

**Document of
The World Bank**

Report No.: 48810

PROJECT PERFORMANCE ASSESSMENT REPORT

BULGARIA

**ENVIRONMENTAL REMEDIATION PILOT PROJECT
(LN 4321-BUL)**

**ENVIRONMENTAL AND PRIVATIZATION SUPPORT ADJUSTMENT LOAN
(LN 4538-BUL)**

JUNE 24, 2009

*Sector and Thematic Evaluations
Independent Evaluation Group (World Bank)*

Currency Equivalents (annual averages)

Currency Unit = Bulgarian Lev (BGN)

1998	US\$1.00	BGN 1.760
1999	US\$1.00	BGN 1.836
2000	US\$1.00	BGN 2.123
2001	US\$1.00	BGN 2.185
2002	US\$1.00	BGN 2.078
2003	US\$1.00	BGN 1.733

Currency Unit = Euro (€)

1999	US\$1.00	€0.939
2000	US\$1.00	€1.085
2001	US\$1.00	€1.118
2002	US\$1.00	€1.063
2003	US\$1.00	€0.886

Abbreviations and Acronyms

BGN	Bulgarian Lev(a)
CAE	Country Assistance Evaluation
CAS	Country Assistance Strategy
CEE	Central and Eastern Europe
CP	Compliance Plan
CPS	Country Partnership Strategy
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPSAL	Environmental and Privatization Support Adjustment Loan
ERPP	Environmental Remediation Pilot Project
EU	European Union
FESAL	Financial and Enterprise Sector Adjustment Loan
FI	Financial Intermediary
GOB	Government of Bulgaria
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
IEG	Independent Evaluation Group
IEGWB	Independent Evaluation Group (World Bank)
IMEC	Inter-Ministerial Expert Council
IMF	International Monetary Fund
IPPC	Integrated Pollution Prevention and Control
M&E	Monitoring and Evaluation
MDK	MDK Copper Smelter
MOEW	Ministry of Environment and Water
MOF	Ministry of Finance
NGO	Non-Governmental Organization
NTEF	National Trust Eco Fund
OC	Oversight Committee

PA	Privatization Agency
PAD	Project Appraisal Document
PAL	Programmatic Adjustment Loan
PPAR	Project Performance Assessment Report
PPAR	Project Performance Assessment Report
PR	President's Report (Memorandum of the President)
REI	Regional Environmental Inspectorate
RP	Remediation Plan
SOE	State-Owned Enterprise

Fiscal Year

Government: January 1 – December 31

Director-General, Evaluation	:	Mr. Vinod Thomas
Director, Independent Evaluation Group (World Bank)	:	Ms. Cheryl Gray
Manager, Sector and Thematic Evaluations	:	Ms. Monika Huppi
Task Manager	:	Mr. Peter Freeman

IEGWB Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEGWB annually assesses about 25 percent of the Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEGWB staff examine project files and other documents, interview operational staff, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEGWB peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. IEGWB incorporates the comments as relevant. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEGWB Rating System

IEGWB's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEGWB evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEGWB website: <http://worldbank.org/ieg>).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and 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). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is 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. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Contents

PREFACE	XI
SUMMARY.....	XIII
1. BACKGROUND.....	1
Privatization and Environmental Liabilities.....	1
Environmental Policy.....	2
Motivation for the PPAR.....	3
2. OBJECTIVES AND DESIGN.....	3
ERPP.....	3
EPSAL	6
3. IMPLEMENTATION.....	9
ERPP.....	9
EPSAL	11
4. MONITORING AND EVALUATION	13
ERPP.....	13
EPSAL	14
5. RATINGS: ERPP	14
Relevance	14
Efficacy	16
Efficiency	17
Outcome.....	18
Risk to Development Outcome	18
Bank Performance	18
Borrower Performance	18
6. RATINGS: EPSAL.....	19
Relevance	19

Efficacy	20
Efficiency	25
Outcome.....	25
Risk to Development Outcome	25
Bank Performance	26
Borrower Performance	26
7. LESSONS	27
ANNEX A. BASIC DATA SHEET.....	29
ANNEX B. BORROWER COMMENTS	38
ANNEX C. EPSAL POLICY MATRIX.....	41

This report was prepared by Kris Hallberg, who assessed the project in February-March 2009. Peter Freeman was the Task Manager and Romayne Pereira provided administrative support.

Environmental Remediation Pilot Project (Loan 4321-BUL): Principal Ratings

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Satisfactory
Institutional Development Impact**	Substantial	Substantial	———
Risk to Development Outcome	———	———	Negligible/Low
Sustainability***	Highly Likely	Highly Likely	———
Bank Performance	Satisfactory	Highly Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Highly Satisfactory	Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

**As of July 1, 2006, Institutional Development Impact is assessed as part of the Outcome rating.

***As of July 1, 2006, Sustainability has been replaced by Risk to Development Outcome. As the scales are different, the ratings are not directly comparable.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Spyros Margetis	Michele E. de Nevers	Kenneth G. Lay
Completion	Adriana J. Damianova	Jane Holt	Andrew N. Vorkink

Environmental and Privatization Support Adjustment Loan (Loan 4538-BUL): Principal Ratings

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Satisfactory
Institutional Development Impact**	Substantial	Substantial	——
Risk to Development Outcome	——	——	Moderate
Sustainability***	Highly Likely	Highly Likely	——
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Moderately Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

**As of July 1, 2006, Institutional Development Impact is assessed as part of the Outcome rating.

***As of July 1, 2006, Sustainability has been replaced by Risk to Development Outcome. As the scales are different, the ratings are not directly comparable.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Adriana J. Damianova	Kevin M. Cleaver	Andrew N. Vorkink
Completion	Adriana J. Damianova	Laura Tuck	Anand K. Seth

Preface

This is the Project Performance Assessment Report (PPAR) prepared for the Independent Evaluation Group (IEG) for two projects in Bulgaria: the Environmental Remediation Pilot Project (ERPP, Loan 4321) and the Environmental and Privatization Support Adjustment Loan (EPSAL, Loan 4538).

An International Bank for Reconstruction and Development (IBRD) loan to the Government of Bulgaria (GOB) for ERPP was approved by the Board of Directors on 05/12/1998 in the amount of US\$16.0 million equivalent. At appraisal the total project cost was estimated to be US\$25.0 million, to be financed by the IBRD loan, US\$3.25 million from the National Trust Eco Fund, and US\$5.75 million from the Government of Bulgaria (GOB). For the EPSAL, an IBRD loan of €49.5 million to GOB was approved by the Board of Directors on 02/24/2000. The loan amount was equal to estimated project costs. Both loans were fully disbursed.

These projects were selected for assessment because they provide lessons for integrating the remediation of past environmental damages into the privatization of state-owned enterprises (SOEs). The PPAR also will provide input to IEG's evaluation of the World Bank Group's (WBG's) experience with safeguard and sustainability policy over the past decade.¹ The Safeguards Evaluation is part of a medium- to long-term IEG program to systematically explore the WBG role and effectiveness in the environmental and social aspects of development work. The PPAR also builds on the conclusions of IEG's 2008 report, "Environmental Sustainability: An Evaluation of WBG Support", which analyzed the effectiveness of WBG support to the environment from 1990 to 2007.

IEG prepared this report based on an examination of the relevant Project Appraisal Documents (PADs) and President's Reports (PRs), Implementation Completion and Results Reports (ICRs), legal agreements, project files and archives, as well as other relevant reports, memoranda, and working papers. Discussions were held with Bank staff in Washington, D.C. and Sofia. An IEG field mission visited Bulgaria February 23-27, 2009 to discuss the project and the effectiveness of Bank assistance with relevant officials and stakeholders. Local environmental knowledge and support was provided by POVVIK-OOS Ltd., a leading Bulgarian consulting and engineering company specializing in environmental assessments, audits, and permitting. The mission appreciated the time and attention given by those interviewed as well as the support of the World Bank office in Sofia.

Following standard IEG procedures, a copy of the draft PPAR was sent to government officials and agencies for their review. The Government's comments are attached in Annex B.

¹ See IEG, "Approach Paper: Evaluation of the World Bank Group's Experience with Safeguard and Sustainability Policy (1999-2008)", approved by CODE on March 5, 2009

Summary

This is the Project Performance Assessment Report (PPAR) for two projects in Bulgaria: the Environmental Remediation Pilot Project (ERPP, Loan 4321) and the Environmental and Privatization Support Adjustment Loan (EPSAL, Loan 4538). The ERPP piloted, and the EPSAL extended, a model for addressing past environmental damages in the process of privatizing state-owned enterprises. The EPSAL also sought to reform Bulgarian environmental legislation and accelerate its harmonization with European Union requirements and practices. Both projects aimed at improving the environmental performance of newly-privatized enterprises.

The Government recognized that uncertainties about liabilities for past environmental damage and about standards for future environmental performance could increase the risk for investors, hinder the privatization process, reduce privatization revenues, and leave serious environmental problems unresolved. The projects thus sought to formalize the process of estimating the cost of remediating past damages -- assigning the responsibility for remediation to the State, determining a schedule for reaching compliance with current environmental regulations, and incorporating Remediation Plans and Compliance Plans into Sales Purchase Agreements in privatizations.

The ERPP piloted the process for the MDK Copper Smelter. The remediation measures were designed to prevent a potential accident threatening the contamination of the drinking water supply of a nearby city, improve environmental quality in the area by cleaning up critical environmental hazards, and prevent further contamination of groundwater. Although there were delays in physical works during the winter months and procurement delays during the first year of implementation, the project achieved most of its objectives. The environmental performance of MDK improved: air and water emissions fell significantly, although certain pollutants, such as dust and sulfur dioxide in air emissions and arsenic in liquid effluents, exceeded the temporary allowable concentrations established in the Environmental Impact Assessment (EIA). According to a Project Beneficiary Survey conducted in late 2002, environmental conditions in the area have improved significantly.

The efficiency of ERPP was only modest, however. Since the EIA was prepared before a detailed remediation plan was completed, the EIA did not contain detailed technical information. This work had to be carried out during project implementation, making the Remediation Plan difficult and time-consuming to implement. Combining the project's high relevance, high achievement of two objectives and substantial achievement of the third, with modest efficiency, the outcome of the ERPP is rated satisfactory. The risk to development outcome is negligible to low.

Overall, Bank Performance in the ERPP was satisfactory, with satisfactory quality at entry and highly satisfactory quality of supervision. The project was grounded in analytical work on environmental issues as well as lessons learned from privatization and environmental remediation projects in other countries. Government officials and MDK management praised Bank staff for solving problems and keeping the project on track. However, the independent review of the EIA for MDK found several weaknesses that should have been corrected.

Borrower Performance, both of the Government and of the Implementing Agency, was satisfactory. The Government remained committed to developing a method for dealing with environmental liabilities during privatization, and ensuring that the new owners came into compliance with Bulgarian regulations. There were delays, however, caused by coordination problems across ministries and implementing agencies.

The EPSAL tried to simplify the implementation of Remediation Plans by using a policy support loan, rather than an investment loan, as the Bank's financing instrument. The benefit of this instrument was its greater flexibility and lower supervision cost, but this came at the expense of less control by Government over the implementation of the plans. Completing the remediation activities was also too dependent on the goodwill of the enterprises themselves. While the choice of a policy support operation was reasonable, it should have been accompanied by better monitoring and enforcement, perhaps with stronger incentives and/or sanctions, to ensure that the new owners completed their Remediation and Compliance Plans.

EPSAL's tranche release conditionality called for "satisfactory progress" on performance indicators in the implementation of Remediation Plans and Compliance Plans – not just the completion of those plans. However, even though the EPSAL closed more than five years ago, only three of the six enterprises covered under the project have completed their Remediation Plans, and only two of these show improvements in all or most of their environmental performance indicators. The policy and regulatory reforms supported by the EPSAL were largely met, and Bulgarian environmental legislation has been harmonized with EU requirements. However, as is the case in some other EU accession countries, the harmonization of environmental practices (implementation and compliance) has lagged behind the adoption of legislation. On balance, the outcome of the EPSAL was satisfactory. The risk to development outcome is moderate. The policy and institutional reforms supported by the EPSAL are likely to be sustained, but implementation and enforcement need to be strengthened.

Bank Performance in the EPSAL was satisfactory, while Borrower Performance was rated moderately satisfactory. The Ministry of Finance was the lead agency

responsible for overseeing EPSAL implementation and the Ministry of Environment and Water was responsible for technical oversight of individual projects. According to mission interviews, in contrast to good performance during the ERPP, the performance in the EPSAL was slower. It was also reported that the responsibilities of the Oversight Committee were unclear, and some members were unqualified. As a result, progress in implementing the Remediation Plans and Compliance Plans was mainly dependent on the motivation and goodwill of the respective companies rather than on the threat of serious sanctions by the Government. This was compounded by the persistent lack of capacity in the Regional Environmental Inspectorates. In contrast to these observations the interviewees praised the Ministry of Finance for ensuring that projected amounts needed for implementation of the Remediation Plans were appropriated in the budget.

The quality of the monitoring and evaluation systems in both projects was substantial. Performance indicators for the ERPP were adequate to measure the achievement of the three objectives, although more indicators could have been identified to measure the concentration of pollutants in soil and water, and the risks posed to nearby communities. Similarly, the EPSAL did a good job of designing and implementing a monitoring system for remediation and compliance plans, but too little attention was paid to measuring environmental quality and no effort was made to link environmental quality to health indicators of local populations.

Several findings of this PPAR are relevant to IEG's ongoing evaluation of the WBG's safeguard and sustainability policies: (i) The difficulties encountered in choosing an environmental assessment (EA) classification for the EPSAL suggest that the EA classification criteria are not relevant to all types of projects; (ii) While a development policy loan (DPL) may be more flexible than an investment loan to support environmental remediation projects, DPLs need to build in better monitoring and enforcement mechanisms to compensate for less detailed Bank and Government control over safeguards and environmental compliance; (iii) The achievement of environmental outcomes is more elusive than the achievement of intermediate outcomes such as policy and institutional reforms. This calls for a stronger focus on environmental results, along with performance indicators to measure their achievement.

The experience of the ERPP and EPSAL suggests the following lessons for future projects that attempt to address past environmental damage and improve environmental performance in the process of privatization.

- A development policy loan supporting privatization with environmental remediation should include strong measures by the Government to monitor and reward compliance (or punish non-compliance) to ensure that remediation and compliance plans are completed on schedule. In the EPSAL, even though all of the policy conditions were met and the remediation and compliance plans were signed,

the achievements in terms of implementation of the plans, along with their environmental results, were mixed. Over-reliance on the goodwill of the enterprises themselves was a risky strategy, as changes in ownership, management, and financial performance stalled progress on remediation and compliance.

- Even in well-prepared EIAs, it is difficult to include sufficient detail in the technical specifications of remediation investments. Modifications in design and re-negotiations during implementation should be anticipated, and possibly reflected in a longer project implementation period and higher than normal contingency funds.
- Even when the State assumes responsibility for remediating past environmental damages of state-owned enterprises, setting a cap on the State's liability creates risk for potential investors and delays during re-negotiations. The possibility of letting the State assume more of the risk for additional remediation costs should be considered.
- Harmonizing country environmental legislation with international best practice is a necessary but not sufficient condition for improved environmental performance. In development policy lending for environmental protection, more attention needs to be paid to improving the country's implementation practices, track record, and capacity in environmental regulation. This is likely to require carefully targeted technical assistance to build the capacity of national and sub-national environmental authorities. A parallel technical assistance loan, or a well-coordinated program of technical assistance funded by other donors, should be considered.

Vinod Thomas
Director-General
Evaluation

1. Background

Privatization and Environmental Liabilities

1.1 At the time the ERPP and EPSAL were prepared in the late 1990s, Bulgaria was a transition economy undergoing rapid economic, political, and institutional changes. The country had just completed an ambitious macroeconomic stabilization program and had made progress with the privatization of both small-scale and large-scale state-owned enterprises (SOEs). The Government's privatization program, which was the responsibility of the Privatization Agency (PA), involved the sale of controlling stakes to strategic investors. The divestiture of SOEs in sectors other than energy, transport, and infrastructure was slated to be completed by March 2001.

1.2 There were serious environmental problems in localized industrial "hot spots" that posed significant risks to human health. It was recognized that uncertainties about liabilities for past environmental damage and about standards for future environmental performance could increase the risk for potential investors, hinder the privatization process, reduce privatization revenues, and leave serious environmental problems unresolved.

1.3 Although the State was legally liable for past environmental damages, there was not enough information on the magnitude of the damages and required measures to address them. In the absence of detailed environmental audits, prospective buyers would require large discounts, and it would be impossible to separate pre- and post-privatization damages. There was a risk of extensive litigation and claims for compensation to sort out responsibilities. The mining, metallurgy, chemicals, oil refining, and petrochemicals industries were particularly at risk.

1.4 The World Bank/OECD Environmental Action Programme for Central and Eastern Europe concluded that uncertainty about responsibility for past environmental damage was a significant deterrent to foreign investment, especially in heavy industries. A survey of large North American and European corporations found that companies that had made or considered investments in the region rated environmental risks on a par with exchange rate risks and political risks.² The report called for establishing responsibility for past environmental problems before privatization, when property relationships were still simple. This would require (i) clear legal rules defining how costs would be allocated; (ii) technical information on the extent of pre-existing contamination and the potential costs of rectifying the damage; and (iii) an administrative decision about what remedial action was required.

1.5 In 1997, the Government sold a majority ownership of the MDK Copper Smelter to the Belgian firm Union Minière.³ At the time of the sale, MDK was violating

² "Environmental Action Programme for Central and Eastern Europe: Setting Priorities." World Bank and OECD, May 1998.

³ "MDK" became "MDK-Union Minière" upon privatization and in 2002 was renamed "UMICOR". For simplicity, the term "MDK" is used throughout this report to refer to the enterprise..

environmental standards and had significant environmental liabilities. One of these problems was the so-called “blue lagoon” that had been used to store semi-liquid wastes from the acid plant, and thus was heavily contaminated with arsenic and other heavy metals. The lagoon was both full and leaking, posing a serious threat of an overflow or break of the dam which would cause the wastes in the lagoon to discharge into rivers that flowed directly into the Topolnitsa reservoir, the main source of drinking water for Plovdiv and other large towns in the Maritsa Valley. The privatization of MDK was the first case in which environmental issues were seen as critically important by both the buyer and by the Government.

Environmental Policy

1.6 In 1991, Bulgaria adopted an Environmental Protection Act, which revised the system of standards; introduced the principles of pollution prevention and the integration of environmental protection with other areas of national policy; legalized the "polluter pays principle"; provided access to the public on ecological information; and mandated environmental assessment (EA) procedures and requirements for all projects with potentially significant impact on the environment.

1.7 EA procedures were further specified by a Regulation No. 4 of 1995 on Environmental Impact Assessments (EIAs), and gradually refined and adjusted to adopt Western practices, especially concerning requirements for public consultation and disclosure. The legislation also established a more efficient division of responsibilities between the institutions engaged in environmental protection (the Ministry of Environment and Water (MOEW), the Regional Environmental Inspectorates (REIs), and municipal authorities).

1.8 In 1993, Bulgaria signed an Association Agreement with the EU, establishing a framework for economic and political cooperation in a number of areas including the environment. Under the Agreement, the Government was committed to harmonize its laws, regulations, standards, norms, and methodologies with those of the EU. One of the most substantial tasks was to implement the provisions of the EU Integrated Pollution Prevention and Control (IPPC) Directive, which shifted from media-based regulation – covering, for example, specific emissions to air or water -- to an integrated approach focusing on the overall impact of an industrial plant on the environment.⁴

1.9 A 1998 resolution required SOEs to carry out an EIA, including an assessment of environmental damage caused before privatization. In cases where the EIA identifies significant risks to human health and ecosystems, a Framework Remediation Plan for

⁴ EU Council Directive 96/61 on Integrated Pollution Prevention and Control is one of the EU Directives governing control on industrial emissions and waste, and is the key driver for environmental performance in the industrial sector. The goal of the Directive is to achieve integrated prevention and control of pollution arising from a wide range of activities by means of measures to prevent, or where not practicable, to reduce emissions from industrial facilities to air, water, and land, including measures to achieve a higher level of environmental protection as a whole. All activities covered by the Directive require a permit, which must include emission limits based on Best Available Techniques (BATs), taking into consideration the potential for transfer of pollution from one medium to another.

Past Environmental Damages (“Remediation Plan”, or RP) is prepared. The EIA and RP are subject to public consultations. The EIA also proposes a plan to bring the enterprise into compliance with relevant emission standards. This Compliance Plan (CP) implies a program of environmental investments for cleaner technologies and waste reduction measures that would gradually bring the company’s environmental performance in compliance. For a company under privatization that is out of compliance, the CP determines specific temporary norms and standards along with a time-bound program of investments to upgrade environmental performance to meet Bulgarian and/or EU emission requirements.

Motivation for the PPAR

1.10 The ERPP piloted a method of valuing environmental liabilities and incorporating a remediation plan into privatization contracts, assigning responsibilities for implementation and monitoring of compliance with the remediation plans as well as for compliance with environmental regulations in ongoing operations. This privatization/remediation method was then extended by the EPSAL to a larger group of firms. The EPSAL was one of the first and very few policy support loans (or Development Policy Loans – DPLs) used specifically to support environmental protection. IEG’s recent evaluation of the Bank Group’s environmental assistance⁵ found that the environmental outcomes (as opposed to intermediate policy and institutional outcomes) of environmentally-oriented DPLs have been mixed, so that there is a need to carefully monitor and evaluate them from this perspective. Finally, this IEG cluster evaluation of the ERPP and EPSAL provides an opportunity to examine how a pilot investment project and a follow-on DPL can be used both individually and in combination to achieve the same environmental objectives.

2. Objectives and Design

ERPP

2.1 The objectives of the project as stated in the Project Appraisal Document (PAD) were to support the Government of Bulgaria in:

- reducing environmental hazards caused by past pollution and unsafe environmental management practices at MDK Copper Smelter.
- facilitating private investments in the company.
- contributing to improvements in the environmental performance of the plant.

2.2 The Project's main environmental benefits were expected to be (i) prevention of an accident threatening the contamination of drinking water supply in the Plovdiv area;

⁵ IEG, *Environmental Sustainability: An Evaluation of World Bank Group Support* (2008).

(ii) improved environmental quality and reduced present and future health risks of workers and population in the neighborhood of the plant due to the agreed clean-up of critical environmental hazards and improvements in the environment performance of the plant under private management; and (iii) prevention of further contamination of groundwater resources.

2.3 The main beneficiaries of the Project were to be the employees, populations and future generations living in the vicinity of the plant and the larger Plovdiv area. The PAD made it clear that the Project was intended not only to facilitate privatization, but also to encourage additional investments in MDK that would improve both the environmental and financial performance of the company.

2.4 The project was intended to lead to a follow-up operation, the EPSAL, which would establish a mechanism to systematically address environmental remediation and compliance issues in connection with privatization, without the Bank's direct involvement in each individual case.

2.5 The ERPP had two components:

A. Emergency Remediation Program. This component was designed to respond to the critical problem of the “blue lagoon” by (i) stabilizing the dam of the lagoon to prevent accidents before the lagoon is permanently closed; (ii) modifying the effluent treatment mechanisms and solid disposal; and (iii) establishing temporary solid waste storage lagoons. Component A was financed by the National Trust Eco Fund (NTEF).⁶

B. Remediation of past environmental damages. This component was designed to address a range of environmental problems caused by past operations of the plant to mitigate threats to the health of workers and populations surrounding the plant, and the contamination of groundwater. It focused on (i) disposing solid waste, soil, and materials contaminated by historic pollution; (ii) providing a permanent solution to the existing sludge settling pond; (iii) ameliorating the fayalite slag tailings storage facility; (iv) reinforcing the residue storage area; and (v) rehabilitating the old slag dump.

2.6 The implementing agency of the ERPP was the company itself, MDK, based on an implementation agreement between MOEW and MDK. A Project Oversight Committee (OC), under the leadership of MOEW, oversaw project implementation and provided guidance. Representatives of the Ministries of Industry, Finance, and the Privatization Agency were regular members of the OC. The NTEF was the Project Coordinating Agent, and among other things was to ensure that agreed technical, procurement, and other requirements were adhered to by MDK. Disbursements from the

⁶ The National Trust Eco Fund is an independent institution supported by the Government of Bulgaria. It was established in October, 1995 through the first Debt-for-Environment Agreement between the Government of the Swiss Confederation and the Government of the Republic of Bulgaria. The Fund contributes to the implementation of the Bulgarian Government environmental policies and the enforcement of its international commitments in this field.

Bank loan were to be made against MDK's expenditures to implement its remediation plan.

2.7 The cost of the ERPP was estimated at \$25 million, of which \$16 million would be financed by the Bank loan. The estimated and actual ERPP cost and financing is shown in Table 2.1. Differences between estimated and actual costs (especially with respect to fayalite tailing disposal, slag dump rehabilitation, and backfilling and re-vegetation) were due to the lack of some designs, changes in the sequencing of activities, changes in costs following more detailed designs and studies, and additional and unforeseen works.⁷

**Table 2.1: ERPP Cost and Financing
(US\$ million)**

Project Cost by Component

Component	Appraisal Estimate (US\$m)	Actual (US\$m)	Actual as % of Appraisal
A. Emergency Remediation Program	3.50	3.98	113.7
B. Remediation of Past Environmental Damages	16.80	20.50	122.0
Old Site Clean-up	7.40	8.47	114.5
Slime Pond	7.00	8.22	117.4
Fayalite Tailings Disposal	0.50	1.11	222.0
Residue Storage	0.70	0.92	131.4
Slag Dump Rehabilitation	1.20	0.79	65.8
Backfilling and Re-vegetation	0.00	0.99	
Total Baseline Cost	20.30	24.48	120.6
Physical Contingencies	4.20		
Price Contingencies	0.50		
Total Project Cost	25.00	24.48	97.9

Source: PAD for appraisal estimates; ICR for actuals

⁷ Borrower's ICR, para. 5.

Project Financing

	Appraisal Estimate	Actual	Actual as % of Appraisal
IBRD	16.00	16.00	100.0
NTEF	3.25	3.53	108.6
Government	5.75	4.95	86.1
Total	25.00	24.48	97.9

Source: PAD for appraisal estimates; ICR for actuals

2.8 The ERPP was classified as a Category A project for purposes of the Bank's EA safeguards. Although the project was expected to have net environmental benefits, the A category was appropriate because remediation activities included moving waste to new sites, and installing waste water treatment plants. The possible negative environmental impacts of these activities needed to be assessed in a full EIA. Consultations on the EIA were held with the local communities of Pirdop and Zlatitsa, environmental NGOs, academic institutions, private investors, and other stakeholders.

2.9 As a condition of effectiveness, MDK acquired land from the State that was needed for the remediation program (borrowing soil to cover the old slime point, the fayalite pond, and the slag tailings pond). No land acquisition from private owners or resettlement was required.

EPSAL

2.10 According to the PAD, the objective of the EPSAL was to achieve environmental improvements and to support the privatization of highly polluting enterprises by reforming environmental legislation, establishing a consistent framework for integrating environmental issues into privatization, and accelerating harmonization with EU environmental requirements and practices. The Government's approach and medium-term plan for environmental policy reform were described in its Letter of Sector Policy, attached as Annex 1 to the PAD.

2.11 The EPSAL aimed to extend the model of privatization and environmental remediation that was being piloted under ERPP, as well as to improve the overall environmental policy framework. The PAD recognized that the environmental policy reforms supported by the EPSAL were complementary to (and, in fact, driven by) the Government's efforts to harmonize policies with the EU in preparation for accession.

2.12 The enterprises to be included in the privatization/remediation program were included in a priority list that was sent by the Government to the Bank in June 1997. A total of six of these enterprises were to be supported by the EPSAL; three were named in the PAD, and the other three were to be identified during project implementation.

2.13 As was the case with ERPP, SOEs in the process of privatization were required to carry out an EIA, including an assessment of environmental damage caused before

privatization. The firms prepared RPs, including cost estimates and timetables, to be included in Execution Agreements between the Government and the investors that formed part of the Sales Purchase Agreements. The agreements provided for implementation as well as funding for the RPs, but specified a cap on the total remediation cost to be covered by the Government. The Sales Purchase Agreements also contained CPs, which contained targets and timetables for bringing the enterprise's current operations into compliance with relevant emission standards.

2.14 The components (conditions) of the EPSAL were:

A. Policy and regulatory reform

- Exemption of investors from liabilities for past environmental damage: amendments to the Environmental Protection Law and the Privatization Law to confirm that the State retains legal responsibility for environmental pollution resulting from past action or non-action.
- Clarification of procedures for addressing State liability: amendments to the Environmental Protection Law and the Privatization Law clarifying basic principles (e.g. the protection of health and ecosystems from unacceptable risks), procedures for determining damages (e.g. methodologies for assessing the magnitude of damage, risks, and remedial actions including in areas surrounding industrial plants), and financial mechanisms in relation to state liabilities (e.g., financial sources for compensating contaminated land owners or re-cultivating agricultural land).
- Subterranean Resources Act: a new act recently approved by Parliament, and subsidiary legislation to be developed, to address ownership rights of subterranean resources and determine responsibilities and arrangements for addressing off-site liabilities and liabilities emerging after the sale of enterprises.
- Water Act: new legislation approved by Parliament in 1999, establishing a comprehensive legal framework for environmentally and economically sustainable use of water resources based on the river basin management principle.

B. Framework for integrating environmental liabilities into privatization

- Environmental Impact Assessments: introduction of systematic auditing and EIA requirements for all major industrial enterprises prior to privatization, including requirements for public consultation and discussion.
- Risk assessment methodology: adoption by MOEW of a methodology to assess the risks of past environmental damage as part of the EIAs for enterprises being privatized.

- Remediation Plans: adoption of methodologies for preparing RPs and their cost estimates, relying on cost-effectiveness principles and considering various alternatives such as containment and monitoring as well as clean-up measures.
- Execution Agreements: the inclusion of Execution Agreements – legally binding arrangements between the new owner and the State to implement and fund the RPs – in the Sales Purchase Agreements between the Government and the investors.

C. Framework for improving ongoing environmental performance and harmonizing with EU environmental requirements

- Integrated Pollution Prevention and Control: a pilot phase and timetable for implementing the EU IPPC Directive,. The guidelines of the IPPC Directive would be clearly agreed in the Compliance Plans (see below), which would also form a part of the privatization contract.
- Environmental Compliance Plans: plans specifying temporary norms and standards that would apply to privatized enterprises during the transition period until regular standards could be achieved.

2.15 In addition to the above conditions, satisfactory macroeconomic performance, including continued compliance under the Extended Agreement with the IMF and with structural reforms supported by other Bank operations (a Programmatic Adjustment Loan, and the First and Second Financial and Enterprise Sector Adjustment Loans), was a condition of all three tranche releases.

2.16 Since the EPSAL was prepared at the same time that ERPP was starting to be implemented, it was not possible to incorporate lessons learned from the pilot into the EPSAL design. However, it was clear even when ERPP was prepared that the management of environmental issues in privatization would benefit from development of the overall environmental policy framework, procedures, regulations, and institutional capacity that would apply during and after privatization.

2.17 In contrast to the ERPP, the EPSAL was designed as a sector policy support loan. The loan provided budgetary support to the Government for (i) additional expenditures associated with remediation of and compensation for past environmental damages, and (ii) potential losses of privatization revenues brought about by the accelerated implementation of stricter environmental regulations. The loan proceeds were placed in an escrow account for remediation expenditures, which also gave new owners the security that the Government would meet its responsibilities.

2.18 The loan was to be disbursed in three tranches upon satisfaction of tranche conditions (see Annex C). The first two tranches were approximately equal in size: the first tranche was €14.850 million plus the front-end fee of €0.495 million that was paid to the Bank and the second tranche was €14.840 million. The third tranche was larger, at €19.315 million. This backloading of disbursements acknowledged the fact that all of the first-tranche conditions had already been met before Board presentation, and that the most difficult achievements involving the largest amount of budgetary resources were

conditions of the final tranche release (satisfactory progress in the implementation of RPs and CPs, issuance of IPPCs to at least 80 percent of large enterprises).

2.19 EPSAL was assigned to Category FI for EA. According to OP 4.01 dated January 1999, "A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in sub-projects that may result in adverse environmental impacts", where "financial intermediary" meets the definition in OP 8.30; i.e., an entity that assumes credit risk. Since the Government does not meet that definition, the EPSAL would appear to have been mis-classified. In response to an IEG request to clarify the reasons for this choice, the Region responded that the FI category was appropriate because the Government committed to carry out investments to deal with environmental liabilities. However, the decision to avoid a Category A assignment was probably driven by another reason: not all enterprises that would participate in the privatization/remediation program had been identified before Board presentation, so the required sub-project EIA work for a Category A project could not have been done.

3. Implementation

ERPP

3.1 The loan was approved on May 12, 1998 and became effective on December 1, 1998. The project closed on December 31, 2002 as scheduled, and the entire \$16 million IBRD loan was disbursed.

3.2 Preparation of the ERPP was initiated in parallel with the start of the privatization of MDK and became part of the privatization deal. A preliminary site assessment (environmental audit) was conducted, along with an EIA which included an RP.⁸ The EIA attempted to determine (i) the extent of environmental damage of past operations; (ii) the current status of environmental conditions and performance of MDK; and (iii) alternative measures and costs of addressing environmental issues of past, ongoing and future operations of the plant. The work was commissioned by MDK and complied both with the requirements of Bulgarian law and the Bank's environmental assessment (EA) safeguard policy.

3.3 The EIA was reviewed by an independent consultant appointed by the Bank.⁹ The review found that the report was generally of good quality but that detailed information was lacking, making it difficult to evaluate the proposed remediation measures. This had implications for the ERPP's efficiency during implementation (see para. 5.12). For example:

⁸ Hatch Associates, "Environmental Impact Assessment of the MDK Smelter" (1997)

⁹ Solbu, Eric; POVVIK EP Ltd.; and ET Ecosystem, "Review of the Past Environmental Damage Remediation Plan for the MDK Pirdop Copper Smelter" (1997)

- The individual sources of sulfur dioxide and dust were not stated, making it difficult to assess the improvements achieved by specific measures taken at each source.
- The EIA did not contain descriptions of the individual uses of cooling and other waters, and of the waste-waters generated in these uses.
- The description of the small streams through the area and the influents to them should have been better. Since the streams passed through contaminated areas, they were likely to be polluted.
- The descriptions of the present situation and expected improvements in surface and rain water should have been more detailed.
- Information on solid waste that would be generated during demolition of abandoned buildings and equipment was lacking, making it difficult to evaluate remediation plans.

3.4 The review also noted a lack of quantitative information on expected improvements on the smelter site and surrounding areas once the EIA's recommendations were implemented, as well as the lack of a long-term program for following up on environmental issues in the future. However, the review accepted the proposed plans for remediation "to a great extent".

3.5 Based on the estimated cost of the RP, part of the sale price for MDK was placed in an escrow account to be withdrawn to fund the remediation program. The RP was to be implemented by MDK according to the requirements set out in the Sales Purchase Agreement between the Privatization Agency and MDK.

3.6 Implementation did not start until about eight to ten months after effectiveness. Land acquisition, site access, and permitting procedures impeded progress in dealing with the fayalite disposal site rehabilitation program. These were compounded by problems with institutional coordination early in the project. Later, further delays were caused by a change in government in 2000 and management changes in the Privatization Agency.

3.7 There also were delays in physical works and contractor payments. Some of the delays were caused by weather conditions during winter months, although these should have been anticipated at project appraisal. In addition, time was needed to define specific remediation technologies after in-depth analysis of the sludge and soil could be performed.

3.8 Procurement delays were common during the first year of implementation, not unexpectedly since the implementing agency (MDK) was a private sector entity and was not familiar with Bank procurement procedures. Supervision documents noted that the procurement of the second component of the project had been held up largely due to MDK's failure to prepare technical designs, specifications, bills of quantities etc. By November 1999, however, the procurement problems seemed to have been sorted out. In addition, there were complaints that the OC procedures were too lengthy.

3.9 By the end of the year 2000, however, implementation and disbursements were in line with projections. The environmental performance of MDK had improved: air and water emissions had decreased significantly, although certain pollutants, such as dust and sulfur dioxide in air emissions and arsenic in liquid effluents, exceeded the temporary allowable concentrations established in the EIA.

3.10 According to interviews conducted during the IEG mission, steady progress on the remediation measures was due in large part to MDK's full commitment to the project. NTEF also played an important role as an intermediary between MDK and the Government. This helped get decisions made when problems arose, and contributed to successful implementation of the project.

3.11 By project closing, the supervision document noted that project activities had been "largely" and "successfully" completed, and that an after-care program for remediated sites was being finalized. The after-care program involved continued maintenance, monitoring, and emergency plans for the remediated sites. Funds for implementation of the program were set aside in the escrow account to be made available to MDK for up to five years, the period of the Government's responsibilities for the historical pollution.

EPSAL

3.12 Preparation of the EPSAL began even before ERPP became effective in October 1998. The €49.5 million loan was approved on February 24, 2000 and became effective on April 21, 2000, and the first tranche was disbursed shortly thereafter. Release of the second and third tranches was delayed by ten months and five months, respectively, due to delayed compliance with the RPs of two companies. As a result of the delayed tranche releases, the project closed five months later than scheduled (on December 31, 2003), and was fully disbursed.

3.13 All actions required for legal and regulatory conditions, as well as the institutional mechanisms for managing and overseeing the program, were implemented before Board presentation. This meant that the first tranche was largely a recognition of the Government's previous accomplishments in legislative and policy reforms. This is a common characteristic of policy support lending: DPLs are intended to support programs that are fully owned by the Government, and Bank financing is provided after the program actions have been taken.

3.14 Project implementation began with the approval of EIAs and Execution Agreements (including RPs and CPs) for the three enterprises identified in the PAD: Assarel Medet (copper mine), Lukoil-Neftochim (petroleum refinery/petroleum products), and Kremikovtzi (steel works). The signature of Sales Purchase Agreements, including the Execution Agreements, was a condition of first tranche release. By December 2000, three more Sales Purchase Agreements had been signed for the second set of firms: Neochim (chemicals), Agropolychim (fertilizers), and Sopharma (pharmaceuticals). The signing of Execution Agreements for these firms was a condition of the second tranche release.

3.15 All conditions for second tranche release were met, including satisfactory progress in implementing the RPs and CPs for the first set of enterprises and signature of Sales Purchase Agreements with the second set. Nevertheless, the commitment of the enterprises to their obligations under the Execution Agreements varied, and delays began to accumulate. Other delays were caused by administrative procedures for approval of access to land or acquisition of land for waste disposal.

3.16 One enterprise, Agropolychim, refused to manage its RP, and the Government turned over responsibility to a third party, a specialized remediation contractor. Third-party contracting was allowed, with Government approval, under the regulations governing the remediation of past environmental damage. Agropolychim's decision to implement only its CP arose because it faced a significant financial burden from assumed SOE debts, and the company feared that it might be held responsible for unforeseen expenses. The implementation of this arrangement was not altogether smooth, however, as the new owner of Agropolychim was said to have impeded progress on remediation activities during the early part of the implementation period.

3.17 The Government met all conditions for third tranche release except two: satisfactory progress in implementing the Remediation and Compliance Plans for all six enterprises, and contracting of the activities to carry out these plans. The lack of progress was mainly due to two firms, Kremikovtzi and Lukoil-Neftochim. The ICR cites the following reasons for the failure of the two companies to fully implement their plans: (i) lack of clarity over the applicability of the Public Procurement Law for procuring services for feasibility studies and detailed engineering designs; (ii) disputes over advance payments for studies and designs; (iii) disputes over enterprise liability for completion of the agreed RP in cases when actual remediation costs significantly exceeded the cost caps in the Execution Agreements; (iv) perceived inter-linkages between the RP and compliance measures; and (v) lack of corporate commitment to finance upfront costly elements of the CP.

3.18 Although the failure on the part of some enterprises to fully implement their RPs and CPs meant that two conditions were only partially met, the Bank decided to release the third tranche. The justification was that the remediation expenditures to date (68.5 percent of the total for the EPSAL) were close to the third tranche target (70 percent), and that there had been satisfactory progress on meeting the policy conditions.

3.19 Satisfactory macroeconomic performance was maintained throughout EPSAL implementation. Real GDP growth averaged 4 to 5 percent, fiscal performance was even better than expected, and the external balance improved substantially. Both the Bank and the IMF found the country's structural reforms to be on track.

4. Monitoring and Evaluation

ERPP

4.1 Performance indicators were defined at appraisal for related CAS objectives and for project objectives. Indicators and targets are shown in Table 4.1.

Table 4.1: ERPP Performance Indicators and Targets

CAS Objectives	
Improvement in the quality of the environment in the Pirdop-Zlatitsa area	<ul style="list-style-type: none"> • Reduction of heavy metals in the surface water and soil: the arsenic content in the Topolnitsa River (at the point after the inflow of the Pirdopska and Zlatishka Rivers) should comply with standards for a 3rd category water intake • Maximum concentrations of particulates and SO₂ should not exceed 1996 levels, and after the third year will meet Bulgarian ambient standards
Facilitating private sector development and structural reforms	<ul style="list-style-type: none"> • New capital investments and improved economic performance at MDK-UM
Project Development Objectives	
Reduction of environmental hazards caused by past pollution at MDK	<ul style="list-style-type: none"> • No accidental spill will occur from the old slime pond
Contribution to improvements in the environmental performance of the plant	<ul style="list-style-type: none"> • Reduction in the discharges of heavy metals and other pollutants into surface water: arsenic concentration will not exceed 1.5 mg/l daily average during the first three years of the project, and 0.5 mg/l daily (0.1 mg/l annual) average thereafter beyond the water treatment plant • Groundwater quality will be at least maintained • Compliance with MOEW's Resolution on EIA and environmental performance requirements

Source: ERPP PAD Annex 1.

4.2 The design, implementation, and utilization of the M&E system were *substantial*. Performance indicators generally were adequate to measure the achievement of the three objectives. However, with respect to the objective of reducing environmental hazards caused by past pollution at MDK, more indicators could have been identified to measure the concentration of pollutants in soil and water, and the risks posed to nearby communities. During project implementation, the Bank task team recommended that some evaluation of hospital records, particularly of the MDK company clinic, be

undertaken to monitor trends in incidence of respiratory illnesses and complaints. However, this was not done.

4.3 MDK provided monthly reports on its environmental performance to the Regional Environmental Inspectorate as well as semi-annual reports on its compliance with the Project Implementation Plan. According to supervision aide memoires, these reports were submitted as required. The communities of Pirdop and Zlatitsa were able to access real time data on air emissions through a public dissemination system.

EPSAL

4.4 According to the PAD, the following indicators were to be applied to monitor performance:

- Number and cost of implementing Remediation Plans and Compliance Plans agreed between new owners of the privatized enterprises and the Government according to principles and procedures acceptable to the Bank.
- Satisfactory execution of RPs according to stages of works agreed in time-bound Execution Agreements and agreed environmental performance indicators.
- Compliance with water and air emissions requirements specified for each enterprise in the CPs.
- Agreed measurable improvements in environmental quality indicators of plants agreed under the RPs and CPs.
- The number of enterprises for which integrated pilot environmental permits were issued according to EU 1996 Directive on IPPC.

4.5 The design and implementation of the monitoring system for remediation and compliance plans were *substantial*, but too little attention was paid to monitoring environmental quality and no effort was made to link environmental quality to health indicators of local populations. Also, since MOEW does not monitor groundwater quality, these indicators were not included in their reports. Thus, the utilization of the M&E system was only *modest*. Finally, there was no plan for an impact evaluation to be conducted at project completion.

5. Ratings: ERPP

Relevance

5.1 ERPP's objectives were *highly* relevant. They were consistent with the 1998 Country Assistance Strategy (CAS), in which private sector development and protecting the environment were main elements of the strategy. The CAS called for accelerating the

divestiture of state-owned enterprises, with an emphasis on sales to strategic investors. To avoid a deterioration in environmental conditions as economic growth accelerated, the CAS called for measures to ensure that environmental issues were addressed adequately in privatizing the large polluting enterprises included in the privatization program. By the time the 2008 Country Partnership Strategy (CPS) was prepared, most non-infrastructure SOEs had been privatized, and environmental issues assumed lower priority. The 2008 CPS concentrated on raising productivity and employment, improving fiscal sustainability and absorption of EU funds, and social inclusion.¹⁰ Environmental protection continues to be a Government priority, but it is to be supported by EU funds.

5.2 The project was based on previous analytical work that prioritized environmental problems in Bulgaria. An Environmental Strategy Study (FY93) and a Follow-Up Study (FY95) identified five priority areas for Bank assistance, including reducing emissions of lead and other heavy metals from metallurgy plants, and minimizing contamination of drinking water and food supplies by heavy metals and toxic organic compounds. The Pirdop-Zlatitsa area (the location of MDK) was identified as a priority region. The reports also recommended improvements in the environmental management of future operations of industrial enterprises.¹¹

5.3 The relevance of ERPP's design also was *high*. The design of the ERPP was to be a model for handling environmental legacy issues in privatization – both for future privatizations in Bulgaria, and in other countries. A 2003 study of environmental liabilities in privatizations in Central Europe seems to validate the ERPP model, at least in terms of information provision and remediation planning.¹² The study notes that foreign investors understandably are concerned about acquiring environmental liabilities; half of a sample of North American and Western European firms surveyed reported that they had rejected potential investments in Central Europe partly on environmental grounds. Yet in the countries studied (Hungary, Lithuania, Poland, Romania, and the Slovak Republic), information on site contamination was not often provided by governments to potential investors. And although indemnification was often advocated as a useful risk reduction tool, in only a few cases did privatization agencies do anything but pass 100 percent of environmental liabilities to new owners. Investors were left on their own to find out about any site contamination problems and to negotiate with privatization agencies as best they could.

5.4 The study indicated that providing information to potential investors on past environmental damage resulted in higher privatization prices, and the impact was even greater when the information was combined with site remediation planning. The combination of environmental information and site remediation plans also was associated with more rapid privatization. Moreover, environmental audits and remediation planning dramatically increased the chance that remediation actually occurred.

¹⁰ Bulgaria Country Partnership Strategy, May 16, 2006.

¹¹ "Bulgaria Environmental Strategy Study Update and Follow-Up", Report No. 13493BUL, December 30, 1994.

¹² Bluffstone, Randall and Theodore Panayotou, "Does the Treatment of Environmental Liability during Privatization Really Matter? An Empirical Evaluation in Central Europe." Country Environmental Analysis Publication, World Bank, December 2003.

Efficacy

Objective 1: Reduce environmental hazards caused by past pollution and unsafe environmental management practices at MDK: *highly achieved.*

5.5 The single performance target defined in the PAD for this objective was achieved: there were no accidental spills from the old slime pond. The slime pond was closed and a monitoring system of surface and ground water is in place.

5.6 All elements of the emergency remediation program were concluded, and the clean-up of past environmental damage concluded with closure and consolidation of the slime pond, clean-up of old toxic waste and debris, and removal of contaminated material from the site.

5.7 There is other evidence showing that environmental hazards have been reduced:

- Discharges of toxic metal leachate from the sludge tailings pond have been eliminated, resulting in a reduction in toxic metal levels of adjacent surface waters. Water in the Topolnitsa River is in compliance with Class 3 surface water standards.
- Sources of groundwater contamination with heavy toxic metals and other inorganic pollutants have been reduced or eliminated.
- Soil contamination at the MDK site has been reduced or eliminated, resulting in a reduction of the heavy metal content of soils.
- Toxic residue from the waste water treatment plant was safely stored.
- The encapsulation and re-vegetation of the “blue lagoon” was completed.

Objective 2: Facilitating private investments in the company: *substantially achieved.*

5.8 According to interviews with MDK management, over \$100 million has been invested since privatization to bring the plant into environmental compliance and to improve productivity. No information was available on the share of investment dedicated to environmental management versus productivity enhancement, although it is not always possible to separate the two. While not all of the investments are attributable to the ERPP, it is likely that the RPs and CPs contributed to MDK’s decisions to invest.

Objective 3: Contributing to improvements in the environmental performance of the plant: *highly achieved.*

5.9 Evidence collected during the PPAR mission indicates that MDK is currently in compliance with Bulgarian environmental legislation.

- With respect to air pollution, the maximum ambient concentrations of particulates and sulfur dioxide are equal to or better than 1996 values and in compliance with Bulgarian standards. Emissions from the 120-meter and 326-meter stacks are in full compliance.
- With respect to water pollution, discharges of heavy metals and other pollutants into surface water are in compliance with Bulgarian standards.

5.10 According to a Project Beneficiary Survey conducted in late 2002, environmental conditions in Pirdop and Zlatitsa improved during the project period. The majority of respondents said that air quality in particular had improved significantly since 1998. Local populations were better informed about environmental conditions as a result of the on-line environmental monitoring boards installed by MDK in the two municipalities. However, respondents complained that local people had limited voice over municipal decisions about environmental issues.

Efficiency

5.11 Project efficiency was *modest*. On the positive side, interviews conducted during the mission suggested that the remediation measures in the EIA were cost effective, and represented best practice even by today's standards. More extensive measures to remediate contaminated soils, for example by excavating and moving them to other sites or incinerating them, were not practical even for smaller sites.

5.12 On the negative side, the fact that the RP was not sufficiently detailed caused implementation problems later on. Quantities of some pollutants turned out to be greater than expected. For example, the area and depth of contaminated soil were much larger than estimated in the EIA, so MDK and the coordinating agency (NTEF) had to re-negotiate some of the technical specifications of remediation measures. This led to implementation delays as well as higher costs for some sub-components.¹³

5.13 There were delays caused by the need to amend legislation and comply with new procedures. The ERPP's implementation schedule had been based only on the estimated time needed for physical works. Extra time also was needed for coordination with other Ministries (e.g., the Ministry of Forestry for activities on forested lands), and this had not been anticipated in the schedule. Finally, it was difficult for MDK to deal with the Bank's procurement requirements, and this also added to implementation delays. With NTEF's assistance, procurement became less of a problem as implementation proceeded,

5.14 Mission interviews indicated that both MOEW and MDK considered the implementation of ERPP to be "clumsy", and this led to the decision to simplify the design of the EPSAL.

¹³ Operational staff pointed out that it is unlikely that an EIA prepared before a detailed site remediation plan is completed could capture all possible impacts of construction, and that weaknesses in the EIA were addressed during project implementation.

Outcome

5.15 Based on high relevance, high achievement of two objectives and substantial achievement of the third, and modest efficiency, the outcome of the ERPP is rated *satisfactory*.

Risk to Development Outcome

5.16 The risk that the ERPP's outcome will not be sustained is *negligible/low*. The remediation measures have been completed, and an after-care program was established and continues to be implemented. MDK is in compliance with Bulgarian environmental regulations, and the company consistently has shown interest in maintaining its compliance record.

Bank Performance

5.17 The ERPP was not subjected to a QAG Quality at Entry (QAE) Assessment. This PPAR finds that QAE was *satisfactory*. On the positive side, the ERPP was grounded in analytical work and lessons learned from privatization and environmental remediation projects in other countries. The institutional arrangements for implementation and monitoring of the ERPP were well planned. The monitoring and evaluation system included relevant performance indicators as well as a system for monitoring implementation of the remediation plan. However, the independent review of the EIA for MDK found several weaknesses that should have been corrected. More detailed information in the EIA, and more realistic estimates of the time needed to complete remediation activities, could have reduced delays during implementation. For this reason, the PPAR rating on QAE is lower than the ICR Review's rating of highly satisfactory.

5.18 The quality of supervision was *highly satisfactory*. Bank supervision missions visited Bulgaria at least every six months and sometimes more frequently, and staff in the country office followed up between missions. Bank procurement procedures caused delays, but no more so than in many other projects. Those interviewed during the mission, including MDK management as well as government officials, praised Bank staff for solving problems and keeping the project on track.

5.19 Overall Bank Performance was *satisfactory*.

Borrower Performance

5.20 Government performance was *satisfactory*. The Government was committed to developing a method for dealing with environmental liabilities during privatization, and ensuring that the environmental management of new owners came into compliance with Bulgarian regulations. Interviews conducted during the mission found some complaints about communication between the Government and MDK, especially during the early part of implementation.

5.21 Implementing Agency Performance also was *satisfactory*. It took some time for working relationships to develop between the MOEW, the Project Coordination Team at NTEF, and MDK, but these improved over time. By the end of 2000, NTEF's performance had improved significantly, and coordination with MOEW had improved. Mission interviewees praised NTEF for its role in negotiating amendments to the remediation plan when needed.

5.22 Overall Borrower Performance was *satisfactory*. The ICR Review rated Borrower Performance highly satisfactory, based on the high level of competence and commitment of both the Government and the implementing agency. However, as noted above, the PPAR mission found evidence of problems with communication and coordination that justify a satisfactory rating instead.

6. Ratings: EPSAL

Relevance

6.1 The EPSAL's objectives were *highly* relevant. As with the ERPP, the EPSAL benefited from strong analytical work prior to project preparation. Appropriately, it reached beyond the goal of addressing environmental issues in privatization to address the broader policy and institutional framework for environmental regulation and compliance, consistent with EU accession requirements that Bulgaria needed to meet. It sought to improve and mainstream the methodology piloted in ERPP for resolving environmental liabilities in privatization and improving post-privatization environmental performance.

6.2 The relevance of project design was *substantial*. The policy conditionality in EPSAL was appropriate to support the harmonization of Bulgarian environmental legislation with EU requirements. However, the EPSAL aimed to accelerate the harmonization of both laws and *practices*. Compared to the project's support for the adoption of new laws and procedures, too little emphasis was placed on strengthening implementation and compliance. EPSAL's design might have benefited by a complementary technical assistance operation to build MOEW's capacity for monitoring and enforcement.

The EPSAL tried to simplify the implementation of RPs by using a sector policy support loan rather than an investment loan as the Bank financing instrument. The choice of this lending instrument was driven by the Bank's desire to increase flexibility, reduce supervision time and costs, and avoid procurement problems that plagued ERPP during its first year. Instead of disbursing against specific remediation expenditures, the loan disbursed against achievement of policy reforms, the signing of Execution Agreements, and satisfactory progress on RPs and CPs. The problem with this design was that, compared to the ERPP, the Government lost some control over the RPs and CPs, making it less likely that they would be completed. The Region noted that regular monitoring of the RPs under EPSAL was carried out during implementation and continued after release

of the third tranche. CPs were linked to the issuance of IPPCs, and sanctioning of enterprises for non-compliance followed the law of the land.

6.3 While the rationale for choosing a more flexible design was understandable, the achievement of EPSAL's environmental objectives would have been more likely if project design had included stronger monitoring along with firmer enforcement to ensure that new owners completed their RPs and CPs. The design also would have been strengthened by a greater focus on improving efficiency in MOEW. A parallel technical assistance loan might have addressed these institutional issues.

Efficacy

Objective 1: Achieve environmental improvements and support the privatization of highly polluting enterprises: *modestly achieved.*

6.4 The performance indicators defined in the PAD included (i) satisfactory execution of the RPs for privatized enterprises, (ii) compliance with water and air emissions requirements specified for each enterprise in the CPs, and (iii) improvements in the environmental quality indicators specified in these Plans.

6.5 Table 6.1 shows the status of implementation of RPs and CPs for each of the six enterprises financed under the EPSAL, based on information provided by MOEW during the IEG mission. Bearing in mind that the EPSAL closed more than five years ago, the RPs for only three of the six enterprises (Assarel Medet, Sopharma, and Neochim) have been completed. Of these three, two (Assarel Medet and Sopharma) show improvements in all or most of the environmental performance indicators in their CPs; the improvements in performance of Neochim are mixed.

6.6 The other three companies (Lukoil-Neftochim, Agropolychim, and Kremikovtzi) have not completed their RPs:

- Agropolychim has made the most progress of the three, completing three of its six planned tasks and spending 84 percent of the planned costs. During implementation, however, Agropolychim refused to implement its RP, so the Government appointed a contractor and is managing the implementation of the Plan.
- Lukoil has spent only 23 percent of its budgeted amount for remediation for seven of the fourteen tasks in the RP, and data on environmental performance is unavailable.

Table 6.1: Implementation Status of EPSAL Remediation and Compliance Plans

Enterprise	Approved funding for RP (euros)	Expenditures to date for RP (euros)	Status of Implementation of RP and CP
Assarel Medet (copper mine)	28,163,952	27,010,659	10 of total 11 tasks from the RP are completed and approved by the IMEC. The 11 th task is at finalization stage waiting for approval. Provided monitoring data on surface water and groundwater parameters for 2001 – 2008 shows significant improvement in most of the monitoring points and monitored parameters. The Company is currently in a procedure for issuance of IPPC permit. a/
Lukoil Neftochim Burgas (petroleum refinery/petroleum products)	87,501,120	19,859,066	7 of total 14 tasks from the RP are completed. The remaining 7 tasks are at various stages of completion. The report obtained from MOEW provides monitoring data on groundwater parameters (about 50 analytical certificates) only for 2008. No conclusions regarding the environmental trends are made in the report. The Company has IPPC permit.
Kremikovtzi (steel works)	28,367,193	122,982	RP includes 6 sites which are at the following stages: <ul style="list-style-type: none"> - two of the sites are subject to new assessments with regard to the construction requirements, after which their detailed designs will be reviewed again by IMEC; - Conceptual design is ready for one of the sites; - One of the sites is under preparation for implementation of the remediation measures; - one is completed; - for the last one five of the six implementation steps are completed; the last step has been stopped by IMEC. Provided monitoring data on surface water and groundwater parameters is only for 2004 and 2005. The conclusions stated in the report are: <ul style="list-style-type: none"> - The tar pits does not affect the groundwater quality; - In spite of the flow reduction to the slag pond with 260 m³/h, the concentration of the pollutants does not decrease.

Enterprise	Approved funding for RP (euros)	Expenditures to date for RP (euros)	Status of Implementation of RP and CP
Neochim (chemicals)	21,097,654	20,622,791	The Company is liable to obtain an IPPC permit, but due to various reasons it has not been issued yet. RP has been completed. The report provides monitoring data on surface water and groundwater parameters for 2002 – 2007. Monitoring data shows that the concentrations of some of the parameters decrease with time, but for some of the parameters an increase is observed. The Company has an IPPC permit.
Sopharma (pharmaceuticals)	8,329,169	1,959,466	RP has been completed. The report provides monitoring data on air, surface water and groundwater parameters for 2000 – 2005. Monitoring data shows improvement in almost all parameters. The Company is not liable to obtain an IPPC permit.
Agropolychim (fertilizers)	19,183,726	16,117,084	3 of the 6 sites included in the RP are completed. The remaining 3 are at various stages of implementation. The report does not provide environmental monitoring data. The Company has IPPC permit.

Funding expressed in BGN, including VAT.

RP - Remediation Plan.

CP – Compliance Plan.

IMEC – Inter-Ministerial Expert Council

MOEW – Ministry of Environment and Water

IPPC - Integrated Pollution Prevention and Control

a/ Based on information provided by MOEW during the IEG mission. In comments on the draft PPAR (see Annex B), the MOEW clarified that “The Company [Assarel Medet] is not liable to obtain an IPPC permit on the grounds of chapter seven ‘Prevention of industrial pollution’, section II, IPPC permits, of the Environment Protection Act (promulgated in State Gazette, issue 91/2002).”

- Kremikovtzi has implemented only one of its six tasks, and spent less than 0.5 percent of the budgeted amount for remediation. At present, Kremikovtzi is in bankruptcy proceedings, has ceased production, and continues to operate at only a minimum level while a sale is pursued.

Objective 2: Reforming environmental legislation: *highly achieved.*

6.7 Annex C shows the policy and regulatory reforms supported by the EPSAL. Some of these changes were necessary to clarify responsibilities for past environmental damage in privatization, while others (the Water Act and the Subterranean Resources Act) had wider application. The policy reforms supported by EPSAL were:

- Amendments to the Privatization Law and the Environmental Protection Law to clearly exempt the buyers of SOEs from liability for past environmental damage.
- Clarification of procedures and financing mechanisms for addressing State liability in privatizations.
- Parliamentary approval of the Water Act: The new Water Act established a comprehensive legal framework for environmentally and economically sustainable use of water resources based on river basin management principles.
- Parliamentary approval of the Subterranean Resources Act. Previous legislation of subterranean resources did not properly regulate the way past contamination was addressed at disposal sites and tailing ponds. The new law addresses ownership rights for extraction of subsurface waters and sets up administrative routines, and a permit process for exploration and mining or extraction including an assessment of the impact of these activities on the environment.

6.8 The Government's program of environmental policy and regulatory reforms was substantially driven by the requirements of EU accession. Under the association agreement with the EU signed in 1995, Bulgaria committed to bring its legislation into compliance with EU environmental laws and to establish a modern environmental management system.¹⁴ The Bank supported and accelerated the reform process by contributing analytical work and engaging in policy dialogue, as well as providing financial support through the EPSAL.

Objective 3: Establishing a consistent framework for integrating environmental issues into privatization: *substantially achieved.*

6.9 Most of the EPSAL conditions relating to this objective were met, but one was only partially met. The conditions were:

¹⁴ Magda Lovei and Bradford S. Gentry, "The Environmental Implications of Privatization: Lessons for Developing Countries." World Bank Discussion Paper No. 426 (2002), p. 55

- Adopt guidelines for the scope and content of past contamination damages (adopted before Board presentation, thus meeting the condition for first tranche release).
- Prepare and approve RPs and CPs for the first set of firms to be privatized (met as a condition of first tranche release) and the second set of firms to be privatized (met as a condition of second tranche release).
- Achieve satisfactory progress on the implementation of these RPs and CPs (partially met, see Objective 1 above).

6.10 During the mission, the MOEW reported that the Government considers EPSAL to have catalyzed the environmental remediation program beyond the scope of the EPSAL itself. Including MDK and the six enterprises assisted under the EPSAL, a total of 22 enterprises have used the project's model of environmental remediation during privatization.

6.11 However, the fact that three of the RPs supported by EPSAL have not yet been completed suggests that some modifications of the procedures are in order. In a sense, preparing and approving RPs and CPs is relatively easy as long as the required technical work has been done and all parties are in agreement. In contrast, the experience of the EPSAL suggests that achieving satisfactory progress on the implementation of the plans is more difficult. Interviews conducted during the IEG mission indicated that completion of the RPs was very dependent on the "goodwill" of the enterprises. Better monitoring and compliance enforcement, along with incentives or sanctions to motivate completion of the RPs, might have resulted in better environmental outcomes.

Objective 4: Accelerating harmonization with EU environmental requirements and practices: *modestly achieved.*

6.12 The measures supported by the EPSAL included:

- Develop (met for the first tranche) and pilot (met for the second tranche) IPPCs. and extend them to at least 80 percent of all large enterprises (met for the third tranche). In fact, the Government exceeded the target by extending IPPC implementation to other enterprises as well.
- Increase institutional capacity for post-privatization compliance by establishing and maintaining an inter-agency coordinating body (IMEC) to oversee implementation of the environmental and privatization program, including public consultation (met for first, second, and third tranche releases).

6.13 Although environmental laws and regulations have been largely harmonized with EU requirements, the harmonization of practices (implementation and compliance) has lagged behind. At the institutional level, IEG's 2002 Country Assistance Evaluation (CAE) for Bulgaria noted the fragmentation of environmental responsibilities among government agencies, and IEG mission interviews suggest that the situation has not changed significantly since the CAE was written. While water supply and sewerage are under the Ministry of Public Works, water resource management is under MOEW. And

even though agriculture is the biggest user of water, and water pollution levels remain high, the Ministry of Agriculture does not appear to coordinate with MOEW or other ministries. Within MOEW, although the capacity to formulate environmental policy and enforce legislation and taxation has improved since 1995, its capacity to analyze and evaluate results remains weak.¹⁵

6.14 Recently, a project in Bulgaria was considered as a pilot for the use of country systems (UCS) for environmental and social safeguards. Preliminary analysis by Bank staff of the equivalence and acceptability¹⁶ of Bulgarian environmental assessment systems found several important gaps between the Bulgarian system and the Bank's, which also are relevant for assessing the degree of harmonization with EU standards. The Bank's team found that current requirements lack clarity or provide insufficient detail in key areas such as public consultation and disclosure, and that there are inconsistencies between the Environmental Protection Act and the ordinance guiding preparation of EIAs on requirements for analysis of alternatives. For the Bulgarian EA system to be considered acceptable, gap-filling measures would be needed in several key areas: (i) consultation and disclosure requirements, (ii) the EIA decision making process, including review and clearance, and (iii) minimum mandatory guidelines for preparation of quality EIA reports. In addition, the Bank team had concerns regarding Bulgaria's implementation track record. Because the gaps identified were so significant, the idea of piloting UCS in Bulgaria was dropped.

Efficiency

6.15 Not applicable to policy support loans.

Outcome

6.16 Based on high/substantial relevance, and on balance substantial achievement of project objectives, the outcome of the EPSAL is rated *satisfactory*.

Risk to Development Outcome

6.17 The risk to development outcome is *moderate*. Continuation of the reforms has been supported by several successive governments, and the institutional changes made under the EPSAL have been maintained. Maintenance of the policy framework also has been supported by subsequent Bank policy support operations (PALs and FESALs), and more importantly, by the need to remain harmonized with EU requirements. IPPC permits have been extended to enterprises beyond those covered under EPSAL. However, as noted above, progress in implementation and enforcement have lagged

¹⁵ IEG, "Republic of Bulgaria: Country Assistance Evaluation". Report No. 23809, May 7, 2002.

¹⁶ According to OP 4.00 (Piloting the Use of Borrower Systems to Address Environmental and Social Safeguard Issues in Bank-Supported Projects"), the Bank considers a country's environmental and social safeguard system to be equivalent to the Bank's if the borrower's system is designed to achieve the same objectives and adhere to the same operational principles as the Bank's, as set out in Table A1 of OP 4.00. The Bank also assesses the acceptability of the borrower's implementation practices, track record, and capacity.

behind the improvements in environmental legislation. For this reason, the PPAR rating on Risk to Development Outcome is lower than the low/negligible rating (highly likely rating on Sustainability) in the ICR Review.

Bank Performance

6.18 Quality at Entry was *satisfactory*. The choice of policy and regulatory reforms needed for privatization and remediation were based on analytical work and the final preparation and early implementation of the ERPP. Support for piloting the IPPC addressed one of the key issues for harmonization of environmental policy with EU requirements.

6.19 The choice of a sector policy support loan rather than an investment loan was intended to increase flexibility and efficiency, but implementation actually was slower than it was for the ERPP. The loan also meant that the Government lost control over remediation investments. It would have been preferable to strengthen enforcement or introduce incentives for enterprises to complete their RPs, as well as giving more attention to monitoring and enforcement of CPs. Better monitoring and evaluation of environmental and health outcomes would have improved project design.

6.20 The quality of Bank supervision was *highly satisfactory*. The Bank's involvement provided an independent validation of the estimated costs of remediation which helped in the negotiation of privatization agreements. Feedback from an NGO during the PPAR mission indicated that the Bank's involvement increased transparency during preparation and to some extent during supervision. The MOEW reported that it was pleased with the Bank's supervision, pointing to the Bank's constant dialogue, direct contact with firms, site visits, and frequent supervision missions. The Bank's involvement helped clarify expectations on the part of both the Government and the owners of newly privatized firms.

6.21 Overall Bank Performance was *satisfactory*.

Borrower Performance

6.22 Government Performance was *satisfactory*. The Government remained supportive of the privatization and remediation program, met all of its commitments in terms of policy and regulatory reform and institutional arrangements, and budgetary resources for implementing RPs.

6.23 Implementing Agency Performance was *moderately satisfactory*. The Ministry of Finance (MOF) was the lead agency responsible for overseeing EPSAL implementation and the MOEW was responsible for technical oversight of individual cleanup projects in tandem with MOF. Those interviewed during the PPAR mission noted that, in contrast to good performance during the ERPP, the performance in the EPSAL was slower. They also reported that the responsibilities of the OC were unclear, and some members were unqualified. As a result, progress in implementing the RPs and CPs was mainly dependent on the motivation and goodwill of the companies rather than on the threat of serious sanctions by the Government. This was compounded by the

persistent lack of capacity in the Regional Environmental Inspectorates. In contrast to these observations the interviewees praised the MOF for ensuring that projected amounts needed for implementation of the RPs were appropriated in the budget.

6.24 Overall Borrower Performance was *moderately satisfactory*.

7. Lessons

7.1 The experience of the ERPP and EPSAL suggests the following lessons for future projects that attempt to address past environmental damage and improve environmental performance in the process of privatization.

- A development policy loan supporting privatization with environmental remediation should include strong measures by the Government to monitor and reward compliance (or punish non-compliance) to ensure that remediation and compliance plans are completed on schedule. In the EPSAL, even though all of the policy conditions were met and the RPs and CPs were signed, the achievements in terms of implementation of the plans, along with their environmental results, were mixed. Over-reliance on the goodwill of the enterprises themselves was a risky strategy, as changes in ownership, management, and financial performance stalled progress on remediation and compliance.
- Even in well-prepared EIAs, it is difficult to include sufficient detail in the technical specifications of remediation investments. Modifications in design and re-negotiations during implementation should be anticipated, and possibly reflected in a longer project implementation period and higher than normal contingency funds.
- Even when the State assumes responsibility for remediating past environmental damages of SOEs, setting a cap on the State's liability creates risk for potential investors and delays during re-negotiations. The possibility of letting the State assume more of the risk for additional remediation costs should be considered.
- Harmonizing country environmental legislation with international best practice is a necessary but not sufficient condition for improved environmental performance. In development policy lending for environmental protection, more attention needs to be paid to improving the country's implementation practices, track record, and capacity in environmental regulation. This is likely to require carefully targeted technical assistance to build the capacity of national and sub-national environmental authorities. A parallel technical assistance loan, or a well-coordinated program of technical assistance funded by other donors, should be considered.

7.2 Several findings of this PPAR are relevant to IEG's ongoing evaluation of the WBG's safeguard and sustainability policies. First, there were difficulties encountered in

choosing an environmental classification for the EPSAL. Funds were not channeled through financial intermediaries, but the fact that not all of the participating firms had been identified at appraisal meant that the EIA requirements of an “A” classification could not be met. A modification of the classification criteria may be in order.

7.3 Second, the PPAR was able to compare two projects with similar objectives but different financing instruments: an investment loan (ERPP) and a DPL (EPSAL). Both projects supported the process of remediating past environmental damage in the process of privatization. While the DPL provided more flexibility than the investment loan in terms of the selection of participating enterprises and the preparation and implementation of remediation and compliance plans, this flexibility came at the cost of less control on the part of the Government and the Bank over the completion of these plans. Future DPLs in this area need to build in better monitoring and enforcement mechanisms to compensate for less detailed Bank and Government control over safeguards and environmental compliance.

7.4 Finally, the EPSAL placed too little emphasis on the enforcement of environmental regulations compared to its focus on the passage of legislation. A greater focus on institutional capacity, compliance monitoring, and sanctions for non-compliance would have improved the likelihood of achieving environmental outcomes. This finding is similar to one of the conclusions of IEG’s 2008 evaluation of environmental sustainability, namely that the achievement of environmental outcomes is more elusive than the achievement of intermediate outcomes such as policy and institutional reforms. This calls for a greater focus on environmental outcomes, along with a more diligent effort to develop and monitor indicators to measure these results.

Annex A. Basic Data Sheet

BULGARIA: ENVIRONMENTAL REMEDIATION PILOT PROJECT (LOAN 4321-BUL)

Key Project Data *(amounts in US\$ million)*

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Original commitment	16.0	16.0	100
Total cancellation	0.0	0.0	
Total project cost	25.0	24.5	100
Cancellation	0.0	0.0	

Project Dates

	Original	Actual
Appraisal Mission	9/22/1997	9/22/1997
Board approval	5/12/1998	5/12/1998
Signing	7/08/1998	7/08/1998
Effectiveness	10/05/1998	10/05/1998
Closing date	12/31/2002	12/31/2002

Staff Inputs *(staff weeks)*

	Actual/Latest Estimate	
Stage of Project Cycle	N° Staff weeks	US\$('000)
Identification/Preparation		357,092
Appraisal/Negotiation	-	
Supervision	-	301,585
ICR	-	50,947
Total	-	709,624

Mission Data

<i>State of Project Cycle</i>	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)</i>	<i>Performance Rating</i>	
				<i>Implementation Progress</i>	<i>Development Objective</i>
Identification/Preparation	2/6/1995	1	Team Leader (1) Env. Economist (1), Consultant(1)		
Appraisal/Negotiation	04/1998	1	Team Leader (1), Lawyer (1), Operations Officer (2), Technical Specialist (1) Disbursement (1), Procurement (1)		
Supervision	10/12/1998	5	Team Leader (1); Environmental Economist (1); Consultant (1); Operations Assistant (1); Procurement Specialist (1)	S	S
	06/01/1999	1	Procurement Specialist (1)	S	S
	11/18/1999	4	Team Leader (1); Environmental Economist (1); Procurement (1); Procurement Analyst (1)	S	S
	05/04/2000	4	Program Team Leader (1); Env. Engineer (1); Env. Specialist (1); Procurement Specialist (1)	S	S
	05/04/2000	4	Team Leader (1); Environmental Specialist (1); Procurement Analyst (1); Environmental Engineer	S	S
	12/02/2000	4	Team Leader/Env. Finance (1); Procurement Spec. (1); Princ. Env. Spec (1); Procurement/Disbursement Analyst (1)	S	S
	04/01/2002	3	Team Leader (1) ; Environmental Spec. (1) ; Operations Analyst (1)	S	S
	04/01/2002	3	Team Leader (1); Environmental Specialist	S	S

<i>State of Project Cycle</i>	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)</i>	<i>Performance Rating</i>	
			<i>Specialty</i>	<i>Implementation Progress</i>	<i>Development Objective</i>
ICR	02/15/2003	1	(1); Procurement Analyst Team Leader (1); Technical Specialist (1); Operations Analyst (1); Procurement Specialist (1); Financial Management Specialist (1); Operations Officer (1); Communications Officer(1)	S	S

**BULGARIA: ENVIRONMENTAL AND PRIVATIZATION SUPPORT ADJUSTMENT
(LOAN 4538-BUL)**

Key Project Data (*amounts in € million*)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Original commitment	49.5	49.5	100
Total cancellation	0.0	0.0	
Total project cost	49.5	49.5	100
Cancellation	0.0	0.0	

Project Dates

	<i>Original</i>	<i>Actual</i>
Appraisal Mission	5/12/1999	05/12/1999
Board approval	02/24.2000	02/24/2000
Signing	-	04/21/2000
Effectiveness	03/31/2000	04/21/2000
Closing date	07/31/2003	12/31/2003

Staff Inputs (*staff weeks*)

	<i>Actual/Latest Estimate</i>	
Stage of Project Cycle	N° Staff weeks	US\$('000)
Identification/Preparation	31.5	132.30
Negotiations	22.5	70.10
Supervision	46.4	181.45
ICR	9.4	45.36
Total	109.8	429.21

Mission Data

Stage of Project Cycle	Date (month/year)	No. of persons	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)	Performance Rating	
				Specialty	Implementation Progress
Identification/ Preparation	07/1998	1	Team Leader/Financial (1), Environmental Economist (1), Environment policy and private sector specialist (1), legal specialist(1)		
	05/1999	1	Team Leader (1) Environment Policy and Private Sector Specialist (1) fms (1)	S	S
Appraisal/Negotiations	10/1999	1	Team Leader (1) Environmental Economist (1), Environmental Policy and private sector specialist (1) legal counsel, operations analyst (1), FMS (1)		
	12/1999	1	Team Leader (1) Environmental Economist (1), Environmental Policy and Private Sector Specialist (1) Legal Counsel, Operations Analyst (1), FMS (1)		
Supervision	12/02/2000	4	Team Leader/Financial	S	S

Stage of Project Cycle	Date (month/year)	No. of persons	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)	Performance Rating	
			Specialty	Implementation Progress	Development Objective
ICR			1 (1); (1); Principal Env. Spec. (1); Operations Anal. (1)		
	04/25/2001	3	Team Leader (1); Environmental Specialist (1); Financial Analyst (1)	S	S
	11/03/2001	4	Team Leader (1); Environmental Specialist (1); Operations Analyst (1); Sector Manager (1)		
	04/24/2002	3	Team Leader (1); Environmental Spec. (1); Operations Analyst (1)	S	S
	10/29/2002	3	Team Leader (1); Environmental Specialist (1); Procurement Analyst (1) FMS (1)	S	S
	09/2003		Team Leader (1), Operations Officer (1) Lead Environmental Specialist (1);		

Stage of Project Cycle	Date (month/year)	No. of persons	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)	Performance Rating	
			Specialty	Implementation Progress	Development Objective
			FMS (1)		

Annex B. Borrower Comments

**REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATER**

Outgoing no. 34-00-99
Sofia, 09 June 2009

To:

Mrs. Anna Georgieva
World Bank Sofia Office
World Bank
36, Dragan Tzankov Blvd.
Sofia, 1057

To the attention of:
Mrs. Monika Huppi
Sector Manager to the
Independent Evaluation Group of the
World Bank

To your letter from May 20, 2009

Regarding: Draft report from the Mission of the Independent Evaluation Group of the World Bank (Independent Evaluation Group) for evaluation of “Pilot Project for Remediation of the Environment in the region of MDK-Pridop” (Environmental Remediation Pilot Project, ERPP – Loan 4321 – BUL) and Environment and Privatization Support Adjustment Loan, EPSAL – Loan 4538 – BUL)

Dear Mrs. Georgieva:

With regard to the above-mentioned and in view of the deadlines specified in your letter (June 08, 2009) for submission of remarks and comments related to the draft report and in view of reflecting them in the final report of the mission as well as in compliance with the issues discussed with the representatives of the Ministry of Environment and Water during the meetings held within the framework of the mission of the Independent Evaluation Group of the World Bank (23-27 February 2009), we would like to express the following remarks and suggestions:

1. In table 6.1, first line (“Assarel Medet” AD), **the text** “The company is currently in a procedure for issuance of IPPC permit” **shall be replaced** with the following text to read: “The Company is not liable to obtain an IPPC permit”.

Motive: for the activity of the company (“Assarel Medet” AD) – Panagjurishte, an IPPC permit issuance is not required on the grounds of chapter seven “Prevention of industrial pollution”, section II, IPPC permits, of the Environment Protection Act (promulgated in State Gazette, issue 91/2002).

2. **We do not accept the statement reflected in point 6.23.** “...Those interviewed during PPAR mission noted that, in contrast to its good performance during the ERPP, the

MOEW's performance in the EPSAL was slower and less transparent. They also reported that the responsibilities of the OC were unclear, and some members were unqualified...".

Motives:

- The statements are rather serious and have not been discussed with the representatives of the MOEW during the meetings held with the Independent Evaluation Group of the World Bank at the time of the mission organized in the period 23-27 February, 2009 and for that reason the MOEW did not have the chance to express its opinion on these statements.
- The responsibility / staff of the Supervisory Committee related to the implementation of the commitments undertaken under the agreement for the loan (EPSAL) have been regulated with a Decision no. 26/ 25 January, 2000 of the Council of Ministers for *the establishment of the Supervisory Committee to ensure the technical supervision and the approval of each stage of the programs for remediation of past ecological damages of enterprises and provision of supervision on the implementation of the program implementing the Loan Agreement (Environment and Privatization Support Adjustment Loan) between the Republic of Bulgaria and the International Bank for Reconstruction and Development*, a copy of which has been submitted to the World Bank in an annex to the first report on the implementation of the loan conditions (for the period until 30 September, 2000).
- After the closure of the loan in 2004, the supervision functions related to the continued implementation of the programs for past ecological damages, have been undertaken by the staff of the Interministerial Expert Ecological Council (IEEC) of the MOEW, which has been regulated with the Regulations related to the functions, the tasks and the staff of the Higher Expert Ecological Council to the MOEW;
- As for the implementation of the assumed commitments under the Loan Agreement for the support of the environment and the privatization (EPSAL), in 2008 was held an audit from the Chamber of Accounts of the Republic of Bulgaria related to the establishment, services and management and utilization of the funds of the loan for the period from March 01, 2000 till December 31, 2004. During the audit (February 01, 2008 - June 30, 2008) as well as in the report of the audit team (No. 0700000308, accepted with a Decision No. 212/ September 25, 2008 at a meeting of the Chamber of Accounts) no inconsistencies, lack of transparency as well as not sufficient competency of the Supervisory Committee members was ascertained.

Considering the above-mentioned, we think that it is necessary, in the text of the final report to take in mind the above-mentioned statement of the MOEW so that the made remarks, suggestions and specifications are reflected.

DEPUTY MINISTER:
(CHAVDAR GEORGIEV)
SIGNED AND SEALED

Annex C. EPSAL Policy Matrix

REPUBLIC OF BULGARIA
ENVIRONMENT AND PRIVATIZATION SUPPORT ADJUSTMENT LOAN
POLICY MATRIX: OBJECTIVES AND TRANCHE CONDITIONS
(from PAD)

Components/objectives	Measures taken before the first tranche release	Measures to be taken before the second tranche release	Measures to be taken before the third tranche release
A. Policy and Regulatory Reform			
1. Support to the country's restructuring and privatization program	Satisfactory macroeconomic performance, including continued compliance under the Extended Agreements with the IMF and with the structural reforms supported by the Bank.	Satisfactory macroeconomic performance, including continued compliance under the Extended Agreements with the IMF and with the structural reforms supported by the Bank.	Satisfactory macroeconomic performance, including continued compliance under the Extended Agreements with the IMF and with the structural reforms supported by the Bank.
2. Develop legal basis for addressing environmental liabilities	Amend the Law on Restructuring and Privatization of State and Municipal Enterprises and its amendments, and the Environmental Protection Law to explicitly retain the State's liability for past environmental damages.		
3. Reform environmental legislation to allow for the application of temporary emission norms.	Parliamentary approval of the Water Act satisfactory to the Bank.		
4. Provide a legal framework for addressing off-site and hidden liabilities; land use issues related to contaminated land; and a compensation mechanism for landowners.	Parliamentary approval of the Subterranean Resources Act satisfactory to the Bank.		
	Adoption by the Council of Ministers of a Regulation on the principles, conditions,		

	and procedures for settling the State liabilities for historical pollution.		
<p>B. Integrate Environment Issues into Privatization Transactions</p> <p>1. Develop regulations about procedures and methodologies to carry out EIAs, assess environmental risks, and integrate findings into privatization transactions.</p>	<p>Adopt an Order of the Minister of Environment and Waters of Guidelines for the Scope and Content of Past Contamination Damages.</p> <p>Prepare and approve Framework Remediation Plans and Compliance Plans for Kremikovtzi, Neftochim, and Assarel Medet, annexed to the Sales Purchase Agreements.</p>		
	<p>Signature of Sales Purchase Agreements including legally binding Framework Remediation Plans, Compliance Plans, and Execution Agreements for Neftochim, Kremikovtzi, and Assarel Medet, under which at least 67 percent of the equity interest in the enterprise is transferred to a private owner, for which the total cost of remediation exceeds \$25 million.¹⁷</p>	<p>Satisfactory progress on performance indicators agreed with the Bank in the implementation of Framework Remediation Plans, Compliance Plans, and Execution Agreements of the enterprises considered for the first tranche.</p> <p>Signature of Sales Purchase Agreements including legally binding Framework Remediation Plans, Compliance Plans, and Execution Agreements for at least 3 additional large (over 1000 employees each) enterprises, under which at least 67 percent of the equity interest in the enterprise is transferred to a private owner, and for which the agreed cumulative cost of remediation for these enterprises and those privatized as a condition for tranche</p>	<p>Satisfactory progress on performance indicators agreed with the Bank in the implementation of Framework Remediation Plans, Compliance Plans, and Execution Agreements of the enterprises considered for the first and second tranches.</p>

¹⁷ (i) Environmental clauses acceptable to the Bank included in the Sales Purchase Agreement; (ii) Remediation Plan with cost caps approved by MOEW satisfactory to the Bank, annexed to the Sales Purchase Agreement; (iii) Execution Agreement signed with MOEW, P.A, and MOF satisfactory to the Bank and annexed to the Sales Purchase Agreement.

<p>C. Framework for Improved Environmental Compliance</p>		<p>one exceeds \$50 million.¹⁵</p>	
<p>1. Accelerate the harmonization with EU Directive on IPPC and develop and implement a pilot program for accelerated adoption of the EU Directive for the metallurgical and chemicals sectors (ISIC 351-354, 371-372).</p>	<p>Develop and approve a timetable and targets for implementing pilot integrated permits substantially according to the EU Council Directive 96/61 on IPPC.</p>	<p>Pilot integrated environmental permits issued according to the EU Council Directive 96/61 on IPPC to at least 5 large enterprises (each with at least 1,000 employees) in the metallurgical and chemical sectors.</p>	<p>Pilot integrated permits according to the EU Council Directive 96/61 on IPPC to at least 80% of all large industrial enterprises (each with at least 1,000 employees) in the metallurgical and chemical sectors, and ensure compliance with the terms of the pilot permits.</p>
<p>2. Introduce compliance agreements with privatized companies to ensure their compliance with Bulgarian/EU environmental requirements.</p>	<p>Agreement on legally binding Compliance Plans annexed to the Sales Purchase Agreements for the enterprises privatized as a condition for the first tranche.</p>	<p>Satisfactory progress (based on performance indicators agreed with the Bank) in the implementation of Framework Remediation and Compliance Plans and Execution Agreements considered in the first tranche.</p> <p>Agreement on legally binding Compliance Plans annexed to the Sales Purchase Agreements for 3 additional large enterprises.</p>	<p>Satisfactory progress (based on performance indicators agreed with the Bank) in the implementation of Framework Remediation and Compliance Plans and Execution Agreements considered in the first two tranches.</p> <p>Contracted amounts for remediation and made payments from the Remediation Accounts for enterprises privatized as a condition for tranche one and tranche two of an aggregated amount acceptable to the Bank.</p>
<p>3. Increase institutional capacity for post-privatization oversight and enforcement of compliance.</p>	<p>Establish an inter-agency coordinating body with the participation of MOF, MOEW, PA and MOI to oversee the implementation of the Environmental and Privatization Support Program (EPSP).</p>	<p>Maintain the inter-agency coordinating body with membership satisfactory to the Bank to oversee the implementation of the EPSP.</p> <p>Take measures satisfactory to the Bank, or ensure that such measures have been taken to mitigate any adverse social impact of the EPSP identified during EIA public consultation process or during EIA monitoring activities.</p>	<p>Maintain the inter-agency coordinating body with membership satisfactory to the Bank to oversee the implementation of the EPSP.</p> <p>Take measures satisfactory to the Bank, or ensure that such measures have been taken to mitigate any adverse social impact of the EPSP identified during EIA public consultation process or during EIA monitoring activities.</p>

