PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE:
THE GEF TRUST FUND

Re-submission Date: 29 September 2009

PART I: PROJECT IDENTIFICATION

GEFSEC PROJECT ID[1]:
GEF AGENCY PROJECT ID:
COUNTRY(IES): The Russian Federation
PROJECT TITLE: Phase out of HCFCs and promotion of HFC-free Energy Efficient Refrigeration and Air-conditioning systems in the Russian Federation through technology transfer.
GEF AGENCY(IES): UNIDO
OTHER EXECUTING PARTNER(S):
GEF FOCAL AREA (S): OZONE DEPLETION SUBSTANCES, CLIMATE CHANGE AND TECHNILOGY TRANSFER
GEF-4 STRATEGIC PROGRAM(S): ODS-SP1, CLIMATE CHANGE-SP6, TECHNOLOGY TRANSFER
NAME OF PARENT PROGRAM/UMBRELLA PROJECT:

INDICATIVE CALENDAR	
Milestones	**Expected Dates**
Work Program (for FSP)	11.2009
CEO Endorsement/Approval	03.2010
GEF Agency Approval	04.2010
Implementation Start	06.2010
Mid-term Review (if planned)	06.2012
Implementation Completion	06.2015

A. PROJECT FRAMEWORK

Project Objective: 1. The primary objective is the direct phase out 600 ODP tonnes of HCFCs in the foam and refrigeration manufacturing sectors in the Russian Federation to meet the 2015 Montreal Protocol target. The GHG emissions reduction resulting from the phase out of HCFCs will be approximately 15.6 MMT CO_2.
2. The secondary objective of the project is to introduce more energy efficient designs, through technology transfer, during the conversion of refrigeration and air conditioning manufacturing facilities. By doing the project aims to achieve indirect GHG emissions reduction through reduced electricity consumption in the commercial and industrial refrigeration sectors, is approximately 10 MMT CO_2 in 5 years.

Project Components	Indicate whether Investment, TA, or STA	Expected Outcomes	Expected Outputs	Indicative GEF Financing*		Indicative Co-financing*		Total ($)
				($)	%	($)	%	
1) Building institutional capacity	TA	Policy, legal framework and institutional capacity required to assess and accelerate HCFC phase out and reduction of HFC consumption. Analysis of the level of residual demand of HCFC after 2014 and 2019 by looking at the stock of ODS equipment in the country. Monitoring and assessment of HCFCs and HFCs production, consumption, export and import. Policies reviewed and HCFC legislation developed. Harmonisation of regulations in the Russian Federation	National database and tracking process HCFC and HFC consumption patterns and scenario plans Stakeholder framework developed and commitments agreed Improved awareness, educational information and environmental management systems	1,500,000	48	1,600,000	52	3,100,000

[1] Project ID number will be assigned initially by GEFSEC.

		with EC F-gases regulations. Up-grading of ODS and HFC import/export legislation, customs officers training activities, procurement of ODS control equipment for customs.						
2) HFC and HCFC life cycle performance analysis	STA	Determination of the most appropriate phase out strategies for different subsectors. Capacity to adapt to developing phase out scenarios and technology developments.	Climate impact benchmark data for the Russian Federation Clear selection parameters for alternative technologies ODS and climate impact Climate change mitigation policy	250,000	71	100,000	29	350,000
3) Phase out of HCFC consumption in the key consuming sectors of Foam and Refrigeration	Investment	Meet Montreal Protocol phase out obligations. Technical assessment of capacity within sectors. Phase out of 600 ODP tonnes HCFC (22,141b,142b) (Direct phase out 60% and 40% by replication)	Series of demonstration conversion sub-projects in key HCFC consuming sectors Technical assistance (technology transfer, engineering services, equipment and instrumentation, etc.) required for conversion of pilot sub-projects Demonstration sub-projects from different HCFC and HFC consuming sectors and sub-sectors Reduction of HCFC consumption and GHG emissions.	10,000,000	25	30,000,000	75	40,000,000

4) Development of ODS destruction facility and supporting recovery network	Investment	Demonstration project to make a full technical and economical analysis of recycling and destruction scheme Reduction on ODS Bank Monitoring, Inspection and Verification procedures Installation, commissioning and operating training plan Analysis of the financial operating model and the commercial viability of replica schemes	The detailed analysis of destruction requirements and selection of the most appropriate technology to provide adequate destruction capacity for all recovered ODS The design and installation of destruction facility and appropriate foam processing equipment Commercial sustainability model (market economy mechanism) for ODS destruction Confirmation of impact of Regulatory and Policy measures Training of specialists and establishment of centre of excellence Analysis of alternative funding mechanisms including CDM	2,300,000	57	1,500,000	43	3,500,000
5) Stimulating market growth for energy efficient refrigeration and air conditioning equipment.	TA	Increased market share of more energy efficient refrigeration and air conditioning equipment. Greater consumer and user awareness and increased demand for energy efficient technology	Information on policy measures and barrier removal approaches Methodologies for conducting market assessments Energy efficiency marketing campaign (demand drivers).	500,000	71	200,000	29	700,000

6)Technology Transfer	TT	Technology Transfer of non-HFC alternatives to HCFC applications Technology transfer for design of higher efficiency RAC systems (in conjunction with purchase of production lines for demonstration projects). Private sector energy efficient design capacity High efficiency manufacturing equipment	Conversion of HCFC based refrigeration and foam systems. Energy performance and quality standards for key technologies Engineering and thermodynamic design for energy efficient refrigeration and air-conditioning equipment (design, license and engineering know-how)	2,700,000	30	6,000,000	70	9,000,000
7) Feasibility study to determine the best and most integrated strategy for dealing with HCFC production closure.	TA	Stakeholder facilitation to agree production closure strategy Reduction of 1840 metric tones of HCFCs closed.	HCFC production closure strategy.	250,000	56	200,000	44	450,000
8) Project management, monitoring and evaluation (5years)				500,000	56	400,000	44	900,000
				18,000,000	31	40,000,000	69	58,0000

* List the $ by project components. The percentage is the share of GEF and Co-financing respectively to the total amount for the component.
TA = Technical Assistance; STA = Scientific & technical analysis.

B. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT ($)

	Project Preparation*	Project	Agency Fee	Total
GEF		18,000,000	1,800,000	$19,800,000
Co-financing		40,000,000		40,000,000
Total		58,000,000	1,800,000	59,800,000

*if already approved

C. INDICATIVE CO-FINANCING FOR THE PROJECT (including project preparation amount) BY SOURCE and BY NAME (in parenthesis) if available, ($)

Sources of Co-financing	Type of Co-financing	Amount
Project Government Contribution	In-kind	2,150,000
GEF Agency(ies)	In-kind	350,000
Bilateral Aid Agency(ies)		
Multilateral Agency(ies)		
Private Sector	Grant and in-kind	37,500,000
NGO		
Others		
Total co-financing		40,000,000

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY (IES) SHARE AND COUNTRY(IES)

GEF Agency	Focal Area	Country Name	(in $)		
			Project (a)	Agency Fee (b)[2]	Total c=a+b
UNIDO	ODS	Russian Federation	$9,000,000	$900,000	$9,900,000.00
UNIDO	CC-RAF	Russian Federation	$6,300,000	$630,000	$6,930,000.00
UNIDO	CC-TT-GRE	Russian Federation	$2,700,000	$270,000	$2,970,000.00
Total GEF Resources			$18,000,000	$1,800,000	$19,800,000

PART II: PROJECT JUSTIFICATION

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

In 2008 The Russian Federation produced 31,600 metric tonnes of HCFCs (HCFC 21, 22 and 142b), imported a further 12,100 metric tonnes of HCFCs (HCFC 22, 141b) and used 26,600 tonnes as feedstock for PTFE. The consumption in metric tonnes is 17,100 metric tonnes as refrigerants and foam blowing agent.

This corresponds with the officially reported consumption in 2008 of 1,133 ODP tonnes.

Under article 2 of the Montreal Protocol the Russian Federation must reduce consumption and production of HCFCs by 75% relative to its baseline consumption of 3,996.9 ODP tonnes by 2010. This equates to an allowable consumption in 2010 of 999.23 ODP tonnes. A further reduction of 90% relative to baseline is required by 2015 providing for a maximum consumption of 399.69 ODP tonnes.

This means that between 2010 and 2015 the Russian Federation must phase out 600 ODP tonnes of HCFCs, equivalent to approximately 9,550 MT of HCFCs based on the current usage mix.

Consumption in 2008	MT	ODP	ODP Tonnes	GWP	CO2 Equiv MT
HCFC -22	12,682	0.05	634	1810	22,954,420
HCFC -141b	3,269	0.11	360	725	2,370,025
HCFC -142b	1,174	0.07	82	2310	2,711,940
Total	17,125		1,076	1,637	28,036,385

At present there are three main barriers to achieving this HCFC phase out and developing long term strategies to minimize the climate impact of alternative technologies in the foam and refrigeration and air conditioning sectors; i) insufficient institutional capacity ii) lack of suitable alternative technologies iii) insufficient market drivers for environmentally friendly equipment and products.

This project represents the first comprehensive international effort to make estimates of the scope of work for HCFC phase out on a global basis and to fully integrate other related global environmental issues. The project would consist of seven sub-components two of which (3 and 5) respond specifically to the Strategic Programme on Technology Transfer and Climate change.

Institutional Capacity Building

The former PIU was abolished in 2004 and at present, legislation is insufficient in a number of key areas, such as a ban on releasing ODS from equipment, policies for the control of HCFC production closure and the manufacture and import of HCFC based equipment have not been developed. There is also a general lack of awareness in industry of the alternative technologies available for HCFCs.

Lessons learned from ODS phase out activities to date in non-European CEITs (GEF Impact Evaluation Report -draft July 2009) show that illegal trade poses an ongoing risk to ODS phase out due to a lack of comprehensive and effective border controls and policies. These issues will be a significant barrier to HCFC phase out.

The project therefore addresses strengthening of institutional capacities for sustainabe HCFC phase out, through development and implementation of training, awareness and capacity-building activities for key Government departments, legislators, decision-makers and other institutional stakeholders. Special attention will be given to the harmonisation of regulations in the Russian Federation with EC F-gases regulations, as well as, the up-grading of ODS and HFC import/export legislation, customs officers training activities and procurement of ODS control equipment for customs.

Given the current trends in consumption in the refrigeration and foam sectors it is vital that both institutional capacity and investment funding are put in place to meet the Montreal Protocol targets, this means the phase out of over 1000 ODP tonnes of HCFCs. At the same time it is important for the Russian Federation to consider the longer term climate impact of HCFC alternatives and in particular, to steer clear of HFCs technologies.

HFC and HCFC Life Cycle Performance Analysis

At the same time the project will address the additional need to develop a long term sustainable phase out strategy that minimizes climate impact in accordance with decision XIX/6 and in line with GEF-4 and GEF-5 strategic objectives. For this reason the project proposes a fully integrated approach to the assessment of HCFC alternatives for ODS phase out with the use of non-HFC alternatives for the investment component. This will require a detailed life cycle climate impact analysis of technical alternatives particularly in refrigeration and air conditioning, taking into account the potential climate benefits of the adoption of more energy efficient technology.

Phase Out of HCFCs Foam and Refrigeration Sectors

This project is designed to achieve this reduction through a number of phase out demonstration projects in the biggest HCFC consuming industries to deliver a) a directly funded phase out of 6,000 MT of HCFCs and b) phase out of a further 4,000 MT through replication of demonstration projects at all major consumers in the Russian Federation, especially in the commercial refrigeration sector. Replication of phase out activities will be stimulated by awareness activities, a legal framework controlling imports and a production closure strategy. Moreover, the “project concept” using the synergy of ODS phase-out and Climate Protection (GHG reduction) could be replicated for other Article 2 countries.

The primary activities will be the conversion of foam production facilities in the polyurethane foam and domestic refrigeration production sectors and the conversion of manufacturing of commercial and industrial refrigeration equipment.

A reduction in HCFC consumption in the refrigeration service sector will also be brought about through the control of the import of HCFC based equipment and by an enhanced regulatory framework (component 1).

The direct climate impact reduction alone resulting from meeting the ODS phase out target of 600 ODP tonnes (9,543 MT) of HCFCs 22,141b and 142b is approximately 15.6 MMT CO_2 equivalent.

Direct GHG Reduction - Investment	5.46	MMT CO2
Direct GHG Reduction - Replication	10.17	MMT CO2
TOTAL DIRECT GHG REDUCTION	15.62	MMT CO2

Development of ODS Destruction Facility and Collection Network

ODS destruction is part of a holistic approach to minimize climate impact, if the other components of the programme are successful it will be necessary to deal with the ODS that is displaced by the purchase or installation of new non-ODS equipment. Without proper destruction facilities and a collection network, HCFC phase out could actually generate a negative direct climate impact in the short term if ODS from redundant equipment is allowed to escape into the atmosphere instead of being recovered and destroyed.

The destruction component will establish the current facilities in the Russian Federation capable of or potentially capable of destroying ODS using one of the methods approved by the UNEP Technology and Economic Assessment Panel (TEAP) and to require national and international standards for maximum emissions levels from destruction facilities in terms of polychlorinated dioxins and furans and other products of incomplete combustion.

The project will determine, upgrade and demonstrate through an investment project the most commercially viable operating model and destruction technology that can be integrated into the existing regional recycling networks. The target destruction efficiency is 99,99%. A significant issue is whether, given the scale of operation of the network, it is more efficient to operate a separate destruction facility for ODS or whether existing waste incinerators can be adapted to accommodate ODS destruction without impacting on the other commercial activities. The project will therefore include a detailed demonstration project to make a full technical and economical analysis of the destruction scheme options.

It is envisaged that a provincial facility (within the Russian Federation) is established (for example in the Moscow area) either by modifications of an existing incinerator or similar suitable waste disposal facility or by the construction of a bespoke ODS destruction facility.

ODS destruction facilities and associated logistics network will provide the government and private sector with the appropriate options for safe cost-effective disposal of obsolete ODS, and avoid the risk of emissions from banks negating previous phase out efforts. The model developed throughout the project would be suitable for replication throughout the Russian Federation.

Decision XX/7 of the Meeting of the Parties to Montreal Protocol, related to the environmentally sound management of banks of ozone-depleting substances, is requesting both IAs and MLF to consider as a matter of urgency commencing pilot projects that may cover the collection, transport, storage and destruction of ozone-depleting substances.

Moreover, the investment in the ODS destruction for RF is recommended by “Impact Evaluation of the Phase Out of Ozone Depleting Substances in Countries with Economies in Transition”. Since the ratification of the Stockholm Convention by Russian Federation is expected in the near future the study will also asses the feasibility for join destruction of POPs and ODS as well partnerships with other institutions.

Stimulating Market Growth for Energy Efficient Refrigeration and Air Conditioning Equipment

Decision XIX encourages agencies to consider climate implications of alternative technologies and to select technologies which minimize climate impact. As yet there is no lifecycle model or benchmark available related to this decision. Furthermore Decision XIX encourages the use of additional funding mechanisms in approaching ODS phase out particularly where dual benefits can be achieved during phase out conversion. Whilst this approach is logical and offers the potential to achieve maximum climate impact, particularly in the refrigeration sector, in practice it is extremely difficult to coordinate funding mechanisms in a sufficiently timely manner to achieve this goal. The integrated approach put forward in this proposal seeks to demonstrate the incremental benefits of tackling both ODS phase out and energy efficiency in one intervention.

Based on the principles outlined in the Strategic Programme on Technology Transfer, this programme includes separate additional technology transfer component (component 6) which is specifically intended to provide the most up to date technology with the lowest environmental impact to achieve the objectives of components 3 and 5.

Without this component it is likely that the technology selected by counterparts would be suboptimal in terms of overall climate impact due to cost constraints and lack of availability of local knowledge and manufacturing capabilities.

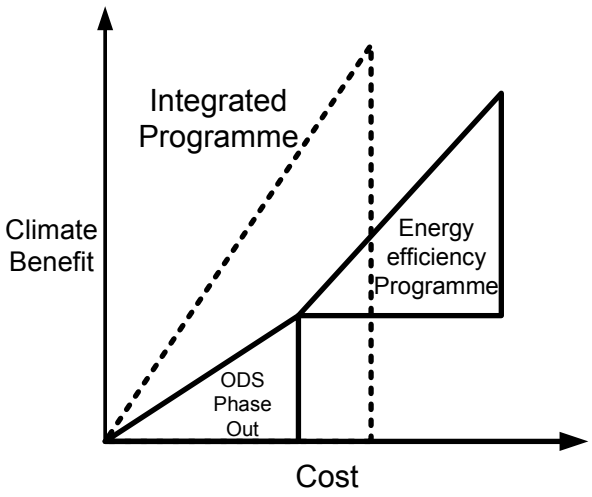
In this programme HCFC phase out technology for refrigeration and air-conditioning equipment manufacture will be determined through an innovative life cycle analysis approach (component 2) which will highlight the longer term benefits to users of low GWP energy efficient equipment. In order to demonstrate the benefits of this approach to manufacturer and to customers it will be necessary to invest in the latest most efficient technology, hence the additional funding is requested under component 6.

The integrated approach put forward in this proposal is to use additional funding from the GEF climate area to stimulate a secondary intervention around the design of refrigeration and air-conditioning equipment which specifically delivers a step change in the energy efficiency of equipment being produced in the Russian Federation.

It is true that some alternatives to HCFCs, most notably hydrocarbons, offer the potential to design more energy efficient refrigerators and air conditioners. However, it is a common misconception associated with alternative refrigerants that adopting an alternative can alone enhance or degrade the efficiency of the system. This is only true if no other aspects of the system are changed. In fact, any refrigeration system can be made more efficient regardless of the refrigerant being used. The critical factor is to design the system hardware in conjunction with the refrigerant.

In simple terms the rationale for this project component is to take advantage of the redesign and retooling required to phase out HCFCs and at the same provide the technical assistance and technology transfer required to enhance the energy efficiency of the equipment design. This additional redesign activity will necessitate additional tooling and component modifications and hence will involve additional costs; however, the costs will be lower than if this was the only aspect of the redesign being undertaken.

Using this approach the necessity to phase out HCFCs and redesign for alternative refrigerants provides an opportunity to enhance energy efficiency in the sector at a reduced cost and in fact acts as a catalyst for the manufacture of more energy efficient equipment without which the market would be unlikely to shift in the short term.



This programme also complements and enhances the effectiveness of the EEDAL 2009 prgramme, by providing market proof points of equipment manufactured within the Russian Federation, without which there would be a serious risk that when testing and labeling of equipment is introduced only imported equipment would meet the highest standards.

For the counterparts and industry as a whole there is a dual incentive attached to participating in the prgramme. Firstly, there is the opportunity to offset, at least partially, the cost of HCFC phase out and the potential equipment and process upgrade which that facilitates. Secondly, there is the potential to gain early access to a market demand for energy efficient equipment, being stimulated by increasing energy prices and awareness programmers such as EEDAL. The programme also supports the draft federal law on Energy Efficiency which aims to achieve a 40% reduction in Russia's GDP energy intensity by 2020 compared to 2007 consumption levels.

The current average efficiency level is about 30% lower than the average EER of US/EU made RACs and other rapidly industrializing Asian countries. This lower level of efficiency means that a significant portion of the growing electricity use and GHG emissions attributable to refrigeration and air conditioning is wasted.

This project has the opportunity to contribute to the reduction in GHG emissions and by providing technology transfer and capacity building which will remove a number of key barriers in the industry which affect the manufacture and sale of more energy efficient equipment, such as: (a) a lack of expertise in cost-effective energy-efficient refrigeration design; (b) availability of higher-efficiency compressors; (c) lack of awareness of the lifecycle economic benefits of high-efficiency systems; (d) lack of information for consumers about specific equipment types; (e) dealer / installer reluctance to stock and promote high-efficiency equipment.

Technology Transfer

Based on the principles outlined in the Strategic Programme on Technology Transfer, this programme includes two key areas of technology transfer within components 3 and 5.

The technology transfer component (6) support s the activities under components (3) and (5). HCFC phase out technology for refrigeration and air-conditioning equipment manufacture will be determined through an innovative life cycle analysis approach (component 2) which will highlight the longer term benefits to users of low GWP energy efficient equipment.

Russian Federation Refrigeration and Air-Conditioning Technology Transfer Framework					
Equipment Type	Refrigerators and freezers	Room AC	Commercial Refrigeration	Industrial Refigeration	Chillers
Key issues in RF	Compressor design	HX and Compressor Design for HC	System optimization design	Engineering design	System modelling and control
Technology transfer mode	training	IP transfer / licence	IP transfer / licence	Training / IP transfer	Training / IP transfer
Potential Partners Identified	tbc	✓	tbc	✓	✓
Potential "south-south" collaboration	✓	✓	✓	X	X

The principal technology transfer activity will be undertaken through the provision of a thermodynamic and engineering design, as well as, code of practice for the service of high efficiency non –HCFC and non-HFC refrigeration equipment and air-conditioners.

The technology transfer component of the programme is specifically aimed at stimulating the market in energy efficient low GWP refrigeration and air conditioning equipment (component 5).

In the course of the replacement of HCFCs in refrigeration and air conditioning systems by ODP free and lower GWP alternatives, the system designs will be analyzed and improved to reduce electrical energy consumption by approximately 25-30%.

Technology Transfer Foam Manufacture

HCFC-141b and HCFC142b are used in the production of a wide range of polyurethane foams in the Russian Federation including, rigid PU refrigerator insulation, sandwich panels, pipe insulation, rigid PU slabstock, moulded foam and integral skin foams. The current available phases out technologies are:

- Cyclopentane/ iso-pentane
- HFC blowing agents such as HFC-134a, HFC-152a, HFC-245fa, HFC-365mfc and mixtures of HFC-365mfc and HFC-227
- CO2 generated by reaction of the added water with isocyanate
- Liquid CO2

Type of technology to be transferred	Primary manufacturing equipment / Components not currently available in Russian Federation	Potential Suppliers include
Hydrocarbon foam blowing and foam manufacturing technology	high-pressure dispensers and with enclosed production area Safety Installation and Certification Foam formulations and fire testing classification	Cannon Hennecke OMS Londe
Liquid CO2	high-pressure mixing equipment	Cannon Linde

Technology Transfer Refrigeration

Around 20% of supermarkets' carbon footprint is a result of refrigerants used in refrigerators, freezers and cold stores. Using high efficiency systems using natural refrigerants including hydrocarbons and CO2 significantly reduces direct GHG emissions and provides the additional benefits of energy consumption and indirect costs and GHG emissions.

Type of technology to be transferred	Primary manufacturing equipment / Components not currently available in Russian Federation	Potential Suppliers
Hydrocarbon technology for room air conditioning and small commercial refrigeration applications	Small bore evaporators and condensers design and manufacturing equipment High efficiency compressors Refrigerant leak alarm system Control Systems	Haier (China) Gree (China) Benson (Australia)
Efficient system design Commercial and industrial refrigeration	System design and specification for high efficiency components and controls including the following: High-efficiency evaporator fan motors High-efficiency condenser fan motors High-efficiency compressor systems Floating head pressure controls Liquid pressure amplifiers. Anti-sweat heater controls Defrost controls Evaporative condensers Mechanical subcooling Heat recovery Operating and maintenance efficiency measures –	Energy Excel (UK) Star Refrigeration (UK) Atkins (international) Green & Cool (Sweden) Johnson Control (international) Hitachi (Japan)
Commercial refrigeration systems for retail and supermarket applications using CO2. These systems will are now in widespread use in Europe	CO2 transcritical refrigeration systems, Heat exchangers (design) Heat exchangers manufacturing equipment CO2 Compressor design / manufacture Heat recovery systems	Advansor Bitzer Koxka Johnson Controls (Sabro) Green & Cool (Sweden)

Given the market stimulation potential of the technology transfer involved, these components provide a good incentive for private sector co-funding. There is also scope for collaboration with developing countries with similar strategic priorities for stimulating the market for non-ODS non-HFC air refrigeration and air conditioning equipment such as Japan, China and Australia.

Technology transfer component is a combination of intellectual property acquisition (design, license) know-how (training) and investment in additional equipment specifically required to increase incrementally the energy efficiency or reduce the life cycle climate impact of a conversion project.

Feasibility Study HCFC Production Closure

Currently HCFCs are used in manufacturing refrigeration and foam sectors as feed stock in the manufacture of other chemicals and in strategic installations including nuclear power station cooling and military applications. The overall phase out strategy must include the timely and controlled closure of the three existing HCFC-22 manufacturing plants in the Russian Federation.

The closure of production facilities requires detailed strategic planning and coordination of activities in all sectors. It is necessary to engage a wide range of stakeholders from the public and private sectors to develop a strategic approach to both planning and implantation of closure activities.

In addition to the above-mentioned activities, the development of a production closure strategy will enable the government of the Russian Federation to determine the total and final phase out of HCFCs.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

The programme is consistent with the country's priorities and is designed to build on the strengthened national monitoring and legislative system established for the implementation of CFC phase out completed in 2000.

The programme also supports the draft federal law on Energy Efficiency which aims to achieve a 40% reduction in Russia's GDP energy intensity by 2020 compared to 2007 consumption levels.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:

The programme is based on GEF-4 Strategic program: Phasing out HCFCs and Strengthening Capacities and Institutions.
However, the incremental Energy efficiency component aims at developing, expanding, and transforming the markets for energy-efficient technologies which would also support the climate change strategic programme (SP-1) on Promoting Energy Efficiency in Residential and Commercial Buildings.

D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

The coordination with other GEF agencies as well as with the CEIT is foreseen in the frame of the preparation of the GEF/WB/UNDP Regional HCFC phase out programme.

This project builds also on the framework of awareness raising and barrier removal to be put in place by UNDP project (3216 - RUS Standards and Labels for Promoting Energy Efficiency). The latter project aims to deliver "Strengthened capacity of the local manufacturers to produce appliances complying with the new EE standards". And correctly states that "without adequate supply, markets for more efficient products cannot be developed. Secondly, suppliers must see it as their interest to deliver more efficient technologies to (industrial, commercial and/or residential) customers, for example via an increased profit margin on better performing products"

The UNDP project will deliver an excellent framework for domestic manufacturers to analyze and asses the options and market opportunities for adoption of more energy efficient products. UNIDO project will provide direct assistant to a number of those organizations to make the plant conversions necessary to realize those opportunities and demonstrate to the industry sector the feasibility of conversions. UNIDO project will also extend the approach into the commercial and industrial refrigeration sectors which accounts for a large

electricity consumption but with more complex products.

This project will be closely coordinated with the UNDP project to maximize impact of both and minimize duplication.

E. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING:

The Russian Federation, as the only HCFC producer and the largest HCFC consumer among the CEIT countries, requires further incremental technical and financial assistance of the GEF in strengthening of its institutional capacities and receiving practical experince on sustainabe HCFC phase out obligations. This assisstance is essential to motivate and ensure the required further stable co-financing by different national and foreign investors.
The technology selected on the basis of the least costly and technically acceptable to phase out HCFCs will not necessarily be technology which provides the overall highest climate benefit. For example a technology solution which is energy efficiency neutral and replaces HCFC-22 with HFC-410A could have a net negative overall climate impact due to the higher GWP of HFC-410A. Similarly there is an additional cost in making a commercial refrigeration system more energy efficient over and above the cost of replacing HCFC-22. The cost of secondary conversion of a facility to improve energy efficiency would be higher than the incremental cost of making the changes at the same time as the HCFC phase out.

F. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED, AND IF POSSIBLE INCLUDING RISK MEASURES THAT WILL BE TAKEN:

Lack of regional and local institutional infrastructure to address the issues	The milestones of the project preparation and coordination of implementation will be elaborated in cooperation with PMO and the regional and local partner institutions already identified. The roles, functions and responsibilities of the parties will be clearly defined and described.
Inadequate national support to enhance the related legislation	Under the guidance and coordination of PMO the civil societies and public institutions concerned will actively participate in all stages of the project development and implementation including elaboration of legislative documents.
The complexity of interrelated technical, commercial and the legislative problems to be addressed may be underestimated	At the PPG phase the necessary assessments of technological options, analysis of cost-effectiveness and associated legislation requirements will be elaborated and if necessary the scope of intervention will be reduced to the available resources.

G. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:

The 15.6 MMT CO2 is the direct effect of ODS phase out over the life of the project. It is made up of the reduction (phase out) achieved through investment and through replication to meet the obligatory Montreal Protocol phase out target.

GHG reduction Target

%	Consumption in 2008	MT	ODP	ODP Tonnes	GWP	CO2 Equiv MT
74%	HCFC -22	12,682	0.05	634	1810	22,954,420
19%	HCFC -141b	3,269	0.11	360	725	2,370,025
7%	HCFC -142b	1,174	0.07	82	2310	2,711,940
	Total	**17,125**		**1,076**	1,637	**28,036,385**

	Baseline ODP tonnes	3,996.90	ODP t
	2010 Target 75%	999.225	ODP t
	2015 target 90%	399.69	ODP t
	2008 Consumption	1,076	ODP t
	Phase Out Target	600	ODP t
	Equivalent at current mix	**9,543**	**MT**
	Total investment	40,000,000	US$
	Indicative Cost Effectiveness (by Mass)	**12.00**	$/kg
	Phase out Target Investment / Demo Projects	209.42	ODP t
	Phase out Target Investment / Demo Projects	3,333	MT
	Average GWP of Mix	1,637	
	CO2 Equivalent	5,457,204	Tonnes CO2
(A)	Direct GHG Reduction - Investment	**5.46**	**MMT CO2**
	Phase out target through replication	390	ODP T
	Phase out target through replication	6,210	MT
	Average GWP of Mix	1,637	
	CO2 Equivalent	10,166,240	Tonnes CO2
(B)	Direct GHG Reduction - Replication	**10.17**	**MMT CO2**
	TOTAL DIRECT GHG REDUCTION	**15.62**	**MMT CO2**
(C)	Indirect GHG reduction energy efficiency	**10.31**	**MMT CO2**
	Overall Project GHG reduction Target	**25.93**	**MMT CO2**

The overall GHG reductions target for the project is over 25 MMT CO_2, which equates to a cost effectiveness of US$ 1.6 per MT CO_2.

Based on the total direct HCFC phase out target for the HCFC phase out component the expected cost effectiveness is 12 US$/kg by mass and 191 US$/kg ODP (incl. co-financing).

H. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:
THE GEF agency (UNIDO) is within the comparative advantage matrix.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENY(CIES).

A. *Record of endorsement of GEF Operational Focal Point(s) on behalf of the government*.

Mr. Igor I. Maydanov *National GEF Focal Point* *Director* *Department of International Cooperation* *Ministry of Natural Resources and Environment* *Russian Federation*	*Date:16 September 2009*

B. *GEF Agency(ies) Certification*: This section provides Agency's certification to the submission as well as contact information for project.

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.	
Name and Signature Mr. Dmitri Piskounov, Managing Director UNIDO GEF Focal Point	Mr. Yury Sorokin, Industrial Development Officer Project Contact Person
Date: 17 September 2009	Telephone: +43 1 260 26 3624 Email: Y.Sorokin@unido.org