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IMPLEMENTATION COMPLETION REPORT
(TF-28314)

ON A

GRANT

IN THE AMOUNT OF SDR 41.2 MILLION

TO THE

RUSSIAN FEDERATION

FOR

RUSSIA OZONE DEPLETING SUBSTANCE CONSUMPTION PHASEOUT PROJECT

December, 2004

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CURRENCY EQUIVALENTS

(Exchange Rate Effective December 20, 2004)

Currency Unit = Ruble
1 Ruble = US\$ 0.035
US\$ 1 = 27.8821 Rubles

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

CE	Cost Effectiveness
CFC	Chloro-Fluoro Carbon
CPPI	Center for Preparation and Implementation of International Projects on Technical Assistance (originally Center for Project Preparation and Implementation)
CAS	World Bank Country Assistance Strategy
CEIT	Countries with Economies in Transition
EBRD	European Bank for Reconstruction and Development
EMP	Environmental Management Project
FSU	Former Soviet Union
GEF	Global Environmental Facility
GOR	Government of Russia
IBRD	International Bank for Reconstruction and Development
IAC	Inter-agency Commission for Ozone Layer Protection
ICB	International Competitive Bidding
ICR	Implementation Completion Report
IS	International Shopping
MEPNR	Ministry of Environmental Protection and Natural Resources of the Russian Federation
MNR	(RF)
MOEDT	Ministry of Natural Resources of the RF
MOF	Ministry of Economic Development and Trade of the RF
MP	Ministry of Finance of the RF
MPMF	Montreal Protocol
MT	Montreal Protocol Multi-Lateral Fund
ODP	Metric Ton
ODS	Ozone Depleting Potential
OORG	Ozone Depleting Substances
PIU	Ozone Operations Resource Group
QAG	Project Implementation Unit
RF	Quality Assurance Group
SAR	Russian Federation
SB	Staff Appraisal Report
SCEP	Supervisory Board
STAP	State Committee for Environmental Protection of the RF
TA	Scientific and Technical Advisory Panel

US TDA WP	Technical Assistance United States Trade Development Agency Work Program
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Country Director	Kristalina Georgieva
Sector Manager	Marjory-Anne Bromhead
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RUSSIAN FEDERATION
RUSSIA OZONE DEPLETING SUBSTANCE CONSUMPTION PHASEOUT PROJECT

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<i>Project ID:</i> P008800	<i>Project Name:</i> RUSSIA OZONE DEPLETING SUBSTANCE CONSUMPTION PHASEOUT PROJECT
<i>Team Leader:</i> Vladimir Tsirkunov	<i>TL Unit:</i> ECSSD
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> December 22, 2004

1. Project Data

Name: RUSSIA OZONE DEPLETING SUBSTANCE CONSUMPTION PHASEOUT PROJECT *L/C/TF Number:* TF-28314

Country/Department: RUSSIAN FEDERATION

Region: Europe and Central Asia Region

Sector/subsector: Other industry (98%); Central government administration (2%)

Theme: Environmental policies and institutions (P); Pollution management and environmental health (P)

KEY DATES

PCD: 08/15/1992
Appraisal: 11/15/1995
Approval: 05/30/1996

	<i>Original</i>	<i>Revised/Actual</i>
<i>Effective:</i>	09/29/1996	
<i>MTR:</i>	12/01/1999	10/07/2000
<i>Closing:</i>	12/31/2001	06/30/2004

Borrower/Implementing Agency: GOV'T OF RUSSIA/MINISTRY OF FINANCE & MINISTRY OF NATURAL RESOURCES

Other Partners: DANISH ENVIRONMENTAL PROTECTION AGENCY, US TDA

STAFF

	<i>Current</i>	<i>At Appraisal</i>
<i>Vice President:</i>	Shigeo Katsu	W. Thalwitz
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2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome: S
Sustainability: L
Institutional Development Impact: M
Bank Performance: S
Borrower Performance: U

	<i>QAG (if available)</i>	<i>ICR</i>
<i>Quality at Entry:</i>	S	S
<i>Project at Risk at Any Time:</i>	Yes	

3. Assessment of Development Objective and Design, and of Quality at Entry

3.1 Original Objective:

The overall original objective of the Russian Federation Ozone Depleting Substance Consumption Phase Out Project (the Project) was to assist Russia in the phase-out of ODS consumption, in a manner consistent with international efforts in the field, while ensuring that this is accomplished with the minimum of economic dislocation.

The Project's more specific objectives are to:

- (i) allow Russia to credibly initiate meeting its ODS consumption phase-out obligations under the Montreal Protocol within a realistic time frame;
- (ii) facilitate access to financial resources needed for ODS consumption phase-out from a range of international and domestic sources;
- (iii) provide necessary technical assistance and institutional strengthening;
- (iv) fund enterprise specific investments in high consumption sectors; and
- (v) ensure that these activities mitigate potential negative economic and social impacts.

Assessment of the Objectives

The origin of the Project was the international community's recognition of the difficulty that the Countries with Economies in Transition (CEITs) in Eastern Europe and the Former Soviet Union (FSU) would have in meeting their obligations under the 1990 London Amendment to the Montreal Protocol (MP), namely the elimination of Annex A and B Ozone Depleting Substances (ODS) consumption and production by December 31, 2000. As non-article 5 countries under the MP they were not eligible for international assistance available under the Montreal Protocol Multi-Lateral Fund (MPMF). As a consequence, the Global Environmental Facility (GEF) formally opened an Ozone Focal Area in 1995 for CEITs who had Country Programs endorsed by the Parties to the MP, and had ratified the London Amendment. The Bank was a key participant in the development of the Ozone Focal Area starting in 1992 which coincided with an initial project concept being developed for assistance to the Russian Federation. However, the preparation of an actual project could not be completed until GEF Operational Strategy including the Ozone Focal Area was adopted and bilateral programs supporting the Country Program development were completed.

Among the CEITs affected, the Russia's compliance with the London Amendment was a high priority, as it was one of the world's largest consumers and producers of ozone depleting substances (ODS) at the time and its actions were viewed as critical to international efforts to address the this global environmental issue. In 1992, consumption of Annex A and B ODS in Russia was estimated to be 48,929 MT ODP or about 7% of global use. Similarly, production was estimated to be 74,513 MT ODP or about 10% of global production and it was the primary source of ODS for other CEITs in the region (*Production and Consumption of Ozone Depleting Substances under the Montreal Protocol, 1986 to 2000*, UNEP Ozone Secretariat, UNEP April 2002). For its part, the Russian Federation ratified the London Amendment in January 1992 and with assistance from the Danish Government developed, adopted a formal Country Program in 1995 (*Resolution*

on Priority Measures to Ensure Compliance with the Vienna Convention on Ozone Layer Protection and Montreal Protocol on Ozone Depleting Substances, Resolution No. 526 of the Government of the Russian Federation, May 1995). At the same time, it was continuing to pursue the efforts dating from the Soviet Union's original ratification of the Montreal Protocol in 1988 to phase out ODS in line with those of other developed countries.

At a general level, the Project's original objectives adequately define what the Project was intended to accomplish within the context of international and national priorities at the time. However, unlike GEF initiatives in other CEITs, this Project was not intended to be a comprehensive country phase out in that it was initially limited to phase out investment in only two high consumption sectors (aerosol and refrigeration equipment). In addition, it did not address ODS production. Other ODS consumption sectors and ODS production were left to national initiatives under the Country Program. Notwithstanding that this decision was in part due to limitations in GEF funding available at that time, it left a significant gap in the Project's scope related to the ultimate objective of ensuring that Russia achieved compliance with the London Amendment. At a local level this would have likely compromised the specific objectives related to mitigation of negative economic and social impacts.

Therefore by way of overall assessment of the original objectives, it is concluded that they were adequate as a starting point but not realistically matched to the Project's scope as originally defined. More specifically, they did not fully recognize the complex interrelation between ODS consumption and production nor the rapidly evolving restructuring occurring in both the Russian industrial sector and in the country's institutional structure. This failing was characteristic of many international initiatives in addressing ODS phase out at the time. However, as described below under Revised Objectives and Project Components, the Project design did allow sufficient flexibility to expand the detailed Project objectives and scope in order to address these limitations and ultimately allow the original overall objectives to be met.

3.2 Revised Objective:

The Project's detailed objectives and associated scope evolved through the successive preparation stages of the three tranche structure provided for by its design as a framework Project. This involved successive approvals of detailed work programs (WP) by tranche. During the implementation of the first tranche, and preparation/appraisal of the second and third tranches, it became apparent that ODS phase out was also occurring in part due to the restructuring of the Russian manufacturing sector, particularly in the domestic refrigeration sector, and that many previously identified former larger ODS consumers were no longer sustainable. Similarly, grant funding for viable sub-projects was often established at lower levels upon appraisal than initially assumed when realistic sustainable production capacities and levels of enterprise contribution were established.

As a consequence, progressive tranche appraisal and work program adjustment cycles made resources available to expand the scope of the Project to other primary consumption sectors. This allowed a more comprehensive approach to primary consumption phase out to be taken in the third tranche work program. This had the effect of expanding the potential in achieving the original overall project objective.

It was also recognized in the early stages of Project implementation that the phase out of ODS consumption will be inhibited as long as the supply of relatively inexpensive ODS is available which was the case in the RF prior to 2000. Under such circumstances, ODS consumers were reluctant to undertake timely phase out. Similarly, ODS producers would continue to respond to this demand, particularly given the general economic conditions in the chemical industry, unless a financial incentive was provided for them to cease operations. This impact extended to ODS consumption phase out efforts in other countries in the region to whom Russia was the traditional ODS supplier. To address this, the Bank and GOR developed a separate project, the Special Initiative for ODS Production Closure (Special Initiative) that was undertaken in parallel primarily using bilateral donor grant funding mobilized by the Bank. However, the Project made a significant contribution to the Special Initiative by transferring GEF resources available in the third tranche to it in order to supplement the bilateral funds mobilized by the Bank. In effect, the closure of Annex A and B ODS production in Russia became an additional (and very important) specific objective of the Project and served to substantially enhance the legitimacy of an expanded overall objective of achieving a comprehensive ODS phase out in the country. Because of this close linkage between the respective consumption phase out and production closure initiatives no formal revision in the original objective was made.

Finally, it was recognized that other areas of consumption in which phase out would occur simply because of the absence of ODS supply should also be addressed to avoid significant social and economic impact. As a consequence, it was concluded that the Project should also accelerate phase out of residual ODS consumption related to servicing equipment that had remaining useful lives in the refrigeration and fire protection sectors. Introducing these new elements into the Project design was seen as having significant social and economic implications to the country's food distribution capability and to public safety and allowed the original objective of minimizing social and economic disruption to be met.

3.3 Original Components:

Within each of the three tranches, there were three components: investment sub-projects, technical assistance and support for the project implementation unit (PIU) within the local Implementing Agency. The overall Project received GEF Council and Board approval in May 1996 *Global Environment Facility, Russian Federation Ozone Depleting Substances Phase-out Project, Project Document*, The World Bank, Report No. 15326-RU, May 1996 inclusive of the appraised first tranche investment sub-project component and a conceptual Work Program (WP) for subsequent tranches. The following provides a brief description of the three components as originally approved:

a) *Investment Component:* This component involved a portfolio of enterprise specific investment sub-projects prepared in accordance with the eligibility criteria established by the MPMF and peer reviewed using the Bank's Ozone Operations Resource Group (OORG) The World Bank Ozone Operations Resource Group (OORG) serves as the Scientific and Technical Advisory Panel (STAP) for the GEF ozone focal area. One enterprise in each of the consumer aerosol and domestic refrigeration sectors was appraised as first tranche investment sub-projects. The WP proposed for the second tranche covering six additional aerosol sub-projects, two domestic refrigeration

sub-projects and one commercial refrigeration sub-project. The WP proposed for the third tranche covering four additional domestic refrigeration sub-projects and a generic demonstration program for refrigeration servicing.

b) *Technical Assistance:* The technical assistance (TA) component was intended to strengthen country institutional capacity for supporting ODS phase out and eventual elimination as well as support the implementation of the Project's investment component. Within the first tranche this covered a number of specific TA sub-components related to regulatory measures, monitoring residual ODS demand and its longer term phase out, project preparation and appraisal of subsequent tranches, identification of phase out requirements in other sectors including production, and developing public awareness and information initiatives.

c) *PIU Support Component:* In accordance with GEF practice, this component supported the operation of the PIU inclusive of staffing required for project supervision, preparation and appraisal, procurement and financial management.

3.4 Revised Components:

During the preparation of the Second Tranche investment component, it was recognized that sufficient funding would be available within the original GEF funding allocation to expand the Project's scope to other consumption sectors and to allocate funding as a GEF contribution to ODS production closure through the Special Initiative which added a fourth component. The Second Tranche *Global Environment Facility, Russian Federation Ozone Depleting Substances Phase-Out Project, Project Document: Second Tranche*, The World Bank, Report No. 17391-RU, February 1998, inclusive of appraised investment sub-projects and expanded third tranche Work Program received GEF CEO endorsement in May, 1998. The GEF Council approved the Third Tranche *Global Environment Facility, Russian Federation Ozone Depleting Substances Phase-Out Project, Project Document: ThirdTranche*, The World Bank, Report No. 18973-RU, May 1999., inclusive of the allocation of GEF funds to the Special Initiative in May 1999 with subsequent Work Program amendments covering additional appraised investment sub-projects endorsed by the GEF CEO in May 2000 and November 2001. These subsequent amendments allowed the Project to expand its scope to cover support for phase out of residual secondary ODS consumption by adding sub-projects to the Investment Sub-Project Component. The following provides brief descriptions of the revised components under the second and third tranches as they were ultimately implemented:

a) *Investment Component:* This component was ultimately expanded to cover the refrigeration servicing, medical aerosol, non-insulating foam, solvent, and fire protection sectors as well as the original aerosol and refrigeration sectors. Work Program approval was obtained for four appraised sub-projects in the second tranche (three aerosol and one commercial refrigeration sub-projects). Fifty appraised and peer reviewed sub-projects were approved for the third tranche (one aerosol, one medical aerosol, one domestic refrigeration, two commercial refrigeration, thirty six refrigeration servicing, three non-insulating foam, two solvent and four halon servicing sub-projects), although only thirty one were actually implemented. The others were cancelled for various reasons by the enterprises or as a result of the absence of timely government decision making. Despite this an overall scope of investment component and its impact judged by ODP reductions exceeded initial projections.

b) Technical Assistance: The technical assistance (TA) component in subsequent tranches remained similar in scope to its original design with regulatory development, investment sub-project preparation, technology transfer, public awareness and long term planning for future national ODS elimination commitments continuing. The major change was increased use of TA resources to directly maintain regulatory activities and international reporting compliance requirements as the succession of government agencies responsible for environmental protection retrenched and withdrew from an active institutional role in the ODS issue. In addition, under the second tranche TA component, TA resources were used to support the detailed technical preparation of the ODS production plant closure plans for the Special Initiative.

c) PIU Support Component: This component continued to support the operation of the PIU inclusive of staffing required for project supervision, preparation and appraisal, procurement and financial management. Through successive Work Program amendments these resources were increased to reflect the increasing load assumed by the PIU as the national focal point for ODS issues, duration of the project and the complexity of project implementation resulting from the large number of investment sub-projects and associated procurement and disbursement transactions.

d) ODS Production Closure: The addition of this component to the Work Program was approved by the GEF Council with the third tranche after appraisal of the Special Initiative. It originally constituted SDR 6.2 million (about US\$8.5 million) of the overall Special initiative's US\$27.0 million funding.

A summary of the evolution of the project by component, tranche and Work Program approval stage through to completion, inclusive of financial allocation, sectors addressed, and ODS phase out data is provided in Table 1 below.

Table 1.: Evolution of the Project by Component and Tranche from Initial Approval to Completion

Component	GEF Council Approval (May 1996)		2nd Tranche WP Approval (May 1998)		3rd Tranche GEF Council Approval (May 2000)		3rd Tranche WP Approval (May 2000)		3rd Tranche WP Amend. (Nov. 2001)		Project Completion (June 2001)	
	Phase Out MT ODP	GEF Grant US\$	Phase Out MT ODP	GEF Grant US\$	Phase Out MT ODP	GEF Grant US\$	Phase Out MT ODP	GEF Grant US\$	Phase Out MT ODP	GEF Grant US\$	Phase Out MT ODP	GEF Grant US\$
1st Tranche												
Investment	2 Sub-Projects		1 Sub-Project		1 Sub-Project		1 Sub-Project		1 Sub-Project		1 Sub-Project	
	2,573	7,187,000	2,456	5,650,000	2,456	5,650,000	2,456	5,650,000	3,050	5,637,446	3,050	5,630,000
Technical Assistance		748,000		780,000		742,000		742,000		477,306		47
PIU Operating Costs		225,000		500,000		169,500		169,500		169,500		18
Sub-Totals	2,573	8,600,000	2,456	6,898,000	2,456	6,651,500	2,456	6,651,500	3,050	6,284,252	3,050	6,300,000
2nd Tranche												
Investment	9 Sub-Projects		4 Sub-Projects		4 Sub-Projects		4 Sub-Projects		4 Sub-Projects		4 Sub-Projects	
	11,438	33,470,000	6,140	25,200,000	8,357	20,972,000	8,357	20,972,000	7,696	16,392,860	4,840	17,210,000
Technical Assistance		1,004,000		526,000		526,000		526,000		854,342		84
PIU Operating Costs		526,000		426,000		629,160		629,160		629,160		78
Sub-Totals	11,438	35,000,000	6,140	26,152,000	8,357	22,127,160	8,357	22,127,160	7,696	17,876,362	4,840	18,840,000
3rd Tranche												
Investment	5 Sub-Projects		19 Sub-Projects		14 Sub-Projects*		14 Sub-Projects*		35 Sub-Projects		31 Sub-Projects	
	1,343	15,920,000	6,527	21,100,000	1,029	21,055,800	2,531	15,990,033	2,519	19,376,313	1,144	17,450,000
Technical Assistance		-	850,000		1,300,000		1,829,781		1,425,385		1,330,000	
Production Closure***			-2,629*	5,000,000	5,912**	8,500,000	9,122**	8,500,000	8,569**	7,748,614	8,611	7,780,000
PIU Operating Costs		480,000		850,000		414,174		479,686		476,686		65
Sub-Totals	1,343	16,400,000	9,156	26,950,000	6,941	31,269,974	11,653	26,799,500	11,088	29,026,998	9,755	27,220,000
Project Totals	15,354	60,000,000	17,752	60,000,000	17,754	59,958,634	20,010	55,488,612	21,834	53,187,612	17,645	52,370,000

*** Seven (7) enterprises beneficiaries

** ODS production phase out contribution is based on the actual production in the current year prorated by the contribution amount against the total SI cost of US\$26.20 million. The final year of production (2000) is used for the years 2000 and 2001. Actual ODS production in relevant years is 1998 - 14,196 MT ODP, 1999 - 18,778 MT ODP, 2000 - 28,975 MT ODP.

* Residual ODS Phase Out considered a single Sub-Project

3.5 Quality at Entry:

The Project's overall quality of entry is rated as satisfactory. The proactive efforts of the country using bilateral assistance provided the basic Country Program framework within which the Project could be prepared, inclusive of comprehensive preliminary identification of a candidate investment portfolio. While there were limitations associated with matching scope and objectives, the Project design was flexible enough to accommodate these. While no formalized link was made with a CAS at the time of entry, the Project was consistent with the Bank and Government's stated priority of addressing key global environmental issues. In terms of safeguard policies, the Bank's Operational Policy 4.01 "Environmental Assessment" is the main one applicable and the Project's overall objective is consistent with it. Recognizing that individual sub-project implementation could have environmental impacts, all were subject to environmental assessment consistent with the Category B rating assigned to the overall project. The main environmental issue identified at entry was the use of flammable and explosive hydrocarbon ODS substitutes in the aerosol, refrigeration and non-insulating foam sectors. This was addressed by applying design review and formal safety audits by international experts of all affected investment sub-projects as a condition of approval and eligibility.

4. Achievement of Objective and Outputs

4.1 Outcome/achievement of objective:

Meeting ODS Phase Out Obligations Under the Montreal Protocol within a Reasonable Time Frame: Overall achievement of the Project's outcome is evaluated as satisfactory on the basis that the overall objective of reaching effective phase out of Annex A and B ODS consumption was achieved. Russia was in substantial compliance with its obligations under the London Amendment by December 31, 2000 with the cessation of Annex A and B ODS production and substantive primary consumption elimination by December 31, 2001 in the originally targeted consumer aerosol and refrigeration sectors. This was one year later than the non-Article 5 country phase out date but was in accordance with the Country's declarations accepted by the Parties of the Protocol. Relative to the starting point of other non-Article 5 countries, this reflected a substantial achievement given that it was effectively accomplished over a five year period where OECD countries typically took around 10 years to accomplish the same result. The only major exception was one non-compliant enterprise in the medical aerosol sector that remains an enforcement issue to be addressed by the GOR. The overall annual ODS phase out achieved was 17,645 MT ODP against an originally targeted 15,354 MT ODP indicating that the overall project objective was substantially exceeded. 8,968 MT ODP of annual consumption based on the final year of ODS use prior to conversion was phased out. This was somewhat lower than originally targeted at appraisal of individual sub-projects (9,122 MT), the difference primarily being a result of progressive reduction in ODS use prior to full conversion either by partial conversion or enterprises down sizing production capacity to meet realistic market demand, and, in the refrigeration servicing sector, the more rapid than anticipated conversion and replacement of older equipment, both of which were themselves stimulated by the project.

Facilitate access to financial resources needed for ODS consumption phase-out from a range of international and domestic sources: The achievement of the basic objectives of effective country wide phase out of Annex A and B substances within the original GEF financial allocation indicates

that the required financial resources were successfully mobilized. In addition to the GEF resources, significant levels of enterprise contribution were involved (US\$24.3 million). These were largely generated by the enterprises own funds although, in several instances, the GEF core financing facilitated or supported access to international financing either as part of companion plant modernization as was the case at JSC “Holodmash” or in the growth of the businesses once the basic technical modernization was GEF financed. Examples of the GEF financing creating the competitive capacity to attract debt and equity investment include JSC “Arnest,” JSC “Harmonia,” JSC “Mariholodmash,” JSC “Sibiar” and JSC “Iceberg.” Some limited international technical assistance resources were also attracted to the project, notably US TDA support of third tranche sub-project identification and Danish financing of additional refrigeration servicing investments. The key role of the Danish Government in financing the original Country Program should also be noted. While this effectively provided the basis for obtaining GEF funding, the potential availability of this funding itself was the motivator for the donor to participate. The only area where the outcome against this objective might be deemed deficient was the absence of Government financial support either for institutional development or investment, although this did not materially impact the positive overall Project outcomes.

Provide Necessary Technical Assistance and Institutional Strengthening: The outcomes of technical assistance and institutional strengthening undertaken by the Project are generally judged to have successfully met this objective during the life of the Project, having left a solid basis for the future should the government choose to utilize it. With the Project’s support, Russia developed a modern regulatory framework for the proactive management of ODS issues consistent with international practice. This included establishment and updating of the Country Program, effective international reporting as required under the Montreal Protocol, establishment of regulatory controls on ODS consumption, import and export, and licensing of residual ODS consumption. It moved Russia from being a highly criticized country to a respected participant and contributor to the work undertaken internationally under the MP, culminating in the country’s main spokesman and director of the Project PIU being appointed the President of the 11th Meeting of the Parties in Beijing. In addition, strong capacity to independently plan and implement national programs, undertake technology development and transfer initiatives, prepare and appraise required investments, disseminate results, enhance public awareness on the issue, and undertake the large and technically complex procurement and financial requirements of the project to international standards was developed. However, a qualification of the success of this outcome is expressed given the uncertainty attached to the Government’s plans to sustain this capacity institutionally (see more in part 4.2). However, this would not impact the overall Project outcomes and particularly the possibility of any return to ODS production or consumption.

Fund Enterprise Specific Investments in High Consumption Sectors: The overall outcome of successful phase out in the high consumption consumer aerosol and refrigeration sectors is judged as satisfactorily meeting the objective. GEF funding generally financed the modernization of all the viable major consumers in these two sectors by providing access to current competitive non-ODS technology. In the consumer aerosol sector which constituted the largest consumption sector, most of the sub-projects undertaken created competitive enterprises that have effectively regained a substantial part of the traditional domestic and CIS market with some starting to have major global export linkages. These sub-projects were generally implemented with high

comparative cost effectiveness levels and their conversion from ODS effectively removed the core demand for the two major CFCs (CFC-11 and 12) in Russia. Having said that, inevitably not all enterprises have been as successful as others and the two late finishing aerosol sub-projects (JSC “Chimprom” and JSC “Til”) face challenges to sustain their operations in what has become a highly competitive market. The outcomes related to commercial refrigeration were similarly successful with the project supporting the effective survival and ultimately long term viability of the two largest consumers in this sector. However, the outcome in the domestic refrigeration sector was mixed. This sector was slow to restructure from its former linkages to military production and largely collapsed economically by the time the Project was implemented. Only one enterprise in the sector was judged viable and was included in the Project with a successful outcome in itself. The remnant enterprises in this once large consumption sector continue at low levels of production, using dated technology. Annex A and B consumption has been replaced by transitional substances which themselves will have to be replaced in the medium term. However, the combination of relatively low end products, older production facilities and the strong competition from modern high quality product from one major new producer in Russia using western technology and the modern production in Ukraine, Belarus and Central Europe funded by other GEF Projects will make their long term viability questionable.

Ensure that ODS Phase Out Activities Mitigate Potential Negative Economic and Social Impacts. Within the initially narrow scope of the Project which focused on high consumption aerosol and refrigeration sectors, the outcome against this objective is judged as having substantively mitigated the economic and social impacts of ODS phase out and in fact provided substantial benefits in this area. It is likely that few if any of the major ODS consumers financed under the Project would have been sustainable in the absence of the Project. The absence of legal ODS supply and high cost of any other sources would have effectively rendered their old technology uncompetitive in either the aerosol or refrigeration sectors. This would have resulted in substantial employment reductions and associated local economic impacts as well as increasing import reliance for the country as a whole. It is particularly noteworthy that successful sub-projects have likely sustained local economies in otherwise poorer regions such as the North Caucasus and Middle Volga. Employment has generally been maintained and in some cases increased in all beneficiary enterprises and, in the majority, is now at levels above that recorded at appraisal.

Contribute to the Elimination of Annex A and B ODS Production. The outcome against this additional objective is considered highly successful noting that the GEF contribution as effectively the largest donor was critical to this success. Russian production of Annex A and B ODS (CFCs and Halons) stopped at the end of 2000 and the capacity for such production was permanently closed by mid 2001 under the Special Initiative. This involved production capacity of 140,000 MT ODP and actual production in its last year of 28,975 MT ODP. The cost effectiveness of the GEF contribution to this is estimated to be 0.20\$/kg ODP for capacity, and 0.90\$/kg ODP for actual production. This is understood to be the most cost effective international initiative of its kind undertaken to date. It is also worth noting that the beneficiary enterprises to varying degrees have all utilized the compensation payments to develop new production, including ODS substitutes for domestic use which has further facilitated ODS consumption phase out, as well as improve the environmental performance of their facilities.

Accelerate Phase Out of Residual ODS Consumption while Mitigating Associated Social and Economic Impacts. The final outcomes of this additional objective are difficult to definitively assess given the long term nature of the intervention. However in the refrigeration servicing sector, assessment of the core national system developed under the Project indicates significant coverage and growing effectiveness. Project supported regional recovery operations which are estimated to directly access approximately 30% of the national market and indirectly offer geographical coverage of approximately 50% of the national population from the Baltic to the Pacific. It is also apparent that phase out of residual demand is occurring faster than projected due to a combination of the use of drop-in blends and accelerated retirement of older equipment. The success of the system and its growing effectiveness are attributable in large part to the upgrade in basic technician skills and equipment from the Project and to the implementation of market based incentives and business relationships in the sector both of which have been a major focus of TA initiatives under the project. The overall conclusion therefore is that the outcomes to date are satisfactory and that the social and economic impacts of not having CFCs available are minimal. However, it should also be pointed out that to sustain this result, proactive institutional actions by the Government are required. More specifically, the capability to recover, reprocess and recycle CFCs needs to be certified and authorization granted to qualified operators to access the significant unused stocks remaining in abandoned military and industrial equipment. This will provide a long term supply as the last residual demand is serviced as well as preventing its eventual random release into the atmosphere. The Project did not succeed in initiating direct recovery and recycling of halons in the fire protection sector as intended, largely due to the failure of the state controlled enterprises in the sector to capitalize on the opportunities afforded by the Project. However, this capacity is developing independently consistent with the halon management plan developed under the Project and has benefited indirectly through the Special Initiative.

4.2 Outputs by components:

First Tranche Investment Component: While originally two large investment sub-projects were appraised, one in the domestic refrigeration sector was cancelled due to inability to meet its contribution requirements and prolonged restructuring. The other in the consumer aerosol sector at JSC “Arnest” had a highly successful and cost effective outcome that involved 3,050 MT ODP in actual ODS phase out. The enterprise has rapidly expanded production since that time, attracting EBRD and other foreign investment and has developed a significant export market in Western Europe and elsewhere. Its location in the North Caucasus is also particularly important as a demonstration of the viability of sustained industrial development in a region with lesser economic prospects.

Second Tranche Investment Component: All four investment sub-projects have been completed, three of which can be considered highly successful. The consumer aerosol sub-projects at JSC “Sibiar” and JSC “Harmonia” also involved very substantial ODS phase out (3,978 MT ODP) with good cost effectiveness levels and significant enterprise financial commitments. Both have expanded production since project implementation and are considered sustainable operations in the long term. JSC “Mariholodmash” while suffering through difficult restructuring during and after sub-project implementation is now operating competitively with private sector management

at levels equal to that of appraisal. The aerosol sub-project at JSC “Chimprom” was completed only after long delays, very uneven project and procurement management, and limited and reluctant financial commitment by the enterprise. Ultimately, it’s completion was only achieved as a consequence of proactive direct intervention by the Bank Project Team and PIU. The outcome may be considered marginally satisfactory although its long term sustainability and continued use of GEF investments should be monitored. This sub-project provides useful lessons with respect to the need to test enterprise capability and commitment on an ongoing basis and the difficulty that results in undertaking these kinds of investments in traditional state controlled enterprises as they are being restructured, privatized, change ownership and downsized.

Third Tranche Investment Component: The outcomes associated with the seven investment sub-projects involving primary ODS phase out were generally quite successful with some exceptions or qualifications. The major sub-project in the commercial refrigeration sector (JSC “Holodmash”) was satisfactorily completed and leaves a legacy of a viable modern refrigeration compressor manufacturer that serves not only the RF but most of the CIS. The three non-insulating foam sub-projects were similarly successful. The Project provided a major automotive component supplier (JSC “Plastik”) with the core investment for a major production modernization required for the enterprise to keep pace with modernization in the auto sector generally and participate in new models meeting international standards. An additional benefit of this technology change was significant weight reductions in the products which translate into improved fuel economy and green house gas reductions. The other two sub-projects in this sector involve suppliers of basic building materials that allow import replacement and in one case the effective maintenance of a community dependant on the enterprise. Outcomes for the one consumer aerosol sub-project in this tranche (JSC “TiL”) are judged as unsatisfactory and reflect a difficult implementation process involving inadequate and ultimately insufficient enterprise financial contribution, something that reflects low commitment of a beneficiary whose ownership and long term prospects remain uncertain. At closing, this sub-project, while operational had failed to pass the required safety audit. A follow up inspection of the facility indicates that a number of the major safety related deficiencies have or are being corrected but the facility is judged to not fully meet international standards nor has it received a formal approval from local fire protection authorities. On this basis, action by the Government is required to rectify these deficiencies and allow the Bank to consider the grant funds as being used for eligible purposes. The medical aerosol sub-project undertaken at JSC “Altaivitaminy” had an unsatisfactory outcome at the time of grant closure. After long delays, the enterprise accepted and installed modern GEF financed equipment but has not met its own financial commitments to support its use with non-ODS propellant. Furthermore, it has stated its intention to continue this use at least in the near term and eventually convert to a different non-ODS substance using GEF financed equipment. The Bank project team considers the GEF funding disbursed against this sub-project to be at least in part ineligible and such funds should be subject to recovery from the GOR as provided for under the Grant Agreement. Furthermore, any consideration of allowing any of the sub-grant disbursed as eligible should be conditional on the GOR and enterprise rapidly converting to full non-ODS use and that any ODS in the interim be carefully monitored as being legally consumed.

Third Tranche Residual ODS Phase Out Management Component: The overall outcomes of this

component are described above under the acceleration of residual ODS consumption phase out. With respect to individual sub-projects in the refrigeration servicing sector, the outcome assessment is generally positive, qualified only by the limited period that they have been operating. The three large regional sub-projects covering the lower Volga/North Caucasus, Kuzbass and Urals regions that have been operational for several years are proving effective and are now providing central reclaim capability to a large area. The twenty one smaller servicing sub-projects are likewise operational and show excellent potential.

ODS Production Closure Component: The positive assessment of outcomes associated with the GEF contribution to the Special Initiative is described above under elimination of ODS Production.

Technical Assistance Component: Assessment of TA and institutional strengthening outputs is done for each of the general categories of activities supported by the GEF as follows:

i) *Investment Component Preparation:* TA resources in the first and second tranche were used primarily for international and local consultants to identify, prepare and appraise investment sub-projects and in the third tranche to support implementation and documentation of sub-projects. While quality of individual assignment outputs varied, the overall outcomes were satisfactory. A continuously updated portfolio of investment opportunities was generated and allowed the expansion of Project scope to target the optimum and most viable candidates. It provided ongoing technical support during implementation where adjustments in technical scope were required and enterprises required assistance with complex international requirements and specifications. For the third tranche it also provided creditable safety audit capacity as required for GEF eligibility where flammable or explosive ODS substitutes were used, something that was recognized as being deficient in the first two tranches where enterprises contracted these audits. Perhaps most significantly, the use of combined Russian and international teams resulted in development of a strong core of local professionals capable of this kind of work internationally, something that the Bank among others has utilized on other projects internationally. Of particular note was the Special Initiative Closure Plan development which has proven to be a model for similar operations in the chemical sector generally.

ii) *Project Management Capacity Building:* TA resources were extensively used to support the PIU's project management function, specifically in areas such as procurement management, addressing the range of financial and tax issues that arise with a transaction intensive Project such as this and in handling the extensive routine monitoring and reporting required under the Grant and Sub-Grant Agreements. This was largely done by local firms and experts with a valuable pool of expertise being now available to support international as well as domestic development projects.

iii) *Institutional and Regulatory Development:* The Project TA component can be said to have almost entirely supported the country's progress in developing a modern regulatory framework for ODS management and control. This has been established within the overall framework of the Country Program as has been periodically updated for Government endorsement. It covers a formal licensing system for ODS consumption and production, assignment of quotas, import/export controls and a system of data collection for purposes of

international reporting under the MP. This in itself is a major positive outcome, particularly when it was accomplished during a period of major institutional change and instability in environmental management sector. However, this conclusion must be qualified by the current uncertainty regarding its sustainability given the absence of any material commitment within the responsible government agencies to assume responsibility for or to fully implement these tools. This is unlikely to have any direct impact on the overall achievements of the Project in sustained phasing out of primary ODS production and consumption since the results of the investment component are effectively irreversible. However, it raises concerns about Russia's ability and willingness to implement the evolving international phase out requirements of the MP in areas such as methyl bromide and transitional substances or even more broadly in being part of global chemical management agenda where Russia should be a major participant. Having said this, upon closing there is an indication that the Government may be responding to this issue within the current round of restructuring of environmental management responsibility.

iv) *Technology Transfer:* The Project TA component either directly or in association with other initiatives supported a wide range of technology transfer initiatives covering such things as the use of new low GWP and transitional drop-in refrigerants, non-ODS fire protection measures, and ODS substitute selection. These efforts served to increase awareness within the ODS consumption community of options available and generally facilitated the acceptance of new technology and effective implementation of phase out investments. It is also clear in retrospect that some areas such as medical aerosols should have been targeted for technology transfer, given the ultimate unwillingness of a technically backward enterprise to understand and accept ODS replacement technology while still attempting to utilize GEF support.

v) *Public Awareness and Dissemination:* The outcomes in this area while modest and conventional in nature are assessed as being effective. A significant volume of multi-media material has been prepared and disseminated to the public generally, within stakeholder organizations and particularly to the technical and industrial community. Of particular note are a series of publications covering ODS substitute technologies and long term planning of residual ODS use in the refrigeration and fire protection sectors which have seen wide acceptance both in Russia and internationally, notably in other CIS countries.

PIU Support Component: The PIU operation supporting the Project is judged as having developed a superior capability in handling technically complex and politically sensitive undertakings within a difficult and constantly changing institutional environment. The fact that it was led throughout by a senior, well respected professional with strong technical capability and well versed in the evolving bureaucratic process was a key advantage. It ultimately provided a good balance between independence and connection within the government structure, something that other PIUs have often not provided. Having said that it must also be noted that PIU capacity and associated performance did decline over the last two years of the Project, something that is directly attributable to the absence of a stable environmental management responsibility in the Government at the policy level compounded by increasing counterproductive interference in routine administrative functions of the PIU.

4.3 Net Present Value/Economic rate of return:

An economic analysis was not performed on the Project as this has not been the practice for projects of this type given the difficulty in quantifying the positive economic impact from global reduction in ozone depletion and resulting health and climate change impacts. As noted above, the project would also have had significant local and national positive economic impacts through modernization of a significant number of manufacturing and service enterprises such that they are sustainable when they would otherwise likely have disappeared.

A further measure of economic performance is provided by the grant cost effectiveness (CE) as measured in US\$/Kg ODP. The overall GEF grant CE of the Project's ODS consumption related investment was US\$4.49/Kg ODP based on the final year of ODS use prior to conversion or US\$3.53/Kg ODP based on appraised consumption. Actual total GEF Grant CE with inclusion of the ODS production closure contribution was US\$3.05/Kg ODP. Table 2 summarizes the appraised and actual CE's for each investment sub-project. In general the actual CE based on the original phase out impact was superior to that on which the sub-project was approved and in many cases compared favorably even based on the terminal ODS consumption. Table 3 below compares this against other Bank GEF ODS projects in the region and indicates that the Project's performance is the best yet achieved. Overall, it is anticipated to be among the most cost effective internationally financed national programs undertaken to date.

Table 2. Approved and Actual Grant Cost Effectiveness for Investment Sub-Projects

Enterprise/ Sub-Project	Cost Effectiveness US\$/Kg ODP			
	Approved	Actual		MPMF Threshold
		Based on Appraised Phase Out	Based on Last Year of ODS Use	
Aerosol Sector				
Arnest	2.33	2.29	1.85	4.40
Sibar	3.31	1.39	1.46	4.40
Chimprom	2.88	2.75	5.87	4.40
Harmonia	3.25	3.21	3.51	4.40
Til	4.34	4.80	4.24	4.40
Altaivitaminy	11.91	Incomplete		N/A
Commercial Refrigeration				
Mariholodmash	8.74	12.72	12.72	15.21
Holodmash	12.32	12.86	8.76	15.21
Domestic Refrigeration Sector				
Iceberg	5.76	5.24	11.78	13.76
Non-Insulating Foam				
Plastik	13.95	11.78	13.10	13.95
Stroidetal	7.60	6.41	5.03	8.22
Nelidovo	8.17	7.72	5.86	8.22
Refrigeration Servicing Sector				
Combine TT	26.90	25.20	50.30	N/A
Pyatigorsk TT	60.21	47.73	100.30	N/A
Kemerovo TT	25.00	23.45	42.70	N/A
Samara TT	34.03	25.95	54.50	N/A
Rostov TT	12.58	7.36	12.50	N/A
Yartorgtehnika	26.68	20.60	32.10	N/A
Orenburg TT	41.95	28.40	135.80	N/A
Orel TT	33.63	22.97	32.10	N/A
Volgograd TT	10.42	7.03	17.40	N/A
Perm TT	9.47	7.00	38.80	N/A
Bryansk TT	36.88	26.83	22.30	N/A
Tvertorgtehnika	12.85	10.10	18.70	N/A
Cherepovets TT"/ Vologda TT	46.11	28.01	35.20	N/A
Irkutsk TT/ Ulan-Ude TT	17.93	14.01	27.20	N/A
Primtorgtehnika/ Kamchat TT	8.03	7.43	16.70	N/A
Astrakhan TT	15.70	12.70	44.00	N/A
Podolsk TT	37.19	23.78	91.40	N/A
Chelyabinsk TT	22.58	20.58	39.10	N/A
Kaliningrad TT	17.36	17.16	28.30	N/A
Pskov TT/Novgorod TT	20.98	17.32	62.00	N/A
ODS Production Closure				
Seven Enterprise	0.93	N/A	0.90	N/A

Table 3.: GEF Grant Cost Effectiveness (CE) Comparison with other Bank ODS Phase out Projects in the Region

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Country	Actual GEF Grant Million US\$	Actual GEF Grant CE US\$/Kg ODP
Belarus	6.79	9.84
Bulgaria	9.69	26.64
Czech Republic	2.42	Not Calculated
Hungary	6.49	6.24
Poland	5.88	7.17
Russian Federation	52.37/44.6*	2.98/4.94*
Slovenia	5.4	15.88
Ukraine	23.20**	14.1**

* Estimated without Production Closure

** Estimated based on current performance data

4.4 Financial rate of return:

Consistent with practice for projects of this type, no FRR was performed on the Project. However, a financial viability assessment was performed on each enterprises proposing investment sub-projects through the screening, preparation and appraisal process. Quarterly financial reporting was required during sub-project implementation and, where concerns were noted, updated financial viability assessments were undertaken. In general, it was concluded that this process was effective in ensuring that both comprehensive phase out was achieved while directing available funds to only those enterprises that were sustainable. A significant number of potential beneficiaries that would not have survived transition to the market economy were eliminated before GEF financing was committed. At closing, of the final thirty six consumption sub-projects, only three are considered at some risk due to the enterprises potentially not being sustainable. The remaining enterprises all have viable businesses and most are showing growth reflecting a competitive position in the market.

4.5 Institutional development impact:

The Project has supported and immediate counterparts have effectively developed the necessary regulatory and institutional tools to allow Russia to move forward with future ODS management, consistent with international expectations and standards. However, the MNR has not assigned or resourced any permanent responsibility for ODS issues within its structure once the Project is over, despite having this capacity readily available. Similarly the overall institutional mechanism that supervised the Project, namely the Interagency Commission for Ozone Layer Protection (IAC), is currently inoperative, despite having been a very effective vehicle for consensus building and decision making for most of the Project. Based on this, the overall conclusion is that the Project long term impact on institutional development is dependant on the results of the current restructuring of environmental management responsibility within the GOR. More specifically, it will require the new Federal Service for Environmental, Technological and Nuclear Oversight or MNR to assume direct responsibility for this issue and provide capacity to address it, building on that provided by the Project. More generally, this would also have been seen as a pre-condition for any future international initiatives of this type, either related to ODS or other global chemical pollutant issues.

5. Major Factors Affecting Implementation and Outcome

5.1 Factors outside the control of government or implementing agency:

The major external factor affecting the project outside the government or implementing agency's control was the overall evolution of the Russian industrial sector generally during the period of implementation. The fact that the portfolio of investment interventions evolved from initial preparation reflects the market driven restructuring that was occurring with resultant impacts on the viability and stability of ODS consumers. However, the flexible design in the Project and rigorous application of financial viability tests allowed effective and timely responses in most cases. In the end, this did not substantially impact the overall positive outcome, although clearly the uncertain outcomes of several of the late completing individual sub-projects were negatively impacted by this ongoing industrial restructuring.

5.2 Factors generally subject to government control:

The overall decline in Government commitment to environmental protection as a priority public policy detracted from maximizing the positive project outcome over the last two to three years of the Project's implementation. This is evidenced in overall terms by the downgrading of the responsible environmental protection agency within the government structure itself and failure to sustain effective institutional mechanisms like the IAC. This resulted in not being able to properly integrate the global issue involved into the process of industrial restructuring. All of this significantly inhibited the ability of the Implementing Agency but more specifically an otherwise highly effective PIU to fully capitalize on the international resources available to it.

5.3 Factors generally subject to implementing agency control:

The major factor affecting implementation which was subject to the control of the succession of Implementing Agencies was the decline in functional commitment and allocation of resources to support the Project's orderly completion over the last several years. During the period over which MNR acted as the implementing agency, almost continuous restructuring of the environmental management responsibility occurred. Throughout this, the Implementing Agency's involvement was characterized by continued promises of commitment but, in practice, by excessive administrative delays in routine decision making and approvals. This impeded implementation progress generally, frustrated attempts to take timely remedial actions with the few low performing sub-projects, and negated the PIU's attempts to utilize available resources for additional residual ODS phase out investments. Despite the opportunity afforded by the Bank through several extensions of the grant closing dates, MNR's performance in 2001-2003 was the primary reason for the loss of approximately US\$7.7 million in available GEF funding that could have gone to additional residual ODS phase out sub-projects, sixteen of which were prepared and approved. It is also the prime factor in the uncertainty associated with the sustainability of the institutional and regulatory tools created by the Project.

5.4 Costs and financing:

The original capital cost estimate for the originally appraised overall framework project was US\$104.3 million made up of US\$60.0 million in GEF grant financing overall of which US\$57.0

million was for investment sub-projects in consumption phase out. US\$44.3 million in enterprise and government financing was estimated, subject to detailed appraisal of second and third tranche investment sub-projects. Based on appraised sub-projects, the estimated cost of consumption phase out investment sub-projects and production closure was US\$81.5 million inclusive of US\$58.1 million in GEF financing and US\$23.5 million in enterprise contribution. The actual overall cost of the project was US\$72.4 million, of which US\$63.7 million was associated with consumption phase out investment sub-projects. Total GEF financing was US\$48.1 million of which US\$39.5 million was devoted to consumption phase out investment sub-projects, US\$7.8 million was directed to production closure and US\$ US\$24.3 million was enterprise financed. No direct government financing was provided. The following Table 4 provides a summary of investment sub-project and production closure costs and financing. The approved and actual technical assistance and PIU costs are reported previously in the Table 1, Section 3.4.

The variation between appraised and actual costs noted above resulted from a number of factors. Significant savings were accumulated through generally positive competitive bidding impacts and by exercising the flexibility through the staged tranche and work plan approval process to downsize or restructure several sub-projects. Early completing sub-projects also generally benefited from favorable changes in US\$/SDR exchange rates. Countering this was significant escalation in local costs, particularly for works which in the case of many of the more aggressive enterprises was generally accommodated by increased enterprise contributions. Also impacting later finishing sub-projects was the reversal in US\$/SDR exchange rates particularly where procurement contracts were denominated in Euros. As noted above, a significant amount of grant funding was left unused.

Table 4.: Cost and Financing Summary - Investment sub-projects

Enterprise/ Sub-Project	Estimate at Appraisal (US\$)			Actual (US\$)		
	Cost	Financing		Cost	Financing	
		Enterprise	GEF		Enterprise	GEF
Aerosol Sector						
Arnest	14,468,060	8,818,080	5,650,000	16,654,562	11,016,737	5,637,825
Sibar	17,570,994 9,227,805*	4,429,724 1,362,510*	13,141,270 7,865,295*	7,827,811	2,319,462	5,508,349
Chimprom	7,795,002	2,703,002	5,092,000	5,690,871	957,483	4,733,388
Harmonia	8,106,385	1,854,385	6,252,000	8,471,222	2,285,855	6,185,367
Til	844,000	120,000	724,000	880,218	82,816	797,402
Altaivitaminy **	936,400	305,000	631,400	955,422	134,000	821,422
Commercial Refrigeration Sector						
Mariholodmash	4,634,311	3,753,311	881,000	3,400,691	2,614,374	786,317
Holodmash	2,514,625	259,625	2,255,000	2,689,073	341,753	2,347,320
Domestic Refrigeration Sector						
Iceberg	746,900	56,100	690,800	785,225	156,166	629,059
Non-Insulating Foam Sector						
Plastik	3,646,488	906,388	2,740,100	5,796,877	2,853,139	2,943,738
Stroidetal	1,103,100	20,750	1,082,350	1,485,555	403,555	1,082,000
Nelidovo	1,160,500	22,000	1,138,500	1,776,015	856,152	919,863
Refrigeration Servicing Sector						
Combine TT	2,277,628	38,628	2,239,000	2,199,596	106,739	2,092,857
Pyatigorsk TT	1,175,025	30,625	1,144,400	935,350	28,331	907,019
Kemerovo TT	1,746,230	42,230	1,704,000	1,652,582	57,579	1,595,003
Samara TT	238,707	7,550	231,157	189,209	7,550	181,659
Rostov TT	259,329	14,900	231,157	162,117	14,900	147,217
Yartorgtehnika	288,294	7,635	280,639	234,357	7,635	226,702
Orenburg	240,870	5,450	235,420	175,855	5,450	170,405
Orel TT	304,858	7,550	297,308	214,295	7,550	206,745
Volgograd TT	117,664	8,390	109,274	85,773	8,390	77,383
Perm TT	337,810	10,700	327,110	255,725	10,700	245,025
Bryansk TT	210,564	5,765	204,799	166,767	5,765	161,002
Tvertorgtehnika	244,186	5,450	238,736	197,312	5,450	191,862
Cherepovets TT/Vologda TT	259,004	5,240	253,764	173,325	5,240	168,085
Irkutsk TT/Ulan-Ude TT	457,072	7,550	449,522	357,805	7,550	350,255
Primorgtehnika/ Kamchat TT	503,068	6,185	496,883	467,357	6,185	461,172
Astrakhan TT	133,299	2,510	130,789	104,148	2,510	101,638
Podolsk TT	224,619	6,185	218,434	196,422	6,185	190,237
Chelyabinsk TT	270,348	10,700	259,648	257,603	10,700	246,903
Kaliningrad TT	73,894	2,405	71,489	71,063	2,405	68,658
Pskov TT/Novgorod TT	146,609	4,925	141,684	126,184	4,925	121,259
Consumption Total	73,035,863	23,478,958	49,556,905	63,721,769	24,227,494	39,494,275
Production Closure						
	8,500,000	-	8,500,000	7,786,146	-	7,786,146
PROJECT TOTAL	81,535,863	23,478,958	58,056,905	72,422,533	24,332,251	48,089,282

*After restructuring and re-appraisal;

** Sub-Project not completed. Enterprise contribution unverified

6. Sustainability

6.1 Rationale for sustainability rating:

The Project's satisfactory sustainability rating is primarily based on the irreversible nature of the successful ODS consumption phase out outcome which was its overall objective. It can be concluded with some certainty that Russia will not be a consumer or producer of Annex A and B ODS in the future. Similarly, the prospects appear good for the long term viability of the large majority of investment sub-projects undertaken. Therefore, the positive social and economic benefits of the Project associated with industrial modernization should be sustained in a market economy. While not altering the overall conclusion on sustainability of the Project's ODS phase out outcome, the sustainability of the Project's institutional and regulatory outcomes is uncertain. It is unclear despite effective institutional mechanisms and regulatory tools developed in Russia within the scope of project, how or if the country will continue as an active international participant in addressing this global issue, or implement new ODS phase out imperatives adopted by the international community.

6.2 Transition arrangement to regular operations:

No definable transition arrangements to regular operations related to maintaining the institutional and regulatory framework developed under the Project have been undertaken. There are contradicting signals from the Government regarding designation of MP responsibilities between the current Implementing Agency (MNR) and the new Federal Service for Environmental, Technological and Nuclear Oversight. However, the country continues to maintain its participation in international forums on ODS during this transitional period using capacity developed under the Project. Within the working levels of Government, implementation of regulatory requirements related to import/export control and licensing can be expected to continue. However, provision of policy direction through such vehicles as maintaining a current Country Program as well as and updating or direct enforcement of regulatory requirements by environmental authorities have uncertain prospects pending stabilization of the overall institutional structure in the sector.

7. Bank and Borrower Performance

Bank

7.1 Lending:

The Bank's performance in undertaking its obligations as a GEF Implementing Agency for the Project are considered satisfactory. The Project represented a timely intervention on a major global environmental issue in the country where it could have the greatest impact in the region. It integrated its preparation work with bilateral assistance and was coordinated within the Bank with similar projects in the region that were linked to the Project and ultimately whose success depended in part it. The Project is inherently investment oriented but was designed to provide institutional and regulatory support consistent with the needs jointly identified with the Government. Provision within this of resources for ongoing preparation was a critical factor in

providing the ability to adapt and capitalize on the evolving nature of ODS phase out requirements as well as creating strong local technical and project management capacity. On the negative side, the provision of generous technical assistance and PIU support allowed the Government to withdraw its own resources from this particular issue, something that in retrospect might have been countered by a requirement for matching government contribution as part of Grant conditionality. The introduction of the ODS Production Component during implementation could have been viewed as a major restructuring requiring Board approval. However, recognizing that this component was effectively a contribution to a separate Board approved project and that it would considerably contribute to achievement of the overall objective of the Project this was not felt to be warranted.

7.2 Supervision:

The rating of the supervision is rated as satisfactory. While the Project was led by a number of different task managers, the core project team that included the current task manager was constant throughout such that a high degree of continuity was provided and critical relationships and networks were maintained despite the instability of counterpart organizations in the project's latter phases. The project itself was highly supervision intensive given the large number of different beneficiaries, the technical complexity of many of the investment component sub-projects, the major economic, financial, institutional stresses and the changes in beneficiary's ownership, and due diligence requirements associated with such a large GEF grant. The Grant Agreement was administered rigorously but with enough flexibility to allow the timely modification in scope that was key allowing the Project to achieve a comprehensive ODS phase as well as providing the beneficiaries with the opportunity to maximize benefits from it. Seven Grant Agreement amendments and five major GEF submissions were prepared and processed. The procurement and disbursement management requirements of the project involved a total of 160 separate contracts of which 15 were ICB, 5 were NCB, 23 were IS, 38 were Consultant Firms and 71 were individual consultants.

7.3 Overall Bank performance:

On the basis of the above, the overall Bank performance is considered satisfactory. Throughout, the Bank as a whole has maintained a strategic perspective of the ODS issue as reflected in cross communication with other regions, notably the other major ODS phase out programs administered by the Bank under the MPMF in China and India. Similarly the lesson's learned are being applied in the planning of new ODS initiatives in the region as additional priorities developed under the MP. At the same time, the Bank responded to the detailed supervision needs of this kind of operation. It also reflects the Bank providing the necessary patience and timely guidance respecting the needs of the client/beneficiary, particularly recognizing the institutional instability that existed through much of the Project implementation period.

Borrower

7.4 Preparation:

Recipient was generally well prepared to undertake the project based on its earlier ratification of the London Amendment and initiation of the Country Program. The creation of basic institutions

such as the IAC had started and the prior establishment of implementation capacity on which the Project's PIU had been provided for.

7.5 Government implementation performance:

The Government's implementation performance was mixed with it being satisfactory for most of the Project implementation period. However in the last several years, it has not provided any meaningful policy guidance supportive of the issue generally or in resolving administrative issues with the government structure. The most significant is perhaps the absence of decision making to date respecting ratification of later amendments to the MP and its current position as the last major non-Article 5 country not to do so.

7.6 Implementing Agency:

The overall performance of the implementing agency parallels that of the Government as a whole with early strong commitment and proactive support for implementation, followed by a decline in policy engagement and presenting increasing administrative barriers. However, at the same time the performance of direct counterparts in the PIU which effectively became and remain the national capacity and focal point in this area is considered highly satisfactory. Through the strength of its leadership it has effectively carried on both the policy and highly supervision intensive aspects of the Project on behalf of the Government.

7.7 Overall Borrower performance:

Overall the Recipient's implementation performance is considered unsatisfactory largely based on the situation at closing where continuing uncertainty exist regarding its commitment to addressing the ODS issue on a continuing basis. This is balanced by the satisfactory performance of both the PIU and most beneficiary enterprises which are largely responsible for its successful outcomes.

8. Lessons Learned

Integration of Global and Local Objectives: The Project provides an example of successfully integrating global environmental objectives, promoted predominately by the international community, and local objectives involving investment in industrial modernization that must be balanced against near term adverse social and economic impacts that its implementation might entail. The key factor necessary to achieve this integration is a broad policy level understanding of these objectives within the Government and the responsible Implementing Agency from the beginning. The Implementing Agencies role is particularly important as they must act as the project champion in the evitable debate on costs and benefits with the Government. A major factor in this Project's success was that it enjoyed policy level support during its preparation and much of its implementation period. Conversely, when this declined in the later stages of implementation, the opportunity to fully capitalize on the opportunities offered by the Project were not fully realized. In the context of future operations having this characteristic, the lesson learned is the need to develop and test the Government's understanding of and commitment to the global objective at the outset and as well as its ability sustain this through periods where the balance between local costs and benefits may be disputed. As in this in this case, the Bank can

play an important role in achieving this understanding and commitment through proactive and regular engagement with the Government on the global environmental issues as well providing guidance on how to practically benefit from international assistance.

Project Design Flexibility: A principle lesson learned from this Project is the value of flexible project design which has the ability to capture lessons learned as implementation proceeds and adjust the project scope to accommodate these. It effectively allows both counterparts and the Bank to feedback what they are learning into the management of project implementation such that outcomes against objectives can be optimized. The tranching structure of the project with a well defined process of work program approval and amendment is well suited to do this and represents a useful model for projects with large, complex and potentially open ended investment sub-project portfolios. In this case it allowed the accommodation of the impacts of market driven industrial restructuring, the integration of ODS production and consumption phase out and expansion of the project scope to address residual ODS consumption as well as mitigate associated social and economic impacts, all of which were fundamental to the Project's successful outcome.

Resources for Preparation and Appraisal: This Project underlines the importance of the quality of preparation and appraisal in being able to deliver the integrated global environmental and local objectives in a cost effective manner. Such projects will involve the implementation of a diverse portfolio of technically complex investment sub-projects, each of which must be tested for eligibility against international standards and as well for economic viability and sustainability. This Project generally enjoyed good access to the resources and capacity to effectively undertake these tasks, first through bilateral support in developing Country Program and subsequently within the framework design of the project itself. This was key factor in achieving a comprehensive result in terms of ODS phase out with a high level of success in terms of enterprise sustainability and cost effectiveness.

PIU Structure, Influence, Capacity and Engagement: The experience with the development and operation of the Project's PIU offers useful lessons, both positive and negative. On the positive side, the Project demonstrates the value of a well resourced and experienced PIU, capable of relatively independent action while, at the same time, remaining engaged and influential within the Implementing Agency and Government generally. This is considered essential to implement complex projects where policy level decision making and support, as well as a large number of routine transactions and technical decisions are required. The negative lessons essentially involve the converse of this, namely the difficulty any PIU will have in implementing such projects where the Implementing Agency exercises excessive detailed control over day to day implementation, while abdicating its role related to championing the Project and providing timely policy direction and support to the PIU.

With respect to lessons related to the Bank wide issue of whether to promote PIU capacity independent of or being a part of the government structure, this experience argues more in favor of operationally independent PIU closely associated with and directly reporting to a leading Implementing Agency. Transformation of the PIU into one of a regular MNR legal entities which has taken place for the final period of the project proved to be counterproductive. Ultimately, the selection of PIU structure should be a project specific decision that balances the capacity available, stability and commitment of the responsible implementing agency, the degree to which

independence of authority would be available and the level at which the PIU would report.

Enterprise Commitment and Contribution: The Project demonstrates a strong correlation between enterprise commitment and the ultimate success of investment sub-projects. One measure of this is the financial contribution that it commits and more importantly the timeliness of fulfilling that commitment. The most successful sub-projects were those where the enterprise has made a significant contribution and this has been scheduled to match GEF financed investment such that they are integrated into the sub-project project in a timely manner, typically in having infrastructure prepared for GEF financed equipment upon delivery. The exception to this are the refrigeration servicing sub-projects where the nature of the enterprises inherently limits their direct contribution ability but where the key factor is the coordination of training and equipment delivery, something that itself requires significant enterprise commitment of staff. The few problematic sub-projects all involved enterprises who limited and/or delayed their contributions, often because of change in ownership, instability and restructuring with their organizations. This suggests that a strong emphasis needs to be placed on establishing meaningful levels of enterprise contribution at sub-project appraisal and in conditioning the disbursement of grant funding to delivery of enterprise preparatory work and investment. At the same time, it should be recognized that there are changes such as changes in ownership which are beyond control of the Bank and the beneficiary.

Supervision Intensity of Large Investment Portfolios: This Project provides an example of the supervision intensive nature of operations involving multiple, technically diverse and complex investment sub-projects as well as supporting technical assistance. This is particularly true where grant based financing is governed by strict eligibility requirements and Bank due diligence obligations related to safety and appropriate use of donor funds. In this case, the Project involved a Grant Agreement with 7 amendments, thirty one sub-grant agreements some with amendments, 160 procurement contracts, 15 sub-project ICRs and 9 safety audits. While supervision resources were mostly adequate in this case, development of future projects of this nature should ensure that this requirement is recognized.

Sustaining Government Commitment: This Project provides insight into the general issue of sustaining government commitment. From a positive perspective, the vision of the Government and the responsible implementing agency in its formative stages were fundamental to its success. On the negative side, the gradual decline in this commitment generally prolonged the project and caused lost opportunities to maximize its benefits, created uncertainty about sustainability of the institutional results, and effectively required additional efforts by the Bank to properly complete it. While addressing the systemic problem that is the basic cause in this case is largely beyond the control of any one project, the Bank should look for ways to entrench the initial and fully tested commitment at the outset, and mechanisms that will at least keep the Government focused on its implementation and completion. This would require more precision in requiring meaningful government financial contribution to be committed at the outset. This could include specific resource allocation requirements for the permanent institutional structures necessary to support the regulatory and administrative obligations that succeed the project and checks on the natural tendency to attempt to use international assistance as budget replacement resources. Where the basis of the project is a broad national program, the generally declarative resource commitments

assigned to Government in it should be linked into the Government's obligations under the project as should be the maintenance of inter-agency supervisory mechanisms assigned to oversee such programs. Similarly, any issues such as the application of exemptions for taxes and import duties should be defined at the outset to avoid ongoing administrative impediments to project implementation. It is recommended that these kinds of measures be included as Grant Agreement conditionality with meaningful performance based tests linked to the continuation of disbursement and their eligibility being applied in its administration.

Prospects of Future Global Environmental Initiatives: The results of this Project, while positive also raise some question about future prospects of future initiatives of this type in Russia. It is generally accepted that significant scope for such initiatives exists. Related to ODS, Russia potentially qualifies for international assistance in support of implementation of latter amendments of the Montreal Protocol and those which are likely as additional chemicals are added as controlled substances. This includes transitional substances (HCFCs), methyl bromide, feed stocks and process agents where Russia remains a significant global consumer and in some cases producer. It also extends to the broader management of chemicals on a global basis such as persistent organic pollutants and heavy metals where Russia has major legacies and potential global impacts. The results of this Project send a mixed message to the international community on the country's interest in such future initiatives. While the completed Project is one of the most successful and cost effective ODS phase out initiatives undertaken to date with international support, the fact that it has not fully utilized resources available to it and the Government is not aggressively pursuing follow up initiatives raises the question of whether there is interest in further international support. Consistent with above point related to developing government commitment to global environmental objectives, the Bank could use the experience with this Project in engaging the country in a dialogue on this point and its future interests.

In summary, a variety of both detailed and strategic lessons can be drawn from the Project in the context of undertaking future loan and/or based environmental investment operations as noted above. Perhaps principle among these is that project design should be made as robust and flexible as possible to sustain major external shocks that are the rule in CEITs, where institutional instability and the impacts of rapid and unpredictable market economy transition is occurring. It should also be recognized that such operations may be of relatively long duration as evidenced in this case where more than the originally planned 5 years was required. Finally, continuity of the core project implementation team, both on the Bank and PIU side was a key stabilizing factor in this Project and one of the important pre-requisites of the project success. Overall, the Project should be considered as a major accomplishment for both the Bank and Government, taking into account the significant global environmental impact it generated, particularly considering the scale of changes in economic, financial and institutional setup in the country, changes in the industrial sector, and its technical and political complexity. Under these circumstances, having just one failed sub-project among a portfolio of 36 investments is an outstanding result.

9. Partner Comments

(a) Borrower/implementing agency:

(b) Cofinanciers:

(c) Other partners (NGOs/private sector):

10. Additional Information

Annex 1. Key Performance Indicators/Log Frame Matrix

Outcome / Impact Indicators:

Indicator/Matrix	Projected in last PSR ¹	Actual/Latest Estimate
Phaseout of primary ODS in high consumption sectors. 1996 consumption - 15,000 MT. 9,122 MT appraised target. Provision of grant funding of enterprise investments to conversion technologies.	Primary phase out in all primary consumers except one was achieved by December 31, 2001. Grant funding directed to the consumer aerosol, commercial refrigeration, non-insulating foam and refrigeration servicing sectors. Used for conversion to modern competitive non-ODS technology.	Final Project phase out consumption (last year of ODS use) - 8,968 MT. Residual ODS consumption - < 1000 MT (estimated) As at last PSR. Technology transfer opportunities remain in the solvent, medical aerosol and fire protection sectors and could have benefited from unused GEF resources.
Establishment of sustainable legal and regulatory framework for effective ODS control system in Russia.	Basic legal and regulatory system covering international reporting, import/export control, licensing in place. No assigned responsibility in MNR for its administration.	As at last PSR except assignment of long term responsibility to new environmental service outside MNR.
Mitigated economic and social impacts associated with the elimination of ODS.	All but three sub-projects are assessed as viable, and are sustaining or expanding employment that would have otherwise like have been lost without Project support. Residual ODS phase out in the refrigeration servicing sector is progressing.	As at last PSR Refrigeration servicing investment providing geographical coverage to 50% of the country. Residual ODS demand declining rapidly than anticipated due to equipment replacement and use of drop in substitutes.
Permanent Closure of Annex A and B ODS production. Target production capacity 140,000 MT. Last years production – 28,974 MT.	Production ceased by December 2000 at seven producing enterprises. The facilities were permanently closed occurred in June 2001 eliminating 140,000 MT of capacity. Closure was formally verified by the Bank in July 2002, and confirmed by a monitoring mission in June 2003.	Continued permanent closure at all seven enterprises was re-confirmed by Bank monitoring visits in July 2004. Remaining inventories of banked ODS anticipated to be eliminated at the end of 2005. Direct phase out of actual ODS production attributable to the Project's contribution - 8,204 MT.
Russia meeting its ODS consumption phase-out obligations under the Montreal Protocol	Russia was in compliance with its obligations under the London Amendment by December 31, 2000 with the cessation of Annex A and B ODS production and substantive primary consumption elimination by December 31, 2001 in the originally targeted consumer aerosol and refrigeration sectors.	Per last PSR Country maintaining active participation as a Party to the Montreal Protocol. Current initiative in Government to ratify latter Amendments of the Montreal Protocol.
Access to financial resources needed for ODS consumption phase-out from a range of international and domestic sources. Original Enterprise/Government Contribution =US\$44.3 million. Appraised Enterprise Contribution =US\$23.5 million.	Enterprise Contribution Estimated at US\$23.0 million.	Final Enterprise contribution: US\$24.3 million Bilateral Assistance: USTDA = US\$250,000 Danish Refrigeration Servicing investment = US\$1.1 million, Trade Financing = 40 million DM No Government contribution recorded.

Output Indicators:

Indicator/Matrix	Projected in last PSR ¹	Actual/Latest Estimate

¹ End of project

Annex 2. Project Costs and Financing

Project Cost by Component (in US\$ million equivalent)

Component	Appraisal Estimate US\$ million	Actual/Latest Estimate US\$ million	Percentage of Appraisal
1. Investment Component	5.64	5.64	100
1.1 First Tranche			
1.2 Second Tranche	16.39	17.21	105
1.3 Third Tranche	19.38	17.45	90
ODS Production Closure	7.75	7.79	101
Technical Assistance	2.76	2.65	100
PIU Costs	1.26	1.63	1.29
Total Baseline Cost	53.18	52.37	
Total Project Costs	53.18	52.37	
Total Financing Required	53.18	52.37	

Project Costs by Procurement Arrangements (Appraisal Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method ¹			N.B.F.	Total Cost
	ICB	NCB	Other ²		
1. Works	31.60 (27.90)	0.00 (0.00)	33.70 (28.60)	5.70 (0.00)	71.00 (56.50)
2. Goods	0.00 (0.00)	0.00 (0.00)	1.00 (0.50)	29.30 (0.00)	30.30 (0.50)
3. Services	0.00 (0.00)	0.00 (0.00)	1.00 (1.00)	0.00 (0.00)	1.00 (1.00)
Consulting Services/ Technical Assistance					
3.1. Institutional Strengthening					
3.2 Training	0.00 (0.00)	0.00 (0.00)	0.30 (0.30)	0.00 (0.00)	0.30 (0.30)
3.3 Project Implementation Support	0.00 (0.00)	0.00 (0.00)	1.70 (1.70)	0.00 (0.00)	1.70 (1.70)
Total	31.60 (27.90)	0.00 (0.00)	37.70 (32.10)	35.00 (0.00)	104.30 (60.00)

Figures in parenthesis are respective amounts financed by GEF

Notes:

- Includes US\$32.3 million in IS and US\$1.4 million in NS
- Includes US\$1.0 million in NCB
- According to IBRD Guidelines for Consultant Selection
- To be financed by enterprise using local commercial practice
- Includes PIU support expenditures

Project Costs by Procurement Arrangements (Actual/Latest Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method ¹			N.B.F.	Total Cost
	ICB	NCB	Other ²		
1. Works	0.00 (0.00)	0.00 (0.00)	4.20 (0.00)	13.10 ()	17.30 (0.00)
2. Goods	28.20 (0.00)	0.00 (0.00)	7.20 (0.00)	7.30 ()	42.70 (0.00)
3. Services	0.00 (0.00)	0.00 (0.00)	0.70 (0.00)		0.70 (0.00)
Consulting Services/ Technical Assistance				()	
3.1. Institutional Strengthening					
3.2 Training	0.00 (0.00)	0.00 (0.00)	0.30 (0.00)	0.20 (0.00)	0.50 (0.00)
3.3 Project Implementation Support	0.00 (0.00)	0.00 (0.00)	4.60 (0.00)	2.60 (0.00)	7.20 (0.00)
Total	28.20 (0.00)	0.00 (0.00)	17.00 (0.00)	23.20 (0.00)	68.40 (0.00)

Notes:

- a) Includes US\$7.0 million in IS and US\$0.3 million in NS
- b) Entirely NCB
- c) GEF Funded Technical Assistance according to IBRD Guidelines for Consultant Selection
- d) Financed by enterprise using local commercial practice
- e) Includes PIU support expenditures
- f) All GEF Financed

^{1/} Figures in parenthesis are the amounts to be financed by the IDA Credit. All costs include contingencies.

^{2/} Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Annex 3. Economic Costs and Benefits

No economic analysis of the project estimated at appraisal.

Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating		
	Month/Year	Count	Specialty	Implementation Progress	Development Objective
Identification/Preparation	September 1995	1	Ozone Operations Coordinator		
	Oct. -Nov. 1995	4	Senior Environmental Engineer, Ozone Operations Coordinator, Environmental Specialist, Technical Consultant		
Supervision	June 1997	3	Senior Environmental Engineer, Environmental Specialist, Technical Consultant		
	December 1997	3	Senior Environmental Engineer, Environmental Specialist, Technical Consultant		
	June-July 1998	4	Environmental Specialist, Procurement Specialist, Technical Consultant, Consultant		
	December 1998	2	Environmental Specialist, Technical Consultant		
	April 1999	3	Environmental Specialist, Technical Consultant, Consultant		
	November 1999	4	Senior Environmental Economist, Senior Environmental Specialist, Technical Consultant, Consultant		
	Jan.-Feb. 2000	4	Senior Environmental Specialist, Procurement Specialist, Technical Consultant, Consultant	S	S
	Sept.-Oct. 2000	5	Senior Environmental Specialist, Procurement Officer, Financial Management Officer, Technical Consultant, Consultant		
	July 2001	4	Senior Environmental Specialist, Procurement Officer, Technical Consultant, Consultant	S	S
	Oct.-Nov. 2001	3	Senior Environmental Specialist, Technical Consultant, Consultant	S	S
	May 2002	3	Environmental Specialist, Technical Consultant, Consultant	S	S
	Sep. 2002-Feb. 2003	7	Senior Environmental Specialist, Technical Consultant, Consultant, two Procurement Specialists, Financial	U	S

ICR	June 2003	4	Management Specialist, Program Assistant Senior Environmental Specialist, Technical Consultant, Consultant, Program Assistant	U	S
	Oct.-Dec. 2003	3	Environmental Specialist, Technical Consultant, Consultant	S	S
	Jan.-March 2004	3	Environmental Specialist, Technical Consultant, Consultant		
	June 2004	3	Senior Environmental Specialist, Technical Consultant, Consultant	S	S

Performance Rating

Date (month, year)	Development Objectives	Implementation Progress
March, 2000	S	S
June, 2001	S	S
September, 2001	S	S
January, 2002	S	S
June, 2002	S	S
March, 2003	S	U
July, 2003	S	U
December, 2003	S	S
June, 2004	S	S

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation		
Supervision		
ICR		
Total		

Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<u>Rating</u>				
<input type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Sector Policies</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Physical</i>	<input checked="" type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Financial</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Environmental</i>	<input checked="" type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

Social

<input type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

6.1 Bank performance

Rating

- | | | | | |
|--------------------------------------|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input type="checkbox"/> Lending | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Supervision | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

6.2 Borrower performance

Rating

- | | | | | |
|--|--------------------------|------------------------------------|------------------------------------|--------------------------|
| <input type="checkbox"/> Preparation | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Government implementation performance | <input type="radio"/> HS | <input type="radio"/> S | <input checked="" type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Implementation agency performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall | <input type="radio"/> HS | <input type="radio"/> S | <input checked="" type="radio"/> U | <input type="radio"/> HU |

Annex 7. List of Supporting Documents

Preparation Documents:

- “Phase out of Ozone Depleting Substances in Russia”, Ministry of Environmental Protection and Natural Resources/Danish Environmental Protection Agency, August 1994.
- “Resolution on Priority Measures to Ensure Compliance with the Vienna Convention on Ozone Layer Protection and Montreal Protocol on Ozone Depleting Substances”, Resolution No. 526 of the Government of the Russian Federation, May 1995.
- “Assistance for Project Preparation, Aerosol and Refrigeration Sectors”, Centre for Project Preparation and Implementation/COWIconsult, January 1996.
- "Plans for Production Closure in the Russian Federation" Arthur D. Little, May 1999

Appraisal Documents

- “Global Environment Facility, Russian Federation Ozone Depleting Substances Phase-out Project, Project Document”, The World Bank, Report No. 15326-RU, May 1996 (includes 1st Tranche sub-project appraisals)
- “Global Environment Facility, Russian Federation Ozone Depleting Substances Phase-Out Project, Project Document”: Second Tranche, The World Bank, Report No. 17391-RU, February 1998 (includes 2nd Tranche sub-project appraisals)
- “Global Environment Facility, Russian Federation Ozone Depleting Substances Phase-Out Project, Project Document”: Third Tranche, The World Bank, Report No. 18973-RU, May 1999.
- “Third Tranche Appraisal Report, JSC “Altaivitimany”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Iceberg”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Kemerovotorgtekhnik”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Nelidovo Plastics Plant”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Plastik”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Pyatigorskortorgtekhnik”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Stroidetal”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Combine Torgtekhnik”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “TiL”, ANO CPPI Ozone Division, April 2000.
- “Third Tranche Appraisal Report, JSC “Holodmash”, ANO CPPI Ozone Division, April 2000.
- “Residual ODS Phase Out Management Component Appraisal Report, ANO CPPI Ozone Division, August 2001.
- “Project Appraisal Document: Special Initiative for ODS Production Closure in the Russian Federation”; Report No 20038-RU, World Bank, March 2000.

Legal Agreements

GEF Trust Fund Grant Agreement, GEF Trust Fund TF028314, September 1996, as amended on December 12, 1998; September 7, 1999; February 29, 2000; May 8, 2001; October 2, 2002; December 18, 2002 and January 12, 2004.

(Insert list of Sub-Grant Agreements)

Completion Documents

Sub-Project Implementation Completion Report, JSC “Arnest”, CPPI Ozone Division/DHV CIS, January 2002.

Sub-Project Implementation Completion Report, JSC “Chimprom”, FCGS Ecologia /DHV CIS, June 2004. *(Note: This is a Draft. My Files indicate that no final version submitted)*

Sub-Project Implementation Completion Report, JSC “Harmonia”, CPPI Ozone Division/DHV CIS, September 2002.

Sub-Project Implementation Completion Report, JSC “Mariholodmash”, CPPI Ozone Division/DHV CIS, September 2002.

Sub-Project Implementation Completion Report, JSC “Sibir, FCGS Ecologia /DHV CIS, May 2004.

Sub-Project Implementation Completion Report, JSC “Sibir, FCGS Ecologia /DHV CIS, May 2004.

Sub-Project Implementation Completion Report, JSC “Sibir”, FCGS Ecologia /DHV CIS, January 2004.

Sub-Project Implementation Completion Report, JSC “Plastik, FCGS Ecologia /DHV CIS, June 2004.

Sub-Project Implementation Completion Report, JSC “Stroidetal”, FCGS Ecologia /DHV CIS, June 2004.

Sub-Project Implementation Completion Report, JSC “Combine Torgtekhnik”, FCGS Ecologia /DHV CIS, April 2004.

Sub-Project Implementation Completion Report, JSC “Iceberg”, FCGS Ecologia /DHV CIS, January 2004.

Sub-Project Implementation Completion Report, JSC “Kemerovotorgtekhnik”, FCGS Ecologia /DHV CIS, April 2004.

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