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THE WORLD BANK OPERATIONS EVALUATION DEPARTMENT

The Multilateral Fund for the Implementation of the Montreal Protocol

Addressing Challenges of Globalization: An Independent Evaluation of the World Bank's Approach to Global Programs

Case Study

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Abbreviations and Acronyms

CAP	Compliance Assistance Program
CAS	Country Assistance Strategy
CBI	Consensus Building Institute
CCOL	Coordinating Committee of the Ozone Layer
CEIT	Country with economy in transition
CFCs	Chlorofluorocarbons
CP	Country Program
ExCom	Executive Committee
FI	Financial intermediary
GEF	Global Environmental Fund
HBFC	Hydrobromofluorocarbon
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
IA	Implementing agency
IEA	International environmental agreement
LVC	Low-volume ODS-consuming countries
MEA	Multilateral Environmental Agreement
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MOP	Meeting of the Parties
MP	Montreal Protocol
MPOT	Montreal Protocol Operations Team
MT	Metric ton
NIP	National Implementation Plan
NOU	National Ozone Unit
ODS	Ozone-depleting substance
OED	Operations Evaluation Department
OORG	Ozone Operations Resource Group
PATS	Bank's Partnership Approval and Tracking System
PCR	Project completion report
PFC	Perfluorocarbon
POP	Stockholm Convention on Persistent Organic Pollutant
PRSP	Poverty reduction strategy paper
SME	Small and medium-sized enterprise
SPAP	Small Project Approval Process
UNCED	UN Conference on Environment and Development
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNIDO	United Nations Industrial Development Organization
WDR	World Development Report
WMO	World Meteorological Organization
WTO	World Trade Organization

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Preface

The global programs evaluation and its case studies. At the request of the World Bank's Executive Board, the Bank's Operations Evaluation Department (OED) has been conducting an evaluation of the Bank's involvement in global programs. The Phase 1 Report titled *The World Bank's Approach to Global Programs* focused on the strategic and programmatic management of the Bank's global portfolio of 70 programs in five Bank Networks (a cluster of closely related sectors) and was presented to the Committee on Development Effectiveness (CODE) on June 12, 2002. This case study is one of 26 (see list on the following page) and it derives additional lessons for the Bank's strategic and programmatic management of global programs as well as lessons for the design and management of individual programs. OED reports typically contain recommendations only in those reports presented to the Bank's Board or its committees such as the Committee on Development Effectiveness (CODE). While the case studies that underlie OED's Phase 2 Report were not presented to CODE individually, they were distributed in draft to program partners to obtain their feedback, which was taken into account in the final versions of each report before being disclosed to the public.
Each case study follows a common outline and addresses four major evaluation issues, which correspond to the four major sections of each report:

- The overarching global relevance of the various global programs
- Outcomes and impacts of the programs and their sustainability
- Organization, management, and financing of the programs
- The World Bank's performance as a partner in the programs

These four issues correspond roughly to OED's evaluation criteria of relevance, efficacy, efficiency, and Bank performance, appropriately interpreted and expanded for the case of global programs.

Each case study addresses 20 evaluation questions related to these four evaluation issues (Annex A, Table A.1) that have been derived from OED's standard evaluation criteria (Table A.2), the 14 eligibility and approval criteria for global programs that have been endorsed by the Development Committee and established by Bank Management (Table A.3), and the 8 eligibility criteria for grant support from the Bank's Development Grant Facility (Table A.4). Twenty out of the 26 case study programs and about two-thirds of the Bank's total portfolio of 70 global programs have received DGF grants.

Global programs are defined as "partnerships and related initiatives whose benefits are intended to cut across more than one region of the world and in which the partners (1) reach explicit agreements on objectives, (2) agree to establish a new (formal or informal) organization, (3) generate new products or services, and (4) contribute dedicated resources to the program." (OED, *The World Bank's Approach to Global Programs: Phase 1 Report*, p. 3).

List of 26 Case Studies in Phase 2 of OED's Evaluation of the Bank's Involvement in Global Programs

Acronym/ Short Form	Full Name	Operational Start Date	Size (US$ millions)[1]
Environnent & Agriculture			
1. CGIAR	Consultative Group on International Agricultural Research	1972	395.0
2. GEF	Global Environment Facility	1991	387.53
3. MLF	Multilateral Fund for the Implementation of the Montreal Protocol	1991	158.6
4. ProCarbFund	Prototype Carbon Fund	2000	6.5
5. CEPF	Critical Ecosystem Partnership Fund	2000	20.19
6. GWP	Global Water Partnership	1997	10.25
7. GIF	Global Integrated Pest Management Facility	1996	1.3
Health, Nutrition & Population			
8. TDR	Special Programme for Research and Training in Tropical Diseases	Dec 1975	47.5
9. Global Forum	Global Forum for Health Research	Jan 1997	3.07
10. UNAIDS	Joint United Nations Programme on HIV/AIDS	Jan 1996	95.0
11. RBM	Roll Back Malaria	Nov 1998	11.4
12. Stop TB Partnership	Stop TB Partnership	July 1999	20.8
13. GAVI	Global Alliance for Vaccines and Immunization	Oct 1999	124.1
Infrastructure & Private Sector Development			
14. WSP	Water and Sanitation Program	March 1978	12.4
15. ESMAP	Energy Sector Management Assistance Programme	Jan 1982	7.58
16. CGAP	Consultative Group to Assist the Poorest	August 1995	12.67
17. infoDev	The Information for Development Program	Sept 1995	6.07
18. PPIAF	Public-Private Infrastructure Advisory Facility	Dec 1999	15.61
19. CA	Cities Alliance	Dec 1999	13.25
Social Development & Protection			
20. PostConFund	Post-Conflict Fund	1998	10.6
21. UCW	Understanding Children's Work	2000	0.56
Trade & Finance			
22. IF	Integrated Framework for Trade-Related Technical Assistance	1997	2.71
23. FSAP	Financial Sector Assessment Program	May 1999	10.46
24. FIRST	Financial Sector Reform & Strengthening Initiative	July 2002	4.64
Information & Knowledge			
25. GDN	Global Development Network	Dec 1999	8.67
26. World Links	World Links for Development	1998	6.5

/1 FY04/CY03 expenditures. For the following cases updated, audited data was not readily available so the previous fiscal or calendar year expenditures were used: Global Integrated Pest Management Facility, Water & Sanitation Program, Integrated Framework for Trade-related Technical Assistance.

Glossary

Article 5 countries: Countries covered by Article 5, paragraph 1, of the Montreal Protocol. These are developing countries with a consumption of CFCs less than or equal to 0.3 kilograms per capita. They receive funds from the Multilateral Fund of the Montreal Protocol to cover the incremental costs of phasing out ODS.

Bromine: A halogen that depletes ozone when released into the stratosphere. Methyl bromide, halons and HBFCs release bromine into the stratosphere.

CFCs (Chlorofluorocarbons): One of the families of ozone depleting substances (ODS). Chemicals comprised of chlorine, fluorine and carbon. The most dominant CFCS are CFC-12, used in foams, aerosols, refrigeration, sterilization, and air conditioning; CFC-11, used in foams, aerosols and industrial refrigeration; and, CFC-113, used in solvents.

Chlorine: A halogen that depletes ozone when released into the stratosphere. CFCs, HCFCs and methyl chloroform release chlorine into the stratosphere.

HBFCs (Hydrobromofluorocarbons): A rarely produced class of depleting chemicals. Production and consumption of HBFCs are banned in non-Article 5 countries since 1996.

HCFCs (Hydrochlorofluorocarbons): A family of ODS, many of which are used as substitutes for CFCs. Chemicals include hydrogen, chlorine, fluorine and carbon. The most common HCFC, by far, is HCFC-22, which has been in production since the 1950s, and is used in refrigeration and foams. HCFCs-141b/142b are the second most common HCFCs, and are used in foams, and to a much more limited extent, as aerosols and solvents. Production of the third most-common group of HCFCs — HCFCs 123a/124a — began in the late 1980s, and finds little market demand. These chemicals are used mainly as refrigerants and sterilants.

Halons: A family of ODS; three kinds of halons are commonly produced: Halon-1211 (which includes carbon, fluorine, chlorine and bromine; and Halons 1301 and 2402, which include carbon, fluorine and bromine.

Methyl Bromide (also known as bromomethane): An ODS used as a fumigant — on soils, commodities and in quarantine. This chemical contains carbon, hydrogen and bromine. Methyl bromide is also a by-product of low-temperature biomass burning.

Methyl Chloroform (also known as 1,1,1-trichloroethane): An ODS used as a solvent, containing carbon, hydrogen and chlorine. Its atmospheric lifetime is 6.1 years. The Montreal Protocol caps production and consumption of methyl chloroform in non-Article 5 countries at levels 15 percent of those produced and consumed in 1989, beginning January 1, 1996. Article 5 countries face a delayed phase-out in these chemicals.

ODP (Ozone Depletion Potential): Ozone Depletion Potentials (ODPs) provide a relative measure of the expected impact on stratospheric ozone per unit mass emission of a gas, as compared to that expected from the same mass emission of CFC-11 integrated over time. The Montreal Protocol uses steady state ODPs which represent the cumulative effect on ozone over an infinite time.

ODS (Ozone Depleting Substance): Chlorine and bromine are the most potent ozone- destroying halogens; other depleting halogens are fluorine and iodine. Many natural and human-derived chemical compounds release chlorine and bromine into earth's stratosphere, thus depleting our ozone shield against ultraviolet radiation.

Executive Summary

GENESIS, OBJECTIVES AND ACTIVITIES

The Multilateral Fund for the Implementation of the Montreal Protocol	
Established:	June 1990
Objectives:	Assist developing country parties in complying with control measures of the Montreal Protocol
Key Activities:	(a) Meet, on a grant or concessional basis agreed incremental costs; (b) Finance country studies, technical cooperation; Workshops, training; Facilitate, monitor multilateral, regional & bilateral cooperation; (c) Finance secretarial services of the MLF
FY03 expenditures:	US$100.7 million
FY04 DGF allocation:	Not applicable
FY02 TF contributions:	Not applicable
Governance model:	Secretariat is an independent legal entity located outside of the World Bank
Location:	Montreal, Canada
Governing partners:	The WB is an observer An Executive Committee comprised of 7 developed and 7 developing countries reports to the Parties to the Montreal Protocol (MOP)
Implementing agencies:	WB, UNDP, UNEP, UNIDO, bilateral agencies
Latest program-level evaluation:	COWIconsult of Denmark; March 1995

1. Following the discovery of the Antarctic ozone hole in late 1985, governments recognized the need for stronger measures to reduce the production and consumption of a number of ozone depleting substances. Building on the conceptual framework provided by the Vienna Convention, the Montreal Protocol on Substances that Deplete the Ozone Layer was adopted in 1987 and became binding international law in 1989. The Protocol is one of the first international environmental agreements to impose trade sanctions to achieve its goals. It is also precedent-setting as it differentiates legal rules between developed and developing countries — recognizing that the latter had contributed little to the global challenge of ozone depletion and hence were entitled to special consideration, despite the fact that all nations are responsible for protecting the ozone layer.

2. The original Protocol provided no mechanism to assist developing countries in meeting control measures. Due to the dissatisfaction expressed by developing countries, the London Amendment in June 1990 revised the Protocol, thus giving birth to the Multilateral Fund and providing a financial mechanism for covering the agreed incremental compliance costs. The Bank entered into a legal agreement with the Fund in July 1991 whereby it agreed to assist its partner implementing agencies in channeling resources to developing countries to support investment operations for the phase-out of ozone depleting substances (ODS).

3. The Fund targets developing country parties to the Protocol with an annual per capita consumption and production of ozone depleting substances of less than 0.3 kg, assisting them in complying with the Protocol's phase-out standards. Its specific objectives are to meet the agreed-upon incremental costs; finance clearinghouse

functions; and finance the secretarial services of the Fund and related support costs. Some of the activities of the fund include helping developing countries identify their needs for cooperation through country-specific studies, facilitating technical cooperation to meet these identified needs, distributing information and relevant materials, holding workshops, training sessions, and facilitating and monitoring other multilateral, regional, and bilateral cooperation.

DESIGN AND IMPLEMENTATION

4. The Fund is administered by a handful of implementing agencies: the World Bank, the United Nations Development Program (UNDP), the United Nations Industrial Development Organization (UNIDO), the United Nations Environmental Program (UNEP), which also serves as fund treasurer, as well as by several bilaterals. The policies and funding levels of the Fund are determined by the conferences of the Parties to the Montreal Protocol. Responsibility for overseeing the operation of the Fund rests with an Executive Committee comprised of seven representatives each from developed and developing countries. The functions of the Committee include the development of operational policies, criteria for project eligibility, and other guidelines and administrative arrangements, monitoring of the implementation of these policies, approval of implementing agencies' business plans and work programs, approval of expenditures for investment projects and other activities, allocation and disbursement of resources, and the monitoring and evaluation of performance. The Fund is assisted by a Secretariat, located in Montreal, which monitors the implementation of projects; a standing subsidiary body - UNEP's Technical Economic Assessment Panel (TEAP) — provides scientific and technological assessments.

5. The Bank's Montreal Protocol Operations Team is located within the Bank's Environment Department. The Bank team includes permanent staff and employs an established network of independent environmental consultants. The portfolio of Montreal Protocol projects managed by the World Bank consists of over 800 subprojects which are administered mostly under approximately 35 Umbrella Grant Agreements in 20 countries. Funds contributed by the Parties are allocated by the Fund's Executive Committee to the Bank's Ozone Trust Fund for expenses incurred or to be incurred by the World Bank for the activities it undertakes. The Bank also established the Ozone Operations Resource Group (OORG) to provide specialized sector-based technical advice and assistance to the Bank itself, both in fulfilling its role as one of the four principal implementing agencies of the Fund and with respect to related GEF programs. This resource group is comprised of a core of nine internationally recognized sector-based experts who are appointed by the Director of the Bank's Environment Department.

6. The Bank, through project preparation funds approved by the Executive Committee, enables developing countries to carry out comprehensive ozone depleting substance phase-out programs by empowering local officials to assume responsibility for project identification, preparation, and implementation. The Bank assists in identifying, evaluating, channeling Fund resources, supervising investment projects, and providing technical training and institutional strengthening to contribute to ODS elimination. To receive Fund support, a country works with one or more of the implementing agencies to

develop a *country program* for ODS phase-out. A country program is *in principle* a prerequisite for investment support from the Fund. Developing countries must also submit action plans, including a prospective regulatory framework and legislation supporting ODS phase-out. Developing countries report annual consumption and production figures of all controlled substances to the Ozone Secretariat. Per Multilateral Fund country program requirements, developing countries must also report annually similar information to the MLF Secretariat.

7. The Fund adopted a new strategic planning framework in March 2001 to enhance effectiveness and ensure that developing countries can meet their phase-out obligations by 2010. Based in part on the Bank's successful implementation and capacity-building experience, developing countries are encouraged, through the ExCom's new strategic Framework, to use a sector/national phase-out approach, with funding linked to achieving compliance and sustainable ODS reduction. The new framework also puts added pressure on governments to accept responsibility for their commitments while providing additional funds for National Ozone Units.

OED FINDINGS

Relevance

8. The Bank's decision to assume the role of an implementing agency of the Fund responded directly to an emerging international consensus that global action was required. The pure global public goods quality of the maintenance of the ozone layer is indisputable: there are non-excludable health and environmental consequences that result worldwide from the release of CFCs and other halocarbons.

9. The Multilateral Fund was established as an environmental rather than a development fund. Its goal of retrofitting industrial processes to eliminate or displace ODS was not designed to have any direct social impact (even the incremental cost methodology has a built-in assumption that the ODS phase-out intervention is cost/price-neutral to the private enterprise). However, unintended qualitative sustainable development benefits of the Fund have begun to be recognized. In addition to the skills enhancement brought about by capacity building and training at the local level, other potential benefits which offer lessons to the Bank's work across other Multilateral Environment Agreements include reduced health risks, reductions of other environmental pollutants, increased competitiveness and/or enhanced export potential at the national level as well as enhanced interconnectedness though networking activities at the regional level. The development of impact indicators which assess qualitative, in addition to quantitative gains, was at a nascent stage at the time of writing.

10. Developing countries prioritized their commitment to protect the global environmental commons by phasing-out their consumption and production of ozone depleting substances vis-à-vis their ratification of the Protocol. By inviting the Bank to implement Fund projects, the Bank's Protocol activities are clearly responding to developing country demand. Contributions provided by industrialized countries to the

Fund are earmarked for the purpose of technology transfer. The Bank was invited by the MLF, along with three other UN agencies, to channel these resources to developing countries. The Bank has enhanced its reputation as a development partner by assisting UN agencies to implement a global call to action to protect the ozone layer.

Efficacy

11. Although no formal program-wide system of monitoring and evaluation was in place until 1997, the Bank had developed M&E guidelines for its phase-out investment projects in 1995. The Bank's efforts at this stage represented the first formal effort to implement a structural approach to post-project monitoring and evaluation of Fund-supported projects. The Executive Committee subsequently replaced the Sub-Committee on Finance with a Monitoring, Evaluation, and Finance Sub-Committee. In 1999, the MLF Secretariat, charged with M&E duties for the Fund, appointed a permanent senior monitoring and evaluation officer to undertake more comprehensive sectoral analyses. Because of the new compliance orientation of the Fund, the Fund's senior M&E officer has recently proposed to conduct in-depth evaluations of specific country ODS phase-out plans. The clear and narrow focus of the program and its targets, which features decision-making based on periodic scientific and technological input, has been a key factor in the success of the Fund to date.

12. Since the Fund's establishment, the Executive Committee has approved the expenditure of US$1.48 billion, supporting some 4,300 projects and activities in 134 developing countries. The Bank's Montreal Protocol program has been active for 13 years, during which it has facilitated phase-out of over 122,100 ozone depleting potential (ODP) tons - an amount which is equivalent to 70 percent of the global targets of ozone depleting substances - at a cost of roughly US$600 million, or only 40 percent of the international pool of resources expended.

13. During the first decade of its operations, the Fund targeted cost-effective interventions involving easily identifiable enterprises with high ODS consumption. Today, the Fund has succeeded in reducing the consumption of chlorofluorocarbons (CFCs) and other ODS in the manufacturing sectors of developing countries. It now faces the urgent task of reducing the consumption of ODS in a countless number of widely dispersed small- and medium-sized enterprises (SMEs).

14. The phase-out of methyl bromide - a chemical used for fumigating soil and storage facilities and for controlling a wide variety of pests in developing countries, will require the Bank to work with its client countries to design alternative programs that meet the long-term needs of farmers, rural communities, and consumers. The Bank will benefit from its involvement in Fund projects that offer demonstrations of existing alternatives and that test these alternatives (particularly through field trials) to determine their feasibility. Developing countries use approximately 25 percent of the global supply of this fumigant, mainly for high-value horticultural crops and durable commodities. The Bank's role as an implementing agent for the global phase-out of methyl bromide and its ongoing commitment to the promotion of integrated pest management are mutually reinforcing positions that can achieve environmentally sound, economically viable, long-

term solutions in the agriculture sector. Its commitment towards integrated pest management has led to a reduction of the use of methyl bromide in project planning-related discussions or during supervision for example, in Mali, the Kyrgyz Republic, Tunisia, and Iran. Such dialogue has more or less been formalized in the design of the African Stockpiles Program.

Efficiency

15. By setting up a governance framework to ensure fulfillment of the Funds objectives — including a project review process, project guidelines, development of annual business plans, preparation of periodic progress reports and tracking of project delays and finances — the Fund has introduced a strong element of discipline into the project process, thereby avoiding the provision of Fund support for ineligible costs. This, in turn, increased the number of projects that could be supported with available resources.

16. The creation of the Fund as a financial mechanism for the implementation of the Montreal Protocol established a new approach toward solving global environmental problems. By forging a close partnership between developing and industrialized nations, the Fund has fostered partnerships based on equality, not dependence. The unique composition and decision-making structure of the Fund, which features balanced representation of developed and developing countries and consensus-style decision making, has fostered an unprecedented model of international cooperation and has influenced the formulation and operations of the GEF as well as other Rio Convention agreements. The Executive Committee, by approving the incremental costs of projects' institutional strengthening components (a cost category which was not initially approved by the Parties in the Indicative List of Categories of Incremental Costs), has lent critical policy guidance to developing countries to address ozone-related matters.

Bank Performance

17. The Bank has pursued a decentralized approach for Fund project identification, development, and procurement operations that require knowledge of local conditions and phase-out needs. Yet, while this approach has the capacity of promoting greater government ownership and can strengthen national capacity for Montreal Protocol project development and implementation, it requires substantial investment in time and resources prior to commencement of project implementation.

18. With a strong comparative advantage vis-à-vis other implementing agencies in managing financial flows, the Bank has proven it can play a catalytic role in leveraging existing Fund resources by promoting new partnerships and new project financing mechanisms — revolving funds or full contingent financing on a case-by-case basis. It remains to be seen, however, whether or not such pilot projects can generate sufficient developing country demand to replicate and enhance projects in ways that warrant the time and investment required by the Bank, or by the other UN agencies.

LESSONS

1. Balancing obligations and efforts. The Bank plays a dual role — it is both an implementing agency and a development partner in the Fund. The Bank has balanced its obligation to implement a narrowly focused international environmental agreement with its institutional mandate by utilizing an approach that features capacity building and local execution of project identification, preparation, and implementation. While it is regrettable that the Fund did not formulate an equitable forward-looking ODS phase-out strategy for SMEs at its start-up, the Bank has been a leader in and a proponent of umbrella projects, sector phase-out plans and national ODS phase-out plans, partly due to a recognition in the late 1990s that a modality was needed to reach smaller enterprises, end-users and more difficult sectors.

2. Legitimacy. Fund decision-making has been underscored by regular scientific and technical assessments. The TEAP and the Bank's OORG have enabled the Executive Committee and the Bank to keep pace with the latest research and development of alternative technologies. Developing countries have relied on such reports to formulate country programs and phase-out schedules.

3. Innovation. The development of innovative economic and financial instruments within the context of the Montreal Protocol has provided the Bank with a valuable set of learning tools, which may be applicable to the implementation of the Stockholm Convention and other like environmental conventions.

4. Knowledge Transfer. The Bank's decision to transition its Montreal Protocol program and staff to its MP/Persistent Organic Pollutants (POPs) Program is a best practice in institutional learning and development. The Bank is well positioned to lend the lessons learned from this program to its client countries to further build capacity for the sound management of chemicals. Meanwhile, it could contribute to ongoing efforts to understand and account for the unintended sustainable development benefits which have concomitantly occurred as a result of the program.

1. Introduction and Context: Global Challenges in the Sector

1.1 The Governing Council of the United Nations Environment Program (UNEP) in 1976[1] marked the beginning of organized collective action on the part of the international community to better define and understand the phenomenon of ozone depletion as a global challenge. A meeting of experts on the ozone layer was convened in 1977, after which UNEP and the World Meteorological Organization set up the Coordinating Committee of the Ozone Layer (CCOL) to periodically assess ozone depletion. Inter-governmental negotiations for an international agreement to phase out ozone depleting substances started in 1981 and concluded with the adoption of the Vienna Convention for the Protection of the Ozone Layer in March 1985. The Convention encourages intergovernmental cooperation on research, systematic observation of the ozone layer, monitoring of chlorofluorocarbon (CFC) production, and exchange of information.

The Ozone Treaties

1.2 The Vienna Convention commits its parties to take general measures to protect human health and the environment against human activities modifying the ozone layer. As a framework agreement, the Convention does not contain legally binding controls or targets. Following the discovery of the Antarctic ozone hole in late 1985, governments recognized the need for stronger measures to reduce the production and consumption of a number of ozone depleting substances. Building on the conceptual framework provided by the Vienna Convention, *The Montreal Protocol on Substances that Deplete the Ozone Layer* was adopted in September 1987 and became binding international law in 1989.

Box 1. Addressing a Global Challenge: Ozone Depletion

Chlorofluorocarbons (CFCs) are the most extensively used of all ozone-depleting substances (ODS), and the most often illegally imported/exported. Common CFC sources include refrigeration, air conditioning, solvents, aerosols, foam blowing agents, and sterilants. HCFCs, also widespread, are typically used to replace CFCs in refrigeration, air conditioning, and foam blowing. Other common ODS include carbon tetrachloride, a solvent used in the electronics and chemical industries; methyl chloroform, also a solvent; halons/HBFCs, used in fire-fighting agents; and methyl bromide, a common pesticide ingredient.

The Montreal Protocol initially targeted the phase-out of a number of CFCs and several halons. As a result of amendments over the years that have broadened its scope, the Protocol currently controls 96 chemicals.

1.3 The Montreal Protocol on Substances that Deplete the Ozone Layer is one of the first international environmental agreements to impose trade sanctions to achieve its goals. The treaty negotiators justified the sanctions because depletion of the ozone layer

[1] Scientific concern started in 1970 when Prof. Paul Crutzen pointed out the possibility that nitrogen oxides from fertilizers and supersonic aircraft might deplete the ozone layer. In 1974, Professors F. Sherwood Rowland and Mario J. Molina recognized that when CFCs finally break apart in the atmosphere and release chlorine atoms, they cause ozone depletion; bromine atoms released by halons have the same effect. The three scientists received the Nobel Prize for Chemistry in 1995 for their pioneering work.

is an environmental problem that necessitated enforcement at the global level. Without the trade sanctions, there would have been economic incentives for non-signatories to increase production, damaging the competitiveness of the industries.

An International Consensus Based on 'Common but Differentiated Responsibility'

1.4 The Montreal Protocol was also precedent-setting in the context of North-South Relations as it permits a differentiation of legal rules between developing and developed countries. The Protocol was the first of its kind to recognize that developing countries had contributed little to the global problem of ozone depletion and hence were entitled to special consideration, despite the fact that all nations are responsible for protecting the ozone layer; this principle of *common but differentiated responsibility* was central to the success of MP negotiations.[2]

1.5 Whereas developed countries were scheduled to complete their phase-out of the most significant ozone depleting chemicals by 1996, Article 5 of the Protocol allows developing countries (that is, countries that annually consume less than 300 per capita grams of controlled substances) to delay the general reduction plan by 10 years, extending the completion of their phase-out stages to 2010.[3] Currently, 130 of the 187 parties to the MP meet these criteria. The grace period is intended to allow developing countries to provide for their basic domestic needs during the transition away from ozone depleting substances. It is also intended to provide time to learn from the accumulated implementation experience of the developed countries.

1.6 Yet despite the provision of a grace period, many developing countries were still not satisfied with the Protocol's initial treatment of financial compensation and technology transfer. The original Protocol 'obliged industrialized countries only to facilitate bilaterally or multilaterally the provision to developing country parties of subsidies, aid, credits, guarantees, or insurance programs for the use of alternative technologies and for substitute products and to cooperate in promoting technical assistance to facilitate participation in and implementation of the Protocol' (Biermann 1997). Developing countries, led by large ODS producing countries China and India, insisted that industrialized countries should pay *all incremental costs* incurred by developing countries to phase-out their consumption and production of ODS.[4]

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[2] The principle of common but differentiated responsibility, now strongly advocated by developing countries in like environmental conventions, is based on the precedent set by the Montreal Protocol. It asserts that all countries share responsibility for addressing global environmental issues, but some (i.e. developing countries) should share a lesser burden because they have contributed less to the problem, and because of their legitimate right to economic growth and sustainable development.

[3] Article 5 countries have until 2010 to phase out CFCs and halons. They were scheduled to freeze the use of methyl bromide in 2002, leading to phase-out in 2015. Use of HCFCs will be frozen in 2016 and phased out in 2040.

[4] India produces around 16 percent of global ODSs and, in 1998, it exported around 60 percent of its total production, making India the second largest exporter of ODSs, next to China (Rasmussen 2001).

1.7 Due to the dissatisfaction expressed by developing countries, the Protocol was amended in June 1990 in London. The London Amendment revised the Protocol to incorporate a financial mechanism, which was designed to meet, on a grant or concessional basis, as appropriate, and according to criteria to be decided upon by the Parties, the agreed incremental costs of developing (Article 5) countries; be additional to other financial resources provided to developing countries; provide transfer of technology that is expeditious and that occurs under fair and most favorable conditions; and be channeled either through a newly established Multilateral Fund or also by multilateral, regional, or bilateral cooperation.

The Multilateral Fund is Created to Assist Developing Countries with Phase-out Needs

1.8 With the Protocol's London amendment in June 1990 (its entry into force did not occur until January 1992), the Multilateral Fund for the Implementation of the Montreal Protocol was born, providing a financial mechanism for covering the agreed incremental compliance costs of developing countries, delivered via grants or on a concessional basis. The Fund began interim operations in 1991, and became fully operational in 1993.[5]

1.9 In addition to the creation of separate schedules, the Protocol was designed so that the phase-out schedules could be revised on the basis of periodic scientific and technological assessments. For the first time, scientists and technologists would play a direct role in diplomatic negotiations. "A stroke of genius in the 1987 Montreal Protocol was to take a mild first step, but to provide for stronger steps after periodic scientific and technological assessment…. allowing many cautious governments to join the Protocol as it progressed" (Andersen & Sarma 2002).

1.10 The Protocol was adjusted to accelerate phase-out schedules in London in 1990, Copenhagen in 1992, Vienna in 1995, Montreal in 1997, and Beijing in 1999. It has also been amended to introduce other control measures and add new controlled substances to the list: the 1990 London Amendment included additional CFCs and two solvents, while the 1992 Copenhagen Amendment added methyl bromide, hydrobromofluorocarbons, (HBFCs), and hydrochlorofluorocarbons (HCFCs). The 1997 Montreal Amendment finalized schedules for phasing out methyl bromide. The 1999 Beijing Amendment included bromochloromethane for immediate phase-out and introduced production controls on HCFCs as well as controls on trade with non-parties. Currently, the Montreal Protocol controls 96 chemicals.

1.11 At an MLF meeting in Montreal in March 2004, the international community approved the continued use of limited quantities of methyl bromide for the United States

[5] To make financing available prior to the Amendment's officially entering into force, the parties agreed to establish an Interim Fund, which became effective January 1, 1991. With the offer of these transfers, the Protocol was finally accepted by such large countries as India and China. At the London Meeting, ratification of the Protocol by China and India was made conditional on the commitment to raise the Interim Fund from US$160 million to US$240 million during the 1991-1993 period.

and 10 other countries during 2005. The 11 countries[6] had requested a "critical use" exemption for methyl bromide in 2005, citing a continued need for the chemical as a pesticide for crops like tomatoes, strawberries, and peppers, as well as for asthma inhalants and other non-agricultural uses. In the case of the United States, the exemption allows it to use 35 percent of the US baseline for methyl bromide use, set in 1991. Of that amount, no more than 30 percent can be used for new production.[7]

Development Related Challenges — the Case of Methyl Bromide

1.12 While the Protocol was designed to allow for the revision of phase-out schedules on the basis of periodic scientific and technological assessments, a review of the Protocol's amendments reveals that there are very practical differences associated with the transition away from the originally agreed upon ozone depleting substances and those substances that were later identified and targeted for phase-out. The scheduled phase-out of Methyl Bromide in developing countries in particular poses development related challenges for the Bank as the chemical is used for fumigating soil and storage facilities and for controlling a wide variety of pests.[8] While the Bank advocates the use of integrated pest management as part of its rural development strategy, alternatives to methyl bromide use and other pesticides have not yet been fully evaluated to understand their economic feasibility in terms of increased production and farmers' profits.[9] Nevertheless, the Bank's commitment towards integrated pest management has in fact led to a reduction of the use of methyl bromide in project planning-related discussions or during supervision for example, in Mali, the Kyrgyz Republic, Tunisia, and Iran. Such dialogue has also been more or less formalized in the design of the African Stockpiles Program. The Bank can apply the lessons it learns from its projects concerned with phasing out methyl bromide to its future work in assisting developing countries with the implementation of the Stockholm Convention on Persistent Organic Pollutants.[10]

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[6] The 11 countries are Australia, Belgium, Canada, France, Greece, Italy, Japan, Portugal, Spain, the United Kingdom, and the United States.

[7] The US must make use of draw-downs from existing inventory for the remaining 5 percent.

[8] Methyl bromide is an ozone depleting pesticide that is used worldwide to fumigate soil before planting a number of crops, for post-harvest treatments and for structural fumigation. Under the Montreal Protocol agreement, the international ozone protection treaty, use of methyl bromide in developing countries will be frozen in 2002 (based on average 1995-1998 consumption), reduced by 20percent in 2005 and phased out in 2015. Developed countries are required to adhere to an earlier phase-out deadline of 2005.

[9] The Montreal Protocol's Technology and Economic Assessment Panel (TEAP) reported in May 2004 on the current status of potential chemical and non-chemical alternatives to methyl bromide. Potential methyl bromide substitutes for soil treatment examined by the panel included various fumigants; non-chemical alternatives like heat treatment, biofumigation, and biological control; techniques that eliminate the need for soil disinfestation, like substrates/hydroponics, grafting, and resistant cultivars; and IPM systems and approaches that avoid methyl bromide. The TEAP progress report also provided an update on alternatives to methyl bromide for non-agricultural uses, including technologies like heat treatment and irradiation (UNEP 2004).

[10] World Bank 1999.

A Precedent in International Environmental Development Assistance — but Is It Replicable?

1.13 Notwithstanding the Protocol's clear success, the international community must be wary of suggesting that this unique set of circumstances offers a blueprint for many other global environmental agreements. For one, the climate change crisis, although inextricably linked with ozone depletion, is a far more complicated and extensive issue to tackle due to the web of interests involved.[11]

1.14 The 1993 World Development Report (WDR) points to many reasons why protecting the global ozone layer is easier to tackle than other global problems, including the fact that production and use of ozone depleting substances are not central to any economy, unlike greenhouse gases, whose production is deeply embedded in the energy and transport sectors. According to the WDR, it has been relatively easy to find less harmful substitutes for many substances at a modest cost, and the political economy of reaching agreement has been favorable. Another important reason that the climate change issue is a more complicated one than that of ozone is the lack of stakeholder consensus behind scientific aspects of the latter.

2. Program Alignment with Global Challenges and Bank Priorities

Overview of Program's Mission and Objectives

2.1 The Multilateral Fund was amended to the Montreal Protocol with the aim of providing a financial mechanism to assist developing countries in meeting the incremental costs of compliance with the Protocol, to be delivered via grants or on a concessional basis. The Multilateral Fund targets developing country parties to the MP with an annual per capita consumption and production of ODS of less than 0.3 kg, assisting them in complying with the Protocol's phase-out standards. Its specific financial objectives are iterated in Box 2.

11 This is not to deny that phasing out controlled substances may render benefits that impact more than one global environmental issue. Rather, some scholars argue that each global commons problem has a unique pattern of payoffs based on publicness (Barrett 1994; Murdoch and Sandler 1996). Such scholars suggest that the MP may be more of a symbolic than a true instance of a cooperative regime, in that the wealthiest CFC emitters would adhere to the Protocol without an enforcement mechanism, as the net benefits are positive.

Overview of Program Governance

2.2 The MLF is governed by an Executive Committee, which reports annually to the Meeting of the Parties, the body that decides on all MLF-related matters. The Executive Committee approves all activities, including country program preparation, demonstration projects, institutional strengthening, project preparation, investment projects, and training projects. The Fund Secretariat, located in Montreal, Canada, provides administrative support and a standing subsidiary body provides scientific and technological assessments to the Montreal Protocol — UNEP's Technical Economic Assessment Panel (TEAP). The Fund is administered by four implementing agencies: the World Bank, the United Nations Development Program (UNDP), the United Nations Industrial Development Organization (UNIDO), and UNEP, which also serves as Fund Treasurer. The Bank entered into a legal agreement with the Multilateral Fund in July 1991, whereby it agreed to assist its partner implementing agencies in channeling resources to support investment operations for the phase-out of ozone depleting substances (ODS).

Box 2: Objectives of the Multilateral Fund for the Implementation of the Montreal Protocol

(a) Meet, on a grant or concessional basis as appropriate, and according to criteria to be decided upon by the Parties, the agreed incremental costs;
(b) Finance clearinghouse functions to: (i) Assist Parties operating under paragraph 1 of Article 5, through country specific studies and other technical cooperation, to identify their needs for cooperation; (ii) Facilitate technical cooperation to meet these identified needs; (iii) Distribute, as provided for in Article 9 of the Protocol, information and relevant materials, and hold workshops, training sessions and other related activities for the benefit of Parties that are developing countries; and (iv) Facilitate and monitor other multilateral, regional and bilateral cooperation available to Parties that are developing countries; and
(c) Finance the secretarial services of the Multilateral Fund and related support costs.

Source: UNEP/OzL.Pro/2/3/Decision II/8.

2.3 The World Bank's Montreal Protocol Operations Team is located within the Global Environment Unit (ENVGC), which is part of the Environment Department. The Coordination function, previously in the Regions, has been centralized in the ENVGC.

2.4 The Bank houses both permanent staff and employs an established network of independent environmental consultants. Funding for implementation of the Bank's participation in the MP is channeled to recipients through the Ozone Projects Trust Fund (OTF), which the World Bank established and administers and which constitutes the funds approved by the Executive Committee (ExCom) for transfer from the Multilateral Fund.

2.5 The Bank's role as an implementing agency of the MLF is geared towards enabling developing countries to implement comprehensive ODS phase-out programs through the empowerment of local officials to assume responsibility for project identification, preparation and implementation. It assists with the identification, evaluation, and provision of resources and with the supervision of investment projects, technical training and institutional strengthening to contribute to ODS elimination. It has

traditionally helped develop country programs for larger ODS consumers and producers in the developing world.

Program Design

2.6 To receive MLF support, a country works with one or more of the implementing agencies to develop a *country program* (CP) for ODS phase-out. A country program is *in principle* a prerequisite for investment support from the Multilateral Fund. The invited implementing agency assists the developing country government to design a strategic plan for phasing out ODS in the country. The plan is based on an assessment of the country's ODS production and consumption habits and includes an analysis of the country's ODS industry structure, a technical and economic assessment of alternative technologies, and an analysis of alternative phase-out schedules. The World Bank's Performance Review (1993) noted that Country Programs prepared in the first years of the Fund program generally lacked ownership, with limited commitment to their stated policies and strategies. Similarly, the COWI (1995) evaluation of the MLF found that lack of ownership of some Country Programs had led by the mid 1990's to significant costs in terms of delays in project processing, approval and implementation. To receive MLF support, developing countries must also submit action plans, including a prospective regulatory framework and legislation supporting ODS phase-out.

2.7 The MP Operations Unit of the World Bank has begun to share lessons from its start-up experience with the Bank as it moves forward to consider its role under a new global environment convention on persistent organic pollutants (POPs). According to the unit, even the best developed country strategy will not uncover and address all issues, which may only develop over the life of a program. Time and experience will enhance the process. Country strategies or programs should be flexible enough to allow incorporation of findings and experience gained from the early phases of programs to improve the effectiveness of the strategies or the program over time.

Relevance of the Program to Global Challenges and Bank Priorities[12]

Overarching criteria for the eligibility of a Global Program, the Development Committee, 2000.

2.8 The Bank's decision to enter into a legal agreement to assume the role of an implementing agency of the Multilateral Fund responded directly to an emerging international consensus that global action was required. This global program therefore fulfills one of the overarching criteria that were set a decade later by the Development

[12] See Annex A. The sixteen eligibility and approval criteria for the Bank's involvement in global programs (Table A.3) have evolved over time. These include the four overarching criteria endorsed by the Development Committee, and the four eligibility criteria and six approval criteria presented by Bank Management to the Bank's Executive Board. Each global program must meet at least one of the four relatively more substantive eligibility criteria and all six of the relatively more process-oriented approval criteria.

Committee regarding the necessary preconditions for the Bank to become involved in a global program.

Management decision marking the Bank's Global Public Good Priorities (March 2003).

2.9 The Bank's MP activities fulfill a primary eligibility criterion set by the Bank's Management in March 2003. The Program fulfills the Bank's global public goods priority of protecting the environmental commons. Maintaining the health of the stratospheric ozone and implementing the Protocol through the MLF is an exceptional example of a global public good supported by a program promoting global public policy formulation, standard setting, and results-based implementation. The global public goods aspect of ozone layer maintenance is indisputable: there are non-excludable consequences that result worldwide from the release of CFCs and other halocarbons.

Approval Criteria established by the Bank's Management (April 2000).

2.10 OED's Review of the Bank's Performance in the Environmental Sector found that the priority of ODS phase-out in relation to developing countries' development priorities and the Bank's poverty mission has not been established. However, the Multilateral Fund was established as an environmental rather than a development fund. Its goal of retrofitting industrial processes to eliminate or displace ODS was not designed to have any direct social impact (even the incremental cost methodology has a built-in assumption that the ODS phase-out intervention is cost/price-neutral to the private enterprise). In short, the Bank formally agreed to implement a global program that was not intended by its original authorizing environment to concern itself with poverty alleviation, but rather with the production and delivery of global public goods in the form of sustainable development. As developing countries clearly prioritized their commitment to protect the environmental commons by phasing-out their consumption and production of ozone depleting substances vis-à-vis their ratification of the Montreal Protocol, and as the Bank was invited by developing countries to implement MLF projects, the Bank's MP activities are clearly responding to developing country demand. A clear delineation of how the commitment would be implemented, managed, and assessed was made readily available by the terms of the MLF as agreed upon by the parties to the Protocol.

2.11 An assessment of the risks associated with the Bank's involvement in MP activities, in hindsight, reveals that the reputational risk to the Bank might have been greater had it *refused* to assist other UN agencies to implement a global call to action to protect the ozone layer. By agreeing to implement the MLF, the Bank aligned itself with one of the first international efforts to address a global environmental challenge based in part on the emerging legitimacy of the *precautionary principle*.[13] More than a decade later, the Bank's contribution — measured merely in volume terms of ODS phase-out —

[13] The Precautionary Principle was accepted in Principle 15 of the 1992 Rio declaration and also included in the Maastricht treaty — "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental damage." The principle has been used most notable in the Montreal Protocol to reverse the depletion of the ozone layer (DFID 2000).

has been heralded as a success by civil society and is referred to as a model of international cooperation in the environment sector.

2.12 One of the roles played by the Multilateral Fund is to serve as a catalyst in raising awareness of, and spurring action on ozone issues in developing countries. The effectiveness of each implementing agency in doing so is affected by the integration of Montreal Protocol work in the regular development work of the implementing agency and by the agency's ability to effectively communicate Montreal Protocol and the Multilateral Fund policy guidelines, etc., to the countries concerned. The Multilateral Fund's only program-wide, comprehensive external evaluation, conducted by COWIconsult of Denmark in 1995 noted that for all the implementing agencies, MP operations are perceived to a large degree as stand-alone operations with limited relations to the rest of the agency's programs and with limited weight in the policy dialogue.

2.13 A strong case has existed for the Bank's participation based on its comparative advantage. COWIconsult found that there is no statistically significant difference in the cost-effectiveness of projects implemented by the three major implementing agencies — the World Bank, UNDP and UNIDO. Variance tests for three ODS sectors — foam, refrigeration, and solvents show that the cost-effectiveness of projects in these sectors, taking the size of the projects into account, does not differ significantly between the World Bank on the one hand and UNDP and UNIDO on the other.[14] The World Bank has traditionally identified and selected projects based on large absolute amounts of ODS to be phased out in each individual enterprise — as opposed to selecting projects based on their level of cost-effectiveness. The Bank as an implementing agency has historically concentrated its efforts on larger developing countries where larger enterprises favored the Bank's local implementation approach. Interviews with Fund stakeholders confirm that the Montreal Protocol to date would not be on track to reaching its phase-out goals had it not been for the World Bank's implementation assistance.

3. Outcomes Impact and Sustainability

3.1 The implementation of the Montreal Protocol over the past 13 years has led to outstanding reductions in the consumption of ozone-depleting chemicals by more than 90 percent (UNEP 2002). Recent studies by UNEP and the World Meteorological Organization have reported that atmospheric levels of ozone-destroying chemicals targeted by the MP are beginning to fall. If such trends continue, scientists predict, the ozone layer will start to recover within the next one to two decades. According to UNEP, the benefits associated with the implementation of the Montreal Protocol add up to some US$460 billion in reduced damage to fisheries, agriculture, and materials worldwide. In addition, more than 20 million cases of skin cancer and nearly 130 million cases of eye cataracts will be avoided.

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14 Comments submitted by ENVMP further explain that a "cost-effectiveness threshold" for various sectors was established by the ExCom in collaboration with the Secretariat and the agencies. Thus, certain projects for the same sub-sectors will always cost the MLF the same amount – regardless of the agency that implements the project.

Efficacy

3.2 Since the MLF's establishment in 1990, the Fund's Executive Committee has approved the expenditure of US$1.48 billion, supporting some 4,300 projects and activities in 134 developing countries. Implementation of these projects will result in the phase-out of the consumption of an estimated 173,000 Ozone Depleting Potential (ODP) tons and production of 62,200 ODP tons of ozone-depleting substances. Of this total, about 127,890 ODP tons of consumption and 52,260 tons of production have already been phased out from projects approved through 2002. Under the MLF, 125 country programs have been established, covering an estimated production of 114,860 ODP tons and consumption of 177,750 ODP tons of ozone-depleting substances; the Fund has financed the establishment and operation of ozone offices in 129 developing countries.

3.3 The Bank's Montreal Protocol program has been active for 13 years, during which it has facilitated phase-out of over 122,100 ODP tons - an amount which is equivalent to 70 percent of the global targets of ozone depleting substances - at a cost of roughly US$600 million, or only 40 percent of the available pool of resources. During the 2003-2005 triennium, the Bank plans to phase out 77,766 tons from ongoing phase-out and multiyear agreements.

Box 3. Phase-Out Milestones

After industrialized countries phased out CFC in 1996, China became the world's largest CFC producer. The Bank, backed by Chinese efforts and the leadership of ExCom members, helped facilitate an agreement to phase out production of CFC and permanently close all production facilities in China. This decision is considered to be one of the most important milestones in the Protocol's history.

Under the agreement, the ExCom awarded US$150 million to assist in closing down production during an 11-year period, resulting in the elimination of 45,000 tons of ODS. The ExCom approved funding of US$82 million for a similar project in India to phase out over 22,000 ODP tons. The two projects, along with a GEF/World Bank project in Russia, will eliminate more than 71 percent of CFC production in Article 5 countries and countries in transition and about 57 percent of global CFC production.

Closing down the production facilities of major producers also has an encouraging effect on neighboring countries. According to an ODS officer in Mongolia, "Since Russia and China are our biggest sources of CFCs, any changes in their policy…affect what we do in our country. Russia, one of our two sources of ODS, stopped production in 2000. We therefore do no expect any more CFC-12 from them. Regarding China, we will intensify our public awareness work with importers and end users so that we can stop imports of CFC-12 and CFC-containing equipment and use available alternatives."

OzoneAction No.39, August 2001.

3.4 The Bank's experience with the implementation of the Montreal Protocol has proved that where there are relatively few producers of ODS and enforcement of regulations is effective. Phasing out ODS has been relatively efficient and effective. This is best exemplified in the case of China where targets are being met through implementation of a series of regulations, pricing policies, and penalties. China has been allocated over US$450 million in overall commitments — a level that represents about 50-60 percent of the Fund's committed resources (See Box 3).

Monitoring and Evaluation

3.5 Although the Multilateral Fund officially began operations in 1993 (after operating on an interim basis for two years), no formal system of monitoring and evaluation was put in place until the Executive Committee held its twenty-first meeting in 1997.[15] However, in January 1995, the World Bank developed monitoring and evaluation guidelines for phase-out investment projects. While studies previously focused on project development, approval, and implementation, the Bank's efforts at this stage represented the first formal effort to implement a structural approach to post-project monitoring and evaluation of Fund-supported projects.

3.6 Following the recommendations presented by the consulting firm, the Executive Committee decided to expand the Sub-Committee on Finance with a standing sub-committee to be called the Monitoring, Evaluation, and Finance Sub-Committee. However, not until 1999 did the Fund Secretariat appoint a permanent senior monitoring and evaluation officer to undertake more comprehensive sectoral analyses. Because of the new compliance orientation of the Fund, the M&E officer has recently proposed to begin conducting in-depth evaluations of specific country ODS phase-out plans.

Findings of the program's external evaluation.

3.7 The only comprehensive external program-wide evaluation so far of the MLF, conducted by COWIconsult of Denmark in 1995, produced a list of 21 actions to improve MP implementation.[16] While these recommendations have helped strengthen MLF effectiveness, discussion with parties to the Fund reveal that the consulting firm's ties with the implementing agencies made it difficult for it to produce a report that would take a hard look at the implementing agencies. Moreover, this evaluation did not include a review of the activities of the Secretariat. The World Bank has since asked the ExCom to request such a review on more than one occasion. The 1995 evaluation, presented to the Meetings of the Parties, included a list of findings that has come to be called the 21 Actions List.[17] The ExCom has subsequently been obliged to report its progress annually to the Meetings of the Parties. At the 15th Meeting of the Parties convened in November 2003, Parties approved the terms of reference for a study on the management of the financial mechanism of the Montreal Protocol along with a US$500,000 budget. The work will be supervised by a steering committee and will be available at the next annual Meeting of the Parties.

3.8 By the Tenth Meeting of the Parties in 1998, 11 of the 21 actions were reported as fully or partially completed, and they either became a standard practice of the Multilateral Fund or were overtaken by other developments. These actions — the least contentious

[15] Progress reports were submitted for every meeting since the beginning of the Fund until the 18th meeting, subsequent to which they were submitted annually.

[16] COWIconsult 1995.

[17] See Annex 5 to the 7th MOP report, 1995. Annex V is entitled, "Actions to Improve the Financial Mechanism for the Implementation of the Montreal Protocol."

and most easily facilitated — are detailed in Annex 2 of this study. The remaining actions were individually treated by the ExCom over the course of several meetings.

- *Action 1* recommends completion of the development of monitoring and evaluation guidelines. Following this recommendation, a senior evaluation officer was posted in the MLF Secretariat in February 1999. While the need for independence and more direct reporting lines has been a topic of Executive Committee debate, no consensus has been reached on the extent of the monitoring officer's independence in relation to the Fund's chief officer. Nevertheless, as a monitoring and evaluation function had been established in the Fund Secretariat and annual monitoring and evaluation work programs were being developed and implemented, the MOP determined that Action 1 had been completed. Part B of the recommendation requires that the Executive Committee assess the integration of project review activities carried out by the agencies and the Secretariat; at the time of writing, it was unclear whether this had been concluded. In addition, the action required the Fund's Executive Committee to commission an evaluation of the Bank's Small Project Approval Process, the status of which is also unclear.

- Also of note is *Action 10*, which requested that a Bank study on the establishment of a concessional loan mechanism be completed rapidly, with a view to starting the use of concessional loans (rather than grants) by the end of 1996, to the extent that the need and demand exist. In fact, the dialogue concerning concessional lending has been ongoing since the Fund's conception, with no consensus reached on the issue. At the Twenty-ninth Meeting, the ExCom took note of documents on the subject, including an analysis prepared by the Bank on past experience with concessional loans and proposed framework in UNEP/OzL.Pro/ExCom/29/59 as a basis for further discussion. A technical workshop on Concessional Lending was held in Canada in July 2002, sponsored by the Government of Japan and UNEP, to promote an exchange of views on the objectives and modalities of concessional lending. However, a subsequent debate at the 39th ExCom meeting in April 2003 solidified the existing divide between the developed and developing country positions on the matter. The fact that no consensus has ever been reached reveals the highly unlikely possibility of this mechanism being used, particularly during the final stages of the Fund.

- *Action 13* required Implementing Agencies to report to the Executive Committee on measures to include issues related to the phase-out of ozone depleting substances into their ongoing dialogue on development programming and measures to mobilize non-Fund resources to support MP objectives to increase the number of ozone-protection projects. The Bank reported on its Thai chiller project at the Tenth Meeting of the Parties as a co-financing scheme between the MLF and the GEF. The ExCom approved additional funding in 1999, to be supplemented by a local funding source in Mexico, to implement a chiller replacement program in the country (a UK bilateral project executed by the Bank).

- *Action 14* advised the Executive Committee to consider the need for new implementing agencies for loan programs to address emerging sector strategy policies and methyl bromide. The Executive Committee noted that more implementing agencies might not be needed, as the interim guidelines for methyl bromide projects adopted at the Twenty-fourth Meeting do not refer to them.

Sustainability

3.9 The Protocol's grace period targeted large, easily identifiable enterprises with high ODS consumption and cost-effectiveness in terms of MLF funding. Specifically, the Protocol's Multilateral Fund has succeeded in reducing the consumption of chlorofluorocarbons (CFCs) and other ODSs in the manufacturing sector. It now faces the urgent task of reducing the consumption of ODSs in a countless number of widely dispersed SMEs. In particular, there is a need to phase out CFCs used in refrigeration and methyl bromide used in agriculture.

3.10 The Montreal Protocol Unit of the World Bank attests that, based on the implementation experience, investment projects alone are not sufficient to attain a significant reduction in ODS in many developing countries. Non-investment projects, including training, networking, institutional strengthening, and policy and regulatory-related activities, are equally important in ensuring the long-term sustainability of country programs. Without national legislation and effective government regulations in place, it is questionable that the re-use of old ODS equipment and construction of new production lines based on traditional ODS-consuming equipment can be prevented. Among the implementing agencies, the Bank, however, has the smallest number of training, institutional strengthening and policy projects. Moreover, it has less exposure to small and medium enterprises than the other implementing agencies.

Disengagement Strategy

3.11 The Bank is currently implementing several multi-year projects: approximately seven national ODS phase-out plans, six ODS production sector phase-out plans (halon, CFC and CTC) and several other sector plans. In some cases, countries have been earmarked annual funding up through 2008.[18] However, at this juncture, it is effectively the 'sunset of the Bank's involvement in the MLF.' The last Project Completion Reports are scheduled to be finalized in 2011.

3.12 While the Bank played a vital role alongside the other implementing agencies during the first decade of the Protocol's implementation by concentrating its efforts on large ODS phase-out projects, the onset of the compliance period has introduced a new set of diverse needs as agencies search for innovative ways to assist the remaining small- and medium-sized enterprises in developing countries.

[18] At the July 2003 ExCom Meeting, for example, US$52 million was earmarked for India, with the Bank as IA, for phasing out CTC production and consumption.

3.13 The future success of the Montreal Protocol hinges on 100 percent compliance. Agencies will have to amplify their synergies to assist those countries in risk of non-compliance to meet their national and sector phase-out goals. It is unclear therefore why the Bank has extended its portfolio to include small projects in such non-traditional countries as the Bahamas, Antigua and Barbuda – countries in which the United Nations Development Program has traditionally administered projects.

3.14 Meanwhile, the Bank's entire MP unit has transitioned into also managing activities under the Bank's Persistent Organic Pollutant (POPs) Program. This transition will enable the Bank to integrate lessons learned from the Montreal Protocol into its POPs-related activities. Lessons learned from assisting developing countries to draft their MP country programs and ODS phase-out schedules will fortify the drafting and realistic programming of developing countries' POPs National Implementation Plans. The transitional team will also bring lessons to bear in integrating POPs issues into the Bank's operations and various operational policies.

4. Organization, Management and Financing of the Program

Efficiency

4.1 Initially, there was no framework within the Bank for processing Montreal Protocol operations. MP operations were coordinated through the Bank's regional departments. This lack of central coordination led to differences in quality and did not provide for a method of standardization. In fact, the first MP operation, funded at a level of only US$.5 million, took a full year to be prepared and reviewed by the Bank's Board. In November 1992, a Bank-wide reorganization provided an opportunity for restructuring the Bank's Montreal Protocol operations. The Bank's MP operations were then situated in the Bank's Environment Department's Global Environment Coordination Division.

4.2 In an effort to streamline operations and increase efficiency and project productivity, the newly created Global Environment Coordination Division drafted OP 2.01 on MP operations, which sets forth a Board decision to devolve final oversight of MP project approval to the Vice Presidential level. The OP was the first of its kind to create umbrella grants.

4.3 Originally, the Bank prepared a set of subprojects and submitted the set to the Executive Committee of the Multilateral Fund for approval. On approval, the Bank would enter into sometimes-lengthy grant agreement negotiations with the recipient government and/or the financial agent. Any additional subprojects had to be packaged into another set and go through the same processing steps since a new grant agreement was needed for each set of approved subprojects.

4.4 The portfolio of Montreal Protocol projects managed by the World Bank consists of over 800 sub-projects, which are administered mostly under approximately 35

Umbrella Grant Agreements in 20 countries.[19] Umbrella grant agreements provide an overarching legal arrangement in which the Bank and the country clients agree to an indicative amount of funding to cover Ozone Depleting Substances (ODS) phase-out activity even though specific subprojects have not yet been identified. Umbrella grant agreements allow agencies to request more funding than would be normally the case if small enterprises/users are treated as individual projects.[20] The Bank has been able to reference historical costs of projects to apply for funding in national CFC phase-out plans that take care of all remaining SMEs rather than costing them out on an individual basis (which would be next to impossible due to the inherent difficulty in obtaining information from SMEs and their higher costs for conversion). Moreover, through these types of projects, funding is available for capacity building, policy development, technical assistance, and there is more flexibility for the use of funds to meet compliance needs.

4.5 The Multilateral Fund is implementing a formal international environment agreement that became binding international law in 1989. As of June 2004, 187 countries have signed the Montreal Protocol, 70 percent of which are developing countries. The Fund is a legal entity and has entered into a formal agreement with the Bank as one of its four implementing agencies. Decision-making within the Fund's executive committee, which is comprised of an equal number of developed and developing country representatives, is taken on the basis of consensus.

Governance and Management

4.6 The Fund is managed by an Executive Committee, which oversees the Fund Secretariat. A Chief Officer reports to the Executive Committee. Projects and activities supported by the Fund are implemented by four international implementing agencies: the World Bank, the United Nations Development Program (UNDP), the United Nations Industrial Development Organization (UNIDO), and the United Nations Environment Program (UNEP), which serves as Fund Treasurer (See Box 4). Additionally, several developed countries also provide similar assistance on a bilateral basis.

Scientific and Technological Assessments Bodies

4.7 The Fund's decision-making is informed by a standing scientific and technical subsidiary body of the Parties to the Montreal Protocol. The UNEP Technology and Economic Assessment Panel (TEAP) is comprised of hundreds of experts from around

[19] The 800 sub-projects refer to approvals for investment projects as well as project preparation funding, administrative costs, technical assistance, demonstration projects, etc. As each initial approval for a given activity receives a project code from the Secretariat, about 800 initial activities have been approved for the Bank.

[20] According to the ENVMP team, it would in fact have been impossible in some cases to obtain funding because of exceeding the C.E. thresholds, eligibility issues, etc. The terminal umbrella project allowed an average C.E. threshold to be applied to make up for the high C.E. of select enterprises within the project and it introduced flexibility in applying the grant.

the world and is coordinated by the UNEP Ozone Secretariat (See Annex 3).[21] The TEAP is responsible for conducting assessments and reporting to the Parties about: (a) the state of art of production and use technology, options to phase out the use of ODS and recycling, reuse and destruction techniques, (b) economic effects of ozone layer modification and the economic aspects of technology. TEAP/TOC publications are sent by the UNEP Ozone Secretariat to the Governments automatically upon publication, as well as to all MP Panels and Committees.

4.8 The World Bank established the Ozone Operations Resource Group (OORG) to provide specialized sector-based technical advice and assistance to the Bank itself, both in fulfilling its role as one of the four principal implementing agencies of the MLF and with respect to related GEF programs (See Annex 4). This approach differs from UNDP and UNIDO, which rely on a roster of experienced consultants hired for technical reviews. The Bank's OORG is comprised of a core group of nine internationally recognized sector-based experts who are appointed by the Director of the Bank's Environment Department.[22]

4.9 The OORG has been criticized by members of the NGO community who point to potential conflicts of interest among OORG members, since some of them have a close affiliation with the chemical companies that produce ODS substitutes.[23] The Bank relies on the OORG to keep it apprised of applicable sector-specific technological advances, commercially available ODS substitutes, and the cost-effectiveness of various technical options. And while issues such as indigenous technology development have been discussed during the course of the Fund, for the most part, the R&D for alternative substances has been produced and provided by developed country chemical companies.

4.10 Within the context of the Bank's assistance to developing countries to prepare strategic planning documents, activities and investment projects for the phase-out of ODS, the OORG helps keep the Bank current of applicable sector-specific technological advances, commercially available ODS substitutes, the cost-effectiveness of various technical options, and/or related developments. The OORG also provides technology updates at its meetings or via specific reports dealing with new technologies and/or their implementation aspects. If necessary, specific OORG sector experts establish and organize working groups to address specific technology issues that are in the interest of the Bank and the MLF community.

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[21] The TEAP was created under Article 6 of the Montreal Protocol, "Assessment and review of control measures": "Beginning in 1990, and at least every four years thereafter, the Parties shall assess the control measures…on the basis of available scientific, environmental, technical and economic information. At least one year before each assessment, the Parties shall convene appropriate panels of experts qualified in the fields mentioned and determine the composition and terms of reference of any such panels. Within one year of being convened, the panels will report their conclusions, through the Secretariat, to the Parties."

[22] The OORG is composed of one member for each of the following principal ODS-using or producing sectors: (1) Aerosols, (2) Mobile Air-Conditioning (MACs), (3) Refrigeration, (4) Foams, (5) Solvents, (6) Halons, (7) Production, (8) Methyl Bromide and (9) Process Agents.

[23] Green Peace 1994.

The Executive Committee, Characterized by Consensus Building

4.11 The Executive Committee and the Meetings of the Parties allow for a system of equal voting power between industrialized and developing countries. Decisions are taken on the basis of consensus, a modality that has fostered international cooperation in this case.[24] According to the procedures established under Article 10 of the Protocol, the Executive Committee must comprise a balanced representation of seven developing and seven non-developing countries, allowing for a system of equal voting power between the industrialized and developing countries. It has been suggested that the overall positive experience with the operation of the Fund might have provided an important precedent for the effective operation of similar procedures under the 1992 Rio Conventions and the GEF (Biermann 1997).

4.12 Through negotiations with the MOP, an informal arrangement has evolved over time whereby some developed and developing country parties are *permanently* represented, while other blocks of parties must select representatives in a rotating fashion. For example, the United States, Japan, as well as a representative from the Asia and the Pacific Region (China and/or India) are present at every ExCom meeting. Permanent representation may strengthen the influence of those members that either contribute the largest sums to the Fund or with the greatest national capacity and largest project portfolio shares.

4.13 Over the past decade, the MLF's Executive Committee has set up a governance framework to ensure fulfillment of MLF objectives, including a project review process, project guidelines, development of annual business plans, preparation of periodic progress reports, tracking of project delays and finances, and so forth. COWI found that the process of project review and approval by the Executive Committee, supported by the Secretariat, had the effect of introducing a strong element of discipline into the project process, thereby avoiding the provision of Fund support for ineligible costs. This, in turn, increased the number of projects that can be supported with available MLF resources.

Agency Implementation, Characterized by Competition

4.14 According to the COWI review, the Executive Committee of the Multilateral Fund originally extended an invitation to UNDP and UNIDO to act as implementing agencies for the Fund, charging each agency with a specific set of functions in which it was perceived to have a comparative advantage. UNDP and UNIDO were assigned the tasks of developing projects (through demonstrating feasibility and pre-investment studies) and providing technical assistance. The Bank was originally invited to implement

[24] Article 9c of Article 2 of the Montreal Protocol states: "In taking such decision, the Parties shall make every effort to reach agreement by consensus. If all efforts at consensus have been exhausted, and no agreement reached, such decisions as a last resort shall be adopted by a two-thirds majority vote of the Parties present and voting representing at least 50 percent of the total consumption of the controlled substances of the parties." No issue has yet been put to a vote. Paragraph 11 of the same Article states: "Notwithstanding the provisions contained in this Article, Parties may take more stringent measures than those required by this Article." It has been invoked only once, by the European Union in March 1991, suggesting on the whole that the negotiators have been quite content to proceed at a pace compatible with consensus (Farman 2002).

projects developed by UNDP or UNIDO.[25] But this division of labor did not emerge. Instead, the implementation of demonstration projects provided the UN agencies a natural bridge to the implementation of full-blown investment projects. Developing country governments also expressed an interest in retaining the same agency throughout the process- from the project preparation stage to implementation.[26] Additionally, in the early period of the Fund, the World Bank experienced delayed rates of project implementation and therefore the ExCom encouraged UNIDO and UNDP to expand their operations into the implementation of investment projects.[27]

4.15 According to past evaluations and reviews, the first decade of MLF implementation was characterized by a lack of strategic focus in project identification and preparation. Despite the fact that Implementing Agencies entered collectively into terms of engagement which emphasize 'close cooperation, complementarity, coherence, and cost-effectiveness,' the agencies have often been involved in simultaneous activities in larger developing countries at the request of the national governments, often working with little definition of the lead agency's role and responsibilities. This situation led to a focus on identifying large individual projects ready for implementation, rather than defining comprehensive sector strategies. The strategic interest of individual enterprises, coupled with competition among the IAs, seemed to drive the process — not a thorough analysis of cost-effectiveness and the opportunity costs of delay.

4.16 Traditionally, two parallel systems of compensation have existed between the Bank and its partner implementing agencies. Whereas UNEP, UNDP, and UNIDO were compensated based on a flat 13 percent fee-based system, the Bank at first was compensated on an annual work program basis.[28] Initially, it was also agreed to compensate the Bank's financial intermediaries for each project approval with an amount of 3 percent of the grant (which is the general amount the Bank pays its financial

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[25] The MLF Secretariat provided to this review during the comment period a separate account of the initial stages of the Fund - which deviates from the COWI account. According to the Secretariat, UNDP, UNEP, and the World Bank were invited to become IAs prior to UNIDO. Also, each agency (apart from UNIDO) received start-up costs and projects. Each agency then received approval from the ExCom for investment projects, except UNEP.

[26] Turning a UNDP project over to a World Bank team, for example, would have proven difficult considering that the World Bank followed its own rules and procedures; the transition, especially with regard to many projects that are limited in scope, would have risked unnecessary delays.

[27] By 1994, UNIDO, UNDP and the Bank were all devoting similar proportions (all above 90 percent) of their portfolios toward project preparation and investment project implementation. "In effect, the period from 1991 to 1994 has been characterized by a shift by UNDP and to a lesser extent, UNIDO, away from country program preparation, institutional support, technical assistance, and training toward investment program preparation and implementation. Where the World Bank accounted for 76 percent of allocations among the three agencies in 1991, by 1994, this figure had fallen to 36 percent" (COWI 1995). Today, the World Bank accounts for the majority of Fund allocations, or 42 percent, whereas UNDP and UNIDO account for only 30 percent and 23 percent respectively.

[28] In fact, agency shares were reduced in 1998 for 1999 because all of the agencies fell short of achieving their performance targets in the annual evaluation of the agencies' business plans. UNDP's share was reduced by 1 percentage point, the Bank by 2 percentage points and UNIDO by 3 percentage points for not meeting 2 targets (history of this transaction provided by the Secretariat's comments to this review).

intermediaries (FIs) per grant agreement). Thus, project approvals would include an amount for the enterprise and a small amount for the FI. Lines of grants were utilized in the early stages of the Fund by the Bank – a decision that gave the Bank flexibility to move funding around for a particular country if it was later determined during implementation that circumstances had changed meriting adjustments. At the 17th ExCom, the Bank was requested to change its support cost regime to simplify comparison with the other agencies by the ExCom and the Secretariat. The Bank thus agreed to move to the 13 percent fee-based system. The 13 percent was separated by the Bank into 10 percent for the Bank and 3 percent for the FI for investment activities. This support cost system remained in place until the 38th Meeting when the ExCom decided to provide the agencies with a US$1.5 million core unit budget and a 7.5 percent fee on a project level. The World Bank's allocations for administrative costs are accounted for under project preparation. None of the four implementing agencies charge the cost of senior management participation in the program to the Fund.

4.17 Since 1995, the implementing agencies have adhered to a baseline target for resource allocations that allows the World Bank 45 percent of the funding for investment projects, UNDP 30 percent and UNIDO 25 percent. In 2002, the World Bank was allocated about 42 percent of MLF resources. UNDP and UNIDO were allocated 30 percent and 23 percent respectively. However, a new strategy – formally put in place by the Fund's Executive Committee to ensure maximum success during the compliance period – is no longer based on shares for the implementing agencies, but rather on meeting the needs required to ensure compliance.

5. Fostering Results-Based Partnerships

5.1 Phase 1 of OED's Evaluation of the Bank's Global Programs and Policies found that linkages between programs and developing country clients are inadequate. The report found that developing countries are largely implementers, not partners, with little voice in program design, governance, and management. This case study has found that the creation of the MLF for the implementation of the Montreal Protocol established a new approach toward solving global environmental problems. By forging a close partnership between developing and industrialized nations, the Fund has fostered partnerships based on equality, not dependence.

Institutional Development Impact

Institutional Development Impact at the Global Level

5.2 As previously discussed in this study's section on Governance and Management, the unique composition and decision-making structure of the Fund, which features balanced representation of developed and developing countries and consensus style decision-making, has fostered an unprecedented model of international cooperation and has influenced the formulation and operations of the GEF as well as other Rio Convention agreements.

Programmatic Consideration of Institutional Development Impact

5.3 Since the Fund's inception, there has been debate on the types of activities that should receive support - that is, what could reasonably be considered to be an agreed incremental compliance cost for a developing country. As originally negotiated, the Indicative List of Incremental Cost Categories lacked a cost category for institutional strengthening activities. However, the Multilateral Fund's governing body, the Executive Committee, decided to approve requests for institutional strengthening projects, a tacit acknowledgment of the need to develop basic institutional capacity in developing countries to address ozone sector matters. During the grace period for developing countries, many industrialized countries expressed concern over the cost-effectiveness of such expenditures, questioning their relevance to the MLF — an instrument that was specifically designed to help countries achieve rapid phase-out, not to serve as a development or poverty alleviation tool. Even so, by the end of the MLF's first decade, the Fund had acknowledged that the developing countries should themselves be playing a much larger and vital role than merely approving projects submitted to the Fund. For countries to truly be in the driver's seat, they would continue to need assistance and institutional strengthening to ensure they can plan and manage their own national ODS phase-out programs.

5.4 Since the beginning of the compliance period, as a consensus has evolved on the need to execute a Strategic Planning Framework for the Fund's final phase, Executive Committee members increased funding award levels for institutional strengthening projects. At the 35th meeting in late 2001, the Executive Committee decided that "all institutional strengthening projects and renewals shall be approved at a level that is 30 percent higher than the historically agreed level" (UNEP/OzL.Pro/ExCom/35/67, Decision 35/57, para 112 (a)). As part of this decision, the Executive Committee indicated that the increased funding should continue until 2005, when it would be reviewed.

5.5 In addition to increased overall funding for institutional strengthening projects, UNEP has appropriately taken the lead on the design and facilitation of a global public awareness and education campaign. In late 2001, the Executive Committee approved funding to UNEP for a Compliance Assistance Program (CAP) and it also awarded US$200,000 a year to UNEP to support public awareness campaigns. Countries undertaking national phase-out plans may also receive additional funding for institutional strengthening, depending on specific phase-out agreements.

Institutional Development Impact at the Country Level

5.6 A recent study (Rasmussen et al. 2001) delivered to the Multilateral Fund's Executive Committee that investigated the capacity of national ozone units in developing countries found that many countries can only afford to retain a skeleton staff to oversee national ODS phase-out activities. The study found that the situation is most dire in Latin America and Africa which on average employ between 0-2 permanent staff. The study also highlighted the fact that National Ozone Units have been regarded by the donor community as the end of the chain of command or as purveyors of statistics and reports rather than as mature, responsible organizations and prime actors that should be served

according to their own needs and priorities.[29] The study's findings are supported by what the development community has tacitly understood for a over a decade: in many developing countries, environmental policy goals remain subsidiary to economic development goals, except for environmental policies that are seen as bolstering economic efficiency and growth (WDR 1992).

5.7 The Multilateral Fund adopted a new strategic planning framework in March 2001 to enhance effectiveness and ensure that Article 5 countries can meet their phase-out obligations by 2010. The new framework is based on the Bank's successful implementation and capacity-building experience. It has adopted a country-driven approach emphasizing government responsibility for managing national phase-out programs — putting countries' National Ozone Units in the driver's seat.

5.8 Recognizing that the project-by-project approach did little to convince countries to reduce their consumption on a national level, the new framework encouraged developing countries to use a sector/national phase-out approach, with performance-based funding– that is, funding linked to achieving compliance and sustainable ODS reduction.[30] The new framework puts added pressure on governments to better support National Ozone Units and mainstream them into government institutions.

5.9 The New Strategic Framework also abolished agency shares, a move that now allows National Ozone Units more leverage in selecting partners according to sectoral needs and country priorities. The framework allows developing countries the flexibility to plan phase-out for an entire sector and obtain funds without detailed conditions for every project. The caveat: while allowing for greater flexibility at the country level, this policy also detracts from the ability to monitor and report to the Fund on activities at the project level.

6. Financing of the Program

Income and Allocations

6.1 The Multilateral Fund is financed by contributions from industrialized countries — Parties not operating under Paragraph 1 of Article 5. Parties can contribute in the form of convertible currencies, or in some circumstances, in kind and/or in national currency.

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[29] The study, "A country-driven approach to the phase-out of ozone-depleting substances in developing countries" was lead by Rasmussen Rasmussen and was a collaboration between Sweden, the World Bank, the Consensus Building Institute (CBI) and MIT. The six-month inquiry began in 2000 and was submitted to the ExCom in March 2001 as input into the formulation of the ExCom's new Strategic Framework for the Compliance Period. The team surveyed 118 NOUs — the offices in individual developing countries responsible for overseeing national phase-out to gauge and compare their respective capacity levels.

[30] The new strategic approach also allowed for a measure of stock taking. The exercise ascertained the countries' current consumption levels and reset eligible funding levels accordingly. Henceforth, the Ozone Depleting Potential of new approvals is deducted from these revised figures. This ensures that countries are strategic in their project planning and seek sustainable and permanent reductions.

Contributions to the MLF come from industrialized countries, which are assessed according to the United Nations Scale of Assessment. Bilateral and Regional contributions are permitted under strict criteria and up to a maximum level of 20 percent.

Table 1. Trust Fund for the Multilateral Fund for the Implementation of the Montreal Protocol – Status of the Fund as of March 26, 2004

Income		***Allocations and Provisions***	
Contributions Received			
Cash Payments including note encashments	1,406,398,369	UNDP	443,811,146
Promissory Notes held	127,122,920	UNEP	83,438,619
Bilateral Cooperation	69,279,771	UNIDO	344,678,230
Interest Earned	139,717,345	World Bank	666,463,451
Miscellaneous Income	5,433,610	Less Adjustments	
Total Income	**1,747,952,015**	**Total Allocations for Implementing Agencies**	**1,538,391,446**

Secretariat and Executive Committee Costs (1991-2005)	**42,189,793**
Includes provision for staff contracts into 2005	2,548,775
Monitoring and Evaluation Activities approved at the 22nd, 29th, 32nd, 35th, 38th & 41st Meetings of the ExCom	1,576,375
Technical audit activities approved at the 24th and 36th ExCom Meets	850,000
Bilateral Cooperation	69,279,771
Provision for fixed-exchange rate mechanism's fluctuations losses/gains in value	8,498,118
Total Allocations and Provisions	**1,663,754,028**
Balance Available for New Allocations	84,197,986

Source: UNEP/OzL.Pro/ExCom/41/L.1. April 2004.

6.2 The Fund has been replenished five times: US$240 million (1991-1993), US$455 million (1994-1996), US$466 million (1997-1999), and US$440 million (2000-2002), and US$573 million (2003-2005). A decision on the 2006-2008 replenishment will be made in 2005. (See Annex B for a description of the Status of the Trust Fund for the Multilateral Fund for the Implementation of the Montreal Protocol as of March 31, 2003.)

6.3 According to the Bank's MP unit, in the early 1990s when the first country programs were developed, information pertaining to availability and effectiveness of ODS alternatives was limited. It was therefore extremely difficult for developing countries to determine accurate costs of ODS phase-out.

6.4 However, despite the fact that key information was missing or incomplete at the time, funding for certain ODS phase-out related activities was made contingent on the submission of country programs. Therefore, originally proposed ODS country phase-out schedules were often either too conservative or too optimistic. In either case, governments'

commitments to follow through with their country phase-out plans and strategies were tied to an unrealistic estimate of MLF funding.

7. Risks and Risk Management

Risks to the Program

7.1 More than 140 international environmental agreements (IEAs) have been negotiated, excluding bilateral agreements and European Community directives. The World Bank's performance as an MLF implementing agency has been watched closely by the international environmental community. Given that the MP is widely considered to be a successful example of an international cooperation agreement for achieving measurable global impact — and could provide a model for successfully negotiating future environmental agreements — the performance risks have been managed well.

7.2 As described in the introduction of this study, a key feature of the Protocol is that it includes separate phase-out schedules for the two different types of countries. The intention of the Protocol in establishing a grace period for developing countries was that developing countries could learn from the accumulated implementation experience of the developed countries. However, this staggered schedule, has led to the unforeseen incidence of illegal trade in ozone depleting substances.[31]

7.3 The 10-year grace period given to developing countries opened up a tremendous potential for smuggling CFCs and other ODS into industrialized countries after their phase-out deadlines (OzonAction. 2001a). Additionally, demand for CFCs in industrialized countries has continued beyond the phase-out deadlines in 1996 due to the continued use of old CFC-dependant equipment such as air conditioners and refrigerators. Alternative chemicals for these appliances were originally more expensive than CFCs, making cheaper, illegally traded substances attractive.

7.4 In addition, ozone-depleting substances are still available. The Montreal Protocol permits continued production of CFCs in countries for essential uses, such as laboratory research, analytical uses, and metered dose inhalers for asthma treatment. Industrialized nations are also allowed to export CFCs to developing countries to meet basic domestic needs.

7.5 Another contentious loophole in the Protocol concerns the fact that recycled substances are not subject to control measures in the Montreal Protocol, other than a requirement to report the quantities traded — and it is hard to distinguish between new and used substances (OzonAction. 2001a). This situation has allowed illegal trade to flourish among various legal trade flows: new CFCs are disguised as recycled, while new CFCs and halons destined for developing countries are diverted into local markets. Mislabeling of products and other forms of fraud take place at international borders. In 1997, a framework

[31] This is hardly a new phenomenon. Illegal trade in endangered species and their products, illegal dumping of hazardous waste, illegal fishing, whaling and logging all pose threats to the success of global environment management.

was adopted that required all parties to implement an import/export licensing system to track commerce and facilitate data collection. Such a licensing system also allows for better cross-checking of information between importing and exporting countries.

7.6 Despite such loopholes, the ozone regime is fortunate compared with many other environmental treaties, in that illegal trade will eventually disappear of its own accord as ODS end uses are gradually phased out.

Risks to the Bank

Project Risk

7.7 The Bank subjects all of its projects to an independent technical review that is based on the Project Document to ensure quality. A technical review is carried out by an outside specialist selected from the Ozone Operations Resource Group. A signed opinion from the outside specialist on the technical merits of the proposed phase-out technology and level of funding for each project is submitted with the project document when it is delivered to the Fund Secretariat and then to the Executive Committee for approval. (Project proposals are submitted in advance of the Executive Committee to enable the review of the Fund Secretariat, which often reduces the requested amount since many costs are not incremental.)

Financial Risk

7.8 The World Bank uses lines of grants to finance projects in most countries. A small share of approved funds is advanced to the financial intermediary (FI). This account is replenished following the Bank's evaluation of documentation submitted in support of disbursements made by the FI. Therefore the financial risk is limited to the size of the advance — similar to the risks of other Bank lines of grant funds advanced in this way.

Institutional Risk

7.9 The Bank runs a specified level of institutional risk in environmental projects. All ODS projects are rated as category B, requiring that appropriate precautions must be taken, but not requiring a formal environmental impact assessment, as is the case for category A projects.

8. Role of the World Bank

8.1 The World Bank's national execution mode of implementation is in lines with its constitutionally determined general mode of operation and its structure. Its implementation approach is geared toward fostering government ownership of ODS phase-out efforts and building capacity at the national level (in particular in the Financial Intermediary chosen by the Bank and government) for identifying and developing projects. UNIDO and UNDP have for the most part centralized project identification, development and procurement operations, avoiding national systems of project implementation. While it has been argued

that the centralized approach used by UNDP and UNIDO offers wider knowledge of major international suppliers, the decentralized approach pursued by the Bank is more apt to acquire greater knowledge of local conditions and needs. Yet, while this approach has the capacity for promoting greater government ownership and can strengthen national capacity for MP project development and implementation, it requires substantial investment in time and resources prior to commencement of project implementation. The trade-off features implementation speed over a greater sense of ownership by the government and the establishment of capacity at the national level.[32]

8.2 During the initial start-up period, the Bank came under scrutiny regarding its involvement as an IA for 'not getting money to the field.' The Bank has successfully translated experience gained from implementation of initial projects to the development of strategic approaches aimed at minimizing project duration, maximizing impact, and increasing project flexibility. Specifically, the Bank addressed initial problems that were causing delays in the project cycle by implementing umbrella grant agreements that consolidate smaller agreements, and through reforms in the World Bank subproject approval process. These reforms were aimed at reducing the time period between project approval and the beginning of actual implementation while reducing the administrative burden of separate Bank projects. However, while umbrella grant agreements offer faster and broader disbursement, they also pose more difficulty in the monitoring phase, potentially having the effect of reducing oversight in these Bank projects.

8.3 The MLF has adopted a New Strategic Framework (2001) to address compliance needs in many developing countries whose ODS use is scattered between small and medium enterprises.[33] The new strategic framework is styled after the Bank's implementation model — an acknowledgement that national government ownership and strengthened capacity of the National Ozone Units are key prerequisites in the future compliance goals and sustainability of the program. It was outside the breadth of this study's terms to investigate the incremental capacity that has been achieved at the national level due to the Bank's national execution approach vis-à-vis the approach of its partner implementing agencies.

The Bank's Role in Promoting Innovative Financing

8.4 The Multilateral Fund was established as one of several possible means for multilateral and bilateral cooperation. With a strong comparative advantage vis-à-vis other implementing agencies in managing financial flows, the Bank recognizes the potentially catalytic role it could play in leveraging existing MLF resources through the promotion of new partnerships and new project financing mechanisms to supplement the existing grant financing modality. And while the Bank is to be credited for recognizing

[32] The World Bank's average speed of delivery between agreement and first disbursement is considerably longer than the other IAs — a 26 month cumulative average compared to 12 months for UNDP and only 9.5 for UNIDO.

[33] The Executive Committee adopted at its 33 meeting (2001) the "Framework on the objectives, priorities, problems and modalities for strategic planning of the Multilateral Fund in the Compliance Period" as the basis of its future work (Decision 33/54).

the growing gap between MLF financial resources and increasing global, national, and private sector demands in the face of MP targets, this study suggests that it remains to be seen whether or not such pilot projects can generate sufficient developing country demand to replicate and enhance projects in ways that warrant the time and investment required by the Bank, let alone its partner UN implementing agencies.

8.5 The Bank has experimented with a handful of innovative financing approaches, including the Chile Auction program, the China auction program under the halon production/consumption sector phase-out plan, and the Thai SME umbrella project, whereby vouchers were used to distribute equipment for converting small commercial refrigeration producers.[34]

8.6 The Bank has also used an on-lending facility in the form of a revolving fund mechanism whereby a government leverages the impact of an MLF grant by providing financial support to enterprises in the form of contingent financing. In this case, repayment is made in full to the government if the project is successful, with repayments then used to finance other activities, including institutional strengthening or technical assistance. Such a revolving fund was set up by the government of Turkey in 1994 to more equitably manage ODS phase-out funds approved by the MLF. Through this approach, 11 organizations received grants and 8 received partial loans, leading to a total phase-out of some 1,600 tons of ozone-depleting potential. A major finding of the revolving fund approach was that enterprises are willing to participate in mixed financing — that is, both loans and grants — for ODS phase-out projects. However, it is unclear how this pilot experiment can be successfully duplicated in many developing countries that lack the capacity for administering revolving funds.[35] No such projects have been initiated by the other implementing agencies.

8.7 The Bank has also experimented with the use of full contingent financing on a case-by-case basis. Specifically, it has co-financed chiller conversion projects — projects that generate energy efficiency gains and are therefore not eligible for incremental costing. The Bank has financed two such projects: the Thailand Chiller Replacement Program and Mexican Chiller Concessional Lending project. While the Thai Chiller program has been applauded for targeting cooperation between two separate but synergistic environmental regimes, it has also been extremely labor-intensive and time-consuming, given the small number of chillers converted.[36] If, as has been proposed, countries like India can adopt and

[34] Regarding the Chile Auction program, almost half of the approved funds (of US$2 million) for the second phase were returned to the Fund. Concerning the Thai SME umbrella project, the Bank's MAC SME project took over ten years to complete and the commercial loan project was severely delayed.

[35] While the Bank set up a second revolving fund in Mexico, the Government of Mexico's offer to administer loans through a revolving fund at a 0 percent real interest rate makes this type of financing scheme uniquely applicable.

36 Comments provided by the Bank's MP Team revealed that an additional 36 chillers were replaced through private sources and Government grants as a direct result of the marketing activities by the FI through the chiller replacement project. The MP team informed the OED team that the Government of Thailand has committed to evaluating this program in order to inform its decision on how it will proceed with the follow-on project to possibly replace 400 chillers.

modify the model on a larger scale, and add a Prototype Carbon Fund-linked component for the purchase of the resulting carbon credits, the global and local benefits realized could justify the high costs of global experimentation.

Linkages to the Global Environment Facility's Ozone Focal Area

8.8 Phase-out projects in countries with economies in transition are ineligible for funding under MLF guidelines; however, innovative use of alternative non-grant funding modalities under the GEF has resulted in the leveraging of US$112 million, in addition to GEF grants of US$125 million, for 11 ODS projects in the transition economies. The greatest success has been in Russia, where CFC production has virtually ceased (See Box 4).

Box 4: Russia: The Special Initiative for ODS Production Closure

By 1998, Russia accounted for half the world's production capacity of CFCs and halons. The Bank provided US$17.3 million in funding to seven Russian enterprises that have ceased production of chlorofluorocarbons (CFCs) and halons, the most potent ozone depleting substances (ODS). The ending of ODS production in Russia completes the phase-out of CFCs and halons in developed countries as required by the Montreal Protocol.

The funds for the compensation payment to the seven enterprises come from a group of donors organized by the World Bank, known as the Special Initiative for ODS Production Closure. It includes 10 donor countries and the Global Environment Facility (GEF). This payment brings to US$25 million the group's total compensation to Russian enterprises. Donor countries are Austria, Denmark, Finland, Germany, Italy, Japan, Norway, Sweden, the United Kingdom, and the USA.

Oversight of Bank Internal Operations

8.9 The Bank has limited oversight authority of the MLF at the global level. As an implementing agency of the MLF, the Bank is accountable foremost to the Parties to the Montreal Protocol, which oversees the operations of the Fund's executive committee. It has no decision-making powers, as it attends the Fund's executive committee meetings as an observer.

8.10 The Bank's project approval authority is iterated in the Bank's operational policy, *OP 10.21 on Investment Operations Financed by the Multilateral Fund for the Implementation of the Montreal Protocol*. A Project Information Document (PID) is prepared for MP operations. The MP-PID refers to the proposed technical review arrangements and notes whether an environmental review is necessary. To ensure quality, each project or subproject covered by the MP-PID is subjected to an independent technical review that is based on the Project Document. This technical review, which is additional to the internal peer review required by OP / BP 10.00, is carried out by an outside specialist selected from the Ozone Operations Resource Group or from a roster approved by that group and available from the ENVGC. A signed opinion from the outside specialist on the technical merits of the proposed phase-out technology and level of funding for each subproject or single-component project is circulated with the MP-PID for the MP-PID review meeting. Subprojects that have not yet been pre-appraised at the

MP-PID review stage and are being processed under an umbrella agreement are subject to the same technical review requirements.

8.11 Procedures during negotiations are the same as for normal Bank projects, with three exceptions to expedite procedures: (a) the authority to negotiate rests with the CD director (however, for projects larger than US$2.5 million, clearance to negotiate is obtained from the Regional vice president [RVP]); (b) negotiations are normally by correspondence; and (c) after negotiations, the CD director signs the legal documents for the MP operation on behalf of the Bank and submits them to the grant recipient for signature.

8.12 MP operations are processed as components of Bank-financed projects only in exceptional circumstances. When Montreal Protocol operations are components of Bank-financed projects, the processing differs from the processing of free-standing Montreal Protocol projects. Regional Vice Presidential (RVP) approval is required for all Montreal Protocol operations that are components of Bank-financed projects (with the approval of the Montreal Protocol component subject to the Board's approval of the Bank-financed project). After the associated Bank-financed project is approved by the Board, the Country Director is authorized to sign the Montreal Protocol legal documents.

9. Findings and Lessons

Relevance & International Consensus

9.1 The Bank's decision to enter into a legal agreement to assume the role of an implementing agent of the Multilateral Fund responded to an emerging international consensus that global action was required. The MLF was explicitly established by the parties to facilitate the implementation of the Montreal Protocol — a legally binding convention — the majority of signatories of which are developing countries. While not directly linked to the World Bank's goal of poverty alleviation, the program fulfills the Bank's global public goods priority of protecting the environmental commons. The Fund is designed to assist developing countries in meeting the incremental costs of compliance with the Protocol. The financial contributions to the Fund are provided by industrialized countries, earmarked for technology transfer. The Bank was invited by the MLF, along with three other UN agencies, to channel these resources to developing countries. In hindsight, the reputational risk to the Bank might have been greater had it *refused* to assist other UN agencies to implement a global call to action to protect the ozone layer.

Efficacy and Value Added

9.2 Since the MLF's establishment in 1990, the Fund's Executive Committee has approved the expenditure of US$1.48 billion, supporting some 4,300 projects and activities in 134 developing countries. Implementation of these projects will result in the phase-out of the consumption of an estimated 173,000 ODP tons and production of 62,200 ODP tons of ozone-depleting substances. Of this total, about 127,890 ODP tons of consumption and 52,260 tons of production have already been phased out from projects approved through

2002. The MLF has financed the drafting of 125 country programs and the establishment of 129 developing country ozone offices.

9.3 The addition of new chemicals to the list of substances controlled under the MP — for example, process agents, HCFCs, and methyl bromide — has resulted in increased demand. The program is expected to exploit its comparative advantage by using Fund resources to leverage additional non-grant funding. Recently, it has used pilot projects to test ways in which innovative co-financing can further Protocol goals. While the Bank should be credited for trying to fill the growing gap between MLF financial resources and increasing global, national, and private sector demands, it remains to be seen if its pilot projects can generate enough demand to justify the needed time and investment. This challenge is heightened by the fact that remaining ODS projects in the commercial and domestic refrigeration, methyl bromide, servicing, and end-user sectors generally have low cost-efficiency and are time-consuming to administer.

19. There are also very practical differences associated with the transition away from the originally agreed upon ozone depleting substances and those substances which have been later identified and targeted for phase-out. The phase-out of methyl bromide — a chemical used for fumigating soil and storage facilities and for controlling a wide variety of pests in developing countries, will require the Bank to work with its client countries to design alternative programs that meet the long-term needs of farmers, rural communities, and consumers. The Bank will benefit from its involvement in Fund projects that offer demonstrations of existing alternatives and that test these alternatives (particularly through field trials) to determine their feasibility. Developing countries use approximately 25 percent of the global supply of this fumigant, mainly for high-value horticultural crops and durable commodities. The Bank's role as an implementing agent for the global phase-out of methyl bromide and its ongoing commitment to the promotion of integrated pest management are mutually reinforcing positions that can achieve environmentally sound, economically viable, long-term solutions in the agriculture sector. Its commitment towards integrated pest management has in fact led to a reduction of the use of methyl bromide in project planning-related discussions or during supervision for example, in Mali, the Kyrgyz Republic, Tunisia, and Iran. Such dialogue has more or less been formalized in the design of the African Stockpiles Program.

Efficiency

9.4 The MLF has a clear and narrow focus, its targets are quantifiable, and it is governed by an executive committee that meets three times a year to maintain the momentum, accountability, and strategic focus of the program under a framework of timely deadlines. The unique composition and decision-making structure of the Fund, which features balanced representation of developed and developing countries and consensus style decision making, has fostered an unprecedented model of international cooperation. The program is advised by periodic scientific assessments. The Bank as an implementing agency has established its own scientific and technological advisory body for institutional quality assurance purposes.

9.5 The Bank has successfully streamlined normal loan procedures and tailored them to small grant projects which, prior to the MP Program, were unprecedented in Bank operations. These mechanisms include umbrella grant agreements which are now exclusively utilized to manage projects approved over a long period of time and which allow document processing to be shortened. The portfolio of Montreal Protocol projects managed by the World Bank consists of over 800 subprojects that are administered mostly under approximately 35 Umbrella Grant Agreements in 20 countries. The Fund's Executive Committee, following successful implementation of such agreements by the Bank, promoted an 'umbrella project and terminal umbrella project approach' –which allows a number of enterprises to be converted under one project. This approach had the advantage of allowing smaller enterprises to be targeted where the cost-effectiveness threshold was relatively high. This approach was used several times by the Bank and other agencies. However, the more recent trend has been to move to sector and national approaches.

Bank Performance

9.6 The Bank's portfolio of MP investment projects is limited. It has projects in only 20 of the 134 developing countries receiving assistance from the Multilateral Fund. In contrast, its partner implementing agency, UNDP has operated in 87 developing countries. However, as of December 2002, the Bank had worked through the MLF to phase out 85 percent of total ODS to be phased out under the MLF — and it achieved this with only 45 percent of total available resources.

9.7 The World Bank's national execution mode of implementation is geared toward fostering government ownership of ODS phase-out efforts and building capacity at the national level (in particular in the Financial Intermediary chosen by the Bank and government) for identifying and developing projects. UNDP and UNIDO have utilized a centralized implementation approach. While it was outside the breadth of this study's terms to investigate the incremental capacity achieved at the national level due to the Bank's national execution approach vis-à-vis the approach of its partner implementing agencies, the Fund's Executive Committee decision to model their New Strategic Framework along the lines of the Bank's approach is testament to the fact that national government ownership and strengthened capacity of the national ozone units in developing countries are key prerequisites in the future compliance goals and sustainability of the program.

10. Lessons for Future Activities

1. Balancing obligations and efforts. The Bank plays a dual role — it is both an implementing agency and a development partner in the Fund. The Bank has balanced its obligation to implement a narrowly focused international environmental agreement with its institutional mandate by utilizing an approach that features capacity building and local execution of project identification, preparation, and implementation. While it is regrettable that the Fund did not formulate a forward-looking ODS phase-out strategy for SMEs at its start-up, the Bank has been a leader in and a proponent of umbrella projects,

sector phase-out plans, and national ODS phase-out plans, partly due to a recognition in the late 1990s that a modality was needed to reach smaller enterprises, end-users and more difficult sectors.

2. Legitimacy. Fund decision-making has been underscored by regular scientific and technical assessments. The TEAP and the Bank's OORG have enabled the Executive Committee and the Bank to keep pace with the latest research and development of alternative technologies. Developing countries have relied on such reports to formulate country programs and phase-out schedules.

3. Innovation. The development of innovative economic and financial instruments within the context of the Montreal Protocol has provided the Bank with a valuable set of learning tools, which may be applicable to the implementation of the Stockholm Convention and other like environmental conventions.

4. Knowledge Transfer. The Bank's decision to transition its Protocol staff to its Persistent Organic Pollutants Program is a best practice in institutional development. It could continue to work with its counterpart implementing agencies to understand and account for the unintended developmental benefits which have just recently begun to be recognized

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Annex A. Evaluation Framework for Phase 2 Report and 26 Case Studies

1. The Phase 2 Report and each case study follows a common outline and addresses 20 evaluation questions (Table A.1) that have been derived from OED's standard evaluation criteria (Table A.2), the 14 eligibility and approval criteria for global programs (Table A.3), and the 8 eligibility criteria for grant support from the Development Grant Facility (Table A.4).

2. The sheer number of these criteria, some of which overlap, can be daunting even to an evaluator. Hence the OED evaluation team has reorganized these criteria into four major evaluation issues, which correspond to the four major sections of each report (Table A.1):

- The overarching global relevance of the program
- Outcomes and impacts of the program and their sustainability
- Governance, management, and financing of the program
- The World Bank's performance as a partner in the program

3. These four issues correspond roughly to OED's evaluation criteria of relevance, efficacy, efficiency, and Bank performance, **appropriately interpreted and expanded for the case of global programs**. In the case of global programs, **relevance** must be measured not only against individual borrowing countries' priorities and Bank priorities, but also in terms of the interplay between global challenges and concerns on the one hand and country needs and priorities on the other. The former are typically articulated by the "global community" by a variety of different stakeholders and are reflected in a variety of ways such as formal international conventions to which developing countries are signatories; less formal international agreements reached at major international meetings and conferences; formal and informal international standards and protocols promoted by international organizations, NGOs, etc.; the Millennium Development Goals; and the Bank's and the Development Committee' eligibility criteria for global programs. While sponsorship of a program by significant international organizations may enhance "legitimacy" of a global program in the Bank's client countries, it is by no means a sufficient condition for developing country ownership, nor for ensuring its development effectiveness. "Relevance" and ownership by the Bank's client countries is more assured if the program is demanded by them. On other hand some "supply-led" programs may also acquire ownership over time by demonstrating substantial impacts, as in the case of the internet. Assessing relevance is by far the most challenging task in global programs since global and country resources, comparative advantages, benefit, costs, and priorities do not always coincide. Indeed the divergence of benefits and costs between the global level and the country level is often a fundamental reason for the provision of global public goods. Evaluating the relevance of global action to the Bank's client countries is however important because the global *development* agenda is becoming highly crowded and resources to finance it have remained relatively stagnant, therefore highlighting issues of selectivity.

4. For the global programs that have been operating for some time, **efficacy** can be assessed not only in terms of program outcomes but more crucially in terms of impacts

on the ground in developing countries. Outcomes and impacts in turn depend on the clarity and evaluability of each program's objectives, the quality of the monitoring and evaluation of results and, where appropriate, the effectiveness of the links of global program activities to the country level.

5. Since global programs are partnerships, **efficiency** must include an assessment of the extent to which the benefit-cost calculus in collective organizational, management and financing arrangements is superior to achieving the same results by the individual partners acting alone. The institutional development impact and the sustainability of the program itself (as opposed to that of the outcomes and impacts of the program's activities) are also addressed in this section of each report.

6. Finally, this being an OED evaluation, it focuses primarily on the **Bank's strategic role and performance** in playing up to its comparative advantage relative to other partners in each program. The Bank plays varied roles in global programs as a convener, trustee, donor to global programs, and lender to developing countries. The Bank's financial support to global programs – including oversight and liaison activities and linkages to the Bank's regional operations – comes from a combination of the Bank's net income (for DGF grants), the Bank's administrative budget, and Bank-administered trust funds. In the case of the Global Environmental Facility (GEF) the Bank is a trustee and in the case of the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria (GFATM), a "limited" trustee. In the case of GEF and MLF the Bank is also an implementing agency. Thus, the assessment of Bank performance includes the use of the Bank's convening power, the Bank's trusteeship, Bank financing and implementation of global programs, and, where appropriate and necessary, linkages to the Bank's country operations. Bank oversight of this entire set of activities is an important aspect of the Bank's strategic and programmatic management of its portfolio of global programs.

7. The first column in Table A.1 indicates how the four sections and 20 evaluation questions addressed in the Phase 2 Report and case studies relates to the eight evaluation issues that were raised by the Bank's Executive Board in the various Board discussions of global programs during the design phase of OED's global evaluation and identified in the OED's Evaluation Strategy paper:[1]

- Selectivity
- Monitoring and evaluation
- Governance and management
- Partnerships and participation
- Financing
- Risks and risk management
- Linkages to country operations

[1] OED, The World Bank and Global Public Policies and Programs: An Evaluation Strategy, July 16, 2001, page 21. "Partnerships and participation" were originally listed as two separate evaluation issues in the evaluation strategy document. "Monitoring and evaluation" is now interpreted more broadly to include not only an assessment of the monitoring and evaluation procedures of each program but also the findings of previous evaluations with respect to the outcomes and impacts of each program, and their sustainability.

8. The third column in Table A.1 indicates how the four sections and 20 evaluation questions relate to OED's standard evaluation criteria for investment projects (Table A.2), the 14 criteria endorsed by the Development Committee and established by Bank management for approving the Bank's involvement in global programs (Table A.3), and the 8 criteria for grant support from the Development Grant Facility (Table A.4).

9. The 14 **eligibility and approval criteria** for the Bank's involvement in global programs have evolved since April 2000 when Bank management first proposed a strategy to the Bank's Executive Board for the Bank's involvement in global programs and include the *four overarching criteria* endorsed by the Development Committee, and the *four eligibility criteria* and *six approval criteria* presented by Bank management to the Bank's Executive Board. Each global program must meet at least ***one*** of the four relatively more substantive eligibility criteria and ***all six*** of the relatively more process-oriented approval criteria. The first two eligibility criteria relate directly to the Bank's global public goods and corporate advocacy priorities (Table A.3). Although the six approval criteria resemble the topics covered in a project concept or appraisal document for Bank lending operations, unlike for Bank lending operations, there is currently only a one-step approval process for new global programs – at the concept stage and not at the appraisal stage. And new global programs only have to be approved by the Bank managing director responsible for the Network proposing a new program, not by the Bank's Executive Board.

10. While the approval of new global programs is logically separate from and prior to their financing (whether from the DGF, trust funds, or other sources), the eight **DGF eligibility criteria** for grant support from the DGF (Table A.4) were actually established in 1998. Twenty out of the 26 case study programs and about two-thirds of the Bank's total portfolio of 70 global programs have received DGF grants.

Table A.1. Key Evaluation Issues and Questions

Evaluation Issues	Evaluation Questions	Reference
Section I. Overarching Global Relevance of the Program		
1. Selectivity	**1. Relevance.** To what extent are the programs: • Addressing global challenges and concerns in the sector • Consistent with client countries' current development priorities • Consistent with the Bank's mission, corporate priorities, and sectoral and country assistance strategies?	A modification of OED's relevance criterion (Table A.2) for the purpose of global programs. The third bullet also relates to managing director (MD) approval criterion #1 regarding a "clear linkage to the Bank's core institutional objectives" (Table A.3).

Evaluation Issues	Evaluation Questions	Reference
	2. International consensus. To what extent did the programs arise out of an international consensus, formal or informal: • Concerning the main global challenges and concerns in the sector • That global collective action is required to address these challenges and concerns?	Development Committee (DC) criterion #4 (Table A.3).
	3. Strategic focus. To what extent are the programs: • Providing global and regional public goods • Supporting international advocacy to improve policies at the national level • Producing and delivering cross-country lessons of relevance to client countries • Mobilizing substantial incremental resources?	The four bullets correspond to the four MD eligibility criteria (Table A.3).
	4. Subsidiarity. To what extent do the activities of the programs complement, substitute for, or compete with regular Bank instruments?	DGF eligibility criterion #1 (Table A.4).
Section II. Outcomes, Impacts, and their Sustainability		
	5. Efficacy. To what extent have the programs achieved, or are expected to achieve, their stated objectives, taking into account their relative importance?	OED's efficacy criterion (Table A.2).
2. Monitoring and evaluation	**6. Value added**. To what extent are the programs adding value to: • What the Bank is doing in the sector to achieve its core mission of poverty alleviation and sustainable development • What developing and transition countries are doing in the sector in accordance with their own priorities?	The first bullet corresponds to DC criterion #1 (Table A.3).
	7. Monitoring and evaluation. To what extent do the programs have effective monitoring and evaluation: • Clear program and component objectives verifiable by indicators • A structured set of quantitative or qualitative indicators • Systematic and regular processes for data collection and management • Independence of program-level evaluations • Effective feedback from monitoring and evaluation to program objectives, governance, management , and financing?	MD approval criterion #6 (Table A.3), since effective communications with key stakeholders, including the Bank's Executive Directors, requires good monitoring and evaluation practices.
	8. Sustainability of outcomes and impacts. To what extent are the outcomes and impacts of the programs resilient to risk over time?	OED's sustainability criterion (Table A.2).

Evaluation Issues	Evaluation Questions	Reference
Section III. Organization, Management, and Financing of the Program		
3. Governance and management	**9. Efficiency**. To what extent have the programs achieved, or are expected to achieve: • Benefits more cost-effectively than providing the same service on a country-by-country basis • Benefits more cost-effectively than if the individual contributors to the program acted alone?	A modification of OED's efficacy criterion for the purpose of global programs (Table A.2). The first bullet also relates to MD eligibility criterion #3 (Table A.3) and DGF eligibility criterion #3 (Table A.4).
	10. Legitimacy. To what extent is the authorizing environment for the programs effectively derived from those with a legitimate interest in the program (including donors, developing and transition countries, clients, and other stakeholders), taking into account their relative importance.	A modification of OED's evaluation criteria (Table A.2) for the purpose of global programs.
	11. Governance and management. To what extent are the governance and management of the programs: • Transparent in providing information about the programs • Clear with respect to roles & responsibilities • Fair to immediate clients • Accountable to donors, developing and transition countries, scientists/professionals, and other stakeholders?	MD approval criterion #5 (Tables B.3) and DGF eligibility criterion #5 (Table A.4).
4. Partnerships and participation	**12. Partnerships and participation**. To what extent do developing and transition country partners, clients, and beneficiaries participate and exercise effective voice in the various aspects of the programs: • Design • Governance • Implementation • Monitoring and evaluation?	DGF eligibility criterion #8 (Table A.4).
5. Financing	**13. Financing**. To what extent are the sources of funding for the programs affecting, positively or negatively: • The strategic focus of the program • The governance and management of the program • The sustainability of the program?	MD approval criterion #4. (Table A.3). The third bullet also relates to OED's sustainability criterion (Table A.2).
	14. Bank action to catalyze. To what extent has the Bank's presence as a partner in the programs catalyzed, or is catalyzing non-Bank resources for the programs?	DC criterion #2 (Table A.3) and DGF eligibility criterion #4 (Table A.4).
	15. Institutional development impact. To what extent has the program established effective institutional arrangements to make efficient, equitable, and sustainable use of the collective financial, human, and other resources contributed to the program.	A modification of OED's institutional development impact criterion (Table A.2) for the purpose of global programs.

Evaluation Issues	Evaluation Questions	Reference
6. Risks and risk management	**16. Risks and risk management**. To what extent have the risks associated with the programs been identified and are being effectively managed?	MD approval criterion #3 (Table A.3).
Section IV. World Bank's Performance		
7. Linkages to country operations	**17. Comparative advantage**. To what extent is the Bank playing up to its comparative advantages in relation to other partners in the programs: • At the global level (global mandate and reach, convening power, mobilizing resources) • At the country level (multi-sector capacity, analytical expertise, country-level knowledge)?	DC criterion #3 (Table A.3), MD approval criterion #2 (Table A.3), and DGF eligibility criterion #2 (Table A.4).
	18. Linkages to country operations. To what extent are there effective and complementary linkages, where needed, between global program activities and the Bank's country operations, to the mutual benefit of each?	MD approval criterion #1 (Table A.3) regarding "linkages to the Bank's country operational work."
	19. Oversight. To what extent is the Bank exercising effective and independent oversight of its involvement in the programs, as appropriate, for in-house and externally managed programs, respectively.	This relates to DGF eligibility criterion #6 on "arm's length relationship" (Table A.4). Both questions 17 and 18 together relate to OED's Bank performance criterion (Table A.2).
	20. Disengagement strategy. To what extent is the Bank facilitating effective, flexible, and transparent disengagement strategies, as appropriate?	DGF eligibility criterion #7 (Table A.4).

Table A.2. Standard OED Evaluation Criteria

Criterion	Standard Definitions for Lending Operations	Possible Ratings
Relevance	The extent to which the project's objectives are consistent (1) with the country's current development priorities and (2) with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies).	High, substantial, modest, negligible.
Efficacy	The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance.	High, substantial, modest, negligible.
Efficiency	The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives.	High, substantial, modest, negligible.
Legitimacy /1	The extent to which the authority exercised by the program is effectively derived from those with a legitimate interest in the program (including donors, developing and transition countries, clients, and other stakeholders), taking into account their relative importance.	High, substantial, modest, negligible.
Institutional development impact	The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. IDI includes both intended and unintended effects of a project.	High, substantial, negligible, modest.
Sustainability	The resilience to risk of net benefits flows over time.	Highly likely, likely, unlikely, highly unlikely.
Outcome	The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently.	Highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, highly unsatisfactory
Bank performance	The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project).	Highly satisfactory, satisfactory, unsatisfactory, highly unsatisfactory.
Borrower performance	The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development objectives and sustainability.	Highly satisfactory, satisfactory, unsatisfactory, highly unsatisfactory.

/1 This represents an addition to OED's standard evaluation criteria in the case of global programs, since effective governance of global programs is concerned with legitimacy in the exercise of authority in addition to efficiency in the use of resources.

Table A.3. Selectivity and Oversight of Global Programs

Selectivity Criteria for Bank Involvement in Global Public Goods: Endorsed by Development Committee (September 2000) /1

An emerging international consensus that global action is required
A clear value added to the Bank's development objectives
The need for Bank action to catalyze other resources and partnerships
A significant comparative advantage for the Bank.

Approval Criteria for Bank Involvement in Partnership Initiatives Beyond the Country Level: Established by Bank Management (November 2000) /2

1. A clear linkage to the Bank's core institutional objectives and, above all, to the Bank's country operational work
2. A strong case for Bank participation based on comparative advantage
3. A clear assessment of the financial and reputational risks to the Bank and how these will be managed
4. A thorough analysis of the expected level of Bank resources required, both money and time, as well as the contribution of other partners
5. A clear delineation of how the new commitment will be implemented, managed, and assessed
6. A clear plan for communicating with and involving key stakeholders, and for informing and consulting the Executive Directors.

Global Public Goods Priorities /3

Communicable diseases
- HIV/AIDS, tuberculosis, malaria and childhood communicable diseases, including the relevant link to education
- Vaccines and drug development for major communicable diseases in developing countries

Environmental commons
- Climate change
- Water
- Forests
- Biodiversity, ozone depletion and land degradation
- Promoting agricultural research

Information and knowledge
- Redressing the Digital Divide and equipping countries with the capacity to access knowledge
- Understanding development and poverty reduction

Trade and integration
- Market access
- Intellectual property rights and standards

International financial architecture
- Development of international standards
- Financial stability (incl. sound public debt management)
- International accounting and legal framework

Strategic Focus for Oversight of Global Programs: Established by Bank Management (March 2003)

a. Provide global public goods

b. Support international advocacy for reform agendas which in a significant way address policy framework conditions relevant for developing countries

c. Are multi-country programs which crucially depend on highly coordinated approaches

d. Mobilize substantial incremental resources that can be effectively used for development.

Corporate Advocacy Priorities /3

Empowerment, security, and social inclusion
- Gender mainstreaming
- Civic engagement and participation
- Social risk management (including disaster mitigation)

Investment climate
- Support to both urban and rural development
- Infrastructure services to support private sector development
- Regulatory reform and competition policy
- Financial sector reform

Public sector governance
- Rule of law (including anti-corruption)
- Public administration and civil service reform (incl. public expenditure accountability)
- Access to and administration of justice (judicial reform)

Education
- Education for all, with emphasis on girls' education
- Building human capacity for the knowledge economy

Health
- Access to potable water, clean air and sanitation
- Maternal and child health

/1 From the Development Committee Communiqué issued on September 25, 2000. Both the Development Committee and Bank Management envisaged global programs as being the principal instrument for Bank involvement in providing global public goods.

/2 The Initiating Concept Memorandum in the Partnership Approval and Tracking System (PATS) was initially organized according to these six criteria.

/3 These are the five corporate advocacy priorities and the five global public goods priorities (and bulleted sub-categories) from the *Strategic Directions Paper for FY02-04*, March 28, 2001. Within the Partnership Approval and Tracking System (PATS), global programs are expected to identify, for tracking purposes, their alignment with at least one of these ten corporate priorities.

Table A.4. Eligibility Criteria for Grant Support from the Development Grant Facility

1. Subsidiarity	The program contributes to furthering the Bank's development and resource mobilization objectives in fields basic to its operations, but it does not compete with or substitute for regular Bank instruments. Grants should address new or critical development problems, and should be clearly distinguishable from the Bank's regular programs.
2. Comparative advantage	The Bank has a distinct comparative advantage in being associated with the program; it does not replicate the role of other donors. The relevant operational strengths of the Bank are in economic, policy, sector and project analysis, and management of development activities. In administering grants, the Bank has expertise in donor coordination, fund raising, and fund management.
3. Multi-country benefits	The program encompasses multi-country benefits or activities which it would not be efficient, practical or appropriate to undertake at the country level. For example, informational economies of scale are important for research and technology work, and operations to control diseases or address environmental concerns (such as protect fragile ecosystems) might require a regional or global scope to be effective. In the case of grants directed to a single country, the program will encompass capacity-building activities where this is a significant part of the Country Assistance Strategy and cannot be supported by other Bank instruments or by other donors. This will include, in particular, programs funded under the Institutional Development Fund, and programs related to initial post-conflict reconstruction efforts (e.g., in countries or territories emerging from internal strife or instability).
4. Leverage	The Bank's presence provides significant leverage for generating financial support from other donors. Bank involvement should provide assurance to other donors of program effectiveness, as well as sound financial management and administration. Grants should generally not exceed 15 percent of expected funding over the life of Bank funding to a given program, or over the rolling 3-year plan period, whichever is shorter. Where grant programs belong to new areas of activities (involving, e.g., innovations, pilot projects, or seed-capital) some flexibility is allowed for the Bank's financial leverage to build over time, and the target for the Bank grant not to exceed 15 percent of total expected funding will be pursued after allowing for an initial start-up phase (maximum 3 years).
5. Managerial competence	The grant is normally given to an institution with a record of achievement in the program area and financial probity. A new institution may have to be created where no suitable institution exists. The quality of the activities implemented by the recipient institution (existing or new) and the competence of its management are important considerations.
6. Arm's length relationship	The management of the recipient institution is independent of the Bank Group. While quality an arm's length relationship with the Bank's regular programs is essential, the Bank may have a role in the governance of the institution through membership in its governing board or oversight committee. In cases of highly innovative or experimental programs, Bank involvement in supporting the recipient to execute the program will be allowed. This will provide the Bank with an opportunity to benefit from the learning experience, and to build operational links to increase its capacity to deliver more efficient services to client countries.
7. Disengage-ment strategy	Programs are expected to have an explicit disengagement strategy. In the proposal, monitorable action steps should be outlined indicating milestones and targets for disengagement. The Bank's withdrawal should cause minimal disruption to an ongoing program or activity.
8. Promoting partnerships	Programs and activities should promote and reinforce partnerships with key players in the development arena, e.g., multilateral development banks, UN agencies, foundations, bilateral donors, professional associations, research institutions, private sector corporations, NGOs, and civil society organizations.

Source: World Bank, Development Grant Facility documents.

Annex B. 21 Actions List from the 1995 COWI Evaluation

The only external MLF evaluation, conducted by COWI in 1995, provided a list of recommendations to improve the Fund's usefulness in Protocol implementation. The evaluation's findings were presented to the Meetings of the Parties, which included the list as Annex V in the 7th MOP report in 1995. This annex, entitled "Actions to Improve the Financial Mechanism for the Implementation of the Montreal Protocol," has come to be called the 21 Actions List and the ExCom has subsequently been obliged to report its progress annually to the Meetings of the Parties.

By the Tenth Meeting of the Parties in 1998, 11 of the 21 actions had been reported as fully or partially completed, having become a standard MLF practice or been overtaken by other developments. These actions, which represent the least contentious and perhaps most easily facilitated by the Fund, include:

Action 1 (a) (i) — Completion of the development by the Executive Committee of a systematic approach to policy development, *Action 1 (a) (ii)* — project templates for all sectors, with a view to having a project evaluation system in place by the end of 1995.

Action 2 — The Executive Committee to develop and take decisions on policy issues already identified, so that a satisfactory number of such issues have been clearly addressed by late 1996. (b) A list of foreseeable policy issues to be drafted by the Executive Committee with the help of the Implementing Agencies and the Fund Secretariat over the next two meetings. (c) The Fund Secretariat and designated consortia of Implementing Agencies to produce consensus options for consideration by the Executive Committee. (d) Decisions proposed for the consideration of the Executive Committee should clearly indicate the implications for project proposals if the decisions were to be adopted.

Action 3 — The Committee members should normally refrain from speaking on projects in which they have a direct interest. However, this should not apply to projects that present policy issues, on which the Chair may invite all members to speak, in order to expedite consideration of such projects. It should be evident from records of Meetings of the Executive Committee that all projects are given equal treatment by the Committee.

Action 7 (b) Institutional strengthening could include, at the request of developing countries, assistance to meet their country program goals relative to laws and regulations.

Action 8 — The Executive Committee should select a lead Agency to prepare the framework for policy dialogue with developing countries by the end of 1996, with a view to enhancing regulatory support to ODS phase-out in developing countries.

Action 9 — The Executive Committee should request a lead Implementing Agency, with the other Agencies and the Secretariat, to further develop, as appropriate, the guidelines for country programs, taking into account these recommendations, with a view to the adoption by the Executive Committee of revised guidelines. The Executive Committee will consider these guidelines in light of its experience to date taking into account, as

appropriate, the sectoral approach to technology transfer. However, approval of eligible projects should not be made contingent upon revision of country programs. Any revision of the country program would be at the request of the Party concerned.

Action 12 — Noting that the Executive Committee approved funding for Latin American and African Networks, the Executive Committee should review the existing similar networks and establish new networks, as appropriate.

Action 15 — The Executive Committee should urge the developing countries concerned to select Implementing Agencies and mode of implementation, keeping in mind the need to implement projects without delay.

Action 16 — The World Bank should report on the training and incentive structure and, at its Nineteenth Meeting, the Executive Committee should consider this report and the relationship of the costs of training to total overhead costs, in order to ensure that the Executive Committee is fully informed about the role, resourcing, and effectiveness of Financial Intermediaries.

Action 17 — (a) The World Bank and all other institutions associated with the Financial Mechanism should propose measures to assist UNEP in collecting contributions in arrears. (b) The World Bank should review with UNEP the processes for acceptance of promissory notes.

Action 18 — The Executive Committee should monitor the extent to which the available bilateral component is utilized.

The remaining actions were treated by the ExCom individually over the course of several meetings. While some additional issues were reported to the MOP as having been addressed, the ExCom has gradually tapered its treatment of issues like concessional lending, which have not been fully resolved through a consensus of the parties.

Annex C: The Composition of the 2003 Technological and Economic Assessment Panel and its Committees (TEAP)

Co-chairs
Stephen O. Andersen, Environmental Protection Agency, USA
Lambert Kuijpers, Technical University Eindhoven, Netherlands
Jose Pons Pons, Spray Quimica, Venezuela

Senior Expert Members
Tamás Lotz, Consultant to the Ministry for Environment, Hungary
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TOC Chairs
Radhey S. Agarwal, Indian Institute of Technology Delhi, India
Paul Ashford, Caleb Management Services, UK
Jonathan Banks, Consultant, Australia
Walter Brunner, envico, Switzerland
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Nahum Marban Mendoza, Universidad Autonaoma Chapingo, Mexico
Miguel Quintero, Universidad de los Andes, Columbia
Gary Taylor, Taylor/Wagner Inc., Canada
Helen Tope, EPA-Victoria, Australia
Ashley Woodcock, University Hospital of South Manchester, UK

2003 TEAP Aerosols, Sterilants, Miscellaneous Uses and Carbon Tetrachloride Technical Options Committee (ATOC)

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Francis M. Cuss, Schering Plough Research Institute, USA
Mike Devoy, Glaxo Smith Kline Pharmaceuticals, U.K.

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Charles Hancock, Charles O. Hancock Associates, USA
Eamonn Hoxey, Johnson & Johnson, UK
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Robert Layet, Ensign Laboratories, Australia
Robert Meyer, Food and Drug Administration, USA
Hideo Mori, Otsuka Pharmaceutical Company, Japan
Robert F. Morrissey, Johnson & Johnson, USA
Geno Nardini, Instituto Internacional del Aerosol, Mexico
Dick Nusbaum, Penna Engineering, USA
Tunde Otulana, Aradigm Corporation, USA
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Roland Stechert, Boehringer Ingelheim Pharma KG
Robert Suber, RJR-Nabisco, USA
Adam Wanner, University of Miami, USA
You Yizhong, China Aerosol Information Center, China

2003 TEAP Flexible and Rigid Foams Technical Options Committee

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John Clinton, Intech Consulting, USA
Antonio Cristodero, Independent Consultant, Argentina
Kiyoshi Hara, JICOP, Japan
Jeffrey Haworth, Maytag Grp., USA
Mike Jeffs, Huntsman Polyurethanes, Belgium
Anhar Karimjee, Environmental Protection Agency, USA
Pranot Kotchabhakdi, Thai Nam Plastic, Thailand
Candido Lomba, ABRIPUR, Brazil
Yehia Lotfi, Technocom, Egypt
Yoshiyuki Ohnuma, Achilles, Japan
Risto Ojala, Consultant, Finland
Robert Russell, Consultant, USA
Patrick Rynd, Owens Corning, USA
Mudumbai Sarangapani, Polyurethane Association of India, India

Ulrich Schmidt, Dow/Haltermann, Germany
Lalitha Singh, Independent Expert, India
Haruo Tomita, Kaneka, Japan
Bert Veenendaal, RAPPA, USA
Dave Williams, Honeywell, USA
Jinhuan Wu, Atofina, USA
Alberto Zarantonello, Cannon, Italy
Lothar Zipfel, Solvay, Germany

2003 TEAP Halons Technical Options Committee

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Zhu Hailin, Ansul, China
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H. S. Kaprwan, Defence Institute of Fire Research, India
Nikolai P. Kopylov, All-Russian Research Institute for Fire Protection, Russia
Barbara Kucnerowicz-Polak, State Fire Service Headquarters, Poland
Kurt Legatis, GTZ Proklima, Germany
David Liddy, Ministry of Defence, UK
Guillermo Lozano, GL & Associados, Venezuela
John J. O'Sullivan, British Airways, UK
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Malcolm Stamp, Great Lakes Chemical (Europe), UK
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2003 TEAP Methyl Bromide Technical Options Committee

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Cao Aocheng, Chinese Academy of Agricultural Sciences, China
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Ricardo Deang, Consultant, Philippines
Patrick Ducom, Ministère de l'Agriculture, France
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Seizo Horiuchi, MAFF, Japan
Saad Hafez, Menoufia University, Egypt
Fusao Kawakami, MAFFJ, Japan
Rick Keigwin. US Environmental Protection Agency, USA
George Lazarovits, Agriculture & Agr-food Canada, Canada
Michelle Marcotte, Marcotte Consulting Inc., Canada
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John Sansone, SCC Products, USA
Jim Schaub, US Department of Agriculture, USA
Sally Schneider, US Department of Agriculture, USA
Don Smith, Industrial Research Limited, New Zealand
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Akio Tateya, Japan Fumigation Technology Association, Japan
Robert Taylor, Natural Resources Institute, UK
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2003 TEAP Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee

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Vassily Tselikov, ICP “Ozone,” Russia
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2003 TEAP Solvents, Coatings and Adhesives Technical Options Committee

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2003 TEAP Agricultural Economics Task Force

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Annex D: The World Bank's Ozone Operations Resource Group

OORG Technical Specialists and their Peers*

Montreal Protocol Sector	OORG Technical Reviewer	OORG First Peer
Aerosol Sector	Mr. Geno Nardini	Dr. Harry McCain
Foam Sector	Dr. Mike Jeffs	Mr. Roberto Dalziel
Halon Sector	Dr. Barbara Kucnerowicz-Polak	Mike Wilson
Methyl Bromide Sector	Dr. Melanie Miller	Dr. Tom Papadopoulos
Mobile Air Conditioning Sector	Mr. Jim Baker	Mr. Bob Proctor
Production Sector	Nicholas John Campbell	TBD
Refrigeration Sector	Dr. Lambert J. Kuijpers	Mr. Martien Janssen
Solvent Sector	Dr. William G. Kenyon	Mr. Joe Felty

For continuity and additional support, each OORG expert has a "first peer." The first peer replaces the OORG sector expert at OORG meetings, if necessary.

Annex E: The Implementing Agencies

The World Bank: The Bank's Montreal Protocol Operations Team is located within the Global Environment Department (ENVGC), which is part of the Environment Department. The Bank houses both permanent staff and employs an established network of independent environmental consultants. Funding for the implementation of the Bank's participation in the MP is channeled to recipients through the Ozone Projects Trust Fund (OTF), which the Bank established and administers and which is constituted by funds approved by the Executive Committee (ExCom) for transfer from the Multilateral Fund. The Bank's role is geared towards enabling developing countries to implement comprehensive ODS phase-out programs through the empowerment of local officials to assume responsibility for project identification, preparation and implementation. It assists with the identification, evaluation, and provision of resources and supervision of investment projects, technical training and institutional strengthening to contribute to ODS elimination. It has traditionally helped develop country programs for large ODS consumers and producers in the developing world.

The United Nations Development Program (UNDP) assists 87 countries under the MLF and under the GEF to implement national programs to phase-out CFCs, halons and other ODS. It has developed a particular comparative advantage in the foam sector. UNDP's Multilateral Fund activities are carried out by the Montreal Protocol Unit (MPU) at UNDP headquarters in New York. The MPU team is made up of program coordinators with expertise in technical and economic sectors, as well as regional and national experts, who help governments and industry design, implement, monitor and evaluate ODS phase-out projects. Technical consultants are brought in to advise on projects as needed. The MPU partners with the UN Office for Project Services (UNOPS) on the implementation of project activities, as well as with UNDP's country offices, which are vital interlocutors in the national execution of MPU programming.

The United Nations Industrial Development Organization (UNIDO)'s approach is aimed at transferring a wide range of engineering and manufacturing technologies, skills and knowledge to firms in three types of industry: discrete manufacturing (the refrigeration sector), continuous processing (e.g. process agents), and agro-related activities (the fumigants program). The agency has worked mainly in six areas — refrigeration, plastic foams, halons, solvents, fumigants and aerosols. UNIDO has developed a particular comparative advantage in working with methyl bromide phase-out projects.

The United Nations Environment Program (UNEP) has been tasked with the political promotion of the objectives of the Protocol, research and data gathering, and clearing-house functions. These functions include assisting Article 5 countries through country-specific studies and other technical cooperation, to identify country needs and facilitate technical cooperation to meet these needs, collect and disseminate information and relevant materials, hold workshops and training sessions and other related activities for the benefit of the Parties that are developing countries. It also facilitates and monitors other regional and bilateral cooperation available to developing country Parties.