gender Mainstreaming; while Component 4 deals with Project Monitoring and Evaluation.

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

Component 1: Removal of regulatory and technical barriers to the final phase-out of HCFCs and adoption of low GWP technology

Outcome 1.1: Overview of ODS alternatives to determine national consumption and use.

A review of ODS alternatives will determine the consumption and use of existing HCFC alternatives, which include a number of non-ODS options. The data will help the government to understand, in particular, trends in the import and use of new technologies, including natural refrigerants, such as carbon dioxide, ammonia, hydrocarbons and non ODS synthetic

gases, other technologies, such as water-absorption, natural refrigeration and heat pumps. This information will provide important data for planning to complete the HCFC phase-out processes and determining prospective HCFC replacement technologies, including not-in-kind approaches.

Output 1.1.1: ODS Alternatives survey completed.

Outcome 1.2: Strengthening the capacity of State Customs Service to control the import / export of ODS and equipment containing them.

The previously completed GEF-HCFC program helped the State Customs Service build its initial national capacity to support the implementation of the HCFC control system in the country. Their collaboration with MNREP has led to a more efficient exchange of information on the import of HCFCs and cases of illegal trade. For example, there was export of CFC-13 and HCFC-141b totaling 20 MT to Belarus in 2016 which was intercepted at the Belarus border. However, some capacity gaps remain, and the current program proposes to continue to provide support to the State Customs Service in the area of modern knowledge in this field and to share regional experience in controlling ODS imports / exports and ODS alternatives. With regard to physical control capabilities, the Institute for Advanced Training of Customs Officers has already received a laboratory equipment from the previous project. However, they have requested to be equipped with means for drawing samples from large refrigerant tanks in the field and transporting them to the laboratory for analyzing, and HCFC-standards for calibrating the measurement equipment that the previous project could not provide due to budget constraints. This equipment will be used to control imported HCFC products. With this final round of support, the project is expected to ensure the sustainability of further training for regular and new Customs officers beyond the project timeline, and it is planned that about 300 Customs field staff will participate in this training during the project, as well as more staff will be trained after the project will be closed, on a more permanent basis. To achieve these goals, a number of the following outputs were developed.

Output 1.2.1: The State Customs Service participates in existing networks in terms of ODS import / export control, and other necessary bilateral visits.

Output 1.2.2: Improve the capacity of the Customs Laboratory with refrigerant sampling equipment and HCFC-standards for calibrating the GC-MS for strengthening control over the movement of HCFCs across the customs border of the Republic of Belarus.

Output 1.2.3: Close cooperation with the Institute for Advanced Studies of Customs Officers by improving training equipment and materials to facilitate the continuous training of regular and new customs officials - 300 people.

Outcome 1.3: National Strategy for HCFC Phase-out, legislative acts regulating the use of HCFCs and alternatives to HCFCs, as well as control over import / export and use of HCFCs in the service sector are revised by adapting the experience of the expanded legislation from the EU and other countries.

The national strategy for the phase-out of HCFCs in the Republic of Belarus needs to be refined to meet the most difficult, final stage of decommissioning of HCFCs and working with other, ODS-free, refrigerants after 2020. This is the most critical time when the sustained HCFC phase-out can be operationalized and that is set to be achieved by the currently proposed program.

Despite the fact that the country has adopted a wide range of legislation to ensure effective control over the import and use of HCFCs, Belarusian legislation / regulation that defines standards for the collection, storage, transportation and disposal of ODS requires further strengthening and approximation to EU standards. It is proposed to support the continued participation of key stakeholders from the government and the private sector in sharing experiences at regional network conferences / forums organized either with the help of the UNEnvironment Regional Network or bilateral support, as well as conducting study tours to the EU and other countries to be able to acquire new knowledge and, then, modify existing or develop additional legal amendments to national legislation regarding the elimination of HCFCs from currently known uses. There is also no provision on the procedure and conditions for dismantling and removal / destruction of equipment containing ODS (CFCs and HCFCs) and this must be formulated. In addition, it is necessary to review and strengthen the registration procedures for refrigeration equipment containing 3 or more kg of HCFC-22, including a record of maintenance, recharge of refrigerant etc. accessible remotely.

Output 1.3.1: Draft updated Strategy / Regulations prepared and submitted to the government for approval and subsequent implementation.

Output 1.3.2: Exchange of experience through study tours and / or regional conferences involving countries with best practices in this field and participation in regional network meetings.

Output 1.3.3: A system for online registration of equipment with 3 or more kg of HCFC-22 including a record of maintenance, recharge of refrigerant etc. accessible remotely is prepared and implemented.

Outcome 1.4: Review of national safety standards and draft standards to support the introduction of low-GWP and non-HCFC technologies.

Current business practices related to the maintenance and repair of RAC equipment are usually based on HCFC and HFC technologies, with the exception of the minimal use of some natural refrigerants in the country from the times of the former Soviet Union (fSU). In this regard, any authoritative plan for the introduction and further expansion of the use of HCFC substitutes should be built on the ability of national refrigeration experts to process innovations efficiently and safely. Currently, Belarus lacks modern standards for the safe handling, storage and use of the new group of low-GWP natural refrigerants associated with carbon dioxide, hydrocarbons and others, with the exception of now obsolete, fSU based ammonia standards which over-regulated this area given the sizes of ammonia charges of the past: 20 tons and higher, representing high risks to safety. From this perspective, the project proposes to assist the State Committee on Standardization, Metrology, and Certification of the Republic of Belarus (Gosstandart) in developing the necessary standards / technical regulations for the new refrigerants.

This process will be aimed at changing the regulation of ammonia technology in Belarus, given new developments with much reduced ammonia charges, and the development of new proposals for standards in accordance with current European standards. The purpose of this is to stimulate the use of ammonia-based systems more widely, creating a regulatory regime that meets all safety requirements, but without the excessive legal and financial burden imposed by the current system. Indeed, the use of ammonia is currently declining in Belarus due to the excessive burden imposed on operators, while globally the adoption of ammonia is being encouraged as a proven alternative to HCFCs, and there are opportunities to revert the trend.

The current legislation regarding the use of ammonia in refrigeration and other industrial applications is within the competence of the Ministry of Emergency Situations. Although it can be effective in terms of emergency response, the rules do not take into account the most recent changes in refrigeration and air conditioning technology, nor do they allow for easier levels of control over small systems. The Ministry of the Environment conducted a preliminary consultation with interested parties and the Association of the refrigeration industry and, with the support of this project, will start working with the Ministry of Emergency Situations in revising the current prohibitive regulations. This will take the form of a knowledge based on existing standards applied in the Eurasian Economic Community (to the east), of which the country is a part of, and the EU (to the west), which the country aims at in terms of new innovative developments.

The expected result will be a revised set of rules governing the use of ammonia as a refrigerant, which meets European standards and does not create obstacles for its adoption as an alternative to HCFCs and, in future to HFCs, and, consequently, leads to a wider use of ammonia-based cooling technology in the country.

In addition, standards-related documentation will be prepared for other low GWP natural refrigerants following appropriate consultation with interested parties in order to ensure high-quality rules for review and adoption by the government. This approach will help build the initial national capacity for refrigerant safety standards and will be supported by the implementation of the following output. It should be noted that this work is closely associated with the scaled-up resource mobilization for HCFC technology substitutions discussed later in the project documentation (Component 2).

Output 1.4.1: National legislative review of safety standards for the introduction of low-GWP and non-HCFC technologies prepared, and draft new regulatory and technical regulations for the safe handling, storage and use of natural refrigerants in accordance with international standards based on EN 378 developed for public consultation and adoption

Outcome 1.5: The infrastructure of the service sector is further strengthened through updated curricula and a national certification system for professionals, as well as strengthening the potential and capabilities of refrigeration and air-conditioning specialists in the maintenance and repair of equipment, including new and alternative technologies.

The Association of Microclimate and Cold Industry Enterprises (APIMH) is active in Belarus and unites private sector firms and other organizations working in this field around introduction and implementation of best industry-wide standards of work in the RAC industry.

It supports the industry in conducting short-term training for engineers and refrigeration technicians (RAC). When implementing the previous, initial capacity building program, it became apparent that short-term training (especially field seminars) was a useful approach to filling knowledge gaps for the national association's members, while in-depth practical training and provision of modern diagnostic equipment and instruments for a limited number of trainers are both extremely important for strengthening knowledge base in Belarus. Therefore, it is proposed to provide a longer-term training for at least 3 highly qualified engineers / technicians and RAC experts in educational institutions abroad, and subsequently develop a national training program and a manual for training a wider range of national specialists in RAC technologies with zero ODP and low GWP effects that have good potential to replace HCFCs, with special emphasis on emerging natural solutions . Such a deeper approach to training the trainers has a significant potential to strengthen the ability of the RAC Association to spread this knowledge further to technicians working in the provinces of the country, or, in other words, to the areas where the modern knowledge usually takes long to reach.

The draft National Standard for the safe handling, storage and use of natural refrigerants based on EN 378 (described in Output 1.4.1) will also provide the legislative mechanisms for mandatory retraining and certification of technicians. New curricula and training manuals will be developed for training organizations that cover the latest generation of refrigerants; operational issues, system design and safe handling; and leakage prevention and control, with the main challenge being to remove technical barriers to the specification, selection or operation of new low GWP systems with low ODP.

The training will focus on the use of R717 (ammonia), R-32, R-290 (propane) and new hydrofluorinated olefins (HFO) such as R1234ze. The use of these substances creates new challenges, as many of the replacement gases are toxic and / or flammable, and some operate at higher pressures. This activity will take into account the latest technical developments in the design of refrigeration and air conditioning systems, international norms and safety standards and case studies. Reports, articles and official documents from governments, NGOs, manufacturers and technical experts will help to develop a special training and education program for Belarus. The national curriculum will be adapted to ensure safe handling and application of such HCFC-free alternative technologies.

A national certification program for refrigeration and air-conditioning specialists will be developed and implemented. This is a generally accepted approach to setting and maintaining operating and safety standards in the refrigeration and air conditioning industry. Using knowledge gained from studying abroad, a series of 5-day training and continuing education courses will support more than 420 RAC specialists in getting modern RAC related knowledge. Training will include the theory and practice of emerging technologies using zero-ODP and low-GWP refrigerants, including natural refrigerants. Training for technicians in Vitebsk, Gomel, Brest and Grodno regions will be carried out through the use of a mobile training center.

In addition, regional networking capabilities are supported by funding from UNEnvironment's Regional Network and other initiatives (Shecco, RAC technology Expos, etc.). Participation in such conferences, attended by international RAC industry and GEF/MLF implementing agencies active in the region, turned out to be important for obtaining

technical information regarding new technologies and their operation. This professional level expertise on the introduction of modern energy efficient technologies with zero ODP and low GWP in other countries will allow technical staff to improve their knowledge and operational characteristics in local climatic conditions and help to interact with other specialists in order to encourage regional / global information exchange. This approach will accelerate the transfer of such knowledge to a wider range of RAC technical specialists deployed in Belarus and result in the gradual removal of technical barriers to the introduction of low-GWP technology and the improvement of the technical capacity to manage the final HCFC removal process in the servicing sector.

Output 1.5.1: A group of qualified engineers / technicians receive training abroad in the maintenance and repair of refrigeration and air-conditioning equipment with zero ODP/low GWP technologies. They will assist in developing a program and training manual for training a wider range of national specialists in zero ODP/low GWP technologies.

Output 1.5.2: Develop and prepare for the implementation of the national certification system.

Output 1.5.3: Assistance given for technical staff to participate in meetings and conferences, international exhibitions related to energy efficient technologies with zero ODP and low GWP.

Component 2: Facilitation of complete HCFC phase-out in Belarus by strengthening the HCFC reuse system, creating conditions for the storage of ODS waste; implementation of HCFC replacement demonstration projects; and improving educational institutions.

Outcome 2.1: Strengthening of HCFC reuse system.

The national HCFC reuse system (recovery/recycle/reuse) has allowed for more efficient recovery of HCFCs in the country and, therefore, assisted to reduce dependence on their import gradually. During the previous UNDP-GEF HCFC phase-out regional project, four HCFC recycling centers were established for HCFC-22 recycling and reuse. While the last group of centers was in the process of being built, modern R / R / R machines and other widely used service tools were introduced, and the centers were put into operation. These centers, located in Minsk (2) and two regional centers, require only advanced refrigerant identifiers and additional tools but do not cover remote areas of the country in their activities.

In order to further support the current infrastructure and allow for HCFC based equipment to be used until the end of life or until economically feasible, the project will provide auxiliary equipment necessary to ensure a safe transition away from HCFCs, including modern refrigerant identifiers and test and control stations for checking performance of service cylinders, or cylinders used for storage and processing of refrigerants, as well as the creation of a substitute fleet of service cylinders when others are undergoing testing or repairs. This will complement the legislation to ban single use cylinders and promote more successful application of a re-usable cylinder scheme as these tanks tend to lose originally set operating standards over time, and therefore may go out of order sooner.

The previous project had equipped larger service companies and some field technicians with equipment and tools. In order to fill in the servicing capability gaps remaining, the current project will plan to equip the remaining 15 – 18 service companies and other field technicians with sets of standard R&R&R equipment and tools, since they were unable to access such support in the original project which had occured due to budget constraints.

As part of the implementation of the first phase of the project and efforts to strengthen the HCFC re-use system, a laboratory was established to ensure the control over quality of recovered/recycled HCFCs at the Belarusian National Technological University. The equipment of this laboratory allows determining the volumetric content of HCFCs. However, the laboratory lacks certified standard samples of individual representative HCFC gases; insufficient equipment for determining such standard indicators as mass fraction of non-volatile residue, acidity, volume fraction of impurities, mass fraction of water in refrigerants etc. It is necessary to equip the laboratory with these and any other equipment that will be required for certification of the recycled HCFCs in accordance with the requirements of the national standards. Such support will complete the preparedness of the national HCFC re-use scheme to operate more efficiently and improve trust of service companies in the recycled or reclaimed HCFC material in comparison to the newly produced and imported HCFC substances.

ODS waste continues to be a matter of concern for MNREP, specifically as the previously planned ODS destruction technology was not possible to procure any longer due to stopage of its manufacturing. The waste continues to accumulate in Belarus in the HCFC recycling centers created by the first project. These are the contaminated refrigerants originating from the service sector as a result of poor maintenance and use of disposable cylinders. MNREP would like to consolidate them in certain accessible places (at least 2) until any decision is taken to destroy them. To this purpose, a project is proposed to assist in the creation of specialized storage facilities, which must be identified during project implementation, for the proper storage of all waste refrigerants currently known, and future stocks. Preliminary consultations identified one of the hazardous pesticides landfills as a suitable site located 270 km from the capital (Chechersk), which is planned to be equipped with POPs (chlorinated substances) destruction equipment by a parallel regional program supported by the GEF.

Output 2.1.1: Strengthening the 4 recycling centers to support the HCFC reuse system with advanced refrigerant identifiers, collection stations and refrigerant transfer systems, additional cylinders and tanks for collecting and storing HCFCs, as well as Test station at one location to test reusable cylinders used for storing and processing HCFC refrigerants, and have a replacement pool of service cylinders

Output 2.1.2: Supply 15 – 18 sets of tools and portable recovery devices for the remaining service companies and field technicians to complete support for the national refrigerant management program and complement existing tools at R & R centers.

Output 2.1.3: Storage facilities at 2 locations upgraded to store ODS waste until the government has created the conditions (capacity) for destruction.

Output 2.1.4: The capacity of the control center for the composition of recycled and recovered refrigerants at the Belarusian National Technical University has been expanded; by providing necessary equipment to do quantitative and qualitative analysis of refrigerants to enable certification of recycled refrigerants in accordance with the requirements of the legislation.

Outcome 2.2: Demonstration of the applicability and replication of cooling technologies using air, CO2, HC in medium and large refrigeration units, as well as small ammonia refrigeration systems with small charge.

Low-GWP, non-HCFC technologies demonstrate a very slow rate of appearance in the Republic of Belarus, and this project proposal has been designed to address such situation, which is a common place development in the CEITs, and involves using the experience of other countries in the region to accelerate the introduction, installation and practical use of such technologies in the private sector and public sectors. Demonstrating these technologies in terms of their innovative performance and prospective savings in operating costs will increase awareness about their benefits in the country. In addition, the level of service support, along with the introduction of new safety of operation's standards, will be improved gradually to propel the further spread of such technologies in the local market.

That set of zero ODP/low GWP refrigeration technologies under consideration, for different applications, includes Free Cooling, Carbon Dioxide, Ammonia and Propane.

Free Cooling: The principle of direct air cooling is based on the supply of filtered, outside air of low temperatures to the process room in the volume necessary for absorbing heat generated by the operating equipment and removing the exhaust air in the same volume. Its implementation will significantly (at times) reduce energy consumption for cooling facilities and achieve a large environmental effect in several ways. Firstly, the generation of heat energy resulting from the production and use of electricity is reduced. Secondly, emissions of HCFCs during frequent breakdowns and associated CO2 that have a greenhouse effect are reduced. Thirdly, the environmental pollution by electromagnetic radiation of various frequencies is significantly minimized, as the need of amount of electricity and its transmission to consumers is reduced.

A significant number of air conditioners with HCFC-22 based split-system technology belong to various cellular communication operators and are used by cellular communication operators to control the temperature at their switches and switchboards, and retransmitting stations. The equipment currently used by these enterprises is, in most cases, based on HCFC-22.

All the equipment used by cellular network operators is more intensively used during the day, compared to home-installed split air conditioning systems. In particular, household split air conditioners are used at most for 2-5 hours per day, while split air conditioning systems located in the switchboard / relay station are used 18-22 hours per day. This is necessary in order to keep the internal operating temperature for sensitive communications equipment at the required level of + 19-24 C, cooling at the prevailing high temperature conditions (spring, summer, autumn), and heating at the prevailing low temperatures (winter). Intensive use of equipment leads to rapid development of the resource and more frequent breakdowns in air conditioning systems throughout the year. According to the estimates of the service company, air-conditioning equipment operated in harsh conditions usually fails

once or twice a quarter with prevailing high temperature conditions (in summer) and less often at low temperatures in winter. When working in winter conditions, the main cause of breakdowns is the hard mode of switching on the compressor, whilst the common reason of breakdowns being the frequent power cuts in some regions of the country.

Due to the large number of repairs to air conditioning equipment, the cellular companies, feeling the need to reduce operating costs and improve competitiveness, began to look for various solutions to this problem. An attempt to reduce the operational repair of air conditioning systems was undertaken at a distribution board by one of the service centers in cooperation with one cellular operator in Belarus. The work is mainly focused on switchboards located in Minsk and consists in introducing natural cooling systems assembled in the country, which begin to work when the external temperature rises above 22°C (spring, autumn, the beginning / end of summer in the early morning in the evening and at night). The equipment has been recently installed and it is too early to evaluate the systems.

During the implementation of the project proposals, the concept of natural cooling at the relay stations will be tested. Two companies providing communication services - BelPochta RUE and Beltelecom RUE -, have agreed to provide several facilities to demonstrate the concept of natural cooling. These two companies will provide already installed or planned facilities with cellular communications equipment that are cooled by HCFC-22 based A/C systems. The equipment monitoring system of the companies, and the staff responsible for the maintenance of the base / relay stations, will ensure the collection of data on the operational characteristics of the technological solution and the frequency of breakdowns of air conditioning equipment. To be able to control, analyze the work and parameters of the equipment, the project will provide for the installation of a remote monitoring system that will provide a reliable and positive basis for the information platform of the project.

Through this component, natural cooling technologies in the air-conditioning sector will be demonstrated, with the aim of reducing the number of breakdowns, respectively, of repair work at relay stations and towers for cellular operators.

GEF funding under this component will provide for the purchase of equipment for the demonstration of natural cooling technologies and support for the implementation of demonstration projects with the assistance of national and international experts. A regional workshop on the dissemination of project results will also be funded by the GEF.

National co-financing includes the commitment of the participation of cellular companies (BelPochta RUE and Beltelecom RUE), by providing sites for pilot projects, current and future investments in existing and planned telecommunication centers and sites, including engineering works, to adapt sites for technological improvements. In addition, companies will appoint those responsible within their technical staff to monitor the performance of new technologies, and manage the operating costs associated with areas where technological upgrading or optimization is required. The participating companies also pledged to disseminate positive results through their information channels.

Demonstration of CO2 cooling technologies: Belarus lacks experience in using CO2 cooling technologies, and effective use of this refrigerant depends on the climatic features of the region and the required cooling capacity. This component will study practical examples and implement demonstration projects that will show designers, consultants and operators,

new efficient technical solutions using zero ODP/low-GWP refrigerants in various applications and will further promote their use. The project will consider the demonstration of systems using CO2 / NH3 cascade and / or CO2 only in medium and large installations, for example, in supermarkets.

CO2 / NH3 technologies consist of a system that uses CO2 as refrigerant for all low temperature modules and freezers in a store, an ethylene glycol circulation section to cool all medium / high temperature systems in a store and a CO2 component, and an ammonia cooling system for ethylene glycol circulation. As a side effect, CO2 / NH3 technologies also typically provide energy savings of 30–50% of a typical installation.

Systems operating exclusively on CO2 usually consist of one or two two-stage modules that use CO2, which supply CO2 to all low and medium temperature systems in the store. The carbon dioxide system can be placed in the technical room at ground or roof level and connected either to a tower cooler or to an air-cooled gas cooling unit that is at the level of the roof or evaporator cover. In most cases, the installation also includes a booster installation, which is installed on the roof and uses a small amount of either R290 (propane) or other refrigerants. Systems exclusively using CO2 usually provide energy savings of 10–30% compared with conventional installations, depending on the design and location.

Both CO2 / NH3 and CO2-only systems are expected to be much more energy efficient than conventional air-cooled systems that use HCFC-22 or 404a refrigerants. A CO2 / NH3 system with evaporative condensers is likely to provide annual energy savings of 30–50%, while a system that uses only CO2 as a refrigerant and with water cooling of the gas cooler provides energy savings of 20–30%. An air-cooled system powered by CO2 will provide energy savings of 10–30% compared to a traditional air-cooled technology. It depends on the store profile, location and other variables. Both CO2 / NH3 and CO2-only installations are fully environmentally friendly solutions when using backup or booster installations on the R290 (propane).

The result of the component will be a demonstration of the applicability and possibilities of further use of refrigeration systems using CO2 at the production enterprise of Kalinkovichi Meat Processing Plant OJSC and in the sector of commercial refrigeration equipment of an average retail outlet, a convenience store Santa Retail LLC.

This project is based on the results of the previous baseline project and continues the work begun before to ensure the gradual and complete removal of HCFCs from circulation based on the additional steps described above. Some of the activities in this project are the contributing factors, which in themselves are complementary, and specifically designed to develop the institutional and technical capacity that will not only allow the country to singificantly reduce HCFCs from circulation, but will also contribute to the development of the capacity that will be needed to slow down the build-up of high GWP technologies.

Investments in the new technologies are of strategic character, as they are intended to complete the transition to the use of refrigerants that do not destroy the ozone layer, which was largely provided by technologies using HCFCs. The use of credit lines to stimulate the replacement of old, expensive to maintain HCFC based equipment, is considered the most effective way of using otherwise limited funds to complete the final and, at the same time, the most complex and diverse stage of ODS removal from circulation.

The project is designed to help the country continue its accelerated path to full decommissioning of HCFC technology and implementation of all phases of its obligations on the HCFC phase-out (2016-2020), as well as to prepare for the actual elimination of supplies of equipment running on old (HCFC) refrigerants after 2020. The work carried out has made it possible to ensure the current level of compliance, and it is necessary to work further to counter the ever-present risk of illegal imports of refrigerants in the most critical time of compliance: 2020 - 2030. In addition, the containment of HCFC imports at a very low level at the very end of the phase of the complete removal of HCFCs from circulation requires a serious effort from stakeholder organizations and additional technical support from the GEF.

At the implementation stage, the issue of ensuring the sustainability of project activities will also be addressed, including by ensuring the country's commitment to implementing the necessary strategies and maintaining the capacity and mechanism established by the project.

The project will also bring a number of socio-economic benefits at the national level, in particular through improving energy efficiency at the operator level, reducing GHG emissions, promoting avoidance of high GWP technologies and improving / ensuring the integrity of the cold chain throughout the country, and especially in rural areas, where preparation, transportation and storage of chilled and frozen products is an important condition for maintaining public health.

This project offers an innovative and viable approach to the complex transition from the baseline scenario to the results of previous and current initiatives and allows taking advantage of the most recent changes in environmental policy.

Applicability and replication of technology using natural refrigerants (HC), zero ODP refrigerants with low GWP and small ammonia refrigeration systems in industrial installations: Belarus has implemented successful solutions based on refrigeration using natural refrigerants propane and ammonia, which reduce dependence on the used HCFC-22 equipment for air conditioning applications. These refrigerants are very effective, but their widespread use is hampered by legal restrictions on filling volumes and excessive prejudice of a high risk associated with their use. Thanks to the demonstration projects implemented at the first stage of the project in Belarus, a good technical base was established for training specialists to work with domestic air conditioners designed on propane (R-290), and the necessary conditions were created for the process of using household appliances and small commercial refrigeration equipment (with filling up to 150 grams) on propane.

The implementation within the previous project of a small charge ammonia chiller for the air-conditioning system of an office building allowed to attract attention of business entities, increase their awareness of the return of ammonia cooling technologies in the country, and demonstrated the possibility of low charge of ammonia in refrigeration systems as compared to the past.

The most promising sectors for the replication and distribution of technologies for natural refrigerants (ammonia R717 and propane R290) are the agricultural enterprises and trade enterprises in small towns and in rural areas. Since these industries today have the greatest potential of equipment operating on HCFCs and are represented in all regions of the

country, the implementation of several demonstration projects there will provide a holistic and integrated approach to the removal of HCFCs on a more sustained basis and as an industry wide standard.

The largest users of HCFC-22 based refrigeration in agriculture are milk coolers installed in dairy farms, and other refrigeration equipment designed for cooling, processing and storing agricultural products - milk and meat, and fruits and vegetables. A major issue in this sector is the outdated equipment and technology, which influences the current situation in the mass use of facilities operating on HCFCs. Since the working life of existing refrigeration equipment is expiring, the mentioned modern technologies, implemented within the new project, will serve as a good model for further use and will allow finally removing HCFCs from widespread applications.

In this respect, demonstration projects to replace HCFC based refrigeration equipment with equipment operating on natural refrigerants and zero ODP/low GWP refrigerants, such as ammonia, will be carried out at medium-sized facilities, intended for storage and processing of agricultural products and food. The choice of recipients will be based on priorities based on a number of factors, including: a) equipment size (cooling capacity); b) no or low GWP impact of newly proposed technology; c) financial stability and provision of co-financing and d) energy efficiency potential which triggers further investments from the private sector.

To ensure a balanced approach, in addition, installation, start-up and maintenance of equipment based on refrigerants (non-HCFC) will be completed at a number of public (social) sector facilities (orphanages, boarding schools, nursing homes and other specialized institutions) and small and medium enterprises (SMEs).

Eventually, the project will demonstrate:

- Use of R-290 (propane) to replace HCFC-22 based milk coolers at 2-4 agricultural enterprises, and at industrial enterprises in various regions of the country with the selection of participants on a competitive basis during the process of project implementation.

- 4-6 sets of medium and low temperature equipment and medium-sized cold rooms, using HCFCs, for storing food products, food blocks of large medical institutions and other social facilities will be replaced with new technologies operating with zero ODP/low GWP refrigerants such as ammonia.

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- 10-20 sets of medium and small air-conditioning equipment using new technologies for the social and public sectors.

As part of the equipment supply, training commitments and the appropriate level of service support will be met, the performance of the installed equipment will be monitored and a comprehensive register of cooling technologies with a high level of GWP will be prepared based on the work done.

Output 2.2.1: Demonstration projects on cooling with the use of hydrocarbons and natural cooling in the air conditioning sector implemented at cellular communication stations, data processing centers and server buildings in various climatic regions of Belarus.

Output 2.2.2: Demonstration of the benefits of CO2 cooling technologies at an industrial refrigeration unit (possibly a meat processing plant) and in commercial refrigeration equipment at a retail outlet.

Output 2.2.3: Demonstration of the benefits of CO2 refrigeration technologies at a convenience store Santa Retail LLC (commercial refrigeration equipment).

Output 2.2.4: Demonstration of the benefits of ammonia cooling technology in industrial equipment - a small ammonia industrial plant used in the processing of products or for cold storage.

Output 2.2.5: Demonstration of the benefits of hydrocarbon refrigeration technologies in industrial equipment - small propane industrial refrigeration units introduced at agricultural production facilities.

Output 2.2.6: Taking into account the results of implementation of demonstration projects of applicability and replication of air cooling technologies, refrigeration systems on natural and non-ODS/low GWP refrigerant, a comprehensive register of cooling technologies with low GWP level will be prepared, transferred to public administration bodies and distributed to those interested.

Outcome 2.3: Technical training institutions and the RAC-Association APIMH are upgraded and equipped with technical equipment, including heat pumps, and are providing mobile training and recovery / recycling in the areas.

Modern approaches to the training of RAC technicians require the adoption of the necessary training tools that accelerate the transfer of knowledge from trainers to trainees. When introducing innovative energy efficient technologies with zero ODP/low GWP refrigerants, it is necessary to equip educational institutions with appropriate training equipment, such as training stands, heat pumps and RAC equipment for natural refrigerants, and to demonstrate their practical application and safe operations in order to bring the qualification of RAC technicians to a higher level and compare this knowledge with international criteria and technological developments.

In addition to the association, which plays an important role in supporting the training of engineers and technical specialists of RAC, the project will support selected service companies and professional educational institutions / centers with such advanced training equipment to improve the quality of training in the whole country. This will take the form of careful selection during project implementation.

Currently in the Republic of Belarus, there is not much use of heat pumps. The main reason for this is an insufficient differential between the cost of heat and electricity. With the inevitable increase in the cost of fossil fuel for heat, and lowering of the cost of electrical energy due to the commissioning of the non-fossil fuel based power plants, the necessary prerequisites for the mass application of heat pumps of various kinds should be created.

The most promising technologies may be heat pumps of the vapor compression and absorption principle of the air-air or water-air actions. Of particular interest are thermal vapor compression pumps operating on natural refrigerating agents (hydrocarbons, carbon dioxide). As a source of low-grade heat, both natural heat and heat from the technological processes of enterprises, and the commercial and residential sectors can be used.

The project will demonstrate the feasibility of using heat pumps in schools that train refrigeration specialists, which will demonstrate the effectiveness of the equipment, use it to train technicians and simultaneously study the operating parameters, check the feasibility of using heat pumps from a technical and economic aspect. The introduction of heat pumps will be accompanied by in-depth training of technical specialists on the installation and service rules for this kind of refrigeration systems. For this purpose, educational institutions that train refrigeration specialists will be provided with working samples of several types of heat pumps, at which techniques and procedures for their technical operation will be developed.

In addition, the Association will use a fully equipped mobile training, recovery and reprocessing and control installation (with a basic minibus) for training and re-qualification of technicians in remote areas who cannot attend training programs conducted in Minsk or other centrally or regionally identified training centers. The mobile facility will also be used for recycling / recycling refrigerants and monitoring these activities in these remote areas.

The training equipment (4 sets) will be purchased by the project and will consist of electronic boards, sets of computer equipment (laptops, printers / scanners with the required connections), training stands, equipment for heat pumps and service tools. The recipients of the equipment will provide training facilities, lecturers and undertake to ensure the sustainability of such training beyond the project time frame.

Output 2.3.1: Provide training equipment for natural refrigerants (including heat pumps) for educational institutions and for mobile recovery / recycling and monitoring, created for training technical specialists, as well as for conducting and monitoring recovery / recycling in remote areas.

Outcome 2.4: National scheme to encourage the gradual replacement of HCFC-based equipment using low-GWP technology and energy efficiency

The practical implementation of the demonstration measures of the HCFC decommissioning and replacement project(s) will be carried out with the direct participation of the Development Bank of the Republic of Belarus, which will provide an opportunity for applicants - medium and small businesses - to use concessional financing for the implementation of activities within the project.

Joint-stock company "Development Bank of the Republic of Belarus" is a specialized financial institution established in accordance with Decree of the President of the Republic of Belarus of June 21, 2011 № 261. The founders of the Bank are the Council of Ministers and the National Bank of the Republic of Belarus. The Development Bank was established as a legal entity and is not a classic credit and financial institution in the traditional sense of the term.

The creation of the Development Bank was carried out in close cooperation with leading international financial organizations, in particular, with the International Monetary Fund and the World Bank, and is based on an analysis of the international practice of similar institutions.

The main goal of the Development Bank's development activity is to develop a system for financing state programs and implementing socially important investment projects.

Development Bank has three main tasks:

1. financing long-term and capital-intensive investment projects in the framework of the implementation of government programs and activities;
2. support for small and medium-sized businesses through the provision of special credit products through an affiliate network;
3. providing preferential export loans to support domestic exporters.

The activities of the Development Bank are comprehensively regulated by a special regulatory legal act having the force of law, by Decree No. 261. The National Bank of the Republic of Belarus supervises the activities of the Development Bank.

To achieve the goal and objectives of its activities, Development Bank was granted the right to carry out certain active and passive operations that are typical of commercial banks (lending, raising budget funds in deposits, placing funds in the market, opening accounts, conducting settlements, foreign exchange transactions), but without the National Bank’s license to conduct those activities.

In August 2014, a fundamentally new program of financial support for small and medium-sized businesses (SMBs), initiated and developed by the Development Bank, started its activities in the country. Its main goal is to ensure and expand access of SMBs to credit resources, as well as opportunities for conducting financial lease (leasing) operations for investment projects at various stages of their business development. The main tool of the program is the provision of credit resources at an affordable cost and with transparent and understandable requirements for borrowers.

Practical implementation of the program is carried out with the participation of commercial partner banks and leasing companies with experience in working with small and medium-sized businesses, and involves the use of a two-tier mechanism:

1. at the first level, the Development Bank provides financial resources to partner banks and leasing companies selected according to established criteria;

2. on the second, partner banks and leasing companies select direct borrowers according to the criteria agreed with the Development Bank, assess their financial capacity and projects to be implemented, and make decisions on granting a loan at a specified marginal rate.

The program participants are 10 partner banks of Belgazprombank OJSC, Belarusian People's Bank OJSC, Belinvestbank OJSC, MTBank CJSC, Alfa-Bank CJSC, BTA Bank CJSC, Belagroprombank OJSC, Priorbank OJSC", OJSC "Bank Moscow-Minsk", OJSC "Paritetbank", as well as leasing companies OJSC "Promagroleasing", OJSC "Raiffeisen-Leasing" and LLC "ASB Leasing".

Funding for the project activities aimed at demonstrating low GWP RAC technologies will be carried out at a reduced interest rate, which is half the refinancing rate of the National Bank of Belarus plus 1.0%, subject to the criteria for potential energy savings and risks of financial efficiency of investments. Such financial conditions will provide real support to economic entities in the transition to modern ozone-safe, energy-efficient equipment and technologies.

Implementing this program to finance the removal of HCFC phase-out technologies will increase their access to financial resources required for the project and, subsequently, will be used for proposed HCFC-free and low GWP initiatives outside the project in the future (sustainability).

Output 2.4.1: Provision of a national credit line for eligible small and medium enterprises to replace equipment based on HCFCs.

Output 2.4.2: Based on the results of the demonstration projects, improved regulation and expansion of national capacity, consultations between the public and private sectors begin to support the proliferation of low-GWP / HCFC technical solutions.

Output 2.4.3: A campaign to raise awareness of the incentive scheme is supported

Component 3: Public Awareness and Gender Mainstreaming

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. In this regard, 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 building on the framework to raise public awareness, laid down during the previous project. It is proposed to have activities targeted at different groups and meet their specific needs and interests. The target groups would be the lawmakers of the country, industry using refrigeration and air-conditioning, end users of domestic and small commercial air-conditioners, and students within different age groups. Thematic Round table discussions will be held within the different groups, and the discussions and results published in the media. The availability of low interest loans for conversion of HCFC based equipment to zero ODS, low GWP refrigerants will be targeted at the industry level, and information seminars will be held to encourage industry to take advantage of the funding. World Ozone Day will be celebrated each year through drawing competitions in schools, quiz contests at Universities etc. Photography competitions could also be held. Organization of an information tour for 10 – 12 journalists within the country to highlight achievements of the project will be integrated into this campaign. Print material in Russian will also be made available.

Output 3.1.1: Continue activities to increase public awareness.

Output 3.1.2: Develop and publish information materials.

Outcome 3.2: Project stakeholders have improved overview of gender differences in RAC sector through the generation of national sector-specific statistics.

When considering the ozone layer's protection from a gender equality perspective, several aspects should be taken into account. First, the representation of women in the RAC sector: women are under-represented in decision-making positions, but are highly represented at managerial and administrative levels. Still, the terms "under represented" and "highly represented" are not precise. Up to now, specific data on women's and men's participation in national decision-making processes related to the Montreal Protocol has not been collected systematically. Yet, general statistical data on ministries dealing with the RAC sector and manufacturing industries of Belarus shows that men dominate these procedures not in sheer numbers but in terms of influence of their arguments on policy- and measures implementation. However, since these available statistics are not specific to all stakeholders involved into the RAC sector in Belarus, it can only serve as proxy data for indicating the gender inequalities in the sector.

The next aspect is the gender gaps in the RAC related education: in 2017, women made up 52.4% of university graduates in natural sciences and 79.7% of environmental sciences graduates, while a smaller but still significant 28.2% of graduates in the engineering and technologies' field were women. When it comes to vocational training in engineering and

technologies, in 2017, women made up 23.2% of the total graduates. It must be emphasized, however, that not all areas included in the calculation are directly linked with the RAC sector. It is known that it has employed graduates in the social sciences, economics and law, where there are many more women graduates. At the same time, again, there is a lack of data on the educational backgrounds of women and men currently occupying decision-making positions related to the RAC sector. To enable more soundly-based conclusions about the link between education and women in decision-making positions in this area, an assessment of the educational degrees and backgrounds of people in the RAC sector-related decision-making positions in the public and private sector would be very useful.

Finally, the legislation of the Republic of Belarus, that bans women from entering 181 occupations, includes “jobs related to the manipulation of hazardous materials”, and affects hiring and planning for career strategies in the RAC sector. The “List of heavy jobs and jobs in hazardous and/or dangerous occupational conditions that must not employ women” is one of the key factors that determine the gender composition of RAC technical specialists which is perceived by stakeholders as being nearly 100% men. Again, there is no available gender-disaggregated statistical data on specialists involved in installation, maintenance and repair of refrigeration equipment.

In order to understand employment options and start addressing barriers which do not allow for a better gender balance in this sector, the project will use statistics generation, women’s work representation and visibility, and men’s occupational safety behavior as entry points to integrate gender issues into its outcomes.

Outcome 3.2 Project stakeholders have improved overview of gender differences in RAC sector through the generation of national sector-specific statistics.

The differences in the roles of and effects on women and men should be visible in statistics. However, the statistics, broken down by gender alone, are not sufficient for making comprehensive analyses of gender equality; it is also necessary to use data that illustrate the roles and relationships between men and women within the societal context. For this, the project will routinely collect baseline data on employees from partner institutions, manufacturing industries, SME companies, pilot projects as well as on participants of project capacity-building activities, network conferences, forums, study tours disaggregated by sex, education, additional training attended, organization, position, and location. Such data are crucial to track gender issues, to conduct gender equality analyses and to be able to create gender-responsive indicators for future actions in the RAC sector.

The generated database will shed the light on who does what in the sector (proportions of female/male (F/M) graduates in fields related to the ozone layer protection; F/M in the RAC labour market; positions occupied by F/M in the sector in terms of hierarchy; F/M involved in the identification and transfer of non-HCFC technologies/environmentally sound technologies; F/M exposed to toxic chemicals through their occupation environment); on who has ownership over what roles in the sector (sector-related SMEs owned by F/M; F/M participating in professional capacity-building activities related to environmental management/RAC sector; expenditures of project funds on F/M participating in project activities); and on who participates in the decision making process (F/M in leadership positions in key institutions; F/M represented at regional and national environmental conferences and events; F/M actively engaged in these events through presenting/holding sessions).

Particularly, the already established project's partnership with the Belarusian State Technological University can contribute to this outcome as the university participated in the "Gender equality in higher education" project implemented by the Raoul Wallenberg Institute of Human Rights and Humanitarian Law in cooperation with other Belarusian higher education institutions. The Faculty of Management Technologies participated in data collection and analysis of gender disparity in Science, Technology, Education and Mathematics (STEM) fields and may assist in generating gender-segregated statistical data that relate to degree choices, career planning and actual occupations of STEM graduates.

Output 3.2.1: Sector-specific, gender-relevant quantitative and qualitative data are generated, analyzed and published to highlight the gaps in the sector and raise public awareness on possible changes

Outcome 3.3 Contribution of female project staff and participants is visibly presented and justly recognized.

The interviews with project stakeholders and the generalized statistical data suggest that in Belarus there are many women involved in the reduction of the national use of ozone-depleting substances in general and in serving the project's goals in particular. However, such gender parity in participation is not sufficient for gender diversity. Women are rare in numbers on decision-making positions within the RAC sector field (e.g. as heads of the ministry departments and professional associations, owners of enterprises, as experts interviewed by the media, on boards of project meetings, in academic leadership posts such as department deans). Sheer participation does not immediately translate into just distribution of resources such as influence or decision-making power. In order for the project's impact to be more just, the participation needs to be followed by recognition of work and by its fair representation. The project needs to increase visibility and recognition of women's input into the project's successes. Visibility is known to:

- Bring about better development opportunities, challenge stereotypes and provide role models for upcoming generations.
- Challenge the established networks when selecting people for roles at high-profile events such as ribbon-cutting ceremonies, as speakers and panelists, in customer briefings, in cross-trainings, or in other roles important to the project;
- Prepare written, audio and visual materials that include women as interviewers, interviewees and speakers at events;
- Emphasize women's employees technical contribution and specific professional value to project outcomes.
- Provide support for women to combine work interests with family obligations thus allowing professionally qualified women to attend study tours, conferences, capacity building activities etc. which are project events that are long term or require travel.
- Undertake targeted awareness-raising measures on gender competence of national stakeholders (Ministry of Natural Resources and Environment, Ministry of Emergency Situations, State Customs Committees), emphasize the disparity in decision-making level and recognition of women's input on managerial level.

Output 3.3.1. Enhanced visibility of women at strategic project events.

Output 3.3.2. Provide support to help combine work interests with family obligations for professionally qualified women to attend project events that are long-term or require intense travel.

Output 3.3.3. Undertake targeted awareness-raising measures on gender competence of national stakeholders.

Outcome 3.4 Occupational safety for RAC technical specialists is increased

The workplace is a setting where gender issues may influence occupational health and safety practices. Statistical data reveal that 98% workplace fatalities in Belarus happen to men; risk for non-fatal injury is 3.5 times higher for men than for women. This gender inequality is attributed to gender socialization practices that begin at a young age and affect risk behavior patterns for men and women differently. Gender stereotypes reinforce dominant masculine expectations of toughness, stoicism, fearlessness, invulnerability and self-reliance. Adhering to these norms of masculinity in high risk occupations is particularly problematic, as it exposes men to significant risks for injuries and fatalities. Employees who are men are known to experience pressure to conform to the masculinity norms which affect their safety behavior choices.

The project will address the specific needs of RAC technical specialists working with toxic/hazardous substances (who are 100% male specialists) during the capacity-building trainings for technicians (Outcome 1.5). RAC technical specialists will become more conscious about their safety behavior choices and what can affect them through the discussion on 'true men' qualities, stereotypical masculinity model (toughness, stoicism, fearlessness, risk-taking and self-reliance) and their influence on occupational safety.

Output 3.4.1. Capacity building activities and materials on the use of new hydrofluorinated olefins (HFO), R-32, as well as refrigerants, such as hydrocarbons (HCs) and ammonia include gender-sensitive information and discussion material on safety hazards.

Component 4: Project Monitoring and Evaluation

Outcome 4.1: 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 proposed project intends 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 meetings arranged by UNEP (Regional Network Meetings) and other regional forums as found appropriate. The project will undergo a final term evaluation in line with GEF requirements.

Output 4.1.1: M&E is applied to provide feedback to the project coordination process to capitalize on project needs.

Output 4.1.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.

4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing

This project leverages the results and momentum gained in the baseline project to achieve a final phase out of HCFCs based on the incremental activities described above. Several activities in this project are enablers which are incremental in nature and specifically designed to develop institutional and technical capacity that will not only allow Belarus to finalise the phase out of HCFCs but will also contribute to the capacity that will be required to avoid high GWP replacement technologies.

Investment activities are likewise incremental in that they are designed to complete the transition to non-ODS chemicals. The credit line approach, through the Belarus National Development Bank' investment support for SMEs (up to 3 mln USD), to incentivize the replacement of old and "service tail" equipment is considered to be the most effective way in these aspirations.

The project is designed to allow Belarus to continue its accelerated journey towards full phase out and also prepare for the virtual elimination of supply for the servicing tail beyond 2020 up to 2030. Whilst the previous activities have been successful to meet the current level of compliance by 2015, continuing this effort is required to counter the ever-present risk of illegal imports. Furthermore, sustaining very low HCFC imports at the very end of the HCFC phase-out are labour intensive activities for the government and private sector and require complementary support from GEF.

The mobilization of the private sector' support in this process is the essence of the GEF assistance that will incrementally trigger larger volume finance invested in this area for the years to come, and make the phase-out of HCFCs in the next decade as sustainable as possible in the national context.

The total cost of the project is $8,651,000. This is financed through a GEF grant of $1,716,000, and in parallel co-financing of $6,935,000.

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*				
1	Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (MNREP)	$0	$750,000	$750,000	Overall Project Coordination; COMPONENT 1: Removal of regulatory and technical barriers to the final phase-out of HCFCs and adoption of low GWP technology; Output 1.1.1: ODS alternatives survey completed; Output 1.2.1: The State Customs Service participates in existing networks in terms of ODS import / export control, and other necessary bilateral visits; Output 1.3.1: Draft updated Strategy / Regulations prepared and submitted to the government for approval and subsequent implementation; PMC	See project risk-log (Annex H)	See project risk-log (Annex H)

2	RAC Association "APIMH"	$450,000	$120,000	$570,000	Component 1: Outcome 1.4: Review of national safety standards and draft standards to support the introduction of low-GWP and non-HCFC technologies. Outcome 1.5: The infrastructure of the service sector is further strengthened through updated curricula and a national certification system for professionals, as well as strengthening the potential and capabilities of refrigeration and air-conditioning specialists in the maintenance and repair of equipment, including new and alternative technologies. Component 2: Outcome 2.1: Strengthening of HCFC reuse system. Outcome 2.3: Technical training institutions and the RAC-Association APIMH are upgraded and equipped with technical equipment, including heat pumps, and are providing mobile training and recovery / recycling in the areas. Component 3: Public Awareness and Gender Mainstreaming Outcome 3.1: Implement	See project risk-log (Annex H)	See project risk-log (Annex H)

3	Enterprises	$1,400,000	$950,000	$2,350,000	Outcome 2.2: Demonstration of the applicability and replication of cooling technologies using air, CO2, HC in medium and large refrigeration units, as well as small ammonia refrigeration systems with small charge.	See project risk-log (Annex H)	See project risk-log (Annex H)
4	Development Bank of Belarus	$3,000,000	$0	$3,000,000	Outcome 2.4: National scheme to encourage the gradual replacement of HCFC-based equipment using low-GWP technology and energy efficiency	See project risk-log (Annex H)	See project risk-log (Annex H)

5	UNDP	$215,000	$50,000	$265,000	Outcome 2.2: Demonstration of the applicability and replication of cooling technologies using air, CO2, HC in medium and large refrigeration units, as well as small ammonia refrigeration systems with small charge. Outcome 3.1: Implement activities on raising public awareness. Outcome 3.2: Project stakeholders have improved overview of gender differences in RAC sector through the generation of national sector-specific statistics. Outcome 4.1: Project monitoring and evaluation implemented	See project risk-log (Annex H	See project risk-log (Annex H)
	TOTAL	**$5,065,000**	**$1,870,000**	**$6,935,000**			

5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

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 0.25 ODP Tonnes of their baseline of 50.00 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 Belarus.

The project will deliver a direct benefit of the phase out of 4.5 ODP tonnes of HCFCs or 148,597 tons CO2-eq. (148,058 tons from the HCFC phase-out and 539 tons from energy-efficiency gains). As the project will also provide indirect greenhouse gas emission reductions through improved energy efficiency, it is expected that this will prompt the private sector to start looking away from high GWP technological solutions when substituting HCFCs - only low GWP technologies will be promoted during the implementation of the project.

The project will also have a have a number of social and economic benefits at the national level, notably through RAC equipment performance optimization at the operator level, encouraging the avoidance of high GWP technology and improving / securing the integrity of the cold chain throughout the country and particularly in rural communities where the correct preparation, transport and storage of chilled and frozen produce is an important pre-requisite for maintaining public health standards.

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

The National Strategy of the Republic of Belarus on the gradual phasing out of hydrochlorofluorocarbons (HCFCs) in the period up to 2020 was approved in March 2013 (№06 / 214-62) by the Council of Ministers. It includes requirements to provide incentives to owners of industrial and commercial refrigeration equipment, for:

· promoting the application of RAC technology with low global warming potential, which provides higher energy efficiency in new facilities.

· encouraging retrofit / replacement of old inefficient HCFC based equipment, for example, retrofit to or new propane based small systems.

Further, the country will have to:

· enforce the ban on disposable cylinders in the country;

· develop and adapt the standards regulating the activities with refrigerants, the rules on service of large refrigeration systems, including the procedure for registration of refrigeration units, detailed history of service installations, requirements for qualification / verification equipment technical staff knowledge;

· prepare an inventory of processes and equipment, working with ozone-depleting substances, and (or) their substitutes.

These best practices will improve accounting for the RAC systems and refrigerant management and bring the servicing and maintenance to a completely new level of the RAC industry standards.

In accordance with the Strategy it was also imperative to create and gradually improve the management system for refrigerants (HCFCs) in the country, including:

· improving the recovery and recycling of refrigerants;

· upgrading the refrigerant distribution infrastructure; and

· creation of capacities for the destruction of unusable refrigerants.

In addition to the Strategy the HCFC control system is featured by the Law "On the Protection of the Ozone Layer", where a number of decrees and instructions concerning the treatment of ODS are stipulated.

Overall, the project is the final round of the HCFC phase-out activities in Belarus, and will ensure a sustainable approach to the HCFC phase-out for the years to come on the basis on close stakeholder engagement, and private sector participation in such national level efforts on the implementation of the Montreal Protocol' obligations in the country.

6. Innovation, sustainability, and potential for scaling up

Innovation:

The project is innovative in that it proposes a sustained HCFC phase-out on the basis on principles of the new technology scale up opportunities and efforts with the involvement of national financing institutions, private sector' support to the technology transition and, essentially, the avoidance of high GWP refrigeration and AC solutions in this process. It provides an innovative and robust approach to tackling a complex transition between the baseline scenario, results of initial HCFC phase-out initiatives, and exploiting the momentum of the most recent environmental policy developments to support the final and sustained HCFC phase-out round.

With a relatively modest GEF investment, Belarus would be able to significantly enhance its technical and institutional capacity to assess, manage and implement this final HCFC phase out and simultaneously prepare the refrigeration and service sector for the testing and selection, as the technology of choice, low GWP technological solutions - the planned incentive programme would provide a significant incentive for small and medium enterprises and organizations to adopt and benefit from such technology.
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Sustainability:

This is the final round of GEF assistance to Belarus to enable it to meet its 2020-2030 HCFC reduction targets. The currently proposed project builds on the efforts of the previous GEF-funded regional programme which was designed to initiate preparedness of Belarus to manage the continued growth in HCFCs use in the country.

The Ministry of Natural Resources and Environmental Protection (MNREP) 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. The 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 will all together equip Belarus with best international practices and skills to maintain the HCFC phase-out momentum over the years to come, which will also set strong grounds in avoiding the future build-up of high GWP technologies on the local market.

To that effect, the project has entered into national consultations to increase and capitalize on a number of partnerships during its implementation. It is currently planned to explore more of joint funding opportunities in cold storages and RAC technologies in agribusiness and food processing industry with Belarus National Development Bank's supported initiatives aimed at private sector's development. The ultimate aim is to ensure this approach can continue to function when the project is over.

With respect to capacity building for RAC engineers and technicians and Customs officers, the initial work in these areas was launched previously, in the recently closed regional HCFC phase-out program. The State Customs Committee, 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 knowledge updates on state-supported HCFC management policies and the enforcement action required 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 will be provided with up-to-date training material on best international practices, and HCFC re-use manuals will be 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 program in Belarus, 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 back to the country.

The proposed project will deploy seed GEF funds (and leverage long-term national co-financing) to focus on activities that are sustainable without continued infusions of further grant funding, i.e. it will focus on extending the current national financing capacity to gradually expand the scope of the application of new generation refrigerants, including the growing demand for the natural refrigerants.

Scaling up:
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As part of the project's implementation, it is planned to support further introduction of zero ODP/low-GWP technologies in the private sectors primarily, with some projects to be implemented in the public sector. The previous regional GEF-supported project has proven that there are opportunities to mobilize additional resources from the private sector 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 the initial GEF support. One way of mobilizing additional resources will be to avail of concessional financing provided by the Development Bank through their commercial partner banks. This initiative has been pursued and finalized during the PPG stage of this project. The private sector is quick to respond to cooperation proposals with investment-ready resources, especially in the cases where energy efficiency gains are clearly possible. In the public sector, the project is expecting to have a demonstration project to introduce a heat

pump technology in the Minsk college, since it was decided to include a college in the state program to support vocational education (training of refrigeration technicians). Co-financing is expected to be sufficient in this case, as in general, in the public sector, it is found to be more challenging to locate required co-finance support, since it needs lengthy clearance procedures and there is competition over limited resource among different branches of the social infrastructure.

In the proposed project, as discussed in the respective strategy section, new demonstration projects to replace HCFC RAC equipment with zero ODP/low GWP energy efficient technologies will be designed and implemented. Cooperation agreements with public and private sectors will be planned to maximize cost-effectiveness rates with the mobilization of public and private business resources. This will enlarge the scope of investments in the target sectors.

The practical implementation of the demonstration measures of the HCFC decommissioning project will be carried out with the direct participation of the National Development Bank of the Republic of Belarus, which will provide an opportunity for applicants - medium and small businesses to use concessional financing for the implementation of activities within the project. If the initial concessional funding of $ 3 million from the Development Bank is taken up by the proposed demonstration projects, it is expected that the Bank will allocate more funds for the conversion of enterprises which were not within the purview of the proposed demonstration activities under this project. This will help in the scaling up of the conversion of enterprises to zero ODP/low GWP refrigeration technologies.

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.

The project is inherently replicable and scalable, on that basis, and as similar HCFC phase-out processes are ongoing in a number of important CEITs countries, and further in the ECA network of Art 5 countries in the Europe/CIS region. The approach described here could be employed in other national contexts to deliver significant GEBs.

At the national level, the project will engage a significant number of enterprises directly in the HCFC phase-out, and it is expected that there will be many more companies outside the scope of the project where the same approach would deliver both the rejection on high GWP technology options, improved performance of the equipment, as well as cost savings for operators.

In addition, there have been several non-substantive adjustments prepared in specific components and associated outcomes/outputs of the project as compared to the approved PIF. It should be noted that in essence the activities, which were reflected in the PIF, are replicated in the Project document according to the original plan, but in a lot more detail.

The Table below reflects the discussed amendments which indicate optimization of the activities.

Approved PIF	New/Revised	Explanation
Component 1. Removal of regulatory and technical barriers to the final phase out of HCFCs and adoption of low-GWP technology.	Component 1: Removal of regulatory and technical barriers to the final phase-out of HCFCs and adoption of low GWP technology.	No changes
	Outcome 1.1: Overview of ODS alternatives to determine national consumption and use.	National HCFC strategy, legislative improvements, and HCFC control framework related measures have been prioritized and placed in Outcomes 1.1 through 1.4. Essentially, there are no changes in substance except for articulation of these works required at the beginning of the project to allow smooth implementation of other project's components. The measures listed replicate what was previously approved in Outcome 1.2 on the national register of ODS alternatives, updated HCFC phase-out strategy, normative regulations on application standards for new technologies
	Output 1.1.1: ODS Alternatives survey completed.	
	Outcome 1.2: Strengthening the capacity of State Customs Service to control the import / export of ODS and equipment containing them.	
	Output 1.2.1: The State Customs Service participates in existing networks in terms of ODS import / export control, and other necessary bilateral visits.	
	Output 1.2.2: Improve the capacity of the Customs Laboratory with refrigerant sampling equipment and HCFC-standards for calibrating the GC-MS for strengthening control over the movement of HCFCs across the customs border of the Republic of Belarus.	
	Output 1.2.3: Close cooperation with the Institute for Advanced Studies of Customs Officers by improving training equipment and materials to facilitate the continuous training of regular and new customs officials - 300 people.	
	Outcome 1.3: National Strategy for HCFC Phase-out, legislative acts regulating the use of HCFCs and alternatives to HCFCs, as well as control over import / export and use of HCFCs in the service sector are revised by adapting the experience of the expanded legislation from the EU and other countries.	
	Output 1.3.1: Draft updated Strategy / Regulations prepared and submitted to the government for approval and subsequent implementation.	
	Output 1.3.2: Exchange of experience through study tours and / or regional conferences involving countries with best practices in this field and participation in regional network meetings.	

	Output 1.3.3: A system for online registration of equipment with 3 or more kg of HCFC-22 including a record of maintenance, recharge of refrigerant etc. accessible remotely is prepared and implemented.	
	Outcome 1.4: Review of national safety standards and draft standards to support the introduction of low-GWP and non-HCFC technologies.	
	Output 1.4.1: National legislative review of safety standards for the introduction of low-GWP and non-HCFC technologies prepared, and draft new regulatory and technical regulations for the safe handling, storage and use of natural refrigerants in accordance with international standards based on EN 378 developed for public consultation and adoption	
Outcome 1.1. Servicing sector's infrastructure further strengthened through updated training programmes, national technician certification scheme and new technology training center. Belarus has an improved technical capacity to manage the final phase out of HCFCs in the service sector	Outcome 1.5: The infrastructure of the service sector is further strengthened through updated curricula and a national certification system for professionals, as well as strengthening the potential and capabilities of refrigeration and air-conditioning specialists in the maintenance and repair of equipment, including new and alternative technologies.	No changes introduced.
Output 1.1.1 New training courses and syllabus for education and training organisations (vocational and higher education) formulated and introduced, covering the latest generation refrigerants; operation, systems design and safe handling. 1.1.2. National training centre for training of engineers and refrigeration technicians on natural refrigerant technologies (CO2, HC, ammonia) established, with specialized instrumentation and nationally approved operating standards. 1.1.3. Five (5) service centers are equipped with knowledge and special tools on serivicing natural refrigerant based technologies. 1.1.4. Service center personnel equipped with specialized knolwledge and tools to service technologies with low GWP solutions. 1.1.5. National refrigeration and air-conditioning technician certification scheme developed and adopted.	Output 1.5.1: A group of qualified engineers / technicians receive training abroad in the maintenance and repair of refrigeration and air-conditioning equipment with zero ODP/low GWP technologies. They will assist in developing a program and training manual for training a wider range of national specialists in zero ODP/low GWP technologies. Output 1.5.2: Develop and prepare for the implementation of the national certification system. Output 1.5.3: Assistance given for technical staff to participate in meetings and conferences, international exhibitions related to energy efficient technologies with zero ODP and low GWP.	The focus on capacity building for technical personnel, graduating from vocational and higher tier educational institution and those operating in the servicing sector, has been preserved with no changes. National certification system will be implemented as planned in the PIF, and it is kept in these Outcome/Outputs. Work on training centers which was mentioned here was re-aligned to the investment Component 2, and is found in Outcomes 2.1 (Outputs 2.1.1-2.1.4) and 2.3 (Output 2.3.1) which jointly cover the serivicing sector (business operations) and training institutions (National Refrigeration Association and training schools). No substantive changes.

Outcome 1.2. National legislative review of safety standards and consultations in support of introduction of new low GWP and HCFC-free technologies.		These works are covered in the same scope in Component 1, Outcomes 1 through Outcome 1.4 as discussed in details above. No changes introduced, except prioritization of these important legislative measures related to HCFC controls in the project's structure and in the measure implementation timetable – they will be implemented from the outset of the project.
Output 1.2.1. National register on low GWP technologies established. 1.2.2. New normative and technical regulations for the use of natural refrigerants in line with international standards drafted 1.2.3. Good practice guide and new technology related documentation in Russian language, in line with revised regulations, formulated and published 1.2.4. National standards for the use of natural refrigerants based on EN 378 and other international standards, drafted for public consultation and adoption 1.2.5. Revised HCFC phase-out strategy targeting low GWP technologies up to 2020 adopted		
Component 2. Facilitation of complete HCFC phase-out in Belarus and avoidance of HFC adoption through demonstration of low GWP technologies.	Component 2: Facilitation of complete HCFC phase-out in Belarus by strengthening the HCFC reuse system, creating conditions for the storage of ODS waste; implementation of HCFC replacement demonstration projects; and improving educational institutions.	No changes introduced.
	Outcome 2.1: Strengthening of HCFC reuse system.	Work on training centers which was mentioned in Outcome

	Output 2.1.1: Strengthening the 4 recycling centers to support the HCFC reuse system with advanced refrigerant identifiers, collection stations and refrigerant transfer systems, additional cylinders and tanks for collecting and storing HCFCs, as well as Test station at one location to test reusable cylinders used for storing and processing HCFC refrigerants, and have a replacement pool of service cylinders Output 2.1.2: Supply 15 – 18 sets of tools and portable recovery devices for the remaining service companies and field technicians to complete support for the national refrigerant management program and complement existing tools at R & R centers. Output 2.1.3: Storage facilities at 2 locations upgraded to store ODS waste until the government has created the conditions (capacity) for destruction. Output 2.1.4: The capacity of the control center for the composition of recycled and recovered refrigerants at the Belarusian National Technical University has been expanded; by providing necessary equipment to do quantitative and qualitative analysis of refrigerants to enable certification of recycled refrigerants in accordance with the requirements of the legislation.	1.1 of the PIF was placed here for better re-alignment of works with the investment component on the HCFC phase-out – in other words, with Component 2. Outcomes 2.1 (Outputs 2.1.1-2.1.4) and 2.3 (Output 2.3.1) which jointly cover the serivicing sector (business operations) and training institutions (National Refrigeration Association and training schools) are described here in better detail for progress tracking purposes. Activities are the same and in line with approved PIF's design.
Outcome 2.1. Demonstration of the applicability and replicability of CO2, HC and small-scale ammonia refrigeration systems in medium and large scale installations	Outcome 2.2: Demonstration of the applicability and replication of cooling technologies using air, CO2, HC in medium and large refrigeration units, as well as small ammonia refrigeration systems with small charge.	No changes introduced, and more details were provided for tracking progress. Improvement of training tools for new technologies is placed here from Outcome 1 in order to streamline

Output 2.1.1. Comprehensive high GWP cooling technologies register established. Output 2.1.2. High HCFC consumption sub-sectors selected and no less than 15 technical and economic justification cases prepared for investments into low GWP technologies. Output 2.1.3. No less than 5 pilot projects implemented with introduction of low GWP technologies in various sub-sectors (agriculture, cellular networks, trade etc). Output 2.1.4 Technical service and monitoring support from trained and equipped service centers provided throughout the demo projects' duration.	Output 2.2.1: Demonstration projects on cooling with the use of hydrocarbons and natural cooling in the air conditioning sector implemented at cellular communication stations, data processing centers and server buildings in various climatic regions of Belarus. Output 2.2.2: Demonstration of the benefits of CO2 cooling technologies at an industrial refrigeration unit (possibly a meat processing plant) and in commercial refrigeration equipment at a retail outlet. Output 2.2.3: Demonstration of the benefits of CO2 refrigeration technologies at a convenience store Santa Retail LLC (commercial refrigeration equipment). Output 2.2.4: Demonstration of the benefits of ammonia cooling technology in industrial equipment - a small ammonia industrial plant used in the processing of products or for cold storage. Output 2.2.5: Demonstration of the benefits of hydrocarbon refrigeration technologies in industrial equipment - small propane industrial refrigeration units introduced at agricultural production facilities. Output 2.2.6: Taking into account the results of implementation of demonstration projects of applicability and replication of air cooling technologies, refrigeration systems on natural and non-ODS/low GWP refrigerant, a comprehensive register of cooling technologies with low GWP level will be prepared, transferred to public administration bodies and distributed to those interested.	implementation of the demonstration programmes with direct increased and practical knowledge on the technology operation available in national training institutions, including the National Refrigeration Association.
	Outcome 2.3: Technical training institutions and the RAC-Association APIMH are upgraded and equipped with technical equipment, including heat pumps, and are providing mobile training and recovery / recycling in the areas.	No changes to the design of the PIF, rather is the alignement with the investment Component 2. Improvement of training tools for new technologies is placed here from Outcome 1 in order to streamline

	Output 2.3.1: Provide training equipment for natural refrigerants (including heat pumps) for educational institutions and for mobile recovery / recycling and monitoring, created for training technical specialists, as well as for conducting and monitoring recovery / recycling in remote areas.	implementation of the demonstration programmes with direct increased and practical knowledge on the technology operation available in national training institutions, including the National Refrigeration Association.
Outcome 2.2. National incentive scheme for the gradual replacement of HCFC based equipment with low GWP and EE technologies	Outcome 2.4: National scheme to encourage the gradual replacement of HCFC-based equipment using low-GWP technology and energy efficiency	No changes introduced, except renumbering Same work as approved in the PIF is planned here on the scale up opportunties and resoruce mobilziation through the National Development Bank of Belarus.
Output 2.2.1 Based on demo's results, regulatory improvements and enhanced national capacity, public-private sector consultations on supporting the spread of 15 low GWP/HCFC-free technologies launched Output 2.2.2 Provision of a national credit line for eligible small and medium enterprises for replacement of HCFC based equipment. Output 2.2.3. Awareness raising campaign on the incentive scheme is supported	Output 2.4.1: Provision of a national credit line for eligible small and medium enterprises to replace equipment based on HCFCs. Output 2.4.2: Based on the results of the demonstration projects, improved regulation and expansion of national capacity, consultations between the public and private sectors begin to support the proliferation of low-GWP / zero ODP technical solutions. Output 2.4.3: A campaign to raise awareness of the incentive scheme is supported	
	Component 3: Public Awareness and Gender Mainstreaming	This is a newly added Component on Public Awareness and Gender Mainstreaming which were not included in the approved PIF, and is a part of the MSP project document to address manadatory requirements from the GEF policies. The Component has an articulated cross-cutting perspective on the gender-relevant activities which the project now supports.
	Outcome 3.1: Implement activities on raising public awareness.	
	Output 3.1.1: Continue activities to increase public awareness. Output 3.1.2: Develop and publish information materials.	
	Outcome 3.2 Project stakeholders have improved overview of gender differences in RAC sector through the generation of national sector-specific statistics.	
	Output 3.2.1: Sector-specific, gender-relevant quantitative and qualitative data are generated, analyzed and published to highlight the gaps in the sector and raise public awareness on possible changes	

	Outcome 3.3 Contribution of female project staff and participants is visibly presented and justly recognized.	
	Output 3.3.1. Enhanced visibility of women at strategic project events. Output 3.3.2. Provide support to help combine work interests with family obligations for professionally qualified women to attend project events that are long-term or require intense travel. Output 3.3.3. Undertake targeted awareness-raising measures on gender competence of national stakeholders.	
	Outcome 3.4 Occupational safety for RAC technical specialists is increased	
	Output 3.4.1. Capacity building activities and materials on the use of new hydrofluorinated olefins (HFO), R-32, as well as refrigerants, such as hydrocarbons (HCs) and ammonia include gender-sensitive information and discussion material on safety hazards.	
Component 3: Project Monitoring and Evaluation	Component 4: Project Monitoring and Evaluation	This is a mandatory standard Component required to ensure M&E measures are in place. No changes just re-numbering of the component/outcome/outputs.
Outcome 3.1: Project monitoring and evaluation implemented	Outcome 4.1: Project monitoring and evaluation implemented	
Output 3.1.1: M&E is applied to provide feedback to the project coordination process to capitalize on project needs	Output 4.1.1: M&E is applied to provide feedback to the project coordination process to capitalize on project needs.	
Output 3.2.1: Lessons learned and best practices are accumulated, summarized and replicated at the country level	Output 4.1.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.	

[1] https://www.thegef.org/project/preparing-hcfc-phase-out-ceits-needs-benefits-and-potential-synergies-other-meas

[2] https://www.thegef.org/project/initial-implementation-accelerated-hcfc-phase-out-ceit-region

[3] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving..

A.2. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

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 in the Table below.

Stakeholder	Description of the role and activities
Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (MNREP)	Control of the use and consumption of ODS, licensing, formulation of legal-normative documents. The Natural Resources and Environmental Protection Ministry of the Republic of Belarus is a national state administration body in charge of exploitation of natural resources and environmental protection, pursuing the state ecology policy. The main areas of activities of the Ministry of Natural Resources and Environmental Protection includes: ●Pursuing unified state policies, including economic and science/technology related ones, in the area of environmental protection and rational use of natural resources, hydrometeorological activities, ecological certification and ecological audit; ●Regulation and coordination of activities of other governmental agencies, local executive and regulatory bodies, organizations involved in ensuring ecological safety, environmental protection and rational use of natural resources, including mineral resources, hydrometeorological activities, climate control, ecological certification and ecological audit; ●Communication within its jurisdiction with local executive and regulatory bodies in solving environmental issues; ●State control in the area of environmental protection and hydrometeorological activities, ecological certification and audit; ●Informing governmental agencies, local executive and regulatory bodies, and individuals on environmental issues; raising environmental awareness; promotion of environmental education; ●International cooperation; analysis, consolidation and sharing of international experiences in environmental protection and rational use of natural resources; climate control, hydrometeorological activities, ecological certification and audit. ●Well-organized and systematic environmental activities are key to sustainable socioeconomic development and ecological safety of a country

Stakeholder	Description of the role and activities
"Development Bank of the Republic of Belarus	Development Bank of the Republic of Belarus (the DBRB) – a specialized financial institution established in accordance with Edict of the President of the Republic of Belarus dated June 21, 2011 # 261 (hereinafter - Decree # 261). The Bank was founded by the Council of Ministers and the National Bank of the Republic Belarus. The Bank is formed as a legal entity and is not a classical credit financial institution in the definition established by the Banking Code of the Republic of Belarus. Accordingly, the Bank cannot be referred to second-tier banks in the traditional interpretation of the term. Creation of the DBRB was carried out in close cooperation with the leading international financial institutions, in particular, the International Monetary Fund and the World Bank and based on the analysis of international practice of the similar institutions functioning. The main objective of the DBRB is elaboration of financing system for government programs and the implementation of socially significant investment projects. Three main goals set to the DBRB are: ●financing of long-term and capital-intensive investment projects in the framework of government programs and activities implementation; ●acquisition of assets generated by other banks in the framework of government programs and activities implementation; ●extension of concessional export credits to support large (over USD 1 million) projects of domestic exporters
"Ekologia" Belarusian Research Center	Scientific support in the area of control over the handling of ODS
Ministry of Agriculture and Food Products	Implements the state policy in the area of the consumption of ODS by subordinate agricultural enterprises, as well as investing into the modernization of equipment
Ministry of Industry	Implements state policy in the area of consumption of ODS by subordinate industrial enterprises (as part of solvents, foam-forming materials)
Ministry of Trade	Implements state policy in the area of consumption of ODS by subordinate retail enterprises in the cities
State Customs Committee	Provides control of the implementation of Council of Ministers Resolution No. 1397 during customs clearance of goods imported into (exported from) the country (ODS and ODS-containing products)
Belarusian Republican Union of Consumer Societies	Implements state policy in the area of the consumption of ODS by subordinate retail enterprises in rural settlements
Ministry of Transport and Communications	Coordinates the consumption of ODS by its structural units
Belarusian RAC Association “APIMH”	“APIMH” unites organizations and companies that work in Refrigeration and Air Conditioning sector, scientific and educational organizations. APIMH also prepares drafts of legislation for the refrigeration industry and for Ministry of Natural Resources regarding the treatment of ODS, and arranges training refrigeration technicians

Stakeholder	Description of the role and activities
Belarusian National Technical University, UNESCO Chair "Energy saving and renewable energy sources"	Provides training in the field of refrigeration equipment and technology
Mogilev State Food University HVAC Faculty	Provides training in the field of refrigeration equipment and technology
Polotsk State University	Provides training in the field of refrigeration equipment and technology
Minsk State Mechanics and Technology Vocational and Technical College	Provides training in the field of refrigeration equipment and technology
Potolsk Commerce and Technology College of the Belarusian Republican Union of Consumer Societies	Provides trade training in the field of refrigeration equipment and technology
Holodon CJSC, including its affiliates:	Assembly of commercial refrigeration equipment and air-conditioning systems, sale, supply, installation, repair, maintenance, control, including remote control of the work of refrigeration equipment, supply of refrigerants, production of refrigeration units of various power configurations and for various purposes.
UE "Aneromholod»	Assembly of industrial compressor and condensing units. Performs work on designing and manufacturing various models and configurations of refrigeration units on the basis of component parts from the world's leading manufacturers, as well as the completion, installation and implementation of commissioning.
TORGTEHNIKA and affiliates	Repair of commercial refrigeration equipment
Stokfer LLC	Delivery of refrigerants, sales of air conditioners, wholesale trade
Bravo LLC	Supply and sale of commercial refrigeration equipment
TODO Rostok	Supply and sale of HCFC gas, repair of refrigeration equipment
LLC "Center of ozone-friendly technologies"	Trade, manufacture, supply, installation of refrigeration equipment, manufacture, supply, installation of milk-coolers and other commercial refrigeration equipment; Trade, supply of HCFCs; recycling and treatment of HCFCs from old or unused refrigeration units
LLC "Tris - Network Service Systems"	Design, supply of equipment for ventilation, air conditioning and heating, installation and commissioning
LLC "HolodInvestGrup"	Refrigeration equipment, manufacture, supply, installation of industrial refrigeration equipment, liquids cooling systems, equipment for fruit and vegetable storage
Brimstone-Bel JLLC	Equipment for trade, refrigeration equipment, manufacture of commercial refrigeration equipment of TM Golfstream with remote and built-in cold
Atlant CJSC	Production, sale, repair of household and commercial refrigerators, Production of refrigeration compressors
JSC "Myasomolmontazh"	Development of design documentation (reconstruction, modernization, technical re-equipment) ammonia refrigeration systems; delivery and installation of industrial refrigeration equipment

Stakeholder	Description of the role and activities
UE "Laminar"	designing cooling systems; installation, repair and maintenance of commercial, industrial, transport refrigeration, heat pumps, air-conditioning equipment systems; recycling and treatment of HCFCs from old or unused refrigeration units
LLC "Bair Vest"	Manufacturer of HVAC equipment. It makes the design and supply of high-quality industrial air conditioning and ventilation systems

Documents

Title	Submitted
Stakeholder Engagement Plan 29042020	
Annex F Stakeholder Engagement Plan	

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

There is a thoroughly designed interaction matrix among the key stakeholders from the public, private and non-governmental sector – please refer to the stakeholder table that explains all foreseeable roles and responsibilities that will govern the project's planning and implementation landscape.

The main objective, which is related to the establishment of a longer term capacity to reduce dependency on HCFCs, and leapfrog high GWP technologies in that process, will be backed by a participatory approach in the decision making over the choice of technologies. As there is a range of those which carry along better performance aspects and require stringent application of safety standards, a number of key sectors of the economic development and public administration will be engaged in the proposed collaboration network.

All stakeholders, from the public authorities which design and set state policies on the HCFC phase-out processes and safety-at-work measures, to the private sector which is the driving force behind the demonstration and adoption of newer low GWP RAC technologies, further to the scale up opportunities with the help of domestic resource mobilization organizations (The National Development Bank) and to the high quality training of vocational and graduate level technicians and engineers in the new technological developments and their servicing requirements, will jointly work to move the national economy towards accelerated technological modernization and new jobs that support the sustainable development of the country for the decades ahead.

In these efforts, the National Refrigeration Association, having a non-governmental status, will serve as a solid bridge between the state and the industry, and will promote technological innovation, gender parity in training/job creation and strong participatory approach in the planning and decision making over new policy developments.

The project board and regular roundtables and conferences for the broad range of stakeholders will ensure to reflect the inclusive decision making process.

CSOs will engage for work with the population on awareness raising activities and participate in monitoring of the project activities. The public and industry will have opportunities to participate in the decision-making through specially designed feedback mechanisms

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain) No

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) was ratified by Belarus in 1981. The convention constitutes the legal starting point for Belarus' work on gender equality.

The principle of equal rights for women and men in all spheres of life is embedded in the Constitution of the Republic of Belarus. Implementation of this principle is ensured by the following legislative acts: Marriage and Family Code, the Labour Code, the Criminal Code, the Civil Code, the Law of the Republic of Belarus "On Employment of the Population of the Republic of Belarus". The National Council on Gender Policy at the Council of Ministers of the Republic of Belarus was established in 2000. It develops and implements the National Plan of Actions on Gender Equality in the Republic of Belarus.

Despite the policy efforts and significant progress over the past decade, Belarus also shares in many of the global challenges to attaining gender equality. According to Statistical Book: Women and Men in the Republic of Belarus. National Statistical Committee of the Republic of Belarus, 2018, women in Belarus are more economically active than men: employment rate for working-age population is 83.2% for women and 76.4% for men; women are also better educated than men: gross enrollment ration in tertiary education is 92.1% for women and 77.7% for men. Yet, there is employment segregation for men and women: women and men in Belarus are employed in different industries and occupations, under different contracts, often with pay differentials with women being overrepresented in the public and nonprofit sectors such as education, health, trade, hospitality and underrepresented in the for-profit sector workforce. Power and resources are not equally distributed between women and men, neither in an economic nor in a political sense.

While being well educated and economically active, Belarusian women continue to carry a disproportionate burden of unpaid house and family work: women budget 2.5 times more time on household and care duties than men; mothers still take out most of the parental leave. These are aggravated by the lack of recognition of women's productive and reproductive input into the economy: a gap in remuneration for work of equal value is 24% less for female workers.

When it comes to gender differences in health, life expectancy presents a considerable challenge: Belarusian women live nearly 12 years longer than men. Belarusian men are significantly more likely to engage in high-risk behavior and suffer its consequences: prevalence of tobacco use happens in 8.8% of women over 16 years old and in 43.9% of men, men are 3.3 times more likely to die in road traffic accidents, suicide mortality rate (per 100.000 population) is 6.3 for women and 36.7 for men, frequency rates of fatal and non-fatal occupational injuries (per 100 000 employees) is 0.4 for women and 4.3 for men.

Documents

Title	Submitted
Gender Analysis 29042020	
Annex G Gender Analysis and Action Plan	

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

If yes, please upload document or equivalent here

Action Plan

The project is coded as GEN1 to reflect that the outputs at the project level contribute in a limited way to gender equality, but not significantly. In this project, gender equality issues are not addressed and the gender equality and women's empowerment are not considered critical part of the project design. Nevertheless, although in inconsistent ways, some aspects of the output at the project level are expected to promote gender equality. Often development interventions tend to address women's condition (immediate material circumstance of women) and rarely – their position (women's place in society in relation to men that involves status, power and control over resources) in society. There, the project has the potential to challenge this tendency and can contribute to transformation of the position of women within the project context.

The project will contribute to the informed decision-making with respect to gender equality by identifying and documenting gender differences in RAC sector. For this, the project will collect data on participants in all project activities and generate statistical gender-disaggregated data to reveal who does what in the RAC sector in Belarus, who owns what resource generating opportunities, and who has a decision-making power. Next, the project will ensure that the input made by women that are already employed by the RAC sector and contribute to project's achievements is made visible and justly recognized. Also, the project will approach the planning, organization, and execution of its events in a manner that accounts for women's burden of unpaid household and care work. As gender (in)equality concerns both women and men and has a strong impact on their daily lives, the project will address the gender inequality experienced by men with respect to occupational safety. In order to transform the gendered practices, the project will raise awareness of refrigeration technicians as one of its principal target groups (represented by 100% male specialists) on stereotypical masculinity model, the social pressures that reward following the model, and its actual effect on safety behavior choices at workplace.

Category	HCFC Project outputs/activities	GE activities	GE outputs	GE outcomes	GE indicators
Awareness raising and capacity building	Outcome 1.2: Strengthening the capacity of State Customs Service specialists to control the import / export of alternatives to ODS / ODS and equipment containing them.	Reach out to customs committees and advocate the equal access of women and men to capacity-building activities; encourage the organization of capacity building activities in a way that facilitates the reconciliation of work, family and private life for women and men	Targeted awareness-raising measures on the importance of gender parity in training/ workshops are undertaken	The gender parity at trainings/ workshops increased	Number of successful efforts undertaken by customs committee partners towards gender parity at trainings/regional seminars/ workshops
Policy formulation	Outcome 1.3: National Strategy for HCFC Phase-out, legislative acts regulating the use of HCFCs and alternatives to HCFCs, as well as control over import / export and use of HCFCs in the service sector are revised by adapting the experience of the expanded legislation from the EU and other countries. Outcome 1.4: Review of national safety standards and draft standards to support the	Generate national sector-specific statistics by collecting disaggregated data of key institutions employees (sex, level of education, additional training attended, organization, position, location)	Sector-specific, gender-relevant quantitative and qualitative data are generated and analyzed and published	Project staff have a better understanding of sector specific gender differences	Project reports include number and composition of key institution employees (yes/no)

	introduction of low-GWP and non-HCFC technologies.	Reach out to national stakeholders and advocate for making gender considerations an integral part of their working processes through targeted sessions on gender in legislation and executive systems.	Targeted awareness-raising measures on gender competence of national stakeholders are undertaken: disparity in decision-making level and recognition of women's input on managerial level is emphasized	National stakeholders have a better understanding of sector specific gender issues	Number of specific measures undertaken to encourage national stakeholders to promote gender parity in decision making and recognize women's input Project reports include composition of study tours and conferences participants, that indicate their sex, organization, position, location, and role within the project activity (yes/no)
		Collect data on working environments and occupational risks/trauma for men and women	Sector-specific, gender-relevant quantitative and qualitative data are generated and analyzed	Project staff have a better understanding of sector specific gender differences in relevant education fields, among equipment owners, technicians	Project reports include number and composition of relevant education graduates, equipment technicians; gender differentiated exposure to occupational trauma

Awareness raising and capacity building	Outcome 1.5: The infrastructure of the service sector is further strengthened through updated curricula and a national certification system for professionals, as well as strengthening the potential and capabilities of refrigeration and air-conditioning specialists in the maintenance and repair of equipment, including new and alternative technologies.	For capacity building activities, ensure training curriculum accommodates the needs of male refrigeration specialists: a discussion on gender-specific safety behavior choices	Gender-sensitive material on safety hazards is included in training	Refrigeration specialists are more conscious about their safety behavior choices and what can affect them	Updated curriculum include section to cover gender specific needs of refrigeration technicians
Technology development and transfer	Outcome 2.1: Strengthening of HCFC reuse system. Outcome 2.2: Demonstration of the applicability and replication of cooling technologies using air, CO2, HC in medium and large refrigeration units, as well as small ammonia refrigeration systems with small charging. Outcome 2.4: National scheme to encourage the gradual replacement of HCFC-based equipment using low-GWP technology and energy efficiency.	Request partner companies/ enterprises to contribute with information on their employees to generate baseline data (sex, level of education, additional training attended, organization, position, location)	Sector-specific, gender-relevant on employees of sector companies is collected, documented and made accessible for project staff	Project staff have a better overview of gender parity and gender differences in sector companies	Gender-disaggregated database on refrigeration labour market is created and accessible

Awareness raising and capacity building	Outcome 2.3: Technical training institutions and the RAC-Association APIMH are upgraded and equipped with technical equipment, including heat pumps, and are providing mobile training and recovery/ recycling in the areas.	Generate sector-specific statistics by collecting disaggregated data of participants of capacity-building events (sex, level of education, additional training attended, organization, position, location)	Sector-specific, gender-relevant quantitative and qualitative data are generated and analyzed	Project staff have a better understanding of sector specific gender differences in relevant education fields, among equipment owners, technicians	Project reports include number and composition of relevant education graduates, equipment technicians; gender differentiated exposure to occupational trauma
		For capacity building activities, ensure training curriculum accommodates the needs of male refrigeration specialists: a discussion on gender-specific safety behavior choices	Gender-sensitive material on safety hazards is included in training	Technicians are more conscious about their safety behavior choices and what can affect them	Training program/ advanced course include section to cover gender specific needs of refrigeration technicians

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

Gender mainstreaming.

When considering the ozone layer's protection from a gender equality perspective, several aspects should be taken into account. First, the representation of women in the RAC sector: women are under-represented in decision-making positions, but are highly represented at managerial and administrative levels. Still, the terms "under represented" and "highly represented" are not precise. Up to now, specific data on women's and men's participation in national decision-making processes related to the Montreal Protocol has not been collected systematically. Yet, general statistical data on ministries dealing with the RAC sector and manufacturing industries of Belarus shows that men dominate these procedures not in sheer numbers but in terms of influence of their arguments on policy- and measures implementation. However, since these available statistics are not specific to all stakeholders involved into the RAC sector in Belarus, it can only serve as proxy data for indicating the gender inequalities in the sector.

The next aspect is gender gaps in RAC related education: in 2017, women made up 52.4% of university graduates in natural sciences and 79.7% of environmental sciences graduates, while a smaller but still significant 28.2% of graduates in the engineering and technologies' field were women. When it comes to vocational training in engineering and technologies, in 2017, women made up 23.2% of the total graduates. It must be emphasized, however, that not all areas included in the calculation are directly linked with the RAC sector. It is known that it has employed graduates in the social sciences, economics and law, where there are many more women graduates. At the same time, again, there is a lack of data on the educational backgrounds of women and men currently occupying decision-making positions related to the RAC sector. To enable more soundly-based conclusions about the link between education and women in decision-making positions in this area, an assessment of the educational degrees and backgrounds of people in the RAC sector-related decision-making positions in the public and private sector would be very useful.

Finally, the legislation of the Republic of Belarus, that bans women from entering 181 occupations, includes "jobs related to the manipulation of hazardous materials" affects hiring and planning for career strategies in the RAC sector. "List of heavy jobs and jobs in hazardous and/or dangerous occupational conditions that must not employ women" is one of the key factors that determine the gender composition of RAC technical specialists which is perceived by stakeholders as being nearly 100% men. Again, there is no available gender-disaggregated statistical data on specialists involved in installation, maintenance and repair of refrigeration equipment.

In order to understand employment options and start addressing barriers which do not allow for a better gender balance in this sector, the project will use statistics generation, women's work representation and visibility, and men's occupational safety behavior as entry points to integrate gender issues into its outcomes.

Outcome 3.2 Project stakeholders have improved overview of gender differences in RAC sector through the generation of national sector-specific statistics.

The differences in the roles of and effects on women and men should be visible in statistics. However, the statistics, broken down by gender alone, are not sufficient for making comprehensive analyses of gender equality; it is also necessary to use data that illustrate the roles and relationships between men and women within the societal context. For this, the project will routinely collect baseline data on employees from partner institutions, manufacturing industries, SME companies, pilot projects as well as on participants of project capacity-building activities, network conferences, forums, study tours disaggregated by sex, education, additional training attended, organization, position, and location. Such data is crucial to track gender issues, to conduct gender equality analyses and to be able to create gender-responsive indicators for future actions in the RAC sector.

The generated database will shed the light on who does what in the sector (proportions of female/male (F/M) graduates in fields related to the ozone layer protection; F/M in the RAC labour market; positions occupied by F/M in the sector in terms of hierarchy; F/M involved in the identification and transfer of non-HCFC technologies/environmentally sound technologies; F/M exposed to toxic chemicals through their occupation environment); on who has ownership over what roles in the sector (sector-related SMEs owned by F/M; F/M participating in professional capacity-building activities related to environmental management/RAC sector; expenditures of project funds on F/M participating in project activities); and on who participates in the decision making process (F/M in leadership positions in key institutions; F/M represented at regional and national environmental conferences and events; F/M actively engaged in these events through presenting/holding sessions).

Particularly, the already established project's partnership with the Belarusian State Technological University can contribute to this outcome as the university participated of the "Gender equality in higher education" project implemented by the Raoul Wallenberg Institute of Human Rights and Humanitarian Law in cooperation with other Belarusian higher education institutions. The Faculty of Management Technologies participated in data collection and analysis of gender disparity in Science, Technology, Education and Mathematics (STEM) fields and may assist in generating gender-segregated statistical data that relate to degree choices, career planning and actual occupations of STEM graduates.

Output 3.2.1: Sector-specific, gender-relevant quantitative and qualitative data are generated, analyzed and published to highlight the gaps in the sector and raise public awareness on possible changes

Outcome 3.3 Contribution of female project staff and participants is visibly presented and justly recognized.

The interviews with project stakeholders and the generalized statistical data suggest that in Belarus there are many women involved in the reduction of ozone-depleting substances in general and in serving the project's goals in particular. However, such gender parity in participation is not sufficient for gender diversity. Women are rare in numbers on decision-making positions within the RAC sector field (e.g. as heads of the ministry departments and professional associations, owners of enterprises, as experts interviewed by the media, on boards of project meetings, in academic leadership posts such as department deans). Sheer participation does not immediately translate into just distribution of resources such as influence or decision-making power. In order for the project's impact to be more just, the participation needs to be followed by recognition of work and by its fair representation. The project needs to increase visibility and recognition of women's input into the project's successes. Visibility is known

- Bring about better development opportunities, challenge stereotypes and provide role models for upcoming generations.
- Challenge the established networks when selecting people for roles at high-profile events such as ribbon-cutting ceremonies, as speakers and panelists, in customer briefings, in cross-trainings, or in other roles important to the project;
- Prepare written, audio and visual materials that include women as interviewers, interviewees and speakers at events;
- Emphasize women's employees technical contribution and specific professional value to project outcomes.
- Provide support for women to combine work interests with family obligations thus allowing professionally qualified women to attend study tours, conferences, capacity building activities etc. which are project events that are long term or require travel.
- Undertake targeted awareness-raising measures on gender competence of national stakeholders (Ministry of Natural Resources and Environment, Ministry of Emergency Situations, State Customs Committees), emphasize the disparity in decision-making level and recognition of women's input on managerial level.

Provide support for women to combine work interests with family obligations thus allowing professionally qualified women to attend study tours, conferences, capacity building activities etc. which are project events that are long term or require travel.

Undertake targeted awareness-raising measures on gender competence of national stakeholders (Ministry of Natural Resources and Environment, Ministry of Emergency Situations, State Customs Committees), emphasize the disparity in decision-making level and recognition of women's input on managerial level.

Output 3.3.1. Enhanced visibility of women at strategic project events.

Output 3.3.2. Provide support to help combine work interests with family obligations for professionally qualified women to attend project events that are long-term or require intense travel.

Output 3.3.3. Undertake targeted awareness-raising measures on gender competence of national stakeholders.

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being, achieved, and, if possible, the proposedmeasures that address these risks at the time of project implementation.

All potential risks are listed below in (1) UNDP Risk Log; and (2) UNDP Social and Environmental Screening Procedure (SESP). UNDP Risk Log constitute a summary of financial, organizational, strategic and other risks which can possibly affect project implementation as well as countermeasures to avoid or mitigate these risks. SESP is a tool of UNDP safeguards policy and consists of matrix with social and environmental risks specifically.

(1) UNDP Risk Log

#	Description	Type	Impact & Probability	Countermeasures / Management response

1	Delays in rendering Governmental support on behalf of National Partner in project implementation due to on-going 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	The project team that will be established in the Government will create realistic and delivery-direv annual workplans and regularly inform the Government Partners and Project Steering Committee about implementation progress and achieved results on a regular basis, and request needed support well in advance.
2	Absence or limited availability of advanced zero-ODS and low GWP technologies, applicable to Belarus's conditions, requires additional costs	Financial	The project may need additional financial resources to cover costs related to application of new/advanced technologies. P = 2 I = 3	The project will work on fundraising (RM) on local, regional and international levels, with governmental/nongovernmental and other types of organizations. A special focus will be placed on further strengthening of the partnership with the Belarus Development Bank that will be providing resources to the SMEs on the technological transition.
3	Catalytic effect of demonstrating zero-ODS and low-GWP technologies is limited due to high cost of new refrigerated equipment	Financial	Transfer of RAC sector from ODS based technologies to zero-ODS and low-GWP technologies may take more time. P =3 I = 3	During implementation of demonstration projects on transferring to zero-ODS, low-GWP and energy-efficiency technologies, the project will analyze the ways of reducing capital costs by using locally produced technology components and natural refrigerants where possible and applicable.

4	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 =2 I = 3	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	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	Organizational	RAC technicians will not be able to update their knowledge on refrigeration equipment and servicing, hence, achievement of the important outcome in Component III will be under jeopardy. P = 4 I = 4	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 will be in the prime focus of the project. It will ensure printed version of all KM and publications reached the technicians in the remote areas of project command zone. Remote training modules will be developed, and will help with the project's capacity building components in the times of Covid and other outbreaks. These will serve as alternative methods of operations, and to cater for the needs of distant geographic areas of the country, when required.

6	Women do not show interest in career in RAC sector due to lack of knowledge and understanding	Other	This will result in wrong understanding that RAC sector is only about heavy physical work and technologies and lead to low interest of doing career. P = 1 I = 2	In close cooperation with Committee on Women and Family Affairs under the GoT, the project will elaborate strategy how to involve women in RAC activities, in particularly on managing small business, accountancy and financial administration, receive and record clientele orders, maintain contact details and office management; Awareness raising to change wrong perceptions of RAC sector among women.
7	Project implementing/ national partners / private sector might be working at a lower capacity due to lockdown induced by COVID-19 pandemic	Managerial	This will result in reduced attention/dedication to the project's implementation resulting in a slower implementation rate. P = 2 I = 3	In order to increase the capacity of Project Implementing Partners/ national partners/experts, the project can provide support in the form of providing fast mobile/data allocations, and in certain cases (if deemed critical to project success) enter into agreements to provide (temporarily) computer/conferencing equipment or purchase such equipment that would facilitate virtual work for key stakeholders and personnel. However, it is assumed that by the time the project starts implementation, a lot of these measures have already been put in place by national partners themselves.

8	Reduction in the availability of the co-financing for Ozone related investment	Financial	Due to the economic impact of COVID-19 the government might redirect investments from Ozone related infrastructure/systems to reviving the economy and economic sectors (e.g. industry) might be less likely to want to invest in going green. P = 2 I = 2	To mitigate the impact of this risk, the project will, through Output 2.4. (National scheme to encourage the gradual replacement of HCFC-based equipment using low-GWP technology and energy efficiency), will provide an opportunity for applicants - medium and small businesses - to use concessional financing for the implementation of activities within the project. Such financial instruments are intended to stimulate private sector involvement, and thus job creation. It is expected that governments would be supportive of such incentives which provide sustainable financial means and create and sustain jobs in the process.
9	Disruptions in technology supply chain	Technical	There can be a number of aspects related to the disruption of supply chains on the newer technologies when international production facilities are on the lockdowns and no shipping of essential technical components is possible, or the assembly and installation are not feasible due to technical staff travel restrictions. Even though these could be of a temporary nature, it is important to take such considerations on board. P = 2 I = 4	The project will be cognizant of such restrictions that occur during virus outbreaks and seek to explore opportunities to plan in advance for the supply technologies and explore windows of opportunities together with the manufacturers. The sourcing of the local assembly options, in joint cooperation with the suppliers of components, for such equipment, will be an important adaptation approach that will allow for the commissioning of the equipment under the travel restrictions of personnel from abroad. Online (remote) support will be included in tender documentation to accompany the local works and ensure their high quality.

UNDP Social and Environmental Screening Procedure and plans as needed

Project Information

Project Information	
1. Project Title	**Completion of the phase out of HCFCs consumption with support of low GWP technologies in Belarus**
2. Project Number	PIMS 6046
3. Location (Global/Region/Country)	Belarus

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 will support the Government to meet its commitments as a signatory 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 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 a follow-up to help Belarus reach its 2020 phase-out targets and complete its HCFC phase-out strategy and includes packages of technical assistance and strengthening achievements. The new Project Document includes technical assistance 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 ODS re-use and ODS waste management.

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

The Refrigeration and Air Conditioning (RAC) sector is considered as a male-dominated sector. Since refrigeration and air conditioning is mostly about servicing and maintenance of equipment, men are more inclined and able physically to be involved in it. However, women are involved in managerial and secondary positions. Women deal with refrigeration and air conditioning equipment indirectly, for example, in sales or purchaser's roles, managerial functions etc.

The new project makes strong emphasis on gender aspects, particularly on empowerment of women. The project seeks achieving an ambitious goal – women's empowerment and ensuring greater gender equality. It will do so by contributing to activities, which enable significantly greater visibility of women in ozone business, including in the RAC sector; creating conditions for acknowledging women's indispensable role within the 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 is explicitly designed to mainstream environmental sustainability by introducing alternative and energy efficient technologies in the RAC sector to complete HCFC phase out by 2020. Introduction of alternative zero-ODS, low-GWP and energy efficient, where possible, technologies will support the country in smooth transition to environmentally 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

QUESTION 2: What are the Potential Social and Environmental Risks? *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.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**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)?**
Risk Description	***Impact and Probability (1-5)***	***Significance*** ***(Low, Moderate, High)***	***Comments***	***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.***
Risk 1: Delays in adopting HCFC phase-out strategy Principle 1: question 5	I = 2 P = 2	Low	Certain delays can be expected due to the lengthy Government approval procedures – to address this barriers project team will maintain a high level dialogue among involved Ministries and Committees.	

Risk 2: Technology related misuse in the introduction of Zero-ODS and low-GWP alternatives, which are toxic, flammable or of high pressure may result in emergency situations. Standard 3: question 3.2	I = 3 P = 2	Moderate		All technologies using zero-ODS/low-GWP alternatives are advanced and designed according internationally recognized safety standards (Output 1.4.1) Each demonstration project on introduction of zero-ODS/low-GWP alternatives will include special activities, including theoretical and practical trainings, capacity development and introduction of internationally recognized safety standards.
Risk 3: 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 HCFC related waste (ODS waste). Standard 7: question 7.2	I = 3 P = 1	Low	Project will implement activities on establishment of the specialized HCFCs recycling centres, where these ODS (HCFC) streams will be recycled/reclaimed for further use. Any waste ODS will be stored till a disposal methodology is decided upon in a parallel GEF/UNIDO regional program which is designed to destroy POPs and ODS waste.	
	QUESTION 4: What is the overall Project risk categorization?			
	Select one (see SESP for guidance)			**Comments**
	Low Risk	☐		

	Moderate Risk	**X**	*The project involves demonstration of HCFC alternative technologies that have ammonia, hydrocarbons and carbon dioxide features which have certain risks addressed through modern technologies and safety standards.* *Stronger advocacy on the side of the energy-efficiency related benefits on the new technology will be supported by the project in order to attract more financing and investments into the modernization of the national economy*
	High Risk	☐	
	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	**X**	
	Principle 2: Gender Equality and Women's Empowerment	☐	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	***X***	*The project works with the ODP and GWP cooling applications, and minimization of air releases for these coolants are of important consideration in the project design.*
	3. Community Health, Safety and Working Conditions	**X**	*Misuse in introduction of Zero-ODS and low-GWP alternative, which are toxic, flammable or high pressure may result in occurring emergency situations.*

	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	☐	
	7. Pollution Prevention and Resource Efficiency	**X**	Demonstration projects on replacement of outdated equipment working on HCFC22 with zero-ODP/ low-GWP alternatives may potentially result in the generation of waste of ODS.

Final Sign Off

Signature	*Date*	*Description*
QA Assessor Igar Tchoulba Programme Officer		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver Alexandra Solovieva Resident Representative		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair TBD		UNDP chair of the PAC. In some cases, PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

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? [1]	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
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?	Yes
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 among and/or the risk of violence to project-affected communities and individuals?	No
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
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
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?	No
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?	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?	No
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	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?	No
Standard 2: Climate Change Mitigation and Adaptation	
2.1 Will the proposed Project result in significant[2] greenhouse gas emissions or may exacerbate climate change?	Yes
2.2 Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3 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)?	No
Standard 3: Community Health, Safety and Working Conditions	
3.1 Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2 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)?	Yes
3.3 Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4 Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5 Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
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?	Yes
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)?	No
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	No
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?[3]	No
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 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)?	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
Standard 7: Pollution Prevention and Resource Efficiency	
7.1 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?	No
7.2 Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	Yes
7.3 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?	Yes
7.4 Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No

7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

[1] 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.

[2] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources).

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

A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangementfor project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Roles and responsibilities of the project's governance mechanism: The project will be implemented following UNDP's national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of *Belarus,* and the Country Programme.

The **Implementing Partner** for this project is: the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (MNREP).

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Implementing Partner is responsible for executing this project. Specific tasks include:
•Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. 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 and generated by the project supports national systems.

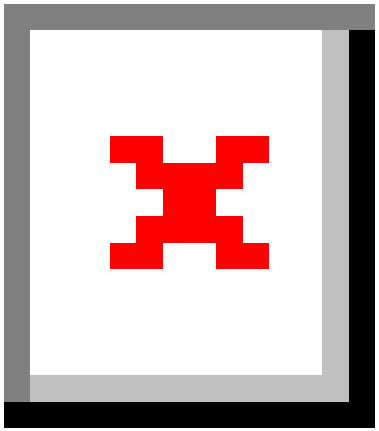
- Risk management as outlined in this Project Document;

- Procurement of goods and services, including human resources;

- Financial management, including overseeing financial expenditures against project budgets;
- 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.

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

The project organisation structure is as follows:



The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. 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 for money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

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 mitigation and management actions to address specific risks;
- Agree on project manager's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financing for this project;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- Review combined delivery reports prior to certification by the implementing partner;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;
- Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;

- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The Project Board (PB) will be established at the Project inception phase to monitor progress, guide its implementation and support the Project in achieving its listed outputs and outcomes. It will be chaired by the NPC and include representatives from the main stakeholders including the MNREP, the Ministry of Economy, the State Customs Committee, the Belarusian Refregiration Association and UNDP Belarus. Other members can be invited at the decision of the PB on an as-needed basis, but taking due regard that the PB remains sufficiently lean to be operationally effective. The Project Manager (PM) will participate as a non-voting member in the PB meetings and will also be responsible for compiling a summary report of the discussions and conclusions of each meeting. The final list of the PB members will be completed at the outset of Project operations and will be approved by

UNDP and MNREP. The first PB meeting will take place within 2 months from the Project Document signature date. The PB will meet at least twice a year to discuss the issues related to Project implementation. The PB could meet more often if it will be deemed necessary.

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

Executive: The Executive is an individual who represents ownership of the project and chairs the Project Board. Executive is normally the national counterpart for nationally implemented projects. This role will be held by a senior official appointed by the *Ministry of Natural Resources and Environmental Protection.*

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

- Ensure that there is a coherent project organization structure and logical set of plans;
- 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;
- Organize and chair Project Board meetings.

Beneficiary Representative(s): Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often civil society representative(s) can fulfil this role. The Beneficiary Representative(s) role is held by a representative of the government or civil society. The Beneficiary Representative is the Ministry of Natural Resources and Environmental Protection of Belarus.

The Beneficiary Representative(s) is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Beneficiary Representative 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.

Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partner(s) is/are:

•MNREP
•State Customs Committee
•National Development Bank of Belarus
•State Standardization Committee
•Association of Climate and Refrigeration Industries
•UNDP Resident Representative in Belarus

Project Manager: The Project Manager is subordinated to the Executive and 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.

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.
•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 performs the quality assurance and 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, and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three – tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of project execution**.**

Project extensions: The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs in excess of the CO's Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environement benefits (GEF Trust Fund) or adaptaion benefits (LDCF/SCCF)?

Funding from the GEF Trust Fund will help Belarus meet its commitments under the Montreal Protocol, which is to phase out 99.5% of HCFCs from 2020. The GEF Trust Fund will be used to support National HCFC control policies, train technicians in using refrigerants which are environmentally friendly, i.e. having zero ODP/low GWP. Equipment and technologies using these refrigerants will be introduced into the country through demonstration projects partially supported with GEF Trust Fund. Scale-up effect from broader introduction of the new technologies will be supported by National Development Bank to gradually modernize the national economy of Belarus in this important respect. The Fund will also help to encourage women to enter the field of refrigeration and air-conditioning.

A.8. Knowledge Management

Elaborate on the Knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings. conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document ina user- friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

The project has been designed to ensure that existing wealth of knowledge related to the global and, more importantly, regional HCFC phase-out processes is applied in the current project. It should be noted that the previous initial capacity building project for Belarus in this area had generated essential experience on managing stakeholders from the private sector on the technology conversion and resource mobilization which will be useful in expediently completing the national HCFC phase-out process. Moreover, all practical results from this project will be shared nationally and internationally, particularly within the CEITs countries which have advanced HCFC phase-out obligations. Such experience can be useful for the MLF funded Article 5 countries, and as shown in the now closed regional programme, such knowledge is shared during UNEnvironment funded regional network meetings, and global OEWG and Meeting of Parties' conference.

The project is committed that the knowledge and lessons learned will be disseminated through network meetings, and other relevant regional meetings and forums.

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessements under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is consistent with the national strategy for phasing out HCFCs as per the requirements of the Montreal Protocol. The country has adopted a wide range of legislation to ensure effective control over the import and use of HCFCs, and more refinements to the legislation are planned during this project.

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

The National Strategy of the Republic of Belarus on the gradual phasing out of hydrochlorofluorocarbons (HCFCs) in the period up to 2020 was approved 13.03.2013 #06 / 214-62 by the Council of Ministers. It includes requirements to provide incentives to owners of industrial and commercial refrigeration equipment, for:

· promoting the application of RAC technology with low global warming potential, which provides higher energy efficiency in new facilities.

· encouraging retrofit / replacement of old inefficient HCFC based equipment, for example, with retrofit to or with new propane based small systems.

Further, the country will have to:

· enforce the ban on disposable cylinders in the country;

· develop and adapt the standards regulating the activities with refrigerants, the rules on service of large refrigeration systems, including the procedure for registration of refrigeration units, detailed history of service installations, requirements for qualification / verification equipment technical staff knowledge;

· prepare an inventory of processes and equipment, working with ozone-depleting substances, and (or) their substitutes.

These best practices will improve accounting for the RAC systems and refrigerant management and bring the servicing and maintenance to a completely new level of the RAC industry standards.

In accordance with the Strategy it is also imperative to create and gradually improve the management system for refrigerants (HCFCs) in the country, including:

· improving the recovery and recycling of refrigerants;

· upgrading the refrigerant distribution infrastructure; and

· creation of capacities for the destruction of unusable refrigerants

In addition to the Strategy, the HCFC control system is featured by the Law "On the Protection of the Ozone Layer", where a number of decrees and instructions concerning the treatment of ODS are stipulated.

C. Describe The Budgeted M & E Plan:

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies[1]. The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GEF-specific M&E activities to be undertaken by this project.

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.

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

1. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
2. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
3. Review the results framework and monitoring plan.
4. 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 and other stakeholders in project-level M&E.
5. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
6. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
7. Plan and schedule Project Board meetings and finalize the first-year annual work plan.
8. Formally launch the Project.

GEF Project Implementation Report (PIR):
The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. 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 quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

GEF Core Indicators:
The GEF and/or LDCF/SCCF Core indicators included as Annex will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent groundtruthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website.

Terminal Evaluation (TE):
An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center.

The evaluation will be 'independent, impartial and rigorous'. The evaluators 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. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC two months prior to project closure. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

Final Report:
The project's terminal GEF PIR along with the terminal evaluation (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.

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 Policy[2] and the GEF policy on public involvement[3].

Mandatory GEF M&E Requirements and M&E Budget:

Monitoring and Evaluation Plan and Budget:		
GEF M&E requirements	**Indicative costs (US$)**	**Time frame**
Inception Workshop	5,000	Within 60 days of CEO endorsement of this project.
Inception Report	None	Within 90 days of CEO endorsement of this project.
M&E of GEF core indicators and project results framework	6,000	Annually and at mid-point and closure.

Monitoring and Evaluation Plan and Budget:		
GEF M&E requirements	**Indicative costs (US$)**	**Time frame**
GEF Project Implementation Report (PIR)	None	Annually typically between June-August
Monitoring of Gender Action Plan	1,500	On-going.
Supervision missions	None	Annually
Independent Terminal Evaluation (TE)	32,000	Two months prior to project closure
TOTAL indicative COST	44,500	

[1] See https://www.thegef.org/gef/policies_guidelines

[2] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[3] See https://www.thegef.org/gef/policies_guidelines

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
Mr Pradeep Kurukulasuriya Executive Coordinator UNDP Global Environmental Finance	11/19/2020	Ms Xiaofang Zhou Director MPU Chemicals	0121290657	xiaofang.zhou@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

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: This project will contribute to achieving the UNDP Belarus Country Programme 2016-2020 (Output3.1: Solutions developed at national and subnational levels for the sustainable management of natural resources, ecosystem services, chemicals and waste) and UNDAF for Belarus for 2016-2020 (Outcome 3.1: By 2020, policies will have been improved and measures will have been effectively implemented to increase energy efficiency and the production of renewable energy, to protect landscape and biological diversity, and to reduce the anthropogenic burden on the environment).					
This project will be linked to the following output of the UNDP Strategic Plan: See description above					
	Objective and Outcome Indicators	**Baseline**[1] [2]	**End of Project Target**	**Source of verification**	**Assumptions**

Project Objective: To accelerate HCFC phase-out to achieve the 2020 compliance objectives and sustainably reduce the servicing tail.	1. 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.	Belarus is in compliance with 2015 Montreal Protocol (MP) mandated HCFC reduction targets, and implements MSP GEF program to meet final milestones by 2020 and 2030 respectively.	Belarus reports MP provision compliance for 2020 with sustained infrastructure to address remaining servicing tail by 2030.	- Annual HCFC quota system information – Art.7 and CP reporting data - No cases of non-compliance reported to the Ozone Secretariat and Implementation committee	- MSP project is approved in Q4 of 2020, and required clearance from the Government is in place - Project frontloads principal project activities, such as tendering of various equipment
Component 1: Removal of regulatory and technical barriers to the final phase-out of HCFCs and adoption of low GWP technology	2. Number of national survey(s) undertaken to find out quantities and uses by type of ODS alternatives prevalent in Belarus, obtained with help of Customs import information and importers/distributers and end-user data collection.	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.	One (1) national survey of consumption of HFCs and other alternative cooling agents (natural cooling agents) and their uses undertaken.	- Customs and NOU data, as well as survey of importers, distributors and end users of ODS alternatives, including HFCs.	Customs has records of imports of ODS alternatives.

	3.Number of network meetings and bilateral visits the State Customs Service participates in terms of ODS import / export control, and subsequent introduction of acquired knowledge and lessons learned into training curriculum.	Belarus requires to participate in existing knowledge management networks such as UNEP organized network meetings and other events in order to continue increasing their national capacity at the Customs level. No means for sampling and storing HCFC samples from large tanks, standard HCFC samples calibrating gas chromatographic equipment	Participation in 3 to 4 network meetings and 2 bilateral visits. Knowledge gathered and lessons learned introduced into training curriculum.	Mission reports on network meetings; bilateral visit reports;	Due level of cooperation from importers, distributors and end users of ODS alternatives in providing data for analysis.
	4. Improved level of the capacity of the Customs Laboratory with refrigerant sampling equipment and HCFC-standards for calibrating the GC-MS for strengthening control over the movement of HCFCs across the customs border of the Republic of Belarus.	No improved HCFC import/export control training and equipment for HCFC phase out in place.	GC-MS operational with standards required for calibration.	Technical specifications and procurement documents; handover protocols;	State Customs Service including Training Institute cooperate with MNREP to participate in regional conferences; training will be organized at national level; portable equipment is distributed to specific border crossings through which HCFCs transit; equipment required for laboratory are available as per specification.

	5. Installation of improved training equipment and materials to facilitate the continuous training of regular and new customs officials - 300 people to ensure close cooperation with the Institute for Advanced Studies of Customs Officers.	No improved HCFC import/export control training and equipment for HCFC phase out in place.	Training at Advanced Studies of Customs Officers on import/export controls of HCFCs is sustainable.	Copies of updated training materials; reports from Customs on training workshops. Reports on illegal HCFC trade cases.	State Customs Service including Training Institute cooperate with MNREP to participate in regional conferences; training will be organized at national level; portable equipment is distributed to specific border crossings through which HCFCs transit; equipment required for laboratory are available as per specification.

	6. Implementation of new strategy/regulations including online registration of equipment containing more than 3kg HCFC.	No updated National Strategy and Regulations, including standards for the collection, storage, transportation and disposal of ODS and ODS equipment and approximation to EU standards, as well as an online registration procedure for refrigeration equipment containing 3 or more kg of HCFC-22, its maintenance (repairs, recharging etc.).	Draft updated Strategy / Regulations prepared and submitted to the government for approval and subsequent implementation, including system for online registration of equipment with 3 or more kg of HCFC-22, its maintenance (repairs, refueling, maintenance) on remote access.	Draft Regulations; final regulations; website for registration of equipment containing more than 3 kg HCFC.	Government moves quickly to adopt new regulations to control HCFCs. Website for equipment registration is accessible and equipment users upload their data.
	7. Exchange of experience through study tours and / or regional conferences involving countries with best practices in this field and participation in regional network meetings and conferences, international exhibitions related to energy efficient technologies with zero ODP and low GWP.	No funding available for senior technical persons and government participation at regional network conferences / forums, as well as study tours in the EU and other countries to acquire new knowledge and modify existing or develop additional legal amendments.	Participation in 8 to 10 conferences, study tours, network meetings and international exhibitions.	Mission reports to conferences, exhibitions etc.;	Choice over and agenda of conferences are aligned with the project's targets.

	8. Standards in place for safe handling, storage and use of natural refrigerants which can be flammable, toxic or operating under high pressure.	No standards for safe handling, storage and use of natural refrigerants.	National legislative review of safety standards for the introduction of low-GWP and non-HCFC technologies prepared, and draft new regulatory and technical regulations for the safe handling, storage and use of natural refrigerants in accordance with international standards based on EN 378 developed for public consultation and adoption.	Draft legislation/standards. Final legislation/standards implemented.	Government is agreeable to have enforceable standards.

	9. A Number of qualified engineers / technicians to receive training abroad in the maintenance and repair of refrigeration and air-conditioning equipment with zero ODP/low GWP technologies, and subsequently assist in developing a manual and training program for training a wider range of national specialists in zero ODP/low GWP technologies. A number of service (training) centres equipped with knowledge, specialized equipment and special tools for servicing low-GWP technologies.	Only one training facility that exists in Belarus to provide training in maintenance and repair of split a/cs using propane. No other facility is available for training in zero ODP/low GWP technologies.	3 to 4 highly qualified engineers / technicians and RAC experts trained abroad and assist in developing a manual training program for national training. Training materials updated and 8 service (training) centres operational, equipped with knowledge and equipment.	Mission reports; updated training material; procurement documents of training equipment.	Appropriate foreign training institution found to ensure quality training for trainers. Cost of training are not prohibitive.
	10. Development and implementation of the national certification system.	No Standards for training and certification	National Standard for study and certification of refrigeration specialists (new and practicing) on the basis of EN378 is implemented.	National standard for certification of technicians	Government comprehensively supports the certification process of technicians.

Component 2: Facilitation of complete HCFC phase-out in Belarus by strengthening the HCFC reuse system, creating conditions for the storage of ODS waste; implementation of HCFC replacement demonstration projects; and improving educational institutions.	11. Number of recycling centres stregthened with Test station per location to test reusable cylinders used for storing and processing HCFC refrigerants. Existence of a replacement pool of service cylinders. Number of sets of tools and portable recovery devices supplied for the remaining service companies and field technicians. Increased capability of BNTU laboratory to certify recycled ODS.	The 4 recycling centres commissioned during the earlier project did not have certain equipment to make them fully functional. All the service companies and field technicians could not be supplied with a set of equipment due to shortage of funds. The laboratory at BNTU needs additional equipment to be able to certify recycled refrigerant.	All 4 recycling centres fully functional to support the HCFC reuse system with advanced refrigerant identifiers, collection stations and refrigerant transfer systems, additional cylinders and tanks for collecting and storing HCFCs, as well as Test station at one location to test reusable cylinders used for storing and processing HCFC refrigerants, and have a replacement pool of service cylinders. All the service companies and field technicians well equipped with 15 to 18 sets of tools and portable recovery devices for the remaining service companies and field technicians to complete support for the national refrigerant management program and complement existing tools at R & R centres. Capacity of the control centre for the composition of recycled and recovered refrigerants at the Belarusian National Technical University expanded by providing necessary equipment to do quantitative and	Final specification list, tender documents; delivery documents, hand over documents, periodical reports from R&R centres and service companies on the use of the equipment.	Participants in this activity agree to providing the necessary co-financing and commit to support the national HCFC re-use system in full to make it functional for the decade to come. Maintenance of equipment provided is ensured, and technicians who have access to such tools are well trained

	12. Number of locations with upgraded storage facilities to store ODS waste until the government has created the conditions (capacity) for destruction.	Storage of waste ODS not being done properly.	Waste ODS storage facility created at 1 or 2 locations for proper storage of ODS waste till disposal options available.	Clearances from the Government for facility upgrade; tender documents for upgrade of facility; reports from the facility operator.	Required government clearances and ESIA procedures are in place

	13. Number of demonstration projects on refrigeration and cooling using free cooling, hydrocarbons, CO2 technologies, ammonia, and heat pumps. Preparation of a comprehensive register of cooling technologies with low GWP technologies based on the succesful results of the demonstration projects, and its transfer to government for dissemination.	Free cooling, CO2, and use of small charge ammonia refrigeration plant for agricultural product processing, retail or storage not implemented in Belarus. Small propane industrial refrigeration units not in use at agricultural production facilities in Belarus. A comprehensive register of cooling technologies with low GWP level not available in Belarus	At least five (5) demonstration projects using Free Cooling, CO2, Ammonia and Propane are implemented successfully in various subsectors. Technologies to be deployed at cellular communication stations, data processing centres and server buildings in various climatic regions of Belarus; industrial refrigeration unit (possibly a meat processing plant) and in commercial refrigeration equipment at retail outlets; processing of products or for cold storage; and industrial refrigeration units at agricultural production facilities A comprehensive register of zero ODP/low GWP technologies is prepared and transferred to public administration bodies.	Letters of commitment received from enterprises, final equipment specifications; tender documents; installation and commissioning reports.	Participating enterprises will continue to be interested in the conversion to non-ODS technologies; co-financing will be arranged by them through partner banks of Development Bank of Belarus.

	14. Provision of training equipment for natural refrigerants (including heat pumps) for educational institutions and for mobile recovery / recycling and monitoring, created for training technical specialists, as well as for conducting and monitoring recovery / recycling in remote areas.	Training equipment in new technologies, including heat pumps not available. Technicians in remote areas find it difficult to access training and recycling of refrigerants.	Training equipment procured and installed. Trainers are knowledgeable to train technicians on these types of equipment. Mobile facility for training and recycling created for training/recycling in remote areas.	Final equipment specifications; tender documents; installation and commissioning reports, reports from trainers and APIMH.	Training institutions are interested in participating – receiving equipment and training technicians. They can arrange the necessary co-financing.
	15. Provision of a national credit line for eligible small and medium enterprises to replace equipment based on HCFCs. Based on the results of the demonstration projects, improved regulation and expansion of national capacity, consultations between the public and private sectors begin to support the proliferation of low-GWP / HCFC technical solutions. Existance of awareness-raising campaign on incentive scheme	No concessional loans were available for HCFC equipment replacement with zero ODP/low GWP equipment, and only a limited number of replication of RAC technology conversion was observed in the first project.	Development Bank of Belarus develops the criteria and advises its partner banks to provide loans at concessional rates to small and medium enterprises (SMEs). Based on the success, targeted awareness programs are initiated to encourage more SMEs using HCFC equipment to avail of the concessional loans to convert to zero ODP/low GWP refrigerant technology.	Quarterly reports on the uptake of concessional loan financing in the HCFC sector. Reports from enterprises that have availed of the loan.	Development Bank of Belarus will set aside US$3 million for SMEs wanting to switch from HCFC technology o zero ODP/low GWP technology. Lending criteria not too narrow to allow SMEs using HCFC technology to access the loans.

Component 3: Public Awareness and Gender Mainstreaming	16. Development and implementation of public awareness program including such programs to attract women to RAC sector careers and inclusion of women in high-profile ozone-related activities and emphasize women's employees technical contribution and specific professional value to project outcomes.	Awareness activities have ended after end of previous project. No awareness activities ongoing. No new material on zero ODP/low GWP technologies being published and no awareness programs targeted towards women.	An awareness program is developed and implemented in Russian, including publication of information material. Also, undertake targeted awareness-raising measures on gender competence of national stakeholders. Women included in high profile Ozone related activities such as ribbon-cutting ceremonies, as speakers and panelists, in customer briefings, in cross-trainings, or in other roles important to the project; preparing written, audio and visual materials that include women as interviewers, interviewees and speakers at events; emphasize women's employees' technical contribution and specific professional value to project outcomes.	Monitoring reports, awareness and information material produced.	Government supports the public awareness program. There is support for gender main streaming by all national stakeholders.

	17. Generation, analysis and publication of sector-specific, gender-relevant quantitative and qualitative data	No gender-relevant quantitative and qualitative data in the RAC sector available. No awareness programs to attract women to careers in the RAC sector, no safety hazard material available for the new zero ODP/low GWP refrigerants being considered in Belarus.	Program to generate gender-relevant quantitative and qualitative data in the RAC sector is designed and data collected and analyzed, and action items implemented to highlight the gaps in the sector and raise public awareness on possible changes.		
	18. Provision of support for women to help them combine family obligations with work interest, such as long-term project events or participation in study tours, conferences, capacity building activities, and capacity building activities and materials on the use of new hydrofluorinated olefins (HFO), R-32, as well as refrigerants, such as hydrocarbons (HCs) and ammonia include gender-sensitive information and discussion material on safety hazards.	No support or consideration to provide work life balance for women. No safety hazard information of exposure of men and women to the zero ODP/low GWP refrigerants proposed to be used in the country.	Development of a program of support for women to combine family obligations with work interests. Safety hazard information, which differentiates between impact of exposure of these chemicals to men and women separately, developed and widely dispersed within the target community.		

Component 4: Project Monitoring and Evaluation	19. Application of M&E to provide feedback to the project coordination process to capitalize on project needs. Accumulation, summary and replication of lessons learned and best practices at the country level.	With the closure of initial HCFC phase-out program, 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.	- Regular monitoring and evaluation of the project activities and results conducted and presented during Project Board meetings, which will be held twice 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 parties. - KM products prepared throughout the project implementation on its achievements to inform wider audience in Belarus and in regional and international meetings;	- APR/PIR combined reports - TE and UNDP response to findings - Project inception report; - Project M&E reports; - Published lessons learned and best practices	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

[1] 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.

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

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

The responses below were at the PIF stage. GEF Council did not review this PIF since it was MSP.

UNDP responses to MLF-GEF comments

Question 1/Response 1. This is duly noted. UNDP can be in regular contact with the national counterparts on this matter during the preparation of the medium-sized project proposal.

Question 2/Response 2. The trade in HCFCs within the territory of the Eurasian Economic Community (Customs Union) is currently subject to regional cooperation with the parties to this Union. At this moment, according to that overarching regulation any transboundary movement of HCFCs is controlled by the need to demonstrate a special permit from the country of origin at the entrance (issued by national Montreal Protocol's related authorities) which is then confirmed by Belarus's authorities on its authenticity as the country of origin sends a copy of the permit directly through government-to-government channels. From January 1, 2017 onwards, Belarus has introduced a ban on single use HCFC containers in import and trade to help control the import of bulk HCFCs and reduce pollution burden resulting from thousands of emptied single-use cylinders. The system needs more of operationalization in the coming years and it will assist in controlling illegal trade better. Based on the GEF support in the current program, additional consultations are possible on fine-tuning HCFC control legislative aspects across the sub-region in focus. In the previous GEF-UNDP programme, as part of the regional project with Ukraine, Uzbekistan and Tajikistan, the Government of Belarus was successful in adopting its HCFC Phase-out Strategy, while recognizing the deficiencies of the HCFC import control system in its traditional sense. A new system on additionally licensing the use of HCFCs at the end-user level allows to control the flow of HCFCs too. Customs controls were also improved in the previous programme with the supply of central and mobile multi-gas sensing equipment with appropriate training to the Customs officers via a more established training curriculum. Therefore, there is a gradual and substantial improvement in the HCFC control measures (not only on the importation side) from 2010 onwards. This is also to confirm that the HCFC control system is in place (reported in the previous and current year Project Implementation Reports – PIRs), and there are national legislative framework and regional amendments to it in effect to address requirements of the Eurasian Economic community (for instance, the Cabinet of Ministers' Resolution #1143 dated December 5, 2014 on amendments to the Law on the Ozone Layer Protection on ODS licensing/quota system and internal/external ODS trade statistics). Further details will be provided in the fully developed project document which will list all available legislative and normative acts.

Question 3/Response 3. The reported data for 2016 are: (1) 40.2 MT of HCFC-22, and (2) 11.3 MT of HCFC-141b in polyols. This results in 3.5 ODP tons (below 5.09 ODP) which is a sustainable HCFC reduction trend. The residual consumption of HCFC-141b based polyols was due to MAZ-Kupava's consumption before the conversion took place to pentane technology. Currently, all HCFC consumption remaining in the country is associated with HCFC-22 used in servicing of existing equipment and assembly of new refrigerated packages.

Question 4/Response 4. The current consumption estimate relates only to HCFC-22 used in the RAC equipment servicing and assembly sectors. More details are to follow in the project document once it is formulated in 2018/2019 period. No HCFCs are currently known to be in the manufacturing sector. One (1) domestic AC manufacturing company, Horizont, used HCFC-22 in charging its four (4) models of air-conditioners before 2013, i.e. before the physical start of the earlier regional GEF/UNDP programme on the HCFC phase-out. It, however, self-converted to HFC-407c. With respect to HCFC-141b, its use at MAZ-Kupava company in terms of polyols and at David-Gorodok company in terms

of solvent was discontinued with the completion of the investment projects this year. Currently, the Ministry of Nature Protection of Belarus does not issue import licenses for HCFC-141b in bulk and in polyols, and is considering amending the HCFC licensing system to exclude HCFC-141b (including polyol-based) from imports and use in Belarus.

Question 5/Response 5. During the project preparation's stage, all requested details will be presented as is the current practice in the GEF. The PPG phase helps define the project components with precision on the budgets and activities, as well as co-investment opportunities from all involved parties, including private sector. The current project design is based on previous results and consultations with stakeholders during the PIF formulation. Further, as only a point of clarification, the regional component allocation (capacity building on legislation, Customs training and information/experience exchange) was US$ 295,000 for Belarus. It is worth noting too that out of the regional component's budget certain re-distribution was approved by the joint project board to support national components of Tajikistan and Uzbekistan (US$ 50,000 and US$ 100,000 respectively), which correspondingly reduced budget availability in the regional component for other countries in a voluntary manner.

Question 6/Response 6. Please refer to the Response 5 above.

Question 7/Response 7. The project proposal is a full package with many essential elements, all comprehensively assisting the country in the HCFC phase-out, such as capacity building, regional UNE's OzonAction-style networking aspects, project management/monitoring, ODS alternative survey and investment components. The assistance proposed for Belarus does not take into account general absence of HCFC phase-out investments before 2010 when the previous regional GEF/UNDP program on initial assistance was approved, while the obligations to phase-out HCFCs for Belarus were already in place for a number of years. Since non-Art 5 countries have a much more advanced schedule to address the HCFC phase-out (10 years ahead of Art 5 countries), this places more serious burden on the economy of the country and eventually its society, and being one of the front-runners in terms of the compliance with the Montreal Protocol's obligations, the country, with currently requested budget to support the country, considers it as justified. Given the spread of alternative technologies coming to substitute HCFCs, and additional capacity building needed on safety aspects, a wider scope of alternative handling tools, and stimulation of the private and public sector to sustainable uptake newer technologies during and after the project's timeframe, the technical assistance requested is backed by co-investments from private and loan resources to ensure further replication of project's results.

Question 8/Response 8. This is to confirm that this is the last request for GEF assistance for HCFC phase-out to prepare the country to sustain the HCFC phase-out while Art 5 countries will continue their efforts to address the same up to 2030.

Question 9/Response 9. Newer technologies, especially natural refrigerants, approach the refrigeration and air-conditioning market of Belarus in line with global trends. In that respect, in the previous regional GEF/UNDP programme, specialized training abroad (in Italy, at Centre Galileo, and Germany, at HEAT) was organized for a number of trainers (six) from Belarus on flammable, high-pressure and toxic refrigerant categories (natural refrigerants referred to as hydrocarbons, carbon dioxide and ammonia, respectively). Based on ToT, and a special session in May 2017 on EU-adopted safety aspects implemented by German counterparts, around 350 existing technicians participated in the knowledge and skills update sessions by these trainers (including 32 technicians without the project support but with the help of the Refrigeration Association in 2017). It does require more effort in Belarus to widely establish new knowledge on such refrigerants/technologies, spread best repair/maintenance practices, equip the RAC sector with more

tools and work on safety standards. In Belarus, EN378/GOST378-14 (adopted in 2014) standard is in use which covers safety at work in general on all new refrigerants, further work on standards is very much required. The project will support the Government in these important initiatives, especially in regulatory area, as already some regional news appears that with the incoming propane-based equipment certain risks are faced by the technicians on the safety of work with it, the need for better training and special tools to handle such new non-HCFC alternatives. So far, the previous project GEF/UNDP assisted in establishing two (2) training auditoriums within existing professional and higher educational institutions, one of which, at the Belarus Polytechnic University, is dedicated to specialized trainings on R-290 (flammable) refrigerant. And, more of similar assistance is needed in the next phase to work on carbon dioxide and ammonia related alternative technologies.

Question 10/Response 10. Such work on further enhancement of the HCFC control system in Belarus is indeed planned, including in its sub-regional context on the Eurasian Economic territory and cooperating with the member states which have market access to Belarus's territory. As a measure to better control HCFCs circulation in the region, the Government of Belarus enacted a ban on the use of single-use containers as outlined in Response 2 above. Additional training for Customs officers, environmental enforcement officers regulating HCFC use within the country, harmonization of sub-regional HCFC control intentions in relation to the Customs Union (data exchange on illegal trade prevention), certification of RAC technicians and more of capacity building in this respect to involve as many technicians as possible into the formal system are all the essential elements of the next round of GEF assistance to Belarus.

Question 11/Response 11. Such details are usually provided at the project document's submission stage as it requires time to analyze the sector better and establish initial contacts with the public and private companies interested in such cooperation on new technology demonstration projects. The number of such pilots, for instance, is difficult to assess at this moment as it will depend on technology choice, business size, and co-investments. With respect to the commercial refrigeration as a target sub-sector, it takes one-third of the HCFC consumption and there is a potential for a much stronger technology spread given its capitalization and more interest in the loan system proposed. The project can look into other sub-sectors which are more fragmented in terms of the HCFC use, but with a focus on larger enterprises as it was implemented in the previous GEF/UNDP program. For the smaller equipment, the approach is more leaning towards establishing a good training platform with required re-tooling and safety related standards' framework in order to prepare for the importation and installation of, for instance, R-290 based household equipment. Retrofitting individual household equipment with R-290 does not bring the needed scale of change, nor being safe enough practice, to the current use of HCFC-22 in such sub-sector. As far as the HFC phase-out is concerned, this approach is definitely replicable, although it could be a subject of another program to assist non Art 5 countries to prepare for the implementation of the Kigali amendment.

Question 12/Response 12. Please refer to Response 11 above.

Question 13/Response 13. The Government of Belarus had actively participated in the formulation of the Kigali amendment, and currently plans to ratify the amendment in 2019. At the same time, the current project does not address the HFCs phase-out, but prepares the country towards 2020's milestone to stop the imports of HCFCs. Given that there is a dual context of addressing HCFC phase-out and, where practically possible, selection of low GWP alternatives, the project was designed in this manner, which helps avoid the build-up of HFCs in the country; however, without necessarily addressing the HFC issues. This will be a matter of another project in the future cycles of the GEF.

Question 14/Response 14. The current PPG levels are as authorized by the GEF policy for medium-sized projects, given approach generally adopted on resource mobilization outside the GEF grant, extensive stakeholder involvement to understand cooperation aspects, two project documents (GEF and UNDP formats) expected for development, social and safeguards system required, and gender related perspectives. Any funds unspent are usually returned to the GEF upon completion of works on the project document's development.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **USD 50,000**			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF/CBIT Amount ($)***		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Component A: Preparatory Technical Studies & Reviews	20,500	20,500	0
Component B: Formulation of the UNDP-GEF Project Document, CEO Endorsement Request and Mandatory Annexes	27,000	27,000	0
Component C: Validation workshop and validation workshop report	2,500	2,500	0
Total	50,000	50,000	0

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core Indicator 1	**Terrestrial protected areas created or under improved management for conservation and sustainable use**	***(Hectares)***

				Hectares (1.1+1.2)			
				Expected		Achieved	
				PIF stage	Endorsement	MTR	TE
Indicator 1.1	Terrestrial protected areas newly created						
Name of Protected Area	WDPA ID	IUCN category		Hectares			
				Expected		Achieved	
				PIF stage	Endorsement	MTR	TE
		Sum					
Indicator 1.2	Terrestrial protected areas under improved management effectiveness						
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score			
				Baseline		Achieved	
					Endorsement	MTR	TE
		Sum					

Core Indicator 2	**Marine protected areas created or under improved management for conservation and sustainable use**						**(Hectares)**
			Hectares (2.1+2.2)				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	*TE*	
Indicator 2.1	Marine protected areas newly created						
Name of Protected Area	WDPA ID	IUCN category	Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
		Sum					
Indicator 2.2	Marine protected areas under improved management effectiveness						
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score			
				Baseline		Achieved	
				PIF stage	Endorsement	MTR	TE

		Sum					
Core Indicator 3	**Area of land restored**						***(Hectares)***
			Hectares (3.1+3.2+3.3+3.4)				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
Indicator 3.1	Area of degraded agricultural land restored						
			Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
Indicator 3.2	Area of forest and forest land restored						
			Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	

Indicator 3.3	Area of natural grass and shrublands restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 3.4	Area of wetlands (including estuaries, mangroves) restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 4	**Area of landscapes under improved practices (hectares; excluding protected areas)**					***(Hectares)***
			Hectares (4.1+4.2+4.3+4.4)			
			Expected		Expected	
			PIF stage	Endorsement	MTR	TE
Indicator 4.1	Area of landscapes under improved management to benefit biodiversity					

			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.2	Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations					
Third party certification(s):			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.3	Area of landscapes under sustainable land management in production systems					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE

Indicator 4.4	Area of High Conservation Value Forest (HCVF) loss avoided				
Include documentation that justifies HCVF	Hectares				
	Expected		Achieved		
	PIF stage	Endorsement	MTR	TE	

Core Indicator 5	**Area of marine habitat under improved practices to benefit biodiversity**				***(Hectares)***
Indicator 5.1	Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations				
Third party certification(s):	Number				
	Expected		Achieved		
	PIF stage	Endorsement	MTR	TE	

Indicator 5.2	Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE

Indicator 5.3	Amount of Marine Litter Avoided					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 6	**Greenhouse gas emission mitigated**					***(Metric tons of CO_2e)***
			Expected metric tons of CO_2e (6.1+6.2)			
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)			*148,058*		
	Expected CO2e (indirect)			*539*		
Indicator 6.1	Carbon sequestered or emissions avoided in the AFOLU sector					
			Expected metric tons of CO_2e			
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)					
	Expected CO2e (indirect)					

	Anticipated start year of accounting					
	Duration of accounting					
Indicator 6.2	Emissions avoided Outside AFOLU					
			Expected metric tons of CO_2e			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)			*148,058*		
	Expected CO2e (indirect)			*539*		
	Anticipated start year of accounting					
	Duration of accounting					
Indicator 6.3	Energy saved					
			MJ			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 6.4	Increase in installed renewable energy capacity per technology					
		Technology	Capacity (MW)			

			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 7	**Number of shared water ecosystems (fresh or marine) under new or improved cooperative management**					***(Number)***
Indicator 7.1	Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.2	Level of Regional Legal Agreements and Regional Management Institutions to support its implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.3	Level of National/Local reforms and active participation of Inter-Ministerial Committees					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE

Indicator 7.4	Level of engagement in IWLEARN through participation and delivery of key products					
		Shared water ecosystem	Rating (scale 1-4)			
			Rating		Rating	
			PIF stage	Endorsement	MTR	TE
Core Indicator 8	**Globally over-exploited fisheries Moved to more sustainable levels**					***(Metric Tons)***
Fishery Details			Metric Tons			
			PIF stage	Endorsement	MTR	TE
Core Indicator 9	**Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products**					***(Metric Tons)***
			Metric Tons (9.1+9.2+9.3)			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
				81.8		

Indicator 9.1	Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)					
POPs type			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.2	Quantity of mercury reduced					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.3	Hydrochloroflurocarbons (HCFC) Reduced/Phased out					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
				81.8		
Indicator 9.4	Number of countries with legislation and policy implemented to control chemicals and waste					

			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
				1		
Indicator 9.5	Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities					
		Technology	Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.6	Quantity of POPs/Mercury containing materials and products directly avoided					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	PIF stage	Endorsement
Core Indicator 10	**Reduction, avoidance of emissions of POPs to air from point and non-point sources**					***(grams of toxic equivalent gTEQ)***

Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.2	Number of emission control technologies/practices implemented					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 11	**Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**					***(Number)***
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Female		*50*		
		Male		*500*		
		Total		*550*		

ANNEX F: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

Level 1	Level 2	Level 3	Level 4
☐ **Influencing models**			
	☒ **Transform policy and regulatory environments**		
	☒ **Strengthen institutional capacity and decision-making**		
	☐ **Convene multi-stakeholder alliances**		
	☒ **Demonstrate innovative approaches**		
	☒ **Deploy innovative financial instruments**		
☒ **Stakeholders**			
	☐ **Indigenous Peoples**		
	☒ **Private Sector**		
		☒ Capital providers	
		☐ Financial intermediaries and market facilitators	
		☐ Large corporations	
		☒ SMEs	
		☒ Individuals/Entrepreneurs	
		☐ Non-Grant Pilot	
		☐ Project Reflow	
	☒ **Beneficiaries**		
	☐ **Local Communities**		
	☒ **Civil Society**		
		☐ Community Based Organization	
		☒ Non-Governmental Organization	
		☒ Academia	
		☐ Trade Unions and Workers Unions	
	☒ **Type of Engagement**		
		☒ Information Dissemination	
		☒ Partnership	
		☒ Consultation	
		☒ Participation	
	☒ **Communications**		
		☒ Awareness Raising	
		☒ Education	
		☒ Public Campaigns	
		☒ Behavior Change	
☒ **Capacity, Knowledge and Research**			
	☐ **Enabling Activities**		
	☒ **Capacity Development**		
	☒ **Knowledge Generation and Exchange**		
	☐ **Targeted Research**		
	☐ **Learning**		
		☒ Theory of Change	
		☐ Adaptive Management	
		☐ Indicators to Measure Change	
	☒ **Innovation**		
	☒ **Knowledge and Learning**		
		☒ Knowledge Management	
		☒ Innovation	
		☒ Capacity Development	
		☒ Learning	
	☒ **Stakeholder Engagement Plan**		
☒ **Gender Equality**			

Level 1	Level 2	Level 3	Level 4
☐ **Influencing models**			
	☒ **Transform policy and regulatory environments**		
	☒ **Strengthen institutional capacity and decision-making**		
	☐ **Convene multi-stakeholder alliances**		
	☒ **Demonstrate innovative approaches**		
	☒ **Deploy innovative financial instruments**		
☒ **Stakeholders**			
	☐ **Indigenous Peoples**		
	☒ **Private Sector**		
		☒ Capital providers	
		☐ Financial intermediaries and market facilitators	
		☐ Large corporations	
		☒ SMEs	
		☒ Individuals/Entrepreneurs	
		☐ Non-Grant Pilot	
		☐ Project Reflow	
	☒ **Beneficiaries**		
	☐ **Local Communities**		
	☒ **Civil Society**		
		☐ Community Based Organization	
		☒ Non-Governmental Organization	
		☒ Academia	
		☐ Trade Unions and Workers Unions	
	☒ **Type of Engagement**		
		☒ Information Dissemination	
		☒ Partnership	
		☒ Consultation	
		☒ Participation	
	☒ **Communications**		
		☒ Awareness Raising	
		☒ Education	
		☒ Public Campaigns	
		☒ Behavior Change	
☒ **Capacity, Knowledge and Research**			
	☐ **Enabling Activities**		
	☒ **Capacity Development**		
	☒ **Knowledge Generation and Exchange**		
	☐ **Targeted Research**		
	☐ **Learning**		
		☒ Theory of Change	
		☐ Adaptive Management	
		☐	

	☒ **Gender Mainstreaming**		
		☒ Beneficiaries	
		☐ Women groups	
		☒ Sex-disaggregated indicators	
		☐ Gender-sensitive indicators	
	☒ **Gender results areas**		
		☐ Access and control over natural resources	
		☒ Participation and leadership	
		☒ Access to benefits and services	
		☒ Capacity development	
		☒ Awareness raising	
		☒ Knowledge generation	
☒ **Focal Areas/Theme**			
	☐ **Integrated Programs**		
		☐ Commodity Supply Chains ([20]Good Growth Partnership)	
			☐ Sustainable Commodities Production
			☐ Deforestation-free Sourcing
			☐ Financial Screening Tools
			☐ High Conservation Value Forests
			☐ High Carbon Stocks Forests
			☐ Soybean Supply Chain
			☐ Oil Palm Supply Chain
			☐ Beef Supply Chain
			☐ Smallholder Farmers
			☐ Adaptive Management
		☐ Food Security in Sub-Sahara Africa	
			☐ Resilience (climate and shocks)
			☐ Sustainable Production Systems
			☐ Agroecosystems
			☐ Land and Soil Health
			☐ Diversified Farming
			☐ Integrated Land and Water Management
			☐ Smallholder Farming
			☐ Small and Medium Enterprises
			☐ Crop Genetic Diversity
			☐ Food Value Chains
			☐ Gender Dimensions
			☐ Multi-stakeholder Platforms
		☐ Food Systems, Land Use and Restoration	
			☐ Sustainable Food Systems
			☐ Landscape Restoration
			☐ Sustainable Commodity Production
			☐ Comprehensive Land Use Planning
			☐ Integrated Landscapes
			☐ Food Value Chains
			☐ Deforestation-free Sourcing
			☐ Smallholder Farmers
		☐ Sustainable Cities	
			☐ Integrated urban planning
			☐ Urban sustainability framework
			☐ Transport and Mobility
			☐ Buildings
			☐ Municipal waste management
			☐ Green space
			☐ Urban Biodiversity
			☐ Urban Food Systems
			☐ Energy efficiency
			☐ Municipal Financing
			☐ Global Platform for Sustainable Cities

	☒ **Gender Mainstreaming**		
		☒ Beneficiaries	
		☐ Women groups	
		☒ Sex-disaggregated indicators	
		☐ Gender-sensitive indicators	
	☒ **Gender results areas**		
		☐ Access and control over natural resources	
		☒ Participation and leadership	
		☒ Access to benefits and services	
		☒ Capacity development	
		☒ Awareness raising	
		☒ Knowledge generation	
☒ **Focal Areas/Theme**			
	☐ **Integrated Programs**		
		☐ Commodity Supply Chains ([20]Good Growth Partnership)	
			☐ Sustainable Commodities Production
			☐ Deforestation-free Sourcing
			☐ Financial Screening Tools
			☐ High Conservation Value Forests
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			☐ Smallholder Farmers
			☐ Adaptive Management
		☐ Food Security in Sub-Sahara Africa	
			☐ Resilience (climate and shocks)
			☐ Sustainable Production Systems
			☐ Agroecosystems
			☐ Land and Soil Health
			☐ Diversified Farming
			☐ Integrated Land and Water Management
			☐ Smallholder Farming
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			☐ Crop Genetic Diversity
			☐ Food Value Chains
			☐ Gender Dimensions
			☐ Multi-stakeholder Platforms
		☐ Food Systems, Land Use and Restoration	
			☐ Sustainable Food Systems
			☐ Landscape Restoration
			☐ Sustainable Commodity Production
			☐ Comprehensive Land Use Planning
			☐ Integrated Landscapes
			☐ Food Value Chains
			☐ Deforestation-free Sourcing
			☐ Smallholder Farmers

			☐ Urban Resilience
	☐ **Biodiversity**		
		☐ Protected Areas and Landscapes	
			☐ Terrestrial Protected Areas
			☐ Coastal and Marine Protected Areas
			☐ Productive Landscapes
			☐ Productive Seascapes
			☐ Community Based Natural Resource Management
		☐ Mainstreaming	
			☐ Extractive Industries (oil, gas, mining)
			☐ Forestry (Including HCVF and REDD+)
			☐ Tourism
			☐ Agriculture & agrobiodiversity
			☐ Fisheries
			☐ Infrastructure
			☐ Certification (National Standards)
			☐ Certification (International Standards)
		☐ Species	
			☐ Illegal Wildlife Trade
			☐ Threatened Species
			☐ Wildlife for Sustainable Development
			☐ Crop Wild Relatives
			☐ Plant Genetic Resources
			☐ Animal Genetic Resources
			☐ Livestock Wild Relatives
			☐ Invasive Alien Species (IAS)
		☐ Biomes	
			☐ Mangroves
			☐ Coral Reefs
			☐ Sea Grasses
			☐ Wetlands
			☐ Rivers
			☐ Lakes
			☐ Tropical Rain Forests
			☐ Tropical Dry Forests
			☐ Temperate Forests
			☐ Grasslands
			☐ Paramo
			☐ Desert
		☐ Financial and Accounting	
			☐ Payment for Ecosystem Services
			☐ Natural Capital Assessment and Accounting
			☐ Conservation Trust Funds
			☐ Conservation Finance
		☐ Supplementary Protocol to the CBD	
			☐ Biosafety
			☐ Access to Genetic Resources Benefit Sharing
	☐ **Forests**		
		☐ Forest and Landscape Restoration	
			☐ REDD/REDD+
		☐ Forest	
			☐ Amazon
			☐ Congo
			☐ Drylands
	☐ **Land Degradation**		
		☐ Sustainable Land Management	
			☐ Restoration and Rehabilitation of Degraded Lands
			☐ Ecosystem Approach
			☐ Integrated and Cross-sectoral approach
			☐ Community-Based NRM

			☐ Urban Resilience
	☐ **Biodiversity**		
		☐ Protected Areas and Landscapes	
			☐ Terrestrial Protected Areas
			☐ Coastal and Marine Protected Areas
			☐ Productive Landscapes
			☐ Productive Seascapes
			☐ Community Based Natural Resource Management
		☐ Mainstreaming	
			☐ Extractive Industries (oil, gas, mining)
			☐ Forestry (Including HCVF and REDD+)
			☐ Tourism
			☐ Agriculture & agrobiodiversity
			☐ Fisheries
			☐ Infrastructure
			☐ Certification (National Standards)
			☐ Certification (International Standards)
		☐ Species	
			☐ Illegal Wildlife Trade
			☐ Threatened Species
			☐ Wildlife for Sustainable Development
			☐ Crop Wild Relatives
			☐ Plant Genetic Resources
			☐ Animal Genetic Resources
			☐ Livestock Wild Relatives
			☐ Invasive Alien Species (IAS)
		☐ Biomes	
			☐ Mangroves
			☐ Coral Reefs
			☐ Sea Grasses
			☐ Wetlands
			☐ Rivers
			☐ Lakes
			☐ Tropical Rain Forests
			☐ Tropical Dry Forests
			☐ Temperate Forests
			☐ Grasslands
			☐ Paramo
			☐ Desert
		☐ Financial and Accounting	
			☐ Payment for Ecosystem Services
			☐ Natural Capital Assessment and Accounting
			☐ Conservation Trust Funds
			☐ Conservation Finance
		☐ Supplementary Protocol to the CBD	
			☐ Biosafety
			☐ Access to Genetic Resources Benefit Sharing

			☐ Sustainable Livelihoods
			☐ Income Generating Activities
			☐ Sustainable Agriculture
			☐ Sustainable Pasture Management
			☐ Sustainable Forest/Woodland Management
			☐ Improved Soil and Water Management Techniques
			☐ Sustainable Fire Management
			☐ Drought Mitigation/Early Warning
		☐ Land Degradation Neutrality	
			☐ Land Productivity
			☐ Land Cover and Land cover change
			☐ Carbon stocks above or below ground
		☐ Food Security	
	☐ **International Waters**		
		☐ Ship	
		☐ Coastal	
		☐ Freshwater	
			☐ Aquifer
			☐ River Basin
			☐ Lake Basin
		☐ Learning	
		☐ Fisheries	
		☐ Persistent toxic substances	
		☐ SIDS : Small Island Dev States	
		☐ Targeted Research	
		☐ Pollution	
			☐ Persistent toxic substances
			☐ Plastics
			☐ Nutrient pollution from all sectors except wastewater
			☐ Nutrient pollution from Wastewater
		☐ Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		☐ Strategic Action Plan Implementation	
		☐ Areas Beyond National Jurisdiction	
		☐ Large Marine Ecosystems	
		☐ Private Sector	
		☐ Aquaculture	
		☐ Marine Protected Area	
		☐ Biomes	
			☐ Mangrove
			☐ Coral Reefs
			☐ Seagrasses
			☐ Polar Ecosystems
			☐ Constructed Wetlands
	☒ **Chemicals and Waste**		
		☐ Mercury	
		☐ Artisanal and Scale Gold Mining	
		☐ Coal Fired Power Plants	
		☐ Coal Fired Industrial Boilers	
		☐ Cement	
		☐ Non-Ferrous Metals Production	
		☒ Ozone	
		☐ Persistent Organic Pollutants	
		☐ Unintentional Persistent Organic Pollutants	
		☐ Sound Management of chemicals and Waste	
		☐ Waste Management	
			☐ Hazardous Waste Management
			☐ Industrial Waste
			☐ e-Waste
		☐ Emissions	

			☐ Sustainable Livelihoods
			☐ Income Generating Activities
			☐ Sustainable Agriculture
			☐ Sustainable Pasture Management
			☐ Sustainable Forest/Woodland Management
			☐ Improved Soil and Water Management Techniques
			☐ Sustainable Fire Management
			☐ Drought Mitigation/Early Warning
		☐ Land Degradation Neutrality	
			☐ Land Productivity
			☐ Land Cover and Land cover change
			☐ Carbon stocks above or below ground
		☐ Food Security	
	☐ **International Waters**		
		☐ Ship	
		☐ Coastal	
		☐ Freshwater	
			☐ Aquifer
			☐ River Basin
			☐ Lake Basin
		☐ Learning	
		☐ Fisheries	
		☐ Persistent toxic substances	
		☐ SIDS : Small Island Dev States	
		☐ Targeted Research	
		☐ Pollution	
			☐ Persistent toxic substances
			☐ Plastics
			☐ Nutrient pollution from all sectors except wastewater
			☐ Nutrient pollution from Wastewater
		☐ Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		☐ Strategic Action Plan Implementation	
		☐ Areas Beyond National Jurisdiction	
		☐ Large Marine Ecosystems	
		☐ Private Sector	
		☐ Aquaculture	
		☐ Marine Protected Area	
		☐ Biomes	
			☐ Mangrove
			☐ Coral Reefs
			☐ Seagrasses
			☐ Polar Ecosystems
			☐ Constructed Wetlands
	☒ **Chemicals and Waste**		
		☐ Mercury	
		☐ Artisanal and Scale Gold Mining	
		☐ Coal-Fired Power Plants	

		☐ Disposal	
		☐ New Persistent Organic Pollutants	
		☐ Polychlorinated Biphenyls	
		☐ Plastics	
		☐ Eco-Efficiency	
		☐ Pesticides	
		☐ DDT - Vector Management	
		☐ DDT - Other	
		☐ Industrial Emissions	
		☐ Open Burning	
		☐ Best Available Technology / Best Environmental Practices	
		☐ Green Chemistry	
	☐ **Climate Change**		
		☐ **Climate Change Adaptation**	
			☐ Climate Finance
			☐ Least Developed Countries
			☐ Small Island Developing States
			☐ Disaster Risk Management
			☐ Sea-level rise
			☐ Climate Resilience
			☐ Climate information
			☐ Ecosystem-based Adaptation
			☐ Adaptation Tech Transfer
			☐ National Adaptation Programme of Action
			☐ National Adaptation Plan
			☐ Mainstreaming Adaptation
			☐ Private Sector
			☐ Innovation
			☐ Complementarity
			☐ Community-based Adaptation
			☐ Livelihoods
		☐ **Climate Change Mitigation**	
			☐ Agriculture, Forestry, and other Land Use
			☐ Energy Efficiency
			☐ Sustainable Urban Systems and Transport
			☐ Technology Transfer
			☐ Renewable Energy
			☐ Financing
			☐ Enabling Activities
		☐ **Technology Transfer**	
			☐ Poznan Strategic Programme on Technology Transfer
			☐ Climate Technology Centre & Network (CTCN)
			☐ Endogenous technology
			☐ Technology Needs Assessment
			☐ Adaptation Tech Transfer
		☐ **United Nations Framework on Climate Change**	
			☐ Nationally Determined Contribution

		☐ Disposal	
		☐ New Persistent Organic Pollutants	
		☐ Polychlorinated Biphenyls	
		☐ Plastics	
		☐ Eco-Efficiency	
		☐ Pesticides	
		☐ DDT - Vector Management	
		☐ DDT - Other	
		☐ Industrial Emissions	
		☐ Open Burning	
		☐ Best Available Technology / Best Environmental Practices	
		☐ Green Chemistry	
	☐ **Climate Change**		
		☐ **Climate Change Adaptation**	
			☐ Climate Finance
			☐ Least Developed Countries
			☐ Small Island Developing States
			☐ Disaster Risk Management
			☐ Sea-level rise
			☐ Climate Resilience
			☐ Climate information
			☐ Ecosystem-based Adaptation
			☐ Adaptation Tech Transfer
			☐ National Adaptation Programme of Action
			☐ National Adaptation Plan
			☐ Mainstreaming Adaptation
			☐ Private Sector
			☐ Innovation
			☐ Complementarity
			☐ Community-based Adaptation
			☐ Livelihoods
		☐ **Climate Change Mitigation**	
			☐ Agriculture, Forestry, and other Land Use
			☐ Energy Efficiency
			☐ Sustainable Urban Systems and Transport
			☐ Technology Transfer
			☐ Renewable Energy
			☐ Financing
			☐ Enabling Activities
		☐ **Technology Transfer**	
			☐ Poznan Strategic Programme on Technology Transfer
			☐ Climate Technology Centre & Network (CTCN)
			☐ Endogenous technology
			☐ Technology Needs Assessment
			☐ Adaptation Tech Transfer

ANNEX G: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)									Total (USDeq.)	Responsible Entity
		Component 1		*Component 2*		*Component 3*		*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
		Sub-component 1.1	*Sub-component 1.2*	*Sub-component 2.1*	*Sub-component 2.2*	*Sub-component 3.1*	*Sub-component 3.2*					
Goods	Procurement of materials and goods required for State Customs Committee and Service Centers, and procurement of refrigerant standards for Laboratories.	35,000						35,000			35,000	MNREP
Goods	Publications produced within Component 1.	12,500						12,500			12,500	MNREP

Goods	The project is planning to implement up to 6 demonstration projects on application of zero-ODS, low-GWP, free-cooling and energy efficient technologies in various sectors of economy and procure training rigs for vocational training purposes. The funds planned in this budget account will cover these costs. Also, under component 2, the project is planning to improve capacity of 3 vocational training centers in Belarus for re-training and capacity building of RAC technicians, provide prof-orientation trainings for young people – the graduates of technical colleges. The training centers will be provided with the required, i.e. set of service equipment and tools, multimedia equipment			485,000				485,000			485,000	MNREP

Goods	Procurement of materials and goods required for implementation of demonstration projects and capacity improvement of re-use centers and vocational training centers.			96,500				96,500			96,500	MNREP
Goods	The training centers will be provided with the required, i.e. set of computers			6,000				6,000			6,000	MNREP
Goods	Project will procure the equipment, which is necessary for effective implementation of project PR and outreach activities					20,000		20,000			20,000	MNREP
Goods	Advanced communication technologies under Component 3 will be used to ensure that PR and outreach activities are appealing and effective. The project will further maintain and promote website www.apimh.by, etc.					5,000		5,000			5,000	MNREP

Goods	In order to promote gender mainstreaming in RAC sector, the project, in close cooperation with the RAC-Association, will conduct national start-up contest among women and girls who want to start RAC related business. The project will select at least one start-up project and support it with the equipment and tools as a starting capital required for business development.							-	13,000		13,000	MNREP
Goods	Costs associated with organization of national start-up contest among women and girls who want to start RAC related business.							-	10,000		10,000	MNREP
Goods	Procurement of goods from PM staff (Accommodation Furniture)							-		15,000	15,000	MNREP
Goods	Costs to cover project communications (mobile and land line communication, internet) costs.							-		6,670	6,670	MNREP
Goods	Procurement of computers for project management staff							-		7,500	7,500	MNREP

Contractual Services – Individual	Project Manager will be responsible for overall management of the project activities as well as planning and implementation of Component 1. 50% of remuneration of the Project Manager (SB4/2, 50% costs within Component 1; 974,88 USD per month for 48 months) will be charged to the budget of this component, which will relate to technical nature of the assignment. Detailed information about Project Managers` responsibilities is available in the Annex C “Overview of Technical Consultancies” and Annex D “Term of References”. Technical Coordinator will be responsible for the technical implementation of the project activities, cooperation with local experts and national and international stakeholders. 30% of remuneration of the Technical Coordinator (SB4/2, 30% costs within Component 1; 584,93 USD per month for 48 months) will be charged to the budget of this component. Detailed information about Technical	74,870							74,870			74,870	MNREP

Contractual Services – Individual	Procurement Specialist (SB3/2, 100% payment from Component 2; 1,356.84 USD per month for 30 months). Detailed information about key project team is available in the Annex C “Overview of Technical Consultancies” and Term of References (ToRs) for the project staff us available in Annex D “Term of References”. Technical Coordinator will be responsible for the technical implementation of the project activities, cooperation with local experts and national and international stakeholders. 30% of remuneration of the Technical Coordinator (SB4/2, 30% costs within Component 1; 584,93 USD per month for 48 months) will be charged to the budget of this component. Detailed information about Technical Coordinator` responsibilities is available in the Annex C “Overview of Technical Consultancies” and Annex D “Term of References”.			68,827				68,827			68,827	MNREP

Contractual Services – Individual	Technical Coordinator will be responsible for the technical implementation of the project activities, cooperation with local experts and national and international stakeholders. 40% of remuneration of the Technical Coordinator (SB4/2, 40% costs within Component 1; 779,90 USD per month for 48 months) will be charged to the budget of this component. Detailed information about Technical Coordinator` responsibilities is available in the Annex C “Overview of Technical Consultancies” and Annex D “Term of References”.					37,435		37,435			37,435	MNREP

Contractual Services – Individual	A team of project personnel will be established to ensure smooth implementation of the project activities. Cost of Administrative and Finance Assistant (SB3/2, 35% payment from PMC; 474.90 USD per month for 48 months). Detailed information about key project team is available in the Annex C “Overview of Technical Consultancies” and term of References (ToRs) for the project staff us available in Annex D “Term of References”.							-	22,800		22,800	MNREP

Contractual Services – Individual	The team of project personnel will be established to ensure smooth implementation of the project activities. Project Manager (SB4/2, 50% costs within Component 1; 974,88 USD per month for 48 months) will be charged to the budget of this PMC. Detailed information about Project Managers` responsibilities is available in the Annex C “Overview of Technical Consultancies” and Annex D “Term of References”. Administrative and Finance Assistant (SB3/2, 65% payment from PMC; 881.95 USD per month for 48 months). Detailed information about key project team is available in the Annex C “Overview of Technical Consultancies” and Term of References (ToRs) for the project staff us available in Annex D “Term of References							-		89,230	89,230	MNREP

Contractual Services – Individual	Contractual Services of the Project Assistant will be applied for provision of administrative and technical support to ensure smooth implementation of the project							-		13,740	13,740	MNREP
Contractual Services – Company	Under Component 1, activities on extension of the capacity of the State Customs Committee to improve the control of transboundary movement of HCFC and Service Centers to implement new ODS alternatives. The project will buy equipment for new technologies. The services may include installation and other relevant works. Also, costs for services, required for organization of trainings, workshop and other events planned within the component, will be financed from this budget account.	99,000						99,000			99,000	MNREP

Contractual Services – Company	Implementation of activities planned within the component 2, i.e. improvement of capacity of existing and new established re-use centers, implementation of demonstration projects on application of zero-ODS, low-GWP technologies will require services of companies on installation, reconstruction, maintenance and transportation/logistics. Also, funds under this budget account will cover the costs of services required for establishment of vocational training centers, implementation of training activities for RAC service technicians.			139,000				139,000			139,000	MNREP

Contractual Services – Company	Planned funds will be used to cover costs associated with implementation of projects` PR and Outreach, various thematic events, seminars, workshops, press-conferences, contests etc. will also be financed from this budget account					16,500		16,500			16,500	MNREP
Contractual Services – Company	Under component 4, events on gender mainstreaming, namely the national start-up contest among women and girls, trainings and workshops will be organized. Costs associated with organization of these events, including meetings of Project Board will be covered from this budget account							-	16,000		16,000	MNREP

International Consultants	Short-term International Consultant on ODS alternatives, namely on application of natural refrigerants, safety standards for providing technical advice on the compliance technical documentations for improvement of the National Strategy and technical legislation. (800 USD a day for 20 days).	16,000						16,000			16,000	MNREP
International Consultants	Short-term International Consultant on ODS alternatives, namely on application of natural refrigerants, safety standards for providing technical advice on the compliance technical documentations for implementation of demonstration projects. (800 USD a day for 20 days).			16,000				16,000			16,000	MNREP
International Consultants	Costs for recruitment International Consultant for organization of Terminal Evaluation (800 USD a day for 25 days during the last year of project implementation).							-	20,000		20,000	MNREP

Local Consultants	During project implementation, the involvement of national/local consultants on short-term basis is planned. They will assist the project staff in fulfillment of specific activities with short-term results used as an input to the project's long-term targets. The following short-term national consultants will be financed from the budget line: - 4 Local Consultants on ODS Alternatives Survey (Foam, MAC, Refrigeration, Air-conditioning and RAC servicing) (100 USD a day for up to 40 days); - Local Consultant on Updating of the National Strategy phase out of HCFC in Belarus (100 USD a day for up to 50 days); - Local Consultant on Standards and Development of Training Programmes (100 USD a day for up to 50 days); - Local Consultant on Development of the System of Certification for refrigeration technicians (100 USD a day for up to 80 days); - Local Consultants for technical support	47,000							47,000			47,000	MNREP

Local Consultants	During project implementation, the involvement of national/local consultants on short-term basis is planned. They will assist the project staff in fulfillment of specific activities with short-term results used as an input to the project's long-term targets. The following short-term national consultants will be financed from the budget line: - Local Consultant on ODS Alternatives Technologies (100 USD a day for up to 80 days); - Local Trainers – 2 consultants (each by 100 USD/day for up to 80 days). Detailed information about involvement of short-term local consultants is available in the Annex C "Overview of Technical Consultancies".			16,000				16,000			16,000	MNREP

Local Consultants	During project implementation, the involvement of national/local consultants on short-term basis is planned. They will assist the project staff in fulfillment of specific activities with short-term results used as an input to the project's long-term targets. The following short-term national consultants will be financed from the budget line: - Local Consultants for technical support (designers, film makers, translators, editors etc., and payment fees as per product produced, pages translated/edited text as per UNDP rules and procedures) Detailed information about involvement of short-term local consultants is available in the Annex C "Overview of Technical Consultancies".					12,000		12,000			12,000	MNREP

Local Consultants	During project implementation, the involvement of national/local consultants on short-term basis is planned. They will assist the project staff in fulfillment of specific activities with short-term results used as an input to the project's long-term targets. The following short-term national consultants will be financed from the budget line: - National Consultant forTerminal Evaluation (50 USD/day for up to 10 days); - Local Consultants for technical support (translators, editors etc., and payment fees as per page of translated/edited text as per UNDP rules and procedures) Detailed information about involvement of short-term local consultants is available in the Annex C "Overview of Technical Consultancies".							-	10,000		10,000	MNREP

Trainings, Workshops, Meetings	Costs for services, required for organization of trainings, workshop and other events planned within the component.	83,000						83,000			83,000	MNREP
Trainings, Workshops, Meetings	Costs for services, required for organization of trainings, workshop and other events planned within the component			24,000				24,000			24,000	MNREP
Travel	Project implementation will require some financial resources for local travels within each project component to implement planned activities covering all regions of Belarus. International travels are also planned within component 1 for organization of study tour for customs specialists and technical specialists from laboratories to abroad and support the government officials to attend international network meetings, and official Meetings organized for Parties of the Montreal Protocol.	20,000						20,000			20,000	MNREP

Travel	Project implementation will require some financial resources for local travels within each project component to implement planned activities covering all regions of Belarus. International travels are also planned within components 2 for facilitating networking and experience exchange of refrigeration technicians and experts.			20,000				20,000			20,000	MNREP
Travel	Project implementation will require some financial resources for local travels within each project component to implement planned activities covering all regions of Belarus. International travels are also planned within components 3 for facilitating networking and experience exchange.					29,000		29,000			29,000	MNREP

Travel	Project implementation will require some financial resources for local travels within each project component to implement planned activities covering all regions of Belarus. Local travels to conduct monitoring and evaluation activities will be financed.							-	22,500		22,500	MNREP
Office Supplies	Costs related to office supplies.							-	16,500		16,500	MNREP
Office Supplies	Funds to cover costs of office supplies							-		8,610	8,610	MNREP
Other Operating Costs	Bank-charges, other miscellaneous costs	1,130						1,130			1,130	MNREP
Other Operating Costs	Publication of required thematical/knowledge, and other information materials required for demonstration projects and HCFC re-use centers.			16,500				16,500			16,500	MNREP
Other Operating Costs	Bank-charges, other miscellaneous costs			4,873				4,873			4,873	MNREP
Other Operating Costs	Bank-charges, other miscellaneous costs					1,365		1,365			1,365	MNREP

Other Operating Costs	Publication of required thematical/knowledge, and other information materials required for dissemination of information about the project results							-	25,000		25,000	MNREP
Other Operating Costs	Bank-charges, other miscellaneous costs							-	1,700		1,700	MNREP
Other Operating Costs	Funds to cover NIM Audit and Spot Check costs							-		15,000	15,000	MNREP
Other Operating Costs	Bank-charges, other miscellaneous costs							-		250	250	MNREP
Grand Total		388,500		892,700		121,300		1,402,500	157,500	156,000	1,716,000	