

PN-ACC-810

A Report of United States Agency for International Development
USAID/Kiev, G/ENV, and ENI/ENR

**UKRAINE ENVIRONMENTAL MANAGEMENT PROGRAM
STAGE 4 REPORT**

**RECOMMENDATIONS FOR
DEVELOPING THE USE OF ECONOMIC INSTRUMENTS
TO IMPLEMENT ENVIRONMENTAL POLICY
IN UKRAINE**

Prepared by:

Hagler Bailly, Inc.
1530 Wilson Boulevard, Suite 900
Arlington, VA 22209-2406
HBIX Reference No. TR-97-223
4713-001

Environmental Pollution Prevention
Project Number 936-5559
Contract Number PCE-5559-Q-00-3022-00

and

Planning and Development Collaborative International (PADCO)
1025 Thomas Jefferson St., N.W., Suite 170
Washington, D.C. 20007-5209

November 1997

CONTENTS

Chapter 1: Overview of the Program

1.1	Purpose of Report	1
1.2	Stage 1 Activities	1
1.3	Stage 2 Activities	2
1.4	Stage 3 Activities	3
1.5	Stage 4 Activities	3

Chapter 2: Recommendations for Developing the Use of Economic Instruments to Implement Environmental Policy in Ukraine

2.1	Introduction	4
2.2	Pollution Charges	4
2.3	Non-Compliance Penalties	10
2.4	Environmental Funds	13

Chapter 3: Priorities for Implementing Recommendations

3.1	Introduction	16
3.2	Clusters	16
3.3	Prioritizing the Clusters	17

CHAPTER 1

OVERVIEW OF THE PROGRAM

1.1 Purpose of Report

This report has been produced as part of the United States Agency for International Development (USAID) Ukraine Environmental Management Program. The objective of the Environmental Management Program (EM Program) is to provide technical support to the Work Groups of the Council to Promote Sustainable Development in Ukraine. There are six Work Groups, each covering different topic areas:

- (i) Energy Efficiency and Energy Conservation;
- (ii) Urban Water and Wastewater;
- (iii) Industrial Environmental Management;
- (iv) Sustainable Agriculture; and
- (iv) Environmentally Sound Business Development.

The activities of the EM Program can be broken down into four stages:

- (i) Stage 1: Review of international experience of using economic instruments to implement environmental policy;
- (ii) Stage 2: Review of the existing use of economic instruments to implement environmental policy in Ukraine;
- (iii) Stage 3: Identifying options for improving existing economic instruments and developing new economic instruments to implement environmental policy in Ukraine; and
- (iv) Stage 4: Final recommendations on improving existing economic instruments and developing new economic instruments to implement environmental policy in Ukraine.

Separate reports have been produced for stages one to three of the EM Program. This report is the final report of the EM Program. It presents a summary of the activities of the EM Program (Chapter 1), lists the recommendations developed in Stage 4 (Chapter 2) and proposes priorities for implementing those recommendations (Chapter 3).

1.2 Stage 1 Activities

A half-day seminar was held on May 21, 1997 to which members of the Work Groups and the Steering Committee of the Program to Promote Sustainable Development in Ukraine were invited. The theme of the seminar was 'International Experience of Using Economic Instruments to Implement Environmental Policy'. The costs of hosting the seminar were met by USAID and the UK Environmental Know How Fund. Speakers at the seminar were:

- (i) Dr. Glen Anderson, a member of the consulting team for Hagler Bailly Consulting, Inc. on the EM Program. Dr. Anderson is an independent consultant specializing in environmental economics and environmental policy development in Central and

Eastern Europe. Dr. Anderson presentation was entitled 'Introduction to the Seminar and Overview of Economic Instruments';

- (ii) Chris Riley, Chief Economist at the UK Department of Transport, Environment and the Regions. Mr. Riley's presentation was entitled 'Economic Instruments for the Environment - A UK Perspective';
- (iii) Zsuzsa Lehoczki, Senior Lecturer at Budapest University of Economics. Ms. Lehoczki's presentation was entitled 'Experience with Implementation of Economic Instruments in Transition Economies'; and
- (iv) Professor David Pearce, Professor of Economics at University College London and Director of the Centre for Social and Economic Research on the Global Environment (CSERGE). Professor Pearce's presentation was entitled 'Recent Developments in the Use of Economic Instruments for Environmental Management'.

The Stage 1 Report is intended as an introduction to the theory and practice of using economic instruments to implement environmental policy. It provides a guide to the concepts and terminology used in the literature on economic instruments, as well as actual examples of economic instruments that are being used to implement environmental policy. The report contains:

- (i) an overview of the instruments that can be used to implement environmental policy, and reasons why economic instruments are considered particularly advantageous;
- (ii) examples of economic instruments that are used in market economies to implement environmental policy, focusing on the policy areas of the Work Groups of the Program to Promote Sustainable Development in Ukraine; and
- (iii) an overview of recent developments in the use of economic instruments to implement environmental policy in the transition economies of central and eastern Europe.

1.3 Stage 2 Activities

The Stage 2 Report, 'Use of Economic Instruments to Implement Environmental Policy in Ukraine' was produced, which contains information on:

- (i) environmental charges and compliance incentives, including emissions charges (charges for emissions to air from stationary sources, emissions to air from mobile sources, emissions to water and solid waste), payments for use of natural resources (use of water, fisheries, forestry, use of sub-soil resources, land use and biodiversity), environmental liability;
- (ii) revenue and use of revenue from environmental charges and compliance incentives; and
- (iii) direct and indirect taxes that have environmental implications, including value added tax, customs duty on imports, excise tax on imports, revenues to the Chernobyl fund, taxes on transport and sub-soil resources.

1.4 Stage 3 Activities

A meeting was held in Kyiv on July 21, 1997 to which Work Group Coordinators and Work Group members were invited. Officials from departments of government ministries that formulate and implement economic instruments were also invited. Presentations were made by Dr. Glen Anderson on behalf of Hagler Bailly, Inc. on 'Options for Developing the Use of Economic Instruments for Environmental Management in Ukraine'. The options were discussed during the meeting. The views of Work Group members were then taken into account in drafting

the Stage 3 Report, 'Options for Developing the Use of Economic Instruments for Environmental Management in Ukraine'. The Stage 3 Report contained descriptions of options for improving the effectiveness of emissions charges, non-compliance charges and environmental funds in Ukraine.

1.5 Stage 4 Activities

A meeting was held in Kyiv on September 10, 1997 to which Work Group Coordinators and Work Group members were invited. Officials from departments of government ministries that formulate and implement economic instruments were also invited. Presentations were made by Jack Schramm, Senior Counsel for Hagler Bailly, Inc. on 'Recommendations for Developing the Use of Economic Instruments for Environmental Management in Ukraine'. The recommendations, and the priorities for implementing the recommendations were discussed during the meeting. The views of Work Group members were then taken into account in drafting this report (the Stage 4 Report), 'Recommendations for Developing the Use of Economic Instruments for Environmental Management in Ukraine'. The final recommendations are listed in Chapter 2 of this report. The suggested priorities for implementing the recommendations are given in Chapter 3 of this report.

CHAPTER 2

RECOMMENDATIONS FOR DEVELOPING THE USE OF ECONOMIC INSTRUMENTS TO IMPLEMENT ENVIRONMENTAL POLICY IN UKRAINE

2.1 Introduction

This chapter summarizes the research conducted under Stage 3 of the Ukraine Environmental Management Program (EM Program) on options and recommendations for modifying the current system of economic instruments for environmental management in Ukraine and introducing new instruments. A detailed discussion of the recommendations and guidelines for their implementation is contained in the Stage 3 Report.

In preparing the final set of options and recommendations, the project team received feedback from participants at the seminar 'Options for Developing the Use of Economic Instruments in Ukraine,' convened in Kyiv, July 21, 1997 and in follow-up discussions. The team also received written suggestions from members of the Work Groups of the Program to Promote Sustainable Development in Ukraine. As a result of these discussions and written suggestions, *the recommendations focus on three areas of reform: modifications to the existing systems of pollution charges, non-compliance penalties, and environmental funds.* With the exception of a product charge on fuels, the team is not recommending the introduction of new economic instruments at the present time.

2.2 Pollution Charges

The system of pollution charges is an integral part of the environmental compliance program in Ukraine. Their primary purposes are to provide economic incentives for facilities to comply with regulations and generate revenue for environmental protection. However, the amount of revenues collected from pollution charges in Ukraine is small (US\$ 12.2 million in 1996) compared to amounts collected by many Central and East European (CEE) countries that are smaller and less industrialized than Ukraine. The amount collected is low for two reasons: (1) low charge rates per ton of pollution and (2) low revenue collection efficiency. The recommendations in this section focus on overcoming these two problems.

2.2.1 Charge Base

The recommendations on revising the basis for pollution charges in Ukraine focus on the following issues: reduction of the number of pollutants for which charges are levied and replacement or modification of pollution charges on hazardous and solid waste and on mobile sources of air pollution.

Recommendation (1): ***Adopt the regulation proposed by MEPNS which reduces the number of pollutants subject to emission charges.***

The high number of air and water pollutants subject to charges creates a major administrative burden and increases the time and expense to verify self-reported emissions and discharges.

The MEPNS has developed a regulatory initiative that would reduce the number of pollutants for which basic rates are established at the national level to 25 air pollutants and 10 water pollutants starting January 1998. In addition to reducing the number of parameters subject to charge, the draft regulation consolidates similar pollutants into single categories (e.g., different types of dust are combined into a particulate matter category, and all types of nitrogen oxides would be charged under one NO_x category). Also, the pollution charge parameters are being brought in line with international practice. For example, the charge for elemental sulfur has been replaced in the proposed draft regulation with a charge for sulfur dioxide.

This recommendation fully supports the MEPNS's regulatory initiative to reduce the number of parameters subject to pollution charges. It should be carefully coordinated with the recommendation to review and revise the basic charge rates.

After the draft regulation is submitted to the Cabinet of Ministers, a well-orchestrated information campaign should be undertaken that shows the advantages of reducing the number of parameters subject to charges and addresses all known arguments for maintaining the status quo. If the information campaign is successful, the changes should go into effect January 1, 1998.

Recommendation (2): ***Implement a comprehensive regulatory scheme for managing hazardous and solid waste; replace charges on hazardous and solid waste with tipping fees.***

Ukraine currently imposes a pollution charge on the 'placement' (storage and disposal) of industrial hazardous and solid waste. This charge is, in fact, a charge on waste generation, and is only loosely linked to the safety of managing the waste. The revenues from pollution charges on waste generation are not conveyed to operators of industrial landfills for the development of waste management facilities but distributed to the environmental funds. At the same time, there are no enforceable waste management regulations in the country. These two factors result in inadequate investment in waste management facilities and inappropriate disposal practices.

It is recommended that Ukraine establish a sound industrial hazardous and solid waste management system that relies on strict command-and-control regulatory mechanisms concerning generation, storage, transport, treatment, and disposal of wastes. As long as there is a diligently enforced regulatory system for waste management, a distinction between waste generation levels below allowable limits and levels exceeding allowable limits becomes unnecessary.

In combination with the introduction of this regulatory program, Ukraine should consider eliminating or phasing out pollution charges for industrial hazardous and solid waste and allow providers of waste collection, transport, storage, treatment, and disposal services to charge enterprises directly for these services in order to recover the full costs of safe management of the wastes. Such 'tipping' fees would be market-based and would reflect the cost of constructing and

operating waste management facilities. *It is important to emphasize that the introduction of tipping fees is contingent on the existence of a diligently enforced regulatory system for waste management.*

The pollution charges for waste generation would become redundant once there is a system for charging for industrial hazardous and solid waste management services that completely recovers the costs of operating facilities capable of managing these wastes safely.

Implementation of the proposed recommendation requires changes to the Cabinet of Ministers' Resolutions No. 18 of January 13, 1992 and No. 373 of July 7, 1992. These changes should be proposed by MEPNS and coordinated with the Ministries of Economy, Finance, Energy, and Industrial Policy. This work is in progress, given the continuing work on the draft Law on Waste.

Recommendation (3): Replace charges on air pollution from mobile sources by a product tax on fuels.

The use of a pollution charge on mobile sources in Ukraine is somewhat unusual. The charge per ton of fuel varies according to the type of fuel and the population in the locality where the enterprise is located. The use of such a coefficient for population appears to be inappropriate and imperfectly matched with human health damages associated with mobile source pollution. In addition, such a charge is administratively inefficient when compared to a product charge on fuel, which can readily be incorporated into the price of fuel at the point of distribution.

Ukraine should consider replacing the pollution charge with a product charge on fuel. The charge rate for the fuel product charge should be differentiated according to fuel quality (higher charge on more polluting fuels) in order to discourage use of dirtier fuels and to encourage the introduction of cleaner fuels and vehicles which can burn cleaner fuels.

In order to implement this option, changes should be made to Ukrainian tax laws (through a legislative initiative from the Ministries of Economy and Finance) and the regulations of the Tax Administration of Ukraine.

2.2.2 Charge Rates

This section includes recommendations on increasing rates, simplifying rate calculation, and adjusting charge rates for inflation.

Recommendation (4): Review and revise the basic charge rates.

The basic pollution charge rates in Ukraine are quite low in comparison to rates used in CEE countries. Low charge rates limit revenue potential and do not provide incentives for reducing pollution. On the other hand, given the low collection efficiency at present, increasing charge rates to generate more revenue and encourage pollution reductions may only further reduce collection efficiency (in the absence of new measures to improve collection rates). It is recommended that Ukraine conduct a review of current charge rates and propose new rates. This review should include the following components:

- 1) Ukraine should evaluate its charge rates in comparison to rates used in other CEE countries. MEPNS officials should correspond with counterparts in other CEE countries to determine the effects that higher charges have had on collection rates and what mitigation measures may have been undertaken to lessen the burden of higher charges on specific sectors.
- 2) Ukraine should undertake an analysis of existing charge rates to determine typical charge burdens for enterprises by sector and size and estimate the resulting burden if charge rates are increased. This information should be considered in setting new charge rates.
- 3) Ukraine should conduct a needs assessment for environmental financing to enable it to set charge rates that would generate appropriate levels of revenue. This exercise must be conducted at the same time that strategies are developed to improve collection efficiency.

The review and adjustment of charge rates should be done by MEPNS, in coordination with representatives of relevant departments of the Cabinet of Ministers of Ukraine, the Ministry of Economy, Ministry of Finance, and Ministry of Justice. This exercise should be done in coordination with the recommendation to re-evaluate the specific pollutants subject to charges. The two recommendations should be presented jointly to the Cabinet of Ministers.

Recommendation (5): Eliminate geographical coefficients for differentiating charge rates.

Ukraine uses two sets of coefficients to adjust charge rates for air pollutants: coefficients depending on the size of local population (higher charge rates apply in more populated areas) and the predominant economic function of the area (higher charge in recreational areas). For water pollutants, there is a coefficient which depends on the designated use and ecological characteristics of the water body receiving discharges. The use of these coefficients to differentiate rates from one geographical region to another reflects the logic that pollution which contributes to greater health and/or environmental damages should be charged at higher rates.

However, the annual loading limits assigned by local environmental authorities to each enterprise are already supposed to take into account the local environmental conditions, since they must be based on the MAC for a particular pollutant, emissions from surrounding sources, and carrying capacity of the receiving environmental medium. The adjustment coefficients lead to double accounting for local environmental factors (unfairly burdening local industries) and significantly increase complexity of pollution charge calculations.

The current practice also invites political interference (to avoid higher charges) and discourages investment in more polluted areas by placing a heavier pollution charge burden on enterprises in industrial urban communities. Both of these negative impacts of the geographical coefficients are likely to be aggravated by the increased charge rates.

It is recommended that Ukraine eliminate geographical coefficients for differentiating charge rates. This recommendation will significantly simplify the formula for calculating pollution charges. It will also eliminate the disincentive to invest in heavily polluted urban areas.

This is another component in the package of charge rate changes that MEPNS should propose to the Cabinet of Ministers, in coordination with the Ministry of Economy, Ministry of Finance, and Ministry of Justice.

Recommendation (6): *Revise the procedure for adjusting charge rates for inflation.*

Ukraine, which has experienced high rates of inflation in recent years, adjusts the nominal charge rates at the end of the year (or less frequently in the past). This practice leads to a gradual erosion in real pollution charge rates and revenue potential of pollution charges.

It is recommended that Ukraine revise its procedures for adjusting nominal charge rates to account for inflation in one of two ways: (1) make adjustments more frequently than once a year, e.g., on a quarterly basis; or (2) make *ex ante* adjustments prior to the coming year, based on projected inflation rates. *Ex ante* adjustments are superior to *ex post* adjustment practices in terms of their capacity to preserve the nominal charge rate. *Ex ante* adjustments involve less administrative burden than quarterly rate adjustments; the rates are adjusted in the beginning of the year and not changed until the end of the following year. On the other hand, the potential for faulty projections could be greater in times of high or hyperinflation. In summary, both approaches are superior to current practices. The first approach (quarterly adjustments) may be more attractive because Ukraine already has experience in adjusting other taxes in this way.

MEPNS should incorporate an inflation adjustment coefficient in its proposed package of charge rate changes. It should determine which option (above) it wishes to recommend in coordination with the Ministry of Economy, Ministry of Finance, and Ministry of Justice.

Inflation adjustments may not require statutory change. If not, changes to appropriate regulations should be timed to coincide with the effective dates of statutory changes.

2.2.3 Collection of Revenues

Ukraine is encouraged to make greater use of incentives and disincentives to increase its low collection rates from pollution charges (31.3% in 1995 and 10.8% in 1996). There is a serious risk that chronic non-payment will ultimately undermine the system of pollution charges if other enterprises perceive that enforcement of payment is lax. This section presents options for improving collection practices.

Recommendation (7): *Use deferrals or waivers on pollution charge payments in exchange for investments.*

Currently, there is a provision in the MEPNS regulations allowing waivers for the share of pollution charge payments designated for oblast and local environmental funds. Both charges for pollution within allowable limits and exceedance charges may be deferred or waived by a decision of oblast or local authorities, respectively. The measure was prompted by widespread misallocation of environmental funds revenues. However, there is no mechanism to ensure that the waived amounts are used for environmental improvements.

In order to make a deferral/waiver program a viable incentive for compliance, certain procedural matters that allow access to deferrals and waivers must be worked out, such as the following:

The deferral must be requested, corrective measures and a time schedule proposed, and enforcement officials should monitor the enterprise's progress in correcting the violation and penalize it if it fails to fulfill the terms of the plan. Deferrals should be limited to charges for exceedances.

Recommendation (8): ***Link payment of charges to eligibility for financing from environmental funds.***

As Ukraine elaborates procedures for disbursing revenues through the environmental funds, it may be desirable to limit eligibility for financing to enterprises which have paid all pollution charges in full. In addition, in developing selection criteria for distributing fund revenues, funds may want to assign a higher priority to projects whose applicants have requested deferrals and developed compliance plans. This recommendation should be incorporated under the later recommendation to strengthen the institutional and financial aspects of the environmental funds system.

Recommendation (9): ***Use stiffer penalties for delinquent payments.***

Ukraine is encouraged to consider increasing the severity of the fine to reduce the incentive for non-payment. One option would be to simply increase the magnitude of the daily penalty on delinquent payments. Other options include use of a graduated penalty structure, where, for example, the size of the penalty increases each month; reassessment on delinquent payments in accordance with adjusted nominal charge rates (assuming charge rates are adjusted quarterly); or by eliminating the treatment of charges (if delinquent) as a production expense for tax purposes.

MEPNS, in coordination with the Ministries of Economy, Finance, and Justice, should amend its regulations implementing pollution charges to authorize stiffer penalties for delinquent payments.

Recommendation (10): ***Use creditors' remedies and other enforcement mechanisms to collect pollution charge debts and to discourage further non-payment.***

Enterprises not paying their debts on pollution charges must face the risk of losing their property. At present, Ukrainian law appears to acknowledge the principle but limits the exposure to this risk of loss to an enterprise's bank account. Ukraine should consider expansion of the principle to other forms of property. Three specific remedies should include 'attachment,' 'garnishment,' and 'contract debarment.' 'Attachment' involves accessing the property of the debtor, whether belonging to the enterprise or an individual (perhaps an enterprise manager who has been personally fined), in satisfaction of the debt. 'Garnishment' is satisfaction of a debt by accessing debtor's wages (it is applicable only to an individual, e.g., to an enterprise manager). 'Contract debarment' only applies to those enterprises that have contractual relationships with either the national, oblast, or local governments as suppliers. If a supplier is not paying his charges, it may be placed on a list that bars governmental contracting (at all or at specified levels) with the listed firm.

MEPNS, in coordination with the Ministries of Economy, Finance, Industry, and Justice, and the National Bank of Ukraine, should submit proposed changes in the Law on Environmental Protection to the Cabinet of Ministers for recommendation to Parliament.

2.3 Non-Compliance Penalties

An effective enforcement program must rely on effective disincentives to discourage non-compliance. The logic of non-compliance penalties is that the penalty should be large enough so that the costs of non-compliance (payment of penalties) are greater than the costs of compliance (annualized costs of meeting the standard). This section describes recommendations for three non-compliance penalties: charges for exceedances, 'compensation for losses,' and liability provisions.

Recommendation (11): *Treat charges for exceedances separately from charges for pollution below limits.*

Currently, allowable charges and exceedances are contained in the same formula. It is recommended that separate formulas be used for allowable discharges and exceedances for the following reasons:

- 1) Allowable charges are paid quarterly whereas exceedances can only be assessed and paid annually;
- 2) The two charges are treated differently for tax purposes. By placing them in the same formula, there is a tendency to add them together and treat them as the charge burden, when in fact, the charge on exceedances is more costly for the facility (even if the rates are identical) because of differences in tax treatment; and
- 3) It is important to separate charges for allowable discharges from exceedances because the latter imply a violation of the standard. While this may seem to be a trivial distinction, the goal of environmental monitoring is to attain compliance and charges for exceedances should not be viewed as an ordinary cost of doing business.

MEPNS, in coordination with the Ministries of Economy, Finance, and Justice, should submit proposed changes in the Law on Environmental Protection to the Cabinet of Ministers for recommendation to Parliament (Verkhovna Rada).

Recommendation (12): *Use a uniform national multiplier for exceedances.*

Ukraine should consider simplifying the calculation of non-compliance charges and eliminating local discretion over the choice of the multipliers (currently the multiplier can vary from 1.1 to 5.0). It is important to establish penalties as a national deterrent to non-compliance; otherwise, there will be an absence of a 'level playing field' in Ukraine that could create perverse incentives for foreign investment. Multipliers may vary between water and air, but a uniform multiplier of the basic charge rate should be established.

A uniform multiplier for exceedances should be legislated by the Ukrainian Parliament (Verkhovna Rada), since it would entail changes to the Law on Local Self-Government. A

relevant proposal should be introduced, through the Cabinet of Ministers, to the parliamentary committees by MEPNS, in coordination with the Ministries of Economy, Finance, and Justice.

Recommendation (13): *Revise the CFL non-compliance charge so as to make it a fine (and that is what it should be called) payable immediately for a violation of a discharge standard, and disassociate it from the exceedance charge levied on an annual basis.*

In addition to exceedance charges, Ukraine also levies so-called 'compensation for losses' (CFL) which, for air and water pollution, is an additional non-compliance charge for violations of short-term emission standards.

In concept, there is very little difference between a CFL penalty and an exceedance charge, which is calculated at the end of the year. The CFL is imposed for violations of the emission standard (in grams per second), which is directly linked to the annual loading limit (in tons per year) whose exceedance is penalized by an exceedance charge. The revenues from both CFL and exceedance charges are channeled to environmental funds.

The system for imposing penalties for exceedance of the short-term emission standard and the annual loading limit is designed in a way that avoids penalizing the enterprise twice for the same emissions. Calculating the CFL amount due from the enterprise, the inspector also calculates the exceedance charge prorated for the period of violation. The amount of non-compliance charge the enterprise must pay is equal to the CFL amount minus the amount of the prorated exceedance charge.

Given this linkage between CFL and exceedance charges, the imposition of CFL penalties may turn out to be a wasted administrative exercise if they are forgiven at the end of the year. Moreover, CFL penalties send an ambiguous message to enterprises: you may be in violation, but, on the other hand, you may not, depending on the total annual volume of discharges.

The law should be amended to allow the imposition of a 'fine' against an enterprise. The fine should be levied for a violation of a discharge standard (e.g., in grams per second) and should be high enough to serve as a deterrent against short-term intensive releases of pollution. The fine should be based on the severity of the environmental impact of the discharge violation in question. It should be payable immediately and *not serve as a later credit against the exceedance charge.*

This recommendation should be packaged and presented with the foregoing recommendations on exceedances by MEPNS, in coordination with the Ministries of Economy, Finance, and Justice.

Recommendation (14): *Encourage the use of the liability system for damages to persons, property, and the environment.*

Liability rules serve a dual purpose in environmental management. First, in the event of an accidental release of pollutants or hazardous material into air or water, liability rules elaborate the polluter's responsibilities for compensating victims (third party damages), cleaning up the release, and compensating the state as trustee for the environment (natural resource damages).

Second, liability rules may also lead facilities to take additional precautions and invest in preventive measures.

The liability system provides for remedies for actual *damages* which may result from the mismanagement of a permitted enterprise or from the culpable action of any individual. By and large, Ukraine already has the legal structure needed to advance this aspect of the compliance strategy. These provisions are found in Article 9 of the Law of Ukraine on Environmental Protection and in various provisions of the Civil Procedure Code.

The liability strategy may be pursued by individuals who have suffered personal or property damage. But it may also be pursued, as it has already been done in some instances, by government representatives seeking *remediation* of contaminated soils or drinking water sources, in the public interest, or in defense of the nation's patrimony.

It is recommended that the liability strategy be more aggressively pursued by both individuals and the government. An economy in transition like Ukraine should increasingly move away from the 'compensation for loss' concept where the government seeks damages on behalf of society. This is appropriate in major cases of damage to natural resources where there is an important need for environmental remediation. For personal and property damage, however, individuals should be encouraged to assert their rights through liability laws.

2.4 Environmental Funds

The current Ukrainian system of Extra-Budgetary Funds for Environmental Protection is hampered by a combination of low charge rates, poor collection rates and large number of funds which divide the revenues. In addition, the existing system does not include provisions for a formal application process, project cycle management, transparent procedures or accountability.

MEPNS has recently proposed changes in the allocation in the revenues from pollution charges and fines that dramatically reduce the share of local and municipal funds (from 70% to 20%) and increases the revenue bases for the environmental funds at the national (from 10% to 30%) and oblast (from 20% to 50%) levels. The new system of environmental funds creates an opportunity for strengthening the management of public resources for environmental improvements, creating competitive options for enterprises to finance environmental investments, stimulating higher collection rates for pollution charges (through recirculation of revenues for investment), and potentially, creating a way to expand participation of domestic and foreign financial institutions in funding environmental improvements in Ukraine.

The development of environmental funds, consistent with best practices, involves an effective management structure, combined with comprehensive project cycle and accountability procedures, as well as innovative financial management.

Recommendation (15): *Strengthen the institutional and financial aspects of the environmental funds system in Ukraine, on the basis of the CEE countries' experience, focusing on management structure, decision-making procedures, disbursement of funds, accountability, and leveraging of revenue.*

Ukraine should review the structure of national and regional funds in CEE countries and explore options for organizing and managing environmental funds at the national and oblast levels in Ukraine.

A relevant legislative initiative should be developed by MEPNS in coordination with the Ministries of Economy, Finance, and Justice and forwarded to the Cabinet of Ministers and further to the Verkhovna Rada in order to make changes to the Law on Environmental Protection, the Law on Local Self-Government, and other legislative acts.

The proposed implementation plan for this recommendation provides guidelines for an effective management structure, decision-making procedures, disbursement of funds, accountability, and leveraging the funds' revenues.

Management Structure. The first steps in setting up an environmental fund include establishing the legal basis for the fund, ensuring that any impediments to the flow of revenues and disbursements are resolved, and developing a management structure.

MEPNS has indicated that the new environmental funds would be set up as independent legal entities, in line with the model adopted in Poland for the National and Regional Environmental Funds. Independent environmental funds will have more control over collection and disbursement of revenues. Independence will also allow the funds to pay higher salaries and recruit more skilled people. It is recognized that it may not be possible at the present time, due to political limitations, to convert the environmental funds in Ukraine into independent legal entities. However, their current status should not preclude the improvements in the funds' management structure.

Funds need to establish mechanisms for transferring revenues to and disbursing money from the funds. Since the fund is handling public resources, the government and the fund must establish auditing and accounting procedures for the fund, to ensure resources are obligated for their intended purposes. The fund must be able to establish bank accounts, earn interest on current balances, and be able to carry over cash balances from one year to another.

Decision-making Procedures. Environmental funds must develop financing priorities, establish eligibility rules, elaborate criteria for selecting projects, and develop transparent procedures for managing the 'project cycle.'

Selection criteria are an important element of the fund's decision-making policies. Elaboration of project selection criteria makes the operations of the fund more transparent to applicants and to the general public. The existence and use of selection criteria will often be required before donors will assist in capitalizing an environmental fund. Selection criteria also help applicants to prepare their proposals and, in the event their projects are rejected, provide a basis for the fund to convey reasons for rejection. Generally, selection criteria include environmental, economic, and technical factors.

The project cycle describes the process by which the fund reviews, selects, and finances applications. The project cycle includes five steps: (1) application process, (2) project appraisal and selection, (3) negotiations and financial awards, (4) monitoring and implementation, and (5) evaluation. The design of the project cycle should be adapted to the expected volume of applications, the working capital of the fund and the staff resources. For example, for municipal

funds which disburse only small amounts of funding, simpler application and appraisal procedures would be appropriate.

Disbursement. Funds must address two primary disbursement issues: the types of disbursement mechanisms and the share of project costs to be financed. The three common disbursement mechanisms used by CEE funds include grants (do not require repayment), soft loans (loans provided at more favorable terms than those available in commercial credit markets), and interest subsidies (when the fund compensates the commercial bank for its loss in interest on a loan for an environmental project). The fund should make an assessment of general economic conditions and capital markets to decide on its share in financing environmental projects.

Accountability. The funds must also develop procedures to ensure that they are accountable for the selection and award of projects and the disbursement of funds before applicants, other domestic funds, and financial intermediaries. Examples of accountability mechanisms include annual reports, audits of fund activities, communication with applicants of rejected projects, etc.

Leveraging of Revenues. The revenues from pollution charges at their present rates are unable to cover a variety of needs for financing significant environmental projects in Ukraine. The proposed amendments to the Ukrainian Law on Environmental Protection may be construed as authorizing another possible source of revenues for the environmental funds. The fund could take a loan from a bank (national or international) or issue bonds, using its revenues as collateral, and then invest it into an environmental facility that would generate future revenues through user charges. These user charges would then be used to repay the loan with any excess, if any, generating additional revenues for the Fund. An example of such a scenario (which is called 'leveraging') is investment in a wastewater treatment facility.

CHAPTER 3

PRIORITIES FOR IMPLEMENTING RECOMMENDATIONS

3.1 Introduction

The Stage 3 Report is organized under three major headings (Pollution Charges, Non-Compliance Penalties, and Environmental Funds) under the following theory:

Pollution Charges: Addressing the base and rate are fundamental to the system in terms of revenue forecasts and impact on industries. Collection of revenues is also addressed here.

Non-Compliance Penalties: Addresses the integrity of the system through its enforcement.

Environmental Funds: Addresses the manner of disbursement of the funds, the purpose of the funds, and the transparency of the process.

3.2 Clusters

Similarly, we would suggest that priority directions be couched in 'clusters' of recommendations because many of the recommendations are so closely intertwined, if not interdependent. We suggest the proper clusters might be the following:

Cluster #1: Pollution Charge Base and Rates

Includes recommendations 1 through 6 (consisting of our Chapter 1 *minus* 'Collection of Revenues').

Cluster #2: Collection and Compliance

Includes recommendations 7 through 14 (consisting of our Chapter 2 on non-compliance penalties *plus* 'Collection of Revenues').

Cluster #3: Environmental Funds

Includes Recommendation 15 (consisting of our Chapter 3).

3.3 Prioritizing the Clusters

While certainly many of these recommendations may be pursued simultaneously (and doubtless will be), a rough consensus seemed to form among stakeholders that priority should be accorded as follows:

- First: Environmental Funds (Cluster #3)
- Second: Collection and Compliance (Cluster #2)
- Third: Pollution Charge Base and Rate (Cluster #1)

While the Stage 3 Report authors placed the charge base and rate first because shaping the system to affect environmental behavior and forecast revenue volume seemed fundamental to us, the stakeholders appeared hesitant to disturb the status quo because of industry impacts and general economic conditions. Instead, they felt that enforcing payments already due (collection rates are low) would yield the needed revenue and (theoretically, at least) might affect environmental behavior, too. But everyone seems to be interested, first, in the transparency of the environmental funds disbursement process.

We believe that the Ukrainians can address all of these recommendations (and, indeed, have been wrestling with many of them). However, we believe that the clusters could benefit from consulting expertise that highlights the experience of other countries (donor or government assistance), with environmental funds benefiting most from such consulting support. The following recommendations might be advanced independently in Ukraine because work is already in progress or Ukrainian expertise would be especially suitable:

Recommendation	Ukrainian Activity
No. 1: Revise and reduce the number of pollutants	In progress now
No. 2: Hazardous/solid waste; remove charges after	Continue to work on regulations, in
No. 4: Mobile sources; change to product tax	Independent study
No. 7: Use of deferrals/waivers	Work out procedures
No. 8: Link payments to fund eligibility	Work out procedures
No. 10: Creditors' remedies	Consult Ukrainian legal scholars;
No. 14: Encourage liability system	Continuing legal review to improve