Environmental Finance

Monitoring Environmental Expenditure in Eastern Europe, Caucasus and Central Asia

Implementing the OECD/Eurostat Standards in the Kyrgyz Republic and Ukraine

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EAP TASK FORCE

The Task Force for the Implementation of the Environmental Action Programme for Central and Eastern Europe (EAP Task Force) was established in 1993 at the "Environment for Europe" Ministerial Conference in Lucerne, Switzerland. Its Secretariat was established at the OECD as part of the Centre for Co-operation with Non-Members. Since its creation, the EAP Task Force has proven to be a flexible and practical tool for providing support to political and institutional reforms in the countries of the region. After the Aarhus Ministerial Conference in 1999, its efforts were refocused on the countries of Eastern Europe, Caucasus and Central Asia (EECCA). More detailed information about Task Force activities can be found on its website at: www.oecd.org/env/eap

This report is also available in Russian under the title:

Мониторинг природоохранных расходов в странах Восточной Европы, Кавказа и Центральной Азии
Внедрение стандартов ОЭСР/Евростата в Кыргызской Республике и Украине

FOREWORD

In 1993, the Task Force for the Implementation of the Environmental Action Programme for Central and Eastern Europe (EAP Task Force) was established to support the integration of the environment into the broader process of economic and political reform in transition economies. Its secretariat was established at the OECD. With the enlargement of the European Union, and since the 1998 Aarhus conference, the focus of the EAP Task Force's work has shifted east, and is now concentrated on the countries of Eastern Europe, Caucasus, and Central Asia (EECCA).

EECCA countries currently are at an environmental crossroad: the current environmental situation is dire, and challenges are mounting, but there are also new opportunities. EECCA countries need to set clear priorities and targets, to guide both their own action programmes and multi-stakeholder partnerships.

To do so, EECCA countries and the international community together need reliable data on environmental expenditure, to see where financial resources come from and how they are allocated. In that respect, the experience of OECD countries in the design and maintenance of information systems on environmental expenditure provides guidance to reform the existing systems in EECCA. A pilot project was implemented in Georgia in 2001, which aimed at adapting and implementing the OECD/Eurostat methodology to monitor environmental expenditure.

This report documents the experience gained with similar projects in the Kyrgyz Republic and Ukraine, as well as the outcomes of a regional workshop for EECCA countries that discussed the reform of environmental expenditure data collection systems. These projects were supported financially by the Norwegian Government and the European Commission (TACIS). They form part of a wider series of reports and publications on environmental finance in EECCA countries which provide advice to governments on policies to harness innovative sources of finance and to better manage the existing resources.

The project was managed by Carla Bertuzzi, under the supervision of Xavier Leflaive both members of the Finance Team, Non-Member Countries Division, Environment Directorate, OECD. Metroeconomica, UK, was commissioned to implement the project in both countries, including the management of local experts involved in delivery of project tasks.

The project has entailed a close and fruitful cooperation with the Ministries of Environment and the State Committees for Statistics in the two countries, at both central and regional levels.

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List of Acronyms and Abbreviations

CEPA	Classification of Environmental Protection Activities
DANCEE	Danish Co-operation for Environment in Eastern Europe
EECCA	Eastern Europe, the Caucasus and Central Asia
EPEA	Environmental Protection Expenditure Accounts
EUROSTAT	European Statistical Office
ISIC	International Standard Industrial Classification of All Economic Activities
JQ	OECD/Eurostat Joint Questionnaire on Environmental Protection Expenditure and Revenues
KR	Kyrgyz Republic
MEES	Ministry of Environment and Emergencies of the Kyrgyz Republic
MEP	Ministry for Environment Protection of Ukraine
NACE	Statistical Classification of Economic Activities in the European Community
NSC	National Statistical Committee (Goscomstat)
OECD	Organisation for Economic Co-operation and Development
PAC	Pollution Abatement and Control
SERIEE	European System for the Collection of Economic Information on the Environment

EXECUTIVE SUMMARY

An important element of the work of the EAP Task Force in countries of Eastern Europe, the Caucasus and Central Asia (EECCA) is the collection and transparent reporting of reliable environmental expenditure information based on internationally agreed methodologies. The reasons for developing such systems are:

- To assist in the development of more effective environmental policies and regulations;
- To aid integration of environmental policies into economic and sectoral policies;
- To facilitate international comparisons on trends in environmental expenditure information;
- To raise public awareness and participation in environmental policy issues.

In 2003, the EAP Task Force published a report on trends in national spending for environmental protection activities in the twelve EECCA countries. This report, a unique collection of environmental expenditure data in the region, highlighted the gaps and weaknesses in the systems inherited from the Soviet era. Subsequently, a number of countries requested assistance on how to reform these systems.

The EAP Task Force assisted Ukraine and the Kyrgyz Republic to review their current data collection systems and to adapt the OECD/Eurostat methodology to their national contexts while strengthening capacity to collect, process, and disseminate reliable data on environmental expenditure. This report documents the results from these projects and, drawing on experience in other countries, draws some lessons for the countries of the region.

Reflecting country-specific conditions, the authorities in the Kyrgyz Republic were able to develop environmental reporting forms in line with OECD/Eurostat recommendations, to undertake a survey to test the capacity of the business sector to complete the forms, and to disseminate the methodology via a workshop for local counterparts. In Ukraine, new forms were developed, using a specific format, which shows significant improvements from the previous ones; a regional survey was undertaken to pilot test these forms and the procedures to process the data. Revised forms should be used at a national level in 2007.

While the two countries took different approaches to redesigning their reporting forms and the resulting formats are very different, the new approaches mark a distinct change from past practice and are consistent with the OECD/Eurostat methodology. In particular, both have taken on board key definitions from the methodology, more comprehensive environmental investment reporting and questions of environmental financing sources. Moreover, in both countries, the network of statistical offices performed very efficiently in carrying out their duties in testing the revised reporting forms; they demonstrated that change was practical under current institutional structures, given adequate levels of training and resources.

Some of the main challenges in moving towards an OECD/Eurostat framework are at the enterprise level, concerning availability and quality of data; more systematic auditing would help ensure it is genuinely ‘environmental’ expenditure.

In the context of transition economies, recent experience shows that the following issues are key:

- The register. Statistical systems are usually quite effective at collecting data from entities (including business firms) listed in a register; but the lists are often far from comprehensive. In particular, specialised producers of environmental services ought to be included in the business registers, as they manage and sometimes finance environmentally related infrastructures;

- The abater/financing principle. Existing systems are usually unable to document the financial flows behind environmental expenditure; this shows that environmental financial flows remain opaque in a number of countries;

- The distinction between end-of-pipe and process-integrated technologies. Existing systems generally cannot distinguish between these categories of investments, raising concerns about the nature of the data reported;

- Public expenditures. In most EECCA countries, budgetary accounting has to be reformed, to produce the data needed for statistical purposes. The same holds for household expenditures, which are currently ignored, although they are likely to grow, as markets develop for environmental services and cost recovery principles are more widely implemented.

Environmental expenditure data should be presented with other environmental indicators so that policy makers can assess the relevance and efficiency of policies and instruments. In the short run, this project should benefit the forthcoming revision of the report on trends in environment expenditure in EECCA countries, which should be published by the EAP Task Force at the end of 2006 or early 2007.

PART I: OVERVIEW

1. INTRODUCTION

The document reports on the activities and outcomes of the project for strengthening the existing environmental expenditure information systems in the Kyrgyz Republic and Ukraine. This work was conducted within the framework of the EAP Task Force and implemented by the Task Force secretariat at OECD. These activities have involved an analysis of the current system of environmental expenditure reporting and its compatibility with OECD/Eurostat definitions and classifications, the development of draft reporting forms, instructions and procedures, and a first data collection survey based on OECD/Eurostat methodological standards. Project tasks have been undertaken by a team of international and national consultants in close cooperation with Ministries of Environment and National Statistics Committees in the respective countries, and OECD EAP Task Force.

Part One of the report provides an extended summary of the activities and outcomes of the project. Part Two presents the full Country Reports. Part Three presents a synthesis of the workshop held in Kiev on 12 October 2005 to disseminate project findings to EAP Task Force members from EECCA countries.

2. PROJECT OBJECTIVES

The development objectives of the EAP Task Force in the countries of Eastern Europe, the Caucasus and Central Asia (EECCA) are "promoting the integration of environmental considerations in the processes of economic and political reform, upgrading institutional and human capacities for environmental management, and broadening political support for environmental improvement". An important element within these objectives is the collection and transparent reporting of reliable environmental expenditure information based on internationally agreed methodologies. The key reasons for developing such environmental expenditure information systems are:

- To assist in the development of more effective environmental policies and regulations. This includes national and regional budgetary decisions and the design of economic and administrative instruments for environmental protection.

- To aid integration of environmental policies into economic and sectoral policies, indicating where synergies and trade-offs exist.

- To facilitate international comparisons on trends in environmental expenditure information.

- To raise public awareness and participation in environmental policy issues.

The immediate objective of the project was therefore "to establish more credible environmental expenditure information systems in the Kyrgyz Republic and in Ukraine that follow international standards and classifications, which provide policy relevant information at a price affordable to the Ministries of Environment and the National Statistics Committees". It is intended that the results of the Kyrgyz Republic and Ukraine elements of this project, and those of a related project in Georgia (OECD, 2001), will serve as models for other EECCA countries.

3. KEY ITEMS IN THE METHODOLOGY

Key methodological aspects of OECD/Eurostat environmental expenditure information systems which underlie the development of new reporting forms and data collection systems in the project are set out in detail in the current "Joint Questionnaire on Environmental Protection Expenditure and Revenues"[1]. The scope of "Environmental Protection" expenditure is defined according to the Classification of Environmental Protection Activities (CEPA), which distinguishes nine environmental domains given in Table 1 below. The wider definition of "Environment Related" expenditure referred to in this report includes mobilisation of natural resources such as expenditure on water supply.

A number of key definitions are used in the OECD/Eurostat framework and these are summarised below.

Abater principle and financing principle:

- Expenditure according to the abater principle (EXP I) includes all expenditure that a sector has for measures they themselves execute.

- The financing principle (EXP II) measures how much money a particular sector (directly) *contributes* to overall environmental protection activities, wherever they are executed. This means that the part of EXP I that was directly financed by others (through subsidies or revenues received) should be deducted, while the part of EXP I in other sectors that a sector finances directly (through subsidies or fees paid) should be added.

The questionnaire is designed to allow for evaluation of expenditure using both principles for each sector and industry. This distinction makes it possible to aggregate expenditure by different sectors and industries without double counting.

Sectors: The questionnaire consists of four tables for the main sectors of the economy, and additional sub-tables for the business sectors and for specialised sectors:

- **Public sector** includes central, regional and local governments, authorities, communities and government agencies (mainly recorded under standardised activity classifications ISIC/NACE

[1] *OECD/Eurostat Environmental Protection Expenditure and Revenue Joint Questionnaire*, OECD Working Group on Environmental Information and Outlooks, 2004. Available in English and Russian.

75). Typical activities are regulation, control, research, education and information and other services provided to the community, mainly financed by general government budgets or funds and not directly or partly by the users of these services.

- **Business sector** includes all environmental protection activities in ISIC/NACE 01-99 intended for own use, excluding public sector (mainly ISIC/NACE 75) and the activities of specialised producers (mainly in ISIC/NACE 90). Total business sector is divided into five sub-categories according to ISIC/NACE classifications for (a) agriculture, hunting, fishing, forestry; (b) mining and quarrying; (c) total manufacturing (with a more detailed industry breakdown); (d) electricity, gas and water supply; (e) other business activities.

- **Household sector** environmental protection expenditure according to the abater principle should include only purchases of connected and adapted products. For example, purchase of air pollution control devices for motor vehicles, sewage treatment facilities such as septic tanks and goods used in connection with waste management. Household expenditures according to the financing principle include all payments and fees for services purchased from municipalities and public or private specialised producers of environmental protection services. These include mainly, payments for the collection and treatment of waste and for the collection and treatment of wastewater.

- **Specialised Producers of Environmental Services** include public and private corporations producing services mainly financed by the users of these services. These are mainly activities within ISIC/NACE 90 such as collection and treatment of sewage; collection and treatment of solid waste; and sanitation, remediation and similar activities.

Type of expenditure: The following types of expenditure are defined in the questionnaire:

- **Total Investment Expenditure** includes end-of-pipe investments (treating pollution already generated) and investments in integrated technologies (modifications of production process that reduce the amount of pollution generated).

- **Total Current Expenditure** is the sum of internal current expenditure and fees/purchases for environmental protection services. It is expenditure for execution of environmental protection activities (excluding purchase of capital goods), for example: operation of environmental equipment, measuring and monitoring, environmental management, education and administration.

- **Receipts from by-products** are the monetary value of any by-products generated by environmental protection activities. These could either be sold and generate revenues, or be used internally and lead to reductions in costs. Examples include energy generated or material recovered, as a result of waste treatment.

- **Subsidies/Transfers** include all types of transfers (capital and current) financing environmental protection activities in other sectors, including transfers to or from other countries, subsidies paid by the public sector and subsidies received by other sectors.

- **Revenues** from the sales of environmental services are monies received by public sector and specialised producers from the users (the counterpart to fees/purchases). This is mainly related to waste collection, waste treatment and sewage treatment.

Table 1: Scope of Environmental Protection Expenditure

1. Protection of ambient air and climate

Prevention of pollution through in-process modifications for the protection of ambient air, and of climate and ozone layer.

Treatment of exhaust gases and ventilation air for the protection of ambient air, and for the protection of climate and ozone layer.

Measurement, control, laboratories and the like and other activities.

2. Wastewater management (includes prevention of emission to surface water)

Prevention of pollution through in-process modifications

Sewerage networks

Waste water treatment

Treatment of cooling water

Measurement, control laboratories and the like and other activities.

3. Waste management (includes treatment of low-level radioactive waste, composting, street cleaning and sweeping, recycling)

Prevention of pollution through in-process modifications

Collection and transport

Treatment & disposal of hazardous waste: thermal treatment, landfill, other

Treatment & disposal of non-hazardous waste: incineration, landfill, other

Measurement, control, laboratories and the like and other activities

4. Protection and remediation of soil, groundwater and surface water (includes all cleaning-up activities)

Prevention of pollutant infiltration

Cleaning up of soil and water bodies

Protection of soil from erosion and other physical degradation

Prevention and remediation of soil salinity

Measurement, control, laboratories and the like and other activities

5. Noise and vibration abatement (excluding workplace protection)

Preventive in-process modifications at the source from: road & rail traffic, air traffic, industrial & other noise

Construction of anti noise/vibration facilities for road & rail traffic, air traffic, industrial & other noise

Measurement, control, laboratories and the like and other activities

6. Protection of biodiversity and landscape

Protection and rehabilitation of species and habitats

Protection of natural and semi-natural landscapes

Measurement, control, laboratories and the like and other activities

7. Protection against radiation (excluding external safety)

Protection of ambient media

Transport and treatment of high level radioactive waste

Measurement, control, laboratories and the like and other activities

8. Research and Development

Includes all research and development with an environmental protection objective both in the public and business sector.

9. Other environmental protection activities

General environmental administration and management including: general administration, regulation and the like, environmental management

Education, training and information

Activities leading to indivisible expenditure and activities not elsewhere classified

Source: Eurostat, Classification of Environmental Protection Activities (CEPA), 2000. For further details see: http://europa.eu.int/comm/eurostat/ramon/

4. PROJECT MANAGEMENT

Before starting the project, official approvals and requests for the project were provided by the Ministry of Ecology and Emergencies and the National Committee of Statistics of the Kyrgyz Republic, and by the Ukrainian Ministry of Environmental Protection and the State Committee of Statistics. These indicated the relevant institutions' wish to reform the environmental expenditure information systems and to harmonise them with OECD/EUROSTAT frameworks.

The successful delivery of projects tasks was dependent on effective cooperation between parties taking part. The key parties were:

OECD EAP Task Force Secretariat, responsible for preparing the Terms of Reference of the project, assisting with expert inputs and quality control, guiding the international consultants and providing comments on and approval of projects outputs.

The ***Government of the Kyrgyz Republic and the Government of Ukraine***, responsible for supervising the project in their country and taking all necessary decisions to implement the project, for making available staff time of relevant officials to prepare and participate actively in projects implementation. Of particular importance was the good institutional cooperation achieved between the Ministry of Environment and the National Statistical Committees in each country.

International Consultants, responsible for overall management of the project development, implementation and training including the management of local experts involved in delivery of project tasks.

For the purpose of effective project supervision, guidance to consultants, and approving major project reports and outputs the governments of the Kyrgyz Republic and of Ukraine established Steering Groups chaired by high level officials from the Ministry of Environment and the State Committee of Statistics. Expert representatives of the OECD EAP Task Force Secretariat, main participating institutions in each country and other appropriate institutions, including Ministries of Finance and Economy, were invited onto the Steering Groups. Each Steering Group met at regular intervals throughout the project and received presentations of progress by project consultants.

It is stressed that in working to reach the overall project objectives the participants took into account specific country circumstances including the practical possibilities of revising the current environmental expenditure information systems and the priorities and resources of Government institutions participating in the project. Therefore, project outcomes were flexible and adapted to country specific conditions rather than simply focused on implementing comprehensive environmental expenditure information systems fully consistent with the OECD/Eurostat framework.

5. COUNTRY CASE STUDY: KYRGYZ REPUBLIC

The project originated when the Kyrgyz government requested the EAP Task Force to support and assist its reform of the system of production of statistical information on environmental expenditure. This was an opportunity for the government to comply with international standards and to collect reliable/comparable environmental information for policy making purposes.

5.1 The Existing System

The existing collection and reporting systems for environmental expenditures in the Kyrgyz Republic is based on a comprehensive annual survey, using Government statistical reporting forms which date back to the Soviet period. The list of questions included in the forms is coordinated annually with the relevant government ministries and agencies (particularly, Ministry of Environment and Emergency Situations), and changes or additions are made as necessary, which are then approved by National Statistical Committee resolution. The survey is then administered by National Statistical Committee through Oblast, town and rayon statistical offices.

Categories of environmental expenditure information and their corresponding reporting forms are given in Table 2 (much greater detail is given in the Country Report for Kyrgyz Republic). For Form No. 4-OS Statistical Report "Current Environmental Expenditures" the list of the reporting enterprises is determined on the basis of the Uniform State Register of Statistical Units. This list includes enterprises in NACE/ISIC codes 01 to 93 except for enterprises in NACE/ISIC code 90 which covers many “Specialised Producers of Environmental Services” such as disposal of waste water and solid wastes.

National Statistical Committee has an extensive program of publications that includes express information releases, statistical compilations, bulletins, etc. Data are used for the completion of international questionnaires, preparation of analytical reports and notes, provided at the users' request, etc. Necessary statistical and analytical information is provided to the public authorities and governance bodies of the country.

Table 2: Main Environmental Expenditure Information Categories and Sources of Data

No	Indicator	Data source	Data reporting time
1	Current environmental expenditures of organizations and institutions; average annual value of capital environmental production assets; pollution taxes and fees for the use of natural resources[1]; expenditure for capital repair	Data from summary reports on current environmental expenditures and environmental fees, Form No. 4-OS	First quarter following the reporting period
2	Investments in environmental protection	Data from summary reports on investments in nature conservation and rational use of natural resources, Form No. 18-KS	First quarter following the reporting period
3	Expenditures for natural reserves and natural parks	Data from summary reports on natural preserves, natural parks, and Form No.1-Natural Reserve	First quarter following the reporting period
4	Expenditures for wildlife protection and reproduction and forestry works (current expenditures)	Data from summary reports on game reserves and forestry, Form No. 2-tp (hunting) and Form No.1-forestry	First quarter following the reporting period
5	Expenditure for forest fires extinguishing	Data from summary reports on forest fires, Form. No. 5-lh (forest industry).	As of November 1 of the reported period
6	Environmental fund report	Data from summary report, Form No.1-ecofund	First quarter following the reporting period

1. Payments for the purchase of environmental protection activities and ear-marked taxes (to be reported as subsidies/transfer)

5.1.1 Compatibility of Kyrgyz Republic System with International Standards of OECD

A Summary comparison between OECD/Eurostat methodology and the existing Kyrgyz Republic system is given in Table 3. Some key methodological differences to note between the systems include:

- *Environmental Domains:* Some gaps in data coverage with some CEPA environmental domains excluded from existing reporting.

- *Abater Principle and Financing Principle:* There is difficulty in determining sources of financing of expenditures related to environmental protection. Existing reporting on environmental protection expenditures only covers abater expenditures.

- *Specialised Producers Coverage:* Reporting on the form No.4-OC excludes some enterprises which provide environmental services (collection and transportation of solid domestic wastes);

- *Public Sector Coverage:* Data on the state budget spending is not available at a level of detail that allows systematic reporting according to OECD/Eurostat principles.

- *Household Sector Coverage:* There is practically no information on households expenditure for environmental protection;

- *Investment Expenditure:* There is no division between investments in "end of pipe" technology and “process integrated” technology; investment reporting does not cover all sectors (such as forestry and hunting grounds);

Table 3: Summary Comparison Between OECD/Eurostat Methodology and Existing Kyrgyz Republic System

	OECD/Eurostat Methodology[2]	Kyrgyz Republic Current System
Environmental Domains	Protection of ambient air and climate	Corresponding classification
	Wastewater management	Partially corresponding classification but problems in distinguishing between waste water and water supply
	Waste management	More limited reporting
	Protection and remediation of soil, groundwater and surface water	Partially corresponding classification
	Noise and vibration abatement	Not collected
	Protection of biodiversity and landscape	Partially corresponding classification
	Research and Development	Not collected
	Other environmental protection activities	Not collected
Reporting Principles	Abater principle and financing principle	Abater expenditures only
Economics Sectors	Business	Reporting by enterprises but limitations in coverage
	Public	No detailed reporting
	Household	No reporting
	Specialised producers of environmental services	Partial reporting
Types of Expenditure	Investment expenditure	No division between investments in "end of pipe" technology and integrated technology
	Current expenditure	Reported
	Receipts from by-products	Not reported in environmental expenditure forms
	Subsidies/Transfers	Only partially reported: environmental fund transfers are reported but not international transfers
	Revenues from environmental services	Not reported

5.2 Outcome of the Project

The implementation phase of the project focused on the development of new environmental expenditure reporting forms, drafting of guidance documents, procedures for environmental expenditure data collection, and conducting a first survey to test data collection and processing under the revised system. Associated training for NSC and MEES staff and development of computer tools for environmental expenditure information systems was also undertaken.

5.2.1 Development of Environmental Expenditure Reporting Forms

In the implementation phase of the project considerable work was undertaken in development of new reporting forms introducing OECD/Eurostat methodology to the extent feasible, taking into account the capacities of business sector recipients to complete the form, the needs of the MEES and NSC for collecting specific items of data and the requirements of the OECD/Eurostat Joint Questionnaire (2004).

[2] Definitions of these items are given in Section 2 “Overview of Environmental Expenditure Information Standards of OECD and Eurostat”.

Having studied the reporting tables of a previous related OECD project in Georgia, it was decided to take the Georgian forms as a starting point for developing Kyrgyz Republic tables. This represented a basic departure from the format of the existing environmental expenditure reporting forms used in the country. During the period of development of the forms a small pilot survey using the draft form was conducted among a 'core group' of enterprises and the comments of Steering Committee members were received. After taking account of these inputs, the full set of environmental expenditure reporting forms and associated completion instructions for use in the survey were completed. We should point out that, while these Kyrgyz Republic forms retain some general features of the Georgian questionnaire, there are many details which are not common to the Georgian forms.

The key innovations in the new reporting forms in relation to OECD/Eurostat methodological principles were as follows:

- Introduction of **CEPA definitions** for environmental protection expenditure domains. A major part of the form completion guidance document was devoted to the explanation of these definitions.

- Inclusion of **environment related expenditure** items for water resources (including drinking water supply) and land resources.

- Inclusion of the concepts of **end of pipe** and **process-integrated** investments. The low level of such investment in the country means that the project survey was introducing the concept rather than collecting data from a significant number of enterprises.

- Introduction of questions on **Subsidies and Transfers** and **Receipts from by-products**. Such questions on financial flows related to environmental protection are a first step to reporting according to the **Financier Principle** although they do not give comprehensive enough data for reliable reporting according to the financier principle at this stage.

- Inclusion of data on **specialised producers of environmental services**, which to date have not been included in environmental expenditure surveys in Kyrgyz Republic.

5.2.2 Survey of Environmental Expenditure

In the period from 10 to 30 May 2005, a survey was undertaken to test the capacity of business sector enterprises (privately and municipally owned) to complete the new environmental expenditure reporting forms, the institutional capacity for dealing with revisions to the system and computer processing software. The survey covered all oblasts of the country. The list of enterprises included in the survey was based on the list for existing surveys but additionally included enterprises from NACE/ISIC code 90 "Disposal of Waste Water, Wastes and Similar Activities".

Regional statistics departments assisted in disseminating and collecting reporting forms. From the 445 reporting forms sent out, 392 reports were received, of which 351 were completed. All collected forms were checked in terms of logic and arithmetic consistency by the local consultants, and errors and inaccuracies were corrected to the extent possible. This was followed by computer entry of collected data by staff of the NSC Central computer department using computer input tables and associated instructions developed by the international consultants.

Feedback from enterprises on their experience in completing the forms mainly concerned the number of tables, the amount of questions included, and the considerable difference in terminology and structure of the new forms compared to previous ones.

Taking account of questions from respondents and analysis of the returned completed forms, a number of recommendations for improving the forms were made by the consultancy team. A revised reporting form including recommended adjustments is given in Annex A1 of the Country Report. Computer processing of survey data provided trail results using the new system in these is extensively reported in Section 5.3 of the Country Report.

5.2.3 Training Workshop

To inform and train specialists from the NSC and MEES on proposed changes in the environmental expenditure information system being developed under the current project, a training workshop was undertaken on 25 April, 2005. The workshop was attended by representatives of the NSC, Bishkek city and Chui Oblast Statistics Departments, DENM of Bishkek and Chui Oblast AEP, State Forestry Service. The purpose of the workshop was to familiarize specialists with project plans, methodology of OECD/Eurostat, as well as to discuss environmental expenditure reporting forms and guidance notes developed under the project. The second half of the day was devoted to the computer program, its design and data processing for the survey. These issues were discussed with the specialists from the NSC who are directly involved in electronic data processing.

5.2.4 Conclusions and Recommendations on Survey Procedures

A good response rate was achieved in the project survey. While feedback from enterprises demonstrated a number of issues of reporting form design and clarity (that were addressed in project recommendations and revised form design), respondents in general showed a good general understanding of the requirements of the forms and tried to complete them promptly. The good cooperation of respondents may be explained by the long history of mandatory reporting of environmental expenditure and the considerable efforts of local experts to provide advice and guidance.

Procedures followed in the survey indicate that the National Statistics Committee is well equipped to undertake a national survey of this type in an efficient and timely manner. Good co-operation was gained with NSC oblast staff in distributing, collecting and returning survey forms and with NSC IT staff in the entry of data into Excel input tables. International consultants played the lead role in data processing and the provision of preliminary survey output tables and graphs. However, from our consultations and training with NSC national computer centre staff we are confident that they have good capacity to work with the computer tools developed for the project or, if it is required, to further develop existing computer reporting systems.

In order to further improve the capacity of NSC to undertake national environmental expenditure surveys using OECD/Eurostat methodology it is recommended that, to the extent possible, in the future survey tasks are decentralised to NSC oblast offices. These tasks may include provision of advice on form completion, checking of forms for logic and consistency, and verification of data. The key requirement to achieve this would be regional training and on-going national office support to enable oblast level staff to understand the new forms and competently carry out the tasks. It is noted that the existing practice is for double-checking of completed forms both at oblast and national level.

While it is the practice of NSC to make thorough logic and consistency checks on completed forms and this was done in the project survey, there remains the issue of data reliability. Enterprises complete forms according to their official accounts. However, it is noted that the capacity for auditing environmental expenditure data is quite weak among auditing and financial companies in the country. Therefore, there is a need for development of such capacities as part of the process of ensuring data reliability.

A further issue of data reliability is the capacity of existing enterprise selection criteria to adequately take into account all environmental protection expenditures under CEPA definitions. The basis of enterprise selection for the project survey was the Unified State Register for Statistical Units (USRSU). While this provides a list of enterprises in line with ISIC (NACE) sector codes and is updated annually, it is likely that some environmental expenditures have been omitted from the survey and official data because they have not fully included small enterprises. Also, some hunting and forestry enterprises were omitted due to their remote location and the difficulty of delivery and collection. It is recommended that selection of enterprises is expanded to include small enterprises and this will be further considered in the final phase of the project.

5.3 Next Steps

- Address legal and organizational issues. Necessary institutional and legal approvals for the implementation starting from 2007 of new statistical reporting forms developed within the framework of the project.

- Conduct further national and regional educational workshops and training for the NSC departments and MEES inspection personnel on the new forms and OECD methodology (depending on funds availability).

- Conduct periodic examination of the data reliability; including recommendation that large single expenditures above a cut off point (to be defined) are automatically subject to further verification by NSC officials.

- Develop Environmental Registry of enterprises; it is intended that the NSC together with the MEES will develop a specialized register to ensure better coverage of enterprises and organizations having environmental expenditures.

- Give special attention to the enterprises providing specialised environmental services; consider a separate reporting form for them.

- Further adaptation and development of computer software developed for the project survey. This is necessary for effective data processing by NSC computer department of upcoming national surveys using further revisions of reporting forms.

- Develop appropriate introduction of environmental expenditures reporting for small business which currently are not included in reporting sample.

- Periodically review reporting forms; modify them as necessary.

Since the completion of the main tasks of the project a reorganisation of the environmental institutions has taken place in Kyrgyz Republic. Environmental protection functions have been separated from the former MEES, and transferred to the State Environmental Protection and Forestry Agency, the structure of which was not settled at the time of writing. Therefore we also suggest that the recommended next steps are reviewed by NSC and the new agency when institutional changes are complete so that feasibility and division of responsibilities can be decided.

6. COUNTRY CASE STUDY: UKRAINE

Ukraine inherited a complete state statistics reporting system from the Soviet Union and has retained and further developed it in subsequent years. During this time, attention has been paid to harmonisation with European standards. For example, in 1997 Ukraine cancelled the Soviet Classification of Economic Sectors and adopted NACE (Classification of Economic Activities in the European Community). The Cabinet Resolution No. 475 of April 7, 2003 “On Approval of the Programme for National Accounting Development until 2010” envisaged introduction of the European System of Accounts in Ukraine; *inter alia* satellite Environmental and Economic Accounting. This requires that the system that produces data on environmental expenditure be harmonised with OECD/Eurostat standards.

6.1 The Existing System

The basic Ukrainian questionnaire for current environmental expenditures is "1-Environmental Expenditures"; it is an annual questionnaire for enterprises, organisations, institutions, individual entrepreneurs that have emissions, dispose of waste, or have environmental protection expenditures. Capital investments are reported in questionnaire "1-investments", which contains a special section for environmental capital investments. There are several other questionnaires used by the State Committee for Statistics (Goscomstat) that also provide environmental expenditure data, see Table 4.

According to the current procedures regional agencies of the Ministry for Environmental Protection are responsible for selection of enterprises to be included in environmental expenditure surveys. The procedure of choosing reporting entities draws from previous years experience and is based on pollution charge payers, in particular for air emissions. The number of enterprises that submit reports on current environmental expenditures is about 25,000 from a total of 500,000 registered legal entities.

The State Committee for Statistics of Ukraine has the main responsibility for the timely collection and processing of environmental expenditure information. The list of questions included in reporting forms is coordinated with the relevant State Agencies and Ministries (especially with the MEP). If necessary, additional changes and improvements are made and approved by State Committee for Statistics.

The approved statistical reporting forms and guidelines are distributed, collected and checked through oblast and local statistical services. Computer data entry is undertaken by oblast statistical services before transfer to the Main Computing Centre of the State Committee on Statistics for additional checks. Thereafter, summary reports are made according to region, types of ownership and economy sectors and a country summary is prepared. Prepared information is published in Statistical Yearbooks and bulletins such as the annual Environmental Survey published by Goscomstat. This information is also used for international questionnaires, analytical reports, and other notes as required. The Ministry for Environment Protection is the main user of information on environmental expenditures. The Ministry publishes an annual National Report on the State of the Environment, which also includes some information about environmental expenditures.

It is noted that in the Environmental Ministries and State Committees the staff engaged in environmental statistics still has limited access to internet and email. In many cases source information is available in hard copies only and its processing requires additional time and effort. Goscomstat bodies at oblast level are also lacking in up to date software and there is insufficient data processing hardware.

Table 4: Main Environmental Expenditure Information Categories and Sources of Data

No	Information Category	Data source	Data reporting time
1	Report on current environmental expenditures of organizations and institutions, including individual entrepreneurs; payments for pollution of the environment; cost of environmentally related capital assets overhaul	Form No. 1-Environmental Expenditures	Annually on 25 February following the reporting year
2	Report on investments in fixed assets, including environmental protection related	Form No. 1-Investments	Annually on 20 February following the reporting year
3	Report on investments in fixed assets, including environmental protection related	Form No. 2-Investments	Quarterly on 25.04, 25.07, 25.10 for previous quarter
4	Report on ambient air protection	Form No. 2-TP (Air)	Annually on 25 January following the reporting year
5	Report on water use	Form No. 2-TP (Water Issues)	Quarterly on 05.01, 05.04, 05.07, 05.10 for previous quarter
6	Report on formation, use and neutralisation of toxic waste	Form No. 1 – Toxic Wastes	Annually on 20 January following the reporting year
7	Report on natural reserves and natural parks	Form No. 1 – Natural Reserve	Annually on 25 January following the reporting year
8	Report on game-preserves	Form No. 2-Hunting	Annually on 5 February following the reporting year
9	Report on forest fires extinguishing	Form No. 5-Forestry Industry	Annually on 10 November of the reporting year
10	Report on soil protection measures	Form 4-Soil	Annually on 10 January following the reporting year
11	Urgent report on exploration work	Form 1-gr (urgent)	Monthly on 3-rd day for previous month
12	Report on exploration work	Form 2-gr	Monthly on 8/12-th day for previous month

6.1.1 Compatibility of Ukrainian System with International Standards of OECD

Some key methodological differences to note between the systems include:

- *Environmental Domains:* While there is some correspondence of definitions with those of CEPA environmental domains (in particular “Protection of ambient air and climate” and “wastewater management”) other definitions are more partial (such as “waste management”) or data is not collected at all (“noise and vibration abatement” and “other” domains).

- *Abater Principle and Financing Principle:* The existing statistical system makes it difficult to determine the sources of environmental protection financing since it covers abater expenditures only.

- *Specialised Producers Coverage:* Reporting on the form No. 1 – Environmental Expenditures does not include enterprises which provide environmental services (e.g. collection and transportation of solid domestic wastes).

- *Public Sector Coverage:* Official categories of public environmental expenditure only partially correspond to CEPA definitions; existing statistical system does not include reporting of environmental expenditures of governmental bodies.

- *Household Sector Coverage:* There is practically no information on households expenditure for environmental protection.

- *Investment Expenditure:* There is no division between investments in "end of pipe" technology and "process integrated" technology; investment expenditures are reported only by enterprises carrying out environmental construction.

- *Receipts from by-products*: Not reported.

- *Subsidies/Transfers:* Only partially reported. Environmental fund transfers are recorded but not international transfers.

6.2 Outcome of the Project

The implementation phase of the project focused on the development of new environmental expenditure reporting forms and completion guidance documents, procedures for environmental expenditure data collection, and a first survey at regional level[3] to test data collection under the revised system.

6.2.1 Development of Environmental Expenditure Reporting Forms

The basis of decisions on the development of the new forms was to introduce OECD/Eurostat methodology to the extent feasible, taking into account the capacities of business sector recipients to complete the form, the needs of the MEP and Goscomstat for collecting specific items of data, and the requirements of the OECD/Eurostat Joint Questionnaire (2004). Unlike the Kyrgyz Republic project, the Ukrainian project did not use the outputs of the previous OECD project in Georgia as a starting point for form development.

The full set of forms used in the Ukrainian survey is given in Annex 1 of the Ukraine Country Report. This represents a significant departure from the format of existing environmental expenditure reporting forms used in the country. The key innovations in terms of moving towards OECD/Eurostat methodology are as follows:

- Introduction of **CEPA definitions** for environmental protection expenditure domains. The sequence of expenditure items given in the forms for investment and current expenditure follow these CEPA definitions.

- It is the first time **environmental investment** questions have been included on an environmental expenditures form, rather than in the forms for all purpose investments (Form No.1 and No. 2 Investments). The forms aim to allow for investment data to be interpreted using the concepts of 'end of pipe' and 'process-integrated' investments. It was decided not to explicitly state these concepts on the reporting forms since the level of detail required on investments, on the basis of CEPA definitions, would be sufficient to divide between of 'end of pipe' and 'process-integrated' investments during processing of data.

- Data are provided in accordance with **Financier Principle** with division on the forms for state budget, State Environmental Fund, local budgets, other sources and from enterprise's own resources.

[3] It was not possible to lunch a comprehensive survey, at national level, as the period for such surveys in Ukraine was not compatible with the time frame of the project.

- Information on ‘Grants and Transfers‘, ‘Receipts from by-products’ are included.

- Forms are designed for inclusion of data on all business sectors including on **specialised producers of environmental services** (NACE/ISIC code 90), which to date have not been included in environmental expenditure surveys in Ukraine.

6.2.2 Survey of Environmental Expenditure

Organization of the data collection survey in the Donetsk region using the reporting form for environmental expenditures as developed within the project was undertaken by project consultants jointly with the Main Office of Agriculture and Environment Statistics in the Donetsk region. The lists of enterprises were compiled by the staff of Environmental Statistics Department Donetsk region taking into account the recommendations of Goscomstat and project consultants. The enterprise selection focused on (1) the largest polluters (the major ambient air and waste water polluters as well as environmental charges payers according to existing data) and (2) selecting a representative sample of existing economic activities in the region. The list included enterprises of all types of ownership: state, joint and private.

260 enterprises from 28 economic sectors in Donetsk region were chosen. The project survey sample included some enterprises that could be classed as providing environmental services (in NACE 41 and 37) but no enterprises classed as ‘Specialised Producers of Environmental Protection Services’ under NACE 90 were included. Training of Environmental Statistics Department Donetsk Oblast Office staff took place in two ways. Local consultants provided general training on OECD methodology and specific ‘on the job’ training on the new reporting forms and survey procedures. Also national level Goscomstat staff provided necessary clarifications of survey procedures and outputs.

The questionnaire package sent to enterprises contained the reporting form, instructions with appendix, questionnaire and covering letter. The questionnaire was included in order to obtain structured feedback from enterprises on the new draft reporting form and instructions, and thus to aid the process of assessing their design. The staff of local statistical offices was engaged in the delivery process. Throughout the period of form completion local oblast staff were available for dealing with telephone inquiries from enterprises with local consultants also dealing with more complicated questions.

All the information was processed manually. Goscomstat statistical offices at oblast level have software for processing data for the existing environmental expenditure reporting system. However, this is outdated and was not adapted for processing data in the project survey because of its age, and the time and resources necessary for such a task.

Of the 260 packages delivered to selected enterprises 244 replies (94%) were received. All enterprises completing the reporting form also completed the questionnaire about the form. Summary analysis of questionnaire replies is given in Annex B4 of the Country Report, and conclusions and recommendations on further technical revisions are made in Section 5.3 of that report

6.2.3 Conclusions and Recommendations on Survey Procedures

A key conclusion from the survey undertaken in Donetsk Region is that the regional office demonstrated its capacity to play the key role in administration of the task and to complete it in a timely and efficient manner. This involved not only distribution and collection of reporting forms but also provision of advice on completion to enterprises, and initial preparation of findings of the questionnaire survey.

In order to further improve survey procedures and the capacity of Goscomstat to undertake national environmental expenditure surveys using OECD/Eurostat methodology it is recommended that:

- Existing Ukrainian criteria for selection of enterprises for the national environmental expenditure survey should be reviewed to ensure that they adequately take into account all environmental protection expenditures under CEPA definitions and do not introduce bias. Current selection lists are based largely on air pollution charge payers and extended to include solid waste disposal and waste water emission charge payers, and it is recommended that more broad based selection criteria are applied.
- Specialised Producers of Environmental Services under ISIC/NACE code 90 should be included in future surveys. Those enterprises that have not been included in environmental expenditure reporting before will require extra support and guidance from Goscomstat oblast level staff. A particular problem here is the overlap between ISIC/NACE code 90 and code 41 for water supply/waste water treatment, whereby enterprises undertaking activities classed as NACE 90 also provide water supply services and at the moment report as NACE 41.
- A program of training on OECD/Eurostat methodologies and the new reporting form should be developed for Goscomstat oblast level staff across the country to facilitate the introduction of reformed systems for the accounting year 2006.
- Urgent attention should be given to the issue of computer processing of data using the new reporting forms. Goscomstat oblast offices have outdated software. Therefore, it is preferable that support is given for the upgrade of computer software and hardware. In the absence of investment in new systems, existing software will need to be reprogrammed to take account of the new reporting form. Survey efficiency will also be enhanced with the provision of on-line reporting form completion and support for enterprises. In the current official survey enterprises are only provided with paper copies of the reporting form; this generates extra work to compile the data, and additional risks of misreading.

6.3 Next Steps

Given the stated intention of Goscomstat and MEP counterparts to build on the work of this project by moving towards implementation of reformed environmental expenditure information systems at the national level for the accounting year starting in 2006 (with first reporting in 2007), it is necessary to consider the next steps to facilitate the achievement of this target. The suggested steps are:

- The institutional procedure for formal adoption by Goscomstat of new environmental expenditures questionnaire. The steps necessary over the coming month are outlined in further detail in the Country Report.
- Resolution of Cabinet of Ministers to approve use of CEPA definitions in environmental expenditure reporting.
- Organisation of training program of the regional staff of Goscomstat throughout the country to facilitate a first collection of data under the new system at the national level.
- Development of data processing capacity for a national collection of environmental expenditure information. At the implementation stage Goscomstat foresees special procedure of developing necessary software for Oblast Departments and Central Computing Centre of State Committee for Statistics.
- New questionnaires are to be sent to plants by end of 2006 to give possibility to complete them in January-February before deadline of 25 February.

7. GENERAL CONCLUSIONS

7.1 Assessing the Experience in the Kyrgyz Republic and Ukraine

Assessing the experience of the project in both Kyrgyz Republic and Ukraine it is clear that, while there are many contextual differences between the environmental expenditure information systems in these two countries, there is significant common ground in terms of issues to be addressed in moving towards OECD/Eurostat framework. The fact that, in common with many other EECCA countries, the current systems have both evolved from the Soviet system, including the use of standard reporting forms from that period, means that the core issues of methodological compatibility with OECD principles are very similar between both countries. In fact, the tables in the Kyrgyz Republic and Ukrainian country reports summarising the key points of comparison between OECD and existing country definitions and classifications are practically identical (see Table 3 of this report).

While the two countries took different approaches to redesigning their reporting forms and the resulting formats are very different, their scope of methodological innovation was similar. In particular, both have taken on board CEPA environmental domain definitions, more comprehensive environmental investment reporting and questions of environmental financing sources.

Although the project surveys were rather different in size, regional coverage and level of processing of data, a major positive conclusion from both countries was that the network of statistical offices performed very efficiently in carrying out their duties in testing the revised reporting forms. They demonstrated that change to existing reporting systems was practical under current institutional structures, given adequate levels of training and resources.

Some of the main challenges in moving towards an OECD/Eurostat framework are at the enterprise level, both concerning availability and quality of data, and good communication between business and state sectors; more systematic auditing of data would help ensure it is genuinely 'environmental' expenditure, for example, in the case of land protection expenditures.

7.2 Lessons Learnt

Environmental expenditure data can only partially contribute to informing policy makers on the efficiency of the policies and instruments that are best suited for their country. Their limitations are well known and have been documented in previous OECD work[4], and relate mainly to methodological and data collection issues. Typically, the OECD/Eurostat framework is based on the expenditure rather than on the cost concept and therefore underestimates the real costs of the assets. These include interest payments and depreciation of capital which are indicators that are more useful for policy makers. Also, it is sometimes problematic to decide if activities that are beneficial for the environment are carried out primarily for environmental or for other purposes, or to estimate the proportion of new capital equipment expenditure that can be attributed primarily to environmental purposes. Ultimately, environmental expenditures focusing on inputs should be regarded in conjunction with physical data on the state of the environment and other information (i.e. environmental regulations, privatisation of utilities, etc..) in order to derive conclusions on their effectiveness and to decide on expenditure needs.

Currently, environmental expenditure indicators are not presented with other environmental indicators for policy makers to assess the relevance and the efficiency of policies and instruments. All delegates at the Kiev regional workshop agreed that reliable and consistent data are needed.

[4] OECD/EAP Task Force (2003*) Trends in Environmental Expenditure and International Commitments for the Environment in Eastern Europe, Caucasus and Central Asia, 1996-2001*.

The experience of the countries represented at the Kiev workshop confirmed that the OECD/Eurostat standards can help improve the quality of environmental expenditure data, and of the systems which collect, process, and disseminate them.

In the context of transition economies, recent and past experience shows that the following issues are key:

- **The register**. Statistical systems are usually quite effective at collecting data from entities (including business firms) listed in some register; but the lists are often far from comprehensive, and the criteria to design them have to be revised and adapted to the new economic and technological context. In particular, **specialised producers of environmental services** (an industry which is likely to emerge in transition economies) ought to be included in the system, as they manage and sometimes finance environmentally related infrastructures.

- **The abater/financing principle**. Existing systems are usually unable to document the financial flows behind environmental expenditure. Thus, it is difficult to know who effectively pays for what and there is a risk of double counting. At the same time, this shows that environmental financial flows remain opaque in a number of countries.

- **The distinction between end-of-pipe and process-integrated technologies**. The inability of existing systems to distinguish between investments raises concerns about the nature of the data reported in this category;

- **Public expenditures**. In most EECCA countries, budgetary accounting has to be reformed, to produce the data needed for statistical purposes. The same holds for **households expenditures**, which are currently ignored, although they are likely to grow, as markets develop for environmental services and cost recovery principles are more widely implemented.

International experience with expenditure data shows that most OECD member countries face similar challenges, and that improvement in data quality and in underlying data production processes require sustained and continued efforts.

In this context, it has proved useful to implement flexible methodologies for the reform of the statistical system on environmental expenditures. The report highlights the different routes which were followed in the Kyrgyz and Ukrainian projects, to achieve similar objectives.

In general, a pragmatic approach should be adopted when reforming environmental expenditure data collection systems, which takes into account the following features:

- The current state of the system;
- The priorities of the Government and of the Statistical Committee;
- The resources available to collect and to process data; in particular, computer literacy of staff and availability/quality of soft and hardware impact on the capacity to implement revised forms;
- The structure of the economy; for example, forestry and mining deserve a particular attention in the Kyrgyz Republic.

For these reasons, the reforms which were introduced in the Kyrgyz Republic and in Ukraine will take time to materialise. The case of Poland shows that a comprehensive reform can take five years or more. In EECCA countries, the quality of the institutional cooperation, in particular between the Statistical Committees and the Ministries of Environment, at both central and regional/local levels, is a prerequisite for such a long and patient endeavour to achieve the reform objectives.

PART II: COUNTRY CASE STUDIES

A. COUNTRY CASE STUDY: KYRGYZ REPUBLIC

1. INTRODUCTION

1.1 Outline of Report

This report outlines the activities undertaken in the inception and implementation phases of the project for strengthening the existing environmental expenditure information systems in the Kyrgyz Republic. These activities have involved an analysis of the current system of environmental expenditure reporting and its compatibility with OECD/Eurostat definitions and classifications, developing possible new reporting forms and instructions, and undertaking a first data collection survey based on OECD/Eurostat methodological standards to the extent possible under institutional capacities of the country. Project tasks have been undertaken by the team of international and national consultants in close cooperation with Ministry of Environment and Emergency Situations (MEES), National Statistics Committee (NSC) and OECD EAP Task Force.

Section 2 of this report gives a brief overview of international environmental expenditure information standards of OECD and Eurostat as a foundation for subsequent explanation of the development of the possible new reporting form and the reporting of survey findings.

Section 3 outlines the current environmental expenditure data collection and reporting system for the business sector in Kyrgyz Republic and analyses similarities and differences with OECD standards. It also covers the availability of environmental expenditure data in the public sector.

Section 4 explains the development of new reporting forms used in the project survey including key decisions on the design of forms.

Section 5 gives details of the survey of environmental expenditure undertaken using the newly developed reporting forms. This includes a description of the survey process, conclusions about the design of the form and presentation of preliminary results of the data collection.

Section 6 provides some initial conclusions on the implementation phase of the project, including recommendations on the future procedures for undertaking surveys adopting international environmental expenditure information standards in Kyrgyz Republic.

Annexes A1 and A2 include key outputs from the implementation phase of the project, as the reporting forms and completion guidelines used in the survey.

This report was prepared by Nick Dale (Metroeconomica Consultant), Nina Kabanova (National Statistics Committee), Natalia Baidakova (Ministry of Environment and Emergency Situations), and Jyldyz

Uzbekova (Independent Consultant), and Alistair Hunt (Metroeconomica Project Coordinator). It has benefited from comments and recommendations given by project Steering Committee members and discussions at the Steering Committee meetings throughout the project period. The project survey was ably assisted by NSC computer experts Nurjamal Karasheva and Nurgul Ybysheva; NSC oblast office staff Rakhat Tiulemysheva, Irina Gordienko, Bukaticha Uralova, Dinara Tekebaeva, Alevtina Egorova, Suiun Toktosunova, Salima Artykova, Jyldyz Jumalieva and Salimjan Madragimov; and Mike Down (Metroeconomica, computer consultant).

1.2 Project Objectives

In accordance with the OECD EAP Task Force Terms of Reference for the project "Harmonisation of Environmental Expenditure Information Systems with Eurostat/OECD Standards: Kyrgyz Republic" the main objectives are as follows:

1.2.1 Development objective

The overall objectives of the EAP Task Force in the countries of Eastern Europe, the Caucasus and Central Asia (EECCA) are "promoting the integration of environmental considerations in the processes of economic and political reform, upgrading institutional and human capacities for environmental management, and broadening political support for environmental improvement". An important element within these objectives is the collection and transparent reporting of reliable environmental expenditure information based on internationally agreed methodologies. The key reasons for developing such environmental expenditure information systems are:

- To assist in the development of more effective environmental policies and regulations. This includes national and regional budgetary decisions and the design of economic and administrative instruments for environmental protection.

- To aid integration of environmental policies into economic and sectoral policies, indicating where synergies and trade-offs exist.

- To allow international comparisons on trends in environmental expenditure information.

- To raise public awareness and participation in environmental policy issues.

It is intended that the results of the Kyrgyz Republic and Ukraine elements of this project, and those of a related project in Georgia (OECD, 2001), will provide valuable demonstrational experience for other EECCA countries.

1.2.2 Immediate objective

The immediate objective of the project is "to establish more credible environmental expenditure information systems in the Kyrgyz Republic and in Ukraine that follow international standards and classifications, which provide policy relevant information at a price affordable to the Ministries of Environment and the National Statistics Committees".

1.3 Social and Economic Development

The background to the macroeconomic and social development indicators given in Table 1 is the on-going transition of Kyrgyz Republic into a democratic market economy through economic, political and social reforms since gaining independence as a sovereign state in August 1991. In common with many

other EECCA countries, the early years of independence saw a sharp decline in economic indicators with a reduction in GDP between 1991 and 1995 to 50 per cent of the 1990 level, high inflation, increased unemployment, and a reduction of real incomes. A number of development reforms contributed to the start of an economic recovery in 1996 and since that time average GDP has grown steadily, as shown in Table 1, led by agriculture, services and the major industrial sectors of mining and power. There was a concurrent increase in investment in fixed capital, however, this increase has not continued after its peak in 2000. Inflation has declined from nearly 40% in 1999 to about 3% in 2004. Further details of social and economic indicators in Soms can be found in Annex A3.

Social development indicators have shown a corresponding improvement over the last 10 years although serious poverty issues remain. Poverty rates have reduced from 57% to 41% in this period[5]. Poverty is higher in rural areas, where over 60% of the population live and where access to basic public services remains low. For example, in rural areas only about 13% of households have connections to the water supply system, street taps are used by 56% and the remaining 31% use water from wells, river and canals (GoKR, 2003). It should also be noted that despite improvements in health indicators after 1995 there has been some deterioration in recent years, for example, in infant mortality.

[5] Poverty rates for Kyrgyz Republic are taken from *National poverty reduction strategy 2003-2005 (*GoKR, 2003) which uses household survey data for per capita expenditure and consumption to calculate poverty level and extreme poverty according to internationally developed methodologies.

Table 1: Key Social and Economic Development Indicators for 1995-2004

		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Permanent population (end of year)	1 000	4 525	4 661	4 732	4 806	4 823	4 908	4 947	4 984	5 037	5 093
Natality	1 000	80.4	73.4	67.5	69.6	71.2	62.7	65.5	65.8	69.5	74.9
Gross domestic product growth rate over the previous year		94.6	107.1	109.9	102.1	103.7	105.4	105.3	100.0	107.0	107.1
Gross domestic product per capita	Soms	3 518	5 024	6 495	7 126	10 020	13 297	14 912	15 094	16 646	18 473
Gross fixed capital formation including net valuables acquisition	% (of GDP)	20.7	22.6	12.6	13.2	16	18.3	17	16.5	13.8	12.5
Share of industry in GDP[6]	%	12	11.1	16.5	16.3	21.7	25	23.1	17.9	17.3	16
Share of agriculture, hunting and forestry in GDP	%	40.6	46.2	41.1	35.9	34.8	34.2	34.5	34.4	33.6	32.9
Share of services in GDP	%	33.6	29.6	30.3	34.7	33.3	29.6	31.4	35.6	36.8	38.1
Infant mortality	per 1 000 live births	28.1	25.9	28.2	26.2	22.7	22.6	21.7	21.2	20.9	25.7
Maternal mortality	per 100 000 live births	44.3	31.5	62.7	33.6	42.3	45.5	43.8	53.5	49.3	50.9
Educational standard index		0.859	0.862	0.869	0.879	0.888	0.895	0.895	0.898	0.896	0.896
Poverty level	%	57	43.5	42.9	54.9	55.3	52	47.6	44.4	39.3	-
of which extreme poverty		29	19.1	14.8	23	23.3	17.8	13.5	13.8	8.5	-
Gini coefficient (expenditures)		0.41	0.37	0.41	0.36	0.37	0.33	0.32	0.33	0.30	-
Overall unemployment level	%								12.5	9.9	
Official unemployment level	%	2.9	4.3	3.1	3.1	2.9	3	3.1	3.1	2.8	2.9

Source: National statistics.

[6] The share of industry, agriculture and services in GDP does not sum to 100% because some items are excluded, for example, education and transport.

2. OVERVIEW OF ENVIRONMENTAL EXPENDITURE INFORMATION STANDARDS OF OECD AND EUROSTAT

This section provides a brief summary of key methodological aspects of OECD/Eurostat environmental expenditure information systems which underlie the development of reporting forms and data collection during the implementation phase of the project[7].

2.1 Definition of Environmental Protection

The information collected by the current "Joint Questionnaire on Environmental Protection Expenditure and Revenues" (2004) includes a range of environmental protection expenditure and revenues which is wider than the formerly used concept of pollution abatement and control (PAC) expenditure. Environmental protection is defined as including "all purposeful activities directly aimed at the prevention, reduction and elimination of pollution or any other degradation of the environment resulting from the production process or from the use of goods and services." The scope of Environmental Protection is defined according to the Classification of Environmental Protection Activities (CEPA), which distinguishes nine environmental domains given in Table 2.

2.2 Methodological Definitions of OECD/Eurostat Joint Questionnaire

Key definitions used in the questionnaire framework are summarised below.

Abater principle and financing principle:

- Expenditure according to the abater principle (EXP I) includes all expenditure that a sector has for measures they themselves execute.
- The financing principle (EXP II) measures how much money a particular sector (directly) *contributes* to overall environmental protection activities, wherever they are executed. This means that the part of EXP I that was directly financed by others (through subsidies or revenues received) should be deducted, while the part of EXP I in other sectors that a sector finances directly (through subsidies or fees paid) should be added.

The questionnaire is designed to allow for evaluation of expenditure using both principles for each sector and industry. This distinction makes it possible to aggregate expenditure by different sectors and industries without double counting.

Sectors: The questionnaire consists of four tables for the main sectors of the economy:

- **Public sector** includes central, regional and local governments, authorities, communities and government agencies (mainly recorded under standardised activity classifications ISIC/NACE 75). Typical activities are regulation, control, research, education and information and other services provided to the community, mainly financed by general government budgets or funds and not directly or partly by the users of these services.
- **Business sector** includes all environmental protection activities in ISIC/NACE 01-99 intended for own use, excluding public sector (mainly ISIC/NACE 75) and the activities of specialised producers (mainly in ISIC/NACE 90). Total business sector is divided into five sub-categories according to ISIC/NACE classifications for (a) agriculture, hunting, fishing, forestry; (b) mining and quarrying; (c) total manufacturing (with a more detailed industry breakdown); (d) electricity, gas and water supply; (e) other business activities.

[7] For more comprehensive information on OECD/Eurostat environmental expenditure methodologies see *OECD/Eurostat Environmental Protection Expenditure and Revenue Joint Questionnaire*, OECD Working Group on Environmental Information and Outlooks, Draft August 2004. Available in English and Russian.

Table 2: Scope of Environmental Protection Expenditure

1. Protection of ambient air and climate

Prevention of pollution through in-process modifications for the protection of ambient air, and of climate and ozone layer.

Treatment of exhaust gases and ventilation air for the protection of ambient air, and for the protection of climate and ozone layer.

Measurement, control, laboratories and the like and other activities.

2. Wastewater management (includes prevention of emission to surface water)

Prevention of pollution through in-process modifications

Sewerage networks

Waste water treatment

Treatment of cooling water

Measurement, control laboratories and the like and other activities.

3. Waste management (includes treatment of low-level radioactive waste, composting, street cleaning and sweeping, recycling)

Prevention of pollution through in-process modifications

Collection and transport

Treatment & disposal of hazardous waste: thermal treatment, landfill, other

Treatment & disposal of non-hazardous waste: incineration, landfill, other

Measurement, control, laboratories and the like and other activities

4. Protection and remediation of soil, groundwater and surface water (includes all cleaning-up activities)

Prevention of pollutant infiltration

Cleaning up of soil and water bodies

Protection of soil from erosion and other physical degradation

Prevention and remediation of soil salinity

Measurement, control, laboratories and the like and other activities

5. Noise and vibration abatement (excluding workplace protection)

Preventive in-process modifications at the source from: road & rail traffic, air traffic, industrial & other noise

Construction of anti noise/vibration facilities for road & rail traffic, air traffic, industrial & other noise

Measurement, control, laboratories and the like and other activities

6. Protection of biodiversity and landscape

Protection and rehabilitation of species and habitats

Protection of natural and semi-natural landscapes

Measurement, control, laboratories and the like and other activities

7. Protection against radiation (excluding external safety)

Protection of ambient media

Transport and treatment of high level radioactive waste

Measurement, control, laboratories and the like and other activities

8. Research and Development

Includes all research and development with an environmental protection objective both in the public and business sector.

9. Other environmental protection activities

General environmental administration and management including: general administration, regulation and the like, environmental management

Education, training and information

Activities leading to indivisible expenditure and activities not elsewhere classified

Source: Eurostat, Classification of Environmental Protection Activities (CEPA) 2000. For further details see: http://europa.eu.int/comm/eurostat/ramon/

- **Household sector** environmental protection expenditure according to the abater principle should include only purchases of connected and adapted products. For example, purchase of air pollution control devices for motor vehicles, sewage treatment facilities such as septic tanks and goods used in connection with waste management. Household expenditure according to the financing principle includes all payments and fees for services purchased from municipalities and public or private specialised producers of environmental protection services. These include mainly, payments for the collection and treatment of waste and for the collection and treatment of wastewater.

- **Specialised Producers of Environmental Services** include public and private corporations producing services mainly financed by the users of these services. These are mainly activities within ISIC/NACE 90 such as collection and treatment of sewage, collection and treatment of solid waste and sanitation, remediation and similar activities. Specialised producers also include environmental management activities provided by environmental consultants and the activities of volunteer environmental organisations.

Type of expenditure: The questionnaire defines a number of types of environmental expenditure as follows:

- **Total Investment Expenditure** includes end-of-pipe investments (treating pollution already generated) and investments in integrated technologies (modifications of production process that reduce the amount of pollution generated).

- **Total Current Expenditure** is the sum of internal current expenditure and fees/purchases for environmental protection services. It is expenditure for execution of environmental protection activities (excluding purchase of capital goods), for example: operation of environmental equipment, measuring and monitoring, environmental management, education and administration.

- **Receipts from by-products** are the monetary value of any by-products generated by environmental protection activities. These could either be sold and generate revenues, or be used internally and lead to reductions in costs. Examples include energy generated or material recovered, as a result of waste treatment.

- **Subsidies/Transfers** include all types of transfers (capital and current) financing Environmental Protection activities in other sectors, including transfers to or from other countries, subsidies paid by the public sector and subsidies received by other sectors.

- **Revenues** from the sales of environmental services are monies received by public sector and specialised producers from the users (the counterpart to fees/purchases). This is mainly related to waste collection, waste treatment and sewage treatment.

3. CURRENT ENVIRONMENTAL EXPENDITURE DATA COLLECTION AND REPORTING IN KYRGYZ REPUBLIC

3.1 Business Sector Expenditure

The Inception Report for this project sets out a detailed description of the current collection and reporting systems for environmental expenditures in the Kyrgyz Republic and analyses of the performance of the present system and its compatibility with international standards of OECD. This section provides a summary of the key points.

Statistical collection is based on the comprehensive record-keeping method, using Government statistical reporting forms. The list of questions included in the forms is coordinated annually with the relevant government ministries and agencies (particularly, MEES), and changes or additions are made as necessary, which are then approved by National Statistical Committee resolution. The approved statistical reporting forms and guidelines for their completion are then transferred to the State Computing Center (SCC) of the NSC, and thereafter are sent to the oblast (town) and rayon statistical services. Oblast, town and rayon statistical services send them to the government ministries and agencies, enterprises and organizations depending on the area of activity (as per the register) for mandatory completion.

National Statistical Committee has an extensive program of publications that includes express information releases, statistical compilations, bulletins, etc. Data is used for the completion of international questionnaires, preparation of analytical reports and notes, provided at the users' request, etc. Necessary statistical and analytical information is provided to the public authorities and governance bodies of the country.

Data is also posted on the NSC web-site. First publications on environmental protection appeared in 1979, and through 1982 contained information on forest conservation. In 1982, publication of information on main environmental protection activity indicators in the statistical yearbooks was started, and also the publication of two thematic bulletins Environmental Situation in Issyk-Kul Lake Area and Conservation and Management of Natural Resources.

In 2001, within the framework of an ADB project, a statistical compilation Environment in the Kyrgyz Republic was prepared and published. That was the first attempt to collect and disseminate statistical data pertaining to various factors impacting on the environment.

3.1.1 Environmental Expenditure Reporting Forms

The environmental expenditure information categories that are reported in KR are given in Table 3. These are:

Form No. 4 – OS Statistical Report "Current Environmental Expenditures"

The report is collected on a comprehensive basis from all operating enterprises which have environmental capital production assets in their balance sheets. The list of the reporting enterprises is determined on the basis of the Single State Register of Statistical Units (SSRSU). The report is filled out on the basis of the book-keeping and primary accounting data on physical environmental and rational use of natural resources expenditures, and the detailed instructions for the completion of the report.

The report consists of three sections:

- Current expenditure;
- Expenditures for major repairs of the capital environmental assets;
- Payments for the use of natural resources.

Form No. 18 – KS Statistical Report "Investments in Fixed Capital for the Environmental Protection and Rational Use of Natural Resources"

The report is completed by all developers involved in construction of environmental facilities and projects. The data are reported on the measures implemented as a part of the new enterprises under construction, as well as those implemented at existing enterprises for upgrade, reconstruction, replacement or expansion of the fixed environmental assets regardless of the business ownership type, type of activity and financing sources.

In this report capital investments are classified into individual areas and types of expenditures:

- Capital investments in water resources protection and rational use measures (communal and production sewage water treatment stations, water recycling systems, etc.)
- Capital investments in construction of air protection facilities (plants for entrapment and neutralization of hazardous substances in effluent gases, etc.)
- Capital investments in protection and rational use of land resources (except for land improvement) (construction of erosion, mudflow, and landslide preventive, and other installations)
- Capital investments in protection and rational use of forest resources (construction of fire protection facilities, forest protection biological stations and laboratories, etc.)

Report No. 1 – Reserves (Report on Natural Reserves and National Parks)

The report is completed by all natural reserves and natural parks (all-cover method) located within the territory of KR. Expenditures for natural preserves and national parks maintenance include all funds spent for the maintenance of a preserve or national park during the current year (including the employees' salaries and other expenditures) including those financed from the budgetary allocations and other sources.

Report No. 2 – tp hunting "Report on Wildlife Protection and Reproduction" and Report No.1 – lh "Report on Forestry Works and Wildlife Protection and Reproduction"

This report is completed by all hunting grounds and forests. Hunting and forestry environmental expenditures include all expenditures for wildlife protection and reproduction, various bioengineering measures identical to wildlife protection and reproduction expenditures in natural preserves and national parks.

Report No. 5 – lh "Report on Forest Fires "

The report is completed by all forestry units in whose territories forest fires have been recorded during the reported year. Forest fire-extinguishing expenditures include all expenditures related with extinguishing fires.

Report No. 1 – ecofund "Report Environmental Fund Receipts and Expenditures"

The report is completed for the National Statistical Committee by the Republican Environmental Fund. The report consists of two sections:

- *Receipt of funds by local and republican environmental funds* include all payments made by enterprises, institutions and individuals to the account of the appropriate local environmental fund during the reporting period.

- *Environmental fund expenditures* include funds disbursements for the construction of the environmental protection facilities; implementation of environmentally clean technologies; development of nature reserves, protected areas and national parks; research in the environmental protection area, and other.

Table 3: Main Environmental Expenditure Information Categories and Sources of Data

No	Indicator	Data source	Data reporting time
1	Current environmental expenditures of organizations and institutions; average annual value of capital environmental production assets; payments for pollution of the environment and payments for the use of natural resources; cost of environmental production capital assets overhaul	Data from summary reports on current environmental expenditures and environmental fees, Form No. 4-OS	First quarter following the reporting period
2	Investments in environmental protection	Data from summary reports on investments in nature conservation and rational use of natural resources, Form No. 18-KS	First quarter following the reporting period
3	Expenditures for natural reserves and natural parks	Data from summary reports on natural preserves, natural parks, and Form No.1-Natural Reserve	First quarter following the reporting period
4	Expenditures for wildlife protection and reproduction and forestry works (current expenditures)	Data from summary reports on game reserves and forestry, Form No. 2-tp (hunting) and Form No.1-forestry	First quarter following the reporting period
5	Expenditure for forest fires extinguishing	Data from summary reports on forest fires, Form. No. 5-lh (forest industry).	As of November 1 of the reported period
6	Environmental fund report	Data from summary report, Form No.1-ecofund	First quarter following the reporting period

3.1.2 Compatibility of Kyrgyz Republic System with International Standards of OECD

A number of methodological differences (including information gaps) between OECD/Eurostat and KR can be identified:

Existing environmental expenditures and data coverage:

- The existing reporting does not contain all the necessary information which could allow a clear break down between environmental protection expenditure and non- environmental protection expenditure, in accordance with OECD/Eurostat standards;
- Reporting on expenditures related to waste treatment is rather limited (it includes only collection and disposal of city wastes, and presence of toxic wastes);
- Reporting does not include expenditures for reduction of noise and vibration;
- Not recorded are expenditures for the activities on radiation protection, scientific and research work, general management of environmental protection and administration, education and training of personnel;
- It is possible that coverage of environmental expenditures by enterprises is incomplete due to problems of collection of information from enterprises that have split into smaller units, changed in their activities or changed ownership;
- Not all the enterprises with foreign investments are completing statistical reporting forms on environmental expenditures;

- Reporting on the form No.4-OC includes only those enterprises, which have environmental assets, i.e., enterprises which provide environmental services (collection and transportation of solid domestic wastes) do not complete forms;
- Investment expenditure reports are collected only from the industrial and special enterprises carrying out environmental construction, i.e. possible investments in other sectors of the economy are not covered (such as forestry, hunting grounds, etc.);
- Reporting includes fire extinguishing expenditures. However, it should be noted that there might be some discrepancies with CEPA classification, which refers to expenditure for prevention of forest fires for landscape protection purpose only rather than forest fire-extinguishing expenditures for all expenditures related to extinguishing fires (as in Report No. 5 - lh "Report on Forest Fires ").

Types of expenditures:

- Data on the state budget spending are not broken down by types of environmental activities;
- There is no division between investments in "end of pipe" technology and integrated investments for modification of the industrial process;
- There is no information collected about international financial investments in the environmental protection;
- The existing reporting does not always contain the necessary information which could allow a clear break down between environment protection expenditure and non- environment protection expenditure (as defined in OECD methodology);
- There is practically no information on households expenditure for environmental protection;
- Payments for services cover only the collection and treatment of waste water and management of solid wastes (expenditures for neutralization, storing and burial of toxic wastes remain unaccounted);
- Payments for contamination and natural resource use are not divided according to republican, oblast and local levels;
- There is no information provided within the statistical reporting system about environmental expenditures of governmental administrative bodies;
- There are problems in dividing expenditures between water drainage and water supply.

Abater and financier principles:

Using existing official statistics there is difficulty in determining sources of financing of expenditures related to environmental protection. Existing reporting on environmental protection expenditures only covers abater expenditures.

Definition of sectors:

There should be no differences between OECD/Eurostat classification of sectors and those used by the National Statistics Committee of the KR. The NSC has moved from GCES to the General Industrial Classification of Economic Activities (GICEA) developed in line with the resolution of the leaders of the Commonwealth member-countries' statistical services regarding a coordinated methodology for national economic activity classifications based on the NACE standard (NACE 1.07, French version).

A Summary comparison between OECD/Eurostat methodology and the existing Kyrgyz Republic system is given in Table 4.

Table 4: Summary Comparison Between OECD/Eurostat Methodology and Existing Kyrgyz Republic System

	OECD/Eurostat Methodology[8]	Kyrgyz Republic Current System
Environmental Domains	Protection of ambient air and climate	Corresponding classification
	Wastewater management	Partially corresponding classification but problems in distinguishing between waste water and water supply
	Waste management	More limited reporting
	Protection and remediation of soil, groundwater and surface water	Partially corresponding classification
	Noise and vibration abatement	Not collected
	Protection of biodiversity and landscape	Partially corresponding classification
	Research and Development	Not collected
	Other environmental protection activities	Not collected
Reporting Principles	Abater principle and financing principle	Abater expenditures only
Economics Sectors	Business	Reporting by enterprises but limitations in coverage
	Public	No detailed reporting
	Household	No reporting
	Specialised Producers of Environmental Services	No reporting except for waste water and solid wastes services
Types of Expenditure	Investment Expenditure	No division between investments in "end of pipe" technology and integrated technology
	Current Expenditure	Reported
	Receipts from by-products	Not reported in environmental expenditure forms
	Subsidies/Transfers	Only partially reported: environmental fund transfers are reported but not international transfers
	Revenues from environmental services	Not reported

3.2 Public Sector Expenditure

Standard reporting forms outlined in Section 3.1 to some extent include the financial flows of the public sector in relation to environmental expenditure, in particular, report No. 1-ecofund "Report Environmental Fund Receipts and Expenditures". However, to complete the picture the project has also assessed the availability of further data on public sector environmental expenditure including those by Ministries and other Government organisations.

The key document containing data on public expenditures of the Government and local authorities is the "State Budget Execution Report". Items pertaining to environmental expenditure have been reviewed by the consultants in the section “Classification of Functions of Public Governing Bodies”. Table 5 summarizes these expenditures.

[8] Definitions of these items are given in Section 2 “Overview of Environmental Expenditure Information Standards of OECD and Eurostat”.

Table 5: Environmental Expenditure Classifications for Public Governing Bodies

Article	Classification	Expenditure (million soms) where given
7.2	**Water supply**	
7.2.0.1	Water and sewage service	502.7 (without hot water supply 576.3 (with hot water supply)
7.2.0.90	Capital investments	38.0 million soms
7.3	**Sanitary measures including measures on pollution abatement and control**	
7.3.1	Collection and disposal of wastes, operation of sewage systems and cleaning of streets	
7.3.1.1.	Sanitary cleaning of cities and raion centers	5.2
7.3.2	Decontamination and burial of radioactive wastes	1.7
7.3.3	Sanitary measures and measures on pollution abatement and control, which do not refer to other subgroups	No allocation

There are also records of budget allocations by MEEP recorded in the Report of State Budget Expenditure (2003)[9]. These show allocations and actual expenditures for seven categories:

- Ecology and Nature Management Department
- Environmental Protection (Planned 19.5m Soms, actual 20.7 m Soms)
- Funds for Elimination of Emergencies
- Civil Defence Headquarters
- State Fire Service Management
- Central Meteorology Department
- Mining Supervision

Each category includes the following expenditure items: payroll and contributions to the Social Protection Fund, and also traveling expenses, fees for water and electricity supply, communication services, and expenditures for maintenance/hiring of vehicles. Additionally, some categories include expenditures for acquisition of equipment, inventory and materials, pharmaceuticals and bandaging materials, and other goods and services.

There are the Republican (REF) and Local Environmental Funds (LEF) operating under the MEES. Their resources are formed from all fees paid by the enterprises, institutions, individuals, etc, and used to finance environmental protection measures.

In 2004, a total of 21.6 million soms were spent by the REF and LEF for environmental protection measures.

These funds were used for the rehabilitation of emission and discharge treatment installations and other environmental condition improvement measures in the regions of the country; development of documents and state programs; strengthening of environment related material and technical basis of the local authorities; promotion of environmental knowledge (actions, workshops, conferences, publication of brochures, etc.) and other.

It should be noted that there is the possibility of double counting between the above officially reported public sector expenditures and the business sector survey data reported in Section 5, since these total allocations may include monies reported in the financing sources tables of the survey reporting form (Tables 1.4, 1.5, 2.3 and 2.4).

[9] 2004 the Report of State Budget Expenditure, not yet available.

4. DEVELOPMENT OF ENVIRONMENTAL EXPENDITURE REPORTING FORMS

The basis of decisions on the development of the new forms was to introduce OECD/Eurostat methodology (as set out in Section 2) to the extent feasible, taking into account the capacities of business sector recipients to complete the form, the needs of the MEES and NSC for collecting specific items of data and the requirements of the OECD/Eurostat Joint Questionnaire (2004).

It should be noted that, in the development of the forms the consulting team was aware of the challenging nature of some proposed questions for some enterprises. However, for the purposes of testing the extent to which enterprises had the capacity to deal with some key principles of international standards, it was decided to include some potentially challenging questions (for example, the distinction between 'end of pipe' and 'process integrated' investments) accepting that in the final analysis it may be necessary to recommend some simplification the forms used in the survey.

Having studied the reporting tables of a previous related OECD project in Georgia, it was decided to take the Georgian forms as a starting point for developing Kyrgyz Republic tables. This represented a basic departure from the format of the existing environmental expenditure reporting forms used in the country. During the period of development of the forms a small pilot survey using the draft form was conducted among a 'core group' of enterprises and the comments of Steering Committee members were received. After taking account of these inputs, the full set of environmental expenditure reporting forms and associated completion instructions for use in the survey were arrived at and these are given in Annex A1 of this report. We should point out that, while these Kyrgyz Republic forms retain some general features of the Georgian forms, there are many details which are not common to the Georgian forms. The set of forms are as follows:

I. Investments in Fixed Capital for the Environmental Protection

1.1 End of pipe" investments

1.2 Process-integrated investments

1.3 Investment Expenditure for Biodiversity and Landscape Protection, and Water Resources

1.4 Capital investment financing sources used for environmental protection

1.5 Capital investment financing sources used for biodiversity and landscape protection, and water supply

II. Current (Operating) Environmental Expenditures

2.1 Current (operating) expenditures for environmental protection

2.2 Current (operating) expenditures protection of biodiversity and landscape, and water supply

2.3 Financing of current operating environmental protection expenditures

2.4 Financing of current operating environmental expenditures for biodiversity and landscape protection and water supply.

III. Payments, penalties and claims for pollution of the environment and rational use of natural resources

OECD/Eurostat Methodological Principles, as outlined in Section 2, which we included in the new forms to the extent feasible were as follows (for tables' references see Annex A1):

4.1 Environmental Expenditure Definitions

A key innovation is the introduction of **CEPA definitions** for environmental protection expenditure domains. Thus, the sequence of expenditure items given in the forms for investment and current expenditure listed above follow these CEPA definitions. Following from the Georgian example, it was decided to have separate tables for the CEPA category 'Biodiversity and Landscape Protection'. This was because (i) this category includes a number of sub-categories of relevance in the Kyrgyz Republic and including these with all the other CEPA categories would have made the tables unfeasible long and (ii) in the investment section of the tables it was decided that the concepts of 'end of pipe' and 'process-integrated' were not relevant to 'Biodiversity and Landscape Protection' but were relevant to other CEPA categories. Exactly the same environmental protection expenditure items are used in rows of Tables 1.1, 1.2, 1.4, 2.1, and 2.2, and exactly the same 'Biodiversity and Landscape Protection' items are used in rows of Tables 1.3, 1.5 and 2.3.

In addition to including Environmental Protection activities, as defined by CEPA, the forms also include 'environment related expenditure' items. These are non-CEPA expenditures for water resources (including drinking water supply) and land resources.

4.2 Types of Expenditure

The forms aim to include the concepts of **'end of pipe' and 'process-integrated'** investments by having separate tables for each (Tables 1.1 and 1.2). The low level of such investment in the country means that, at this time, the survey is introducing the concept rather than collecting data from a significant number of enterprises.

Information on **'Subsidies and Transfers'** is requested both for investment expenditure (Tables 1.4 and 1.5) and current expenditures (Tables 2.1 and 2.2). **'Receipts from by- products'** have been included in Tables 2.3. Such questions on financial flows related to environmental protection are a first step to reporting according to the **Financier Principle**. While the survey will not give us comprehensive enough data for reliable reporting according to the financier principle, it will allow a first demonstration of how the principle can be applied.

4.3 Sectors

Finally, the forms are designed for inclusion of data on all business sectors and on **specialised producers of environmental services**, which to date have not been included in environmental expenditure surveys in Kyrgyz Republic.

5. SURVEY OF ENVIRONMENTAL EXPENDITURE

5.1 Description of the Survey Process

During the Second Meeting of the Steering Committee on 20 April 2005, members approved the new draft reporting forms (see Section 3 and Annex A1) developed for the environment expenditure survey.

It should be noted that at the final stage of developing the forms, consultations took place at 9 enterprises in Bishkek to learn the enterprises' capacity in terms of completing the forms and understanding the proposed questions, as well as receiving other feedback. The forms were also provided to specialists of the MEES. Comments and recommendations were taken into consideration.

To inform and train specialists from the NSC and MEES on proposed changes in the environmental expenditure information system being developed under the current project, a training workshop was undertaken on 25 April, 2005. The workshop was attended by representatives of the NSC, Bishkek city and Chui Oblast Statistics Departments, DENM of Bishkek and Chui Oblast AEP, State Forestry Service. The purpose of the workshop was to familiarize specialists with project plans, methodology of OECD/Eurostat, as well as to discuss environmental expenditure reporting forms and guidance notes developed under the project. The second half of the day was devoted to the computer program, its design and data processing for the survey. These issues were discussed with the specialists from the NSC who are directly involved in electronic data processing.

In compliance with the work plan, in the period 10 to 30 May, a survey was undertaken to test the new environmental expenditure reporting forms. The survey covered all oblasts of the country. The list of enterprises included into the survey was made on the basis of the Business Activity Register (BAR, hereinafter referred to as "Statistical Register"), which was formed on the basis of the Uniform State Register of Statistical Units (USRSU).

The Statistical Register has to be revised annually as of December 1. All changes, which took place in the activities of economic entity during the year, should be included into the USRSU data base, and should be included into the Statistical Register when it is compiled for the next reporting year. As statistical reporting on environmental expenditures is already being undertaken in the country, there exists a sectoral register (catalogue) of reporting enterprises which was developed on the basis of the database, and which includes enterprises in NACE/ISIC codes 01- 93 (but excludes enterprises in NACE/ISIC code - 90). For the project survey specialized enterprises based on the State Classification of Economic Activities-90 (SCEA) “Disposal of Waste Water, Wastes and Similar Activities” were added to the existing catalogue.

The NSC has moved from the All-Union Classification of the National Economy Sectors” to the SCEA, which was developed based on NACE standard (French version 1.07). This was approved by the Governmental Decree of November 25, 1999. There are no discrepancies in sectors definitions between NACE and SCEA.

The list of enterprises included in the survey covered all the enterprises which are providing reporting based on forms No.4OS, No.18-KS, No.1 – preserves, No.1 – specialized transport, No.1 – running water, and No.1 – improvements, irrespective of the ownership and subordination. Enterprises which are reporting based on the form No.2-TP Hunting and No.1 – Forestry, were included on a selective basis, as those not included are situated far from Oblast/Raion centers, and delivery costs would be quite high

Small enterprises (the total number is 1033) were not included into the sample, as at the time being they are reporting based on form No.1 – MP “Key Indicators of a Small Enterprise”, which does not

include environmental expenditures. It should be noted that environmental expenditures of these enterprises are insignificant and mainly include "payments, fines and claims for pollution".

Statistical reporting related to environmental expenditures of households in the KR is not maintained because of the absence of methodology for such reporting.

As noted in the Inception Report for this project, it is intended that the NSC together with the MEES will develop a specialized register to ensure better coverage of enterprises and organizations having environmental expenditures. Furthermore, MEES have requested that, in order to improve the reliability of data collected on environmental reporting, there is an additional requirement for reporting enterprises to consult with specialists of regional environmental departments when completing the reporting forms**.**

Tables 6 and 7 provide information about enterprises included in the survey by economic sector and by territories of the KR.

Information about specialized enterprises

From the specialized enterprises that completed the reporting forms in the survey, 30% are privately owned (joint-stock company with 50% of state shares). The rest 70% are under municipal ownership.

Communal specialized enterprises provide a wide range of services aimed at improvement of territories in cities and towns:

- disposal of solid public litter
- planting of greenery and watering of territories
- road maintenance (patching)
- lighting (repair of high voltage transmission lines)
- repair of traffic lights
- services from specialized vehicles.

Private specialized enterprises render similar specialized services. Both specialized and communal enterprises work on a self-supporting basis.

Wages of employees in communal enterprises are partially paid from local oblast budgets (commonly 10-20%, and in some cases up to 50%), and partially from the special account of the enterprise (revenues resulting from self-supporting activities). Services are provided both to enterprises and organizations, and to the households. The share of services rendered to households is from 30% to 50% of the total volume of services provided. Some specialized enterprises provide services only to budgetary organizations and enterprises. These are generally privately owned having broken away from a parent enterprise providing services to the population. There are also enterprises which mainly provide services to households (in towns with no industry).

Table 6: Catalogue of Enterprises Included in Survey on Environmental Expenditures

Sector code	Sector	Number of enterprises covered by the survey	Number of collected forms
ISIC (NACE) codes			
01-05	Agriculture, forestry, hunting, fishing	15	15
10	Mining of coal, lignite and peat	6	5
13	Mining of metal ore	1	1
14	Mining of other minerals	4	4
15	Food processing, including drinks	83	61
16	Production of tobacco goods	10	5
17	Textile production	21	17
18	Production of clothes, dressing and dyeing of fur	11	4
19	Production of leather, leather goods and shoe making	1	1
20	Processing of timber and production of wooden goods	4	4
21	Production of paper pulp, paper, cardboard and cardboard goods	4	1
22	Publishing and printing	8	8
24	Chemical production	5	4
25	Production of resin and plastic goods	5	3
26	Production of other non-metal mineral products	39	31
27	Metallurgical production	7	6
28	Production of ready-made metallic items	8	4
29	Production of machines and equipment	24	21
30	Production of office equipment and computing machinery	1	-
31	Production of electric machines and machine equipment	8	6
32	Production of installations for radio, television and communication	3	3
33	Production of medical equipment, measuring devices, optical devices and apparatus, watch	1	1
34	Production of automobiles, trailers and semi trailers	3	2
35	Production of other vehicles	1	1
36	Production of furniture and other products not included into other groups	6	4
40	Production and distribution of electric energy, gas and water	24	21
41	Collection, cleaning and distribution of water	17	17
45	Construction	26	16
50	Car servicing and repair	-	5
51	Wholesale trade	-	2
60	Land vehicles	15	7
63	Supplementary and additional transportation activities	4	3
73	Research and development	1	1
74	Provision of other services	-	3
75	Public administration	7	7
90	Waste water and waste disposal, and other similar activities	52	31
91	Public organization activities	6	6
92	Reserves and natural national parks	16	15
93	Provision of individual services	1	1
	Total in the KR	**445**	**351**

Table 7: Enterprises included into the survey by territories

Oblast	Number of enterprises included in survey	Number of collected completed forms	Number of collected non-completed forms
Batken Oblast	28	21	7
Djalal-Adab Oblast	47	34	13
Issyk-Kul Oblast	43	35	12
Naryn Oblast	18	11	9
Osh Oblast	37	27	10
Talas Oblast	20	17	3
Chui Oblast	123	101	22
Bishkek	87	80	7
Osh	42	25	17
Total in the KR	**445**	**351**	**94**

A decision was made to involve regional statistics departments into surveys, so that they could disseminate the statistical materials used for the survey and could assist in collection. The forms together with the guidelines and the list of enterprises included in the survey were sent to Oblast/city statistical departments with a cover letter addressed to the heads of the departments. These departments forwarded the forms to enterprises and organizations for completion, assisted in collection of completed forms and organized their mailing back to the National Statistical Committee.

From the 445 reporting forms sent out, 392 reports were received, of which 351 were completed.

The following reasons account for non-completion of forms:

- Enterprises in liquidation or bankruptcy process (**18** enterprises);
- Enterprises have ceased activity (**9**);
- At the time of the survey, enterprises that did not work for the lack of raw material (basically enterprises processing fruit, vegetables and tobacco) (**14**);
- Dormant (i.e., non-reporting during one year) enterprises having environmental assets in their books (**4**);
- Enterprises which had reoriented their activities (**2**);
- Enterprises letting out industrial premises (**2**);
- Enterprises and organizations, which failed to complete the reporting forms because of their complexity (**2**);
- Enterprises which have environmental expenditures but did not make payments during the reporting year because of lack of funds (those having arrears) (**3**);
- Environmental expenditures were not distinguished from total expenditures of the enterprise (**4**);
- Reasons are not clear **(36)**.

In general, the enterprises responding to the survey demonstrated a good understanding of the requirements of the forms, and in spite of rather limited deadlines, have tried to complete it in a timely manner. The cover letter included contact telephone numbers of the local project consultants for consultation on completion. Many enterprises, though, not all of them, used this opportunity (the project team received calls from over 200 enterprises), and they received comprehensive answers.

Much assistance in distribution and collection of completed forms was given by regional statistics departments. In response to our invitation in the covering letter for comments and proposals concerning the structure of the proposed forms, there were two suggestions to conduct consultation meetings and training seminars, and 2 proposals for amendments in the reporting forms.

All collected forms were checked in terms of logic and arithmetic consistency by the local consultants, Errors and inaccuracies were corrected to the extent possible. This was followed by computer entry of collected data by staff of the NSC Central computer department using computer input tables and associated instructions designed by the specialists from Metroeconomica.

5.2 Conclusions on the Completion of Reporting Forms

The checking of the completed forms demonstrated that the quality of the completion did not always meet the established requirements, except for the reports received from Bishkek, Batken and Talas Oblasts. This may be a reflection of greater technical qualifications and competence for form completion in enterprises of those regions.

Most of the enterprises experienced some difficulties when completing the forms, which were mainly caused by the number of tables and many questions included in the tables, considerable difference in terminology and structure of forms compared to previous forms, and an insufficient professional level of those who were completing the forms. This especially refers to the specialized enterprises of sector code 90 "disposal of waste water, wastes and similar activities", as they have not been required to report environmental expenditures before.

5.2.1 Main problems of completion:

- Most of the enterprises had difficulties when completing the column "Payments to enterprises providing environmental services" (Table 2.1, columns 2 and 3), as this is a new question which was not asked previously, though it was described in the guidelines in some detail. Many respondents also do not have information on the ownership of specialized enterprises (private, municipal, state). It is generally the case that such enterprises have a local monopoly and, in these cases, it would be possible to ascertain the correct ownership during processing of survey data;

- In the case of questionnaires completed by "specialized enterprises", the form does not clearly provide for information on revenues for services such as waste water collection, and collection and transportation of solid wastes;

- Many enterprises confuse payments for environmental services to specialized enterprises and payments for pollution of the environment and use of natural resources;

- About 15 enterprises confused "investments" and "current expenditures", because existing reports which separate these items are usually completed by different officials in the enterprise**;**

- Some enterprises (5) wrongly reflected costs for capital repair by including it in "investment expenditures";

- Most industrial enterprises (80%) did not pay attention on the row 'Water resource management" in Table 2.2 because this indicator was included in section "Expenditures on protection of biodiversity and landscape" which was not otherwise relevant to them;

- Not all enterprises (20) could split the expenditures for "waste water treatment" and "potable water supply", as such enterprises record them in one entry of their accounts – "protection and rational use of water resources". These were mainly enterprises in rural areas;

- In cases when environmental costs are very low, they were not separated out from general expenditures in the accounts of the enterprise (4);

- Many enterprises (90 %) indicated in Table 3 "payments for land resources" (of non-agricultural purpose), though the forms didn't provide for such an option;

- At some enterprises there were expenditures related to "protection of land against pollution" (3), "storage and processing of wastes" (20), which are not clearly enough reflected in the proposed form;

- Some enterprises (4) failed to complete the forms as they said they were too complicated.

Trial collection of environmental expenditure data has shown that currently less than 5 per cent of enterprises have investment expenditures. Only two enterprises have expenditures for research and development (one in environmental protection and another in protection against radiation pollution), and one enterprise has expenditures related to the abatement of noise and vibration.

More than 95 per cent of enterprises have only current expenditures, which are mainly focused on waste water treatment, protection of ambient air and climate, waste disposal.

Most of the enterprises conduct environmental activities at the expense of internal funds.

As questions on expenditures across the range of environment related activities were included in the reporting form, resulting in ten tables and these were distributed to enterprises in all economic sectors having environmental expenditure, it was inevitable that many questions would not be relevant to any given respondent. On average only about 10 per cent of questions were relevant to respondents. The rationale for sending all reporting forms to all selected enterprises was that we should not assume in advance which types of expenditures an enterprise might have.

5.2.2 Recommendations on improvement of tables

Taking account of questions from respondents concerning completion of forms and analysis of the returned completed forms demonstrated the need to make some adjustments to the forms, namely:

- **Table 1.2** - to add column "Other";

- **Table 2.1 and 2.2 –** to add column 1 "Current expenditures – total", column 2 – "Internal environmental expenditures", column 3 – "Payments to enterprises providing environmental services" including "Payments to municipal and other budget spending organizations providing environmental services";

- **Tables 1.1, 1.2, 1.4, 2.1 and 2.2 -** to add "storage of wastes";

- **Tables 1.3, 1.5 and 2.2 -** to delete the line 27 "Water resource management", and to transfer it to Tables 1.1, 1.2, 1.4 and Table 2.1 correspondingly;

- **Table 2.3** – replace the title of the Table "Receipts for financing" by "Sources of financing"

- **Table 3** to add in the line 09 "Payments for the use of natural resources" payments for non-agricultural land;

- **For specialized enterprises** a simplified version of the report on environmental expenditures should be considered, as the expenditure structure in these enterprises is different from the expenditure structure in other reporting enterprises, as specialized enterprises provide environmental services to enterprises at the expense of fees from citizens and enterprises/organizations.

5.3 Results of the Data Collection

It should first be noted that the data given in this section should be treated with some caution. The intention of the survey was to test the effectiveness of the reporting forms as well as provide national level environmental expenditure data. As has been explained above the reporting form was quite ambitious in asking new questions to enterprises and sending forms to some enterprises that had not before been included in such surveys. Therefore, it was inevitable that there was a certain amount of difficulty in answering some questions for some respondents. If such questions are repeated in future surveys the level of difficulty for enterprises should reduce through familiarity, further training and advice. However, in this survey data reliability may be somewhat compromised in relation to those issues and difficulties explained in Section 5.2.

An overview of results of the survey is given in Graphs 1 to 9 and Table 8 in this section. Some key results to note are as follows:

- Most of the total environmental protection (CEPA) and environment related expenditures (shown in Graphs 1 and 2) are in Chui Oblast and Bishkek, as would be expected due to their industrial activity and in Issyk Kul Oblast due to large mining related expenditures. Graph 9 indicates that Issyk Kul oblast and Bishkek have by far the highest per capita environmental spending. Apart from Chui Oblast, all other regions have negligible per capita spending[10].

- Most environmental protection and environment related expenditures are in the Utility (electricity, gas, water supply), Mining and Manufacturing sectors (Graphs 3 and 4). A comparison of environmental related expenditure and GDP by sector shows that, as a proportion of GDP, environmental spending is much higher in mining and utility services than it is in Agriculture, hunting, fishing, forestry and manufacturing.

- 64 per cent of environment related expenditures in the survey were by the Private Sector with the remainder by Municipal, Government owned or other organisations (Graph 5).

- The low level of environmental investment expenditure reflects the fact that less than 5 per cent of survey respondents reported any such investments at all. Most are for ‘Protection of Ambient Air and Climate’. ‘Waste water management’ and ‘Biodiversity and landscape protection’ (due to

[10] These use population statistics for 2003.

a few large investment in the mining sector) with the other categories having negligible environmental investment (Graph 7).

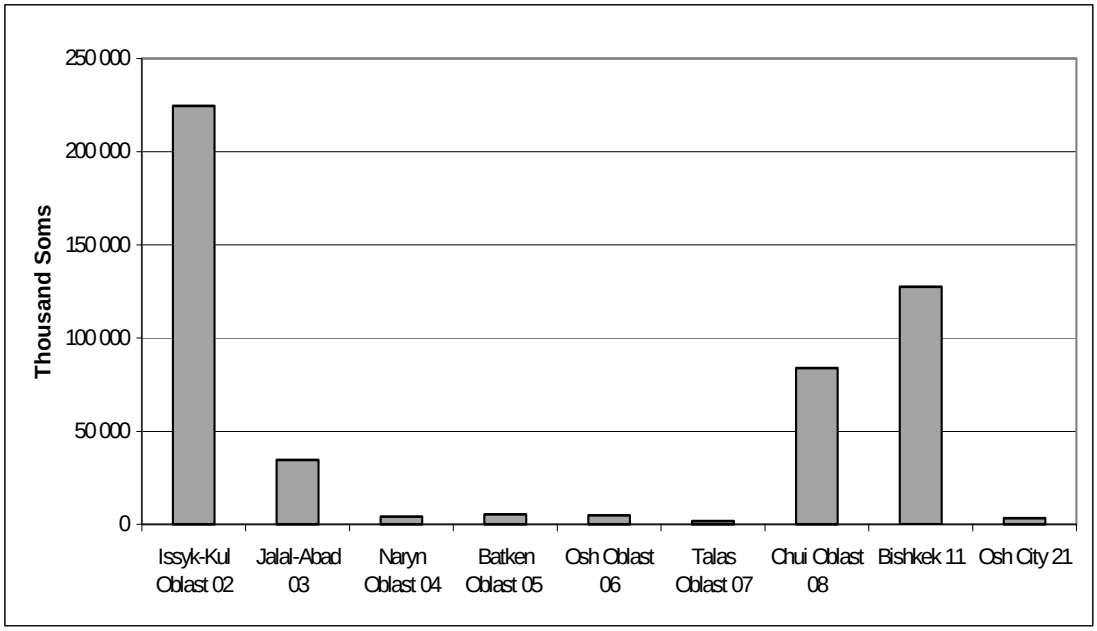
- Largest current environmental protection expenditures are in the CEPA domain of waste water treatment, followed by protection of ambient air and climate, waste management and protection of biodiversity and landscape. All other CEPA domains have very low expenditures[11] (Graph 8).

Table 8: Investments in Environmental Protection

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Investments in environmental protection (million soms)	28.8	27.1	32.3	38.3	104.5*	63.0	46.4	43.2	39.7
Investments in environmental protection as percentage of total capital investment	0.89	0.57	0.57	0.91	1.56	0.58	0.47	0.46	0.44
Investments in environmental protection as percentage of GDP	0.18	0.12	0.11	0.11	0.21	0.10	0.06	0.06	0.05

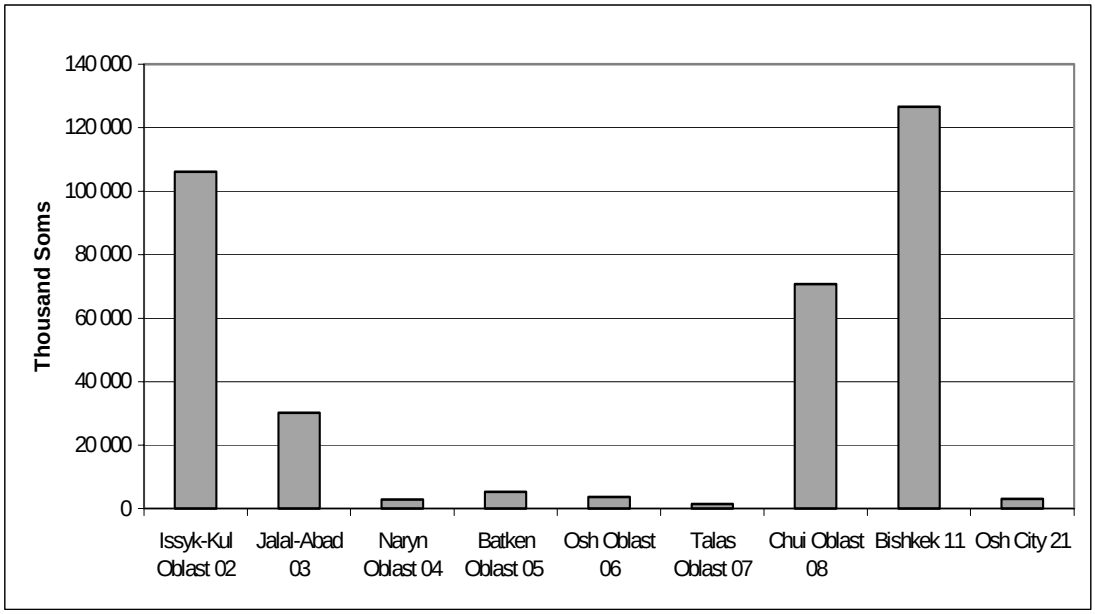
* Construction of mud-flow preventing installations in Jalal-Abad oblast.
Source: Official statistics.

Graph 1: Total Environment Related Expenditure by Location

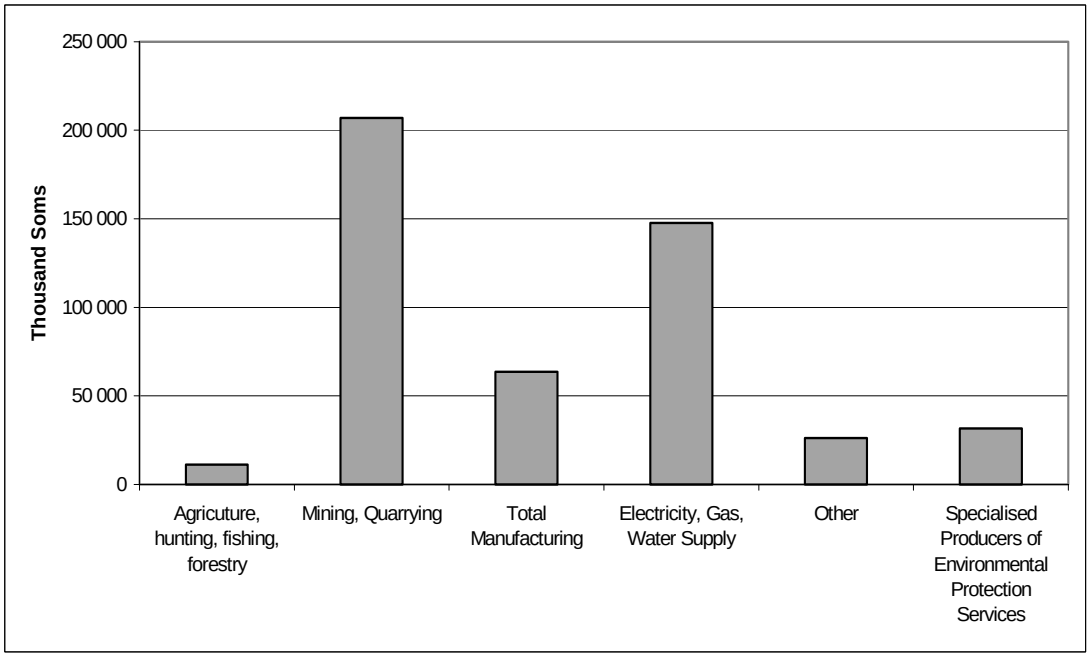


[11] The CEPA 'Other' domain has the second highest current expenditure. This will be checked for accuracy since it is an unexpected result.

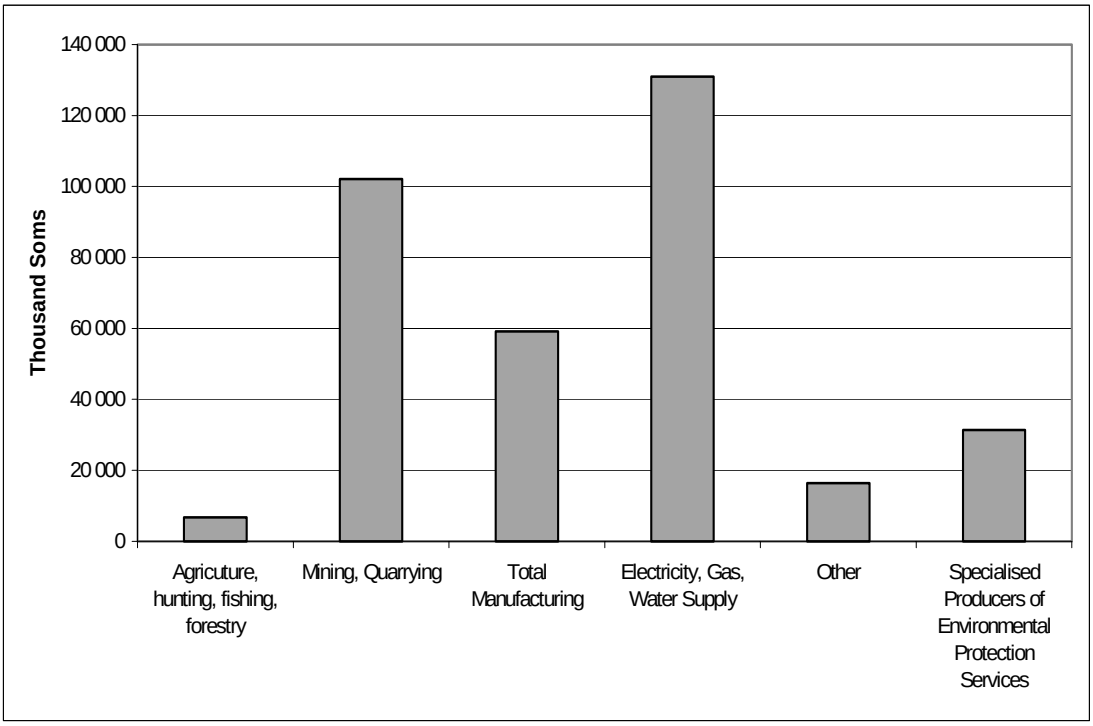
Graph 2: Total Environmental Protection Expenditure



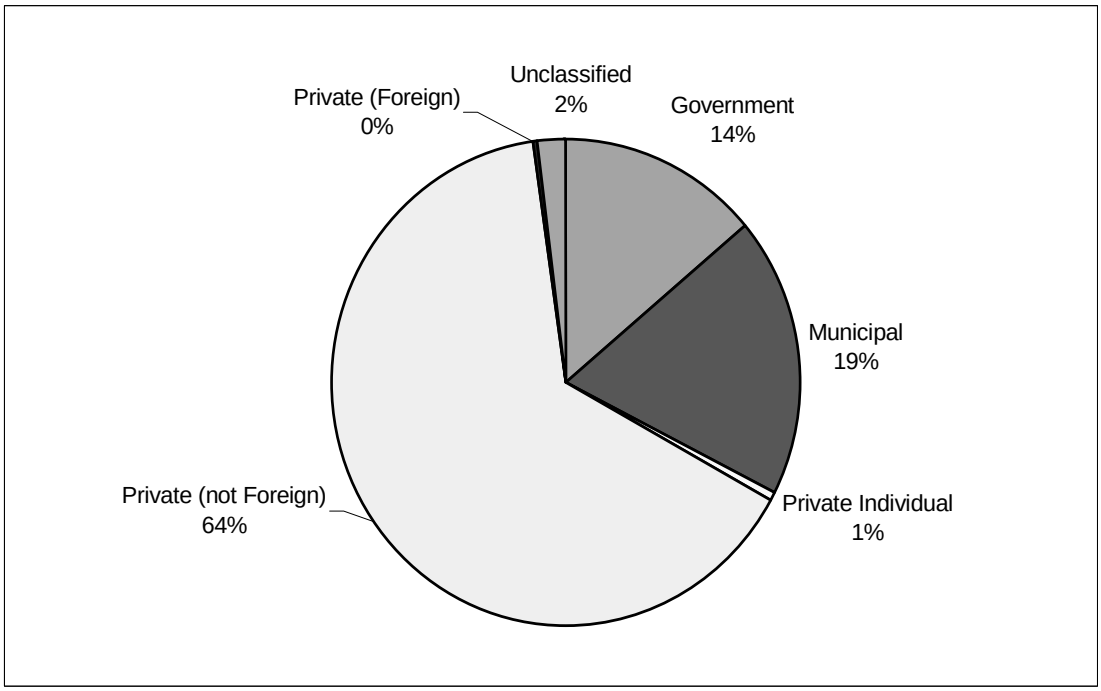
Graph 3: Total Environment Related Expenditure by Sector



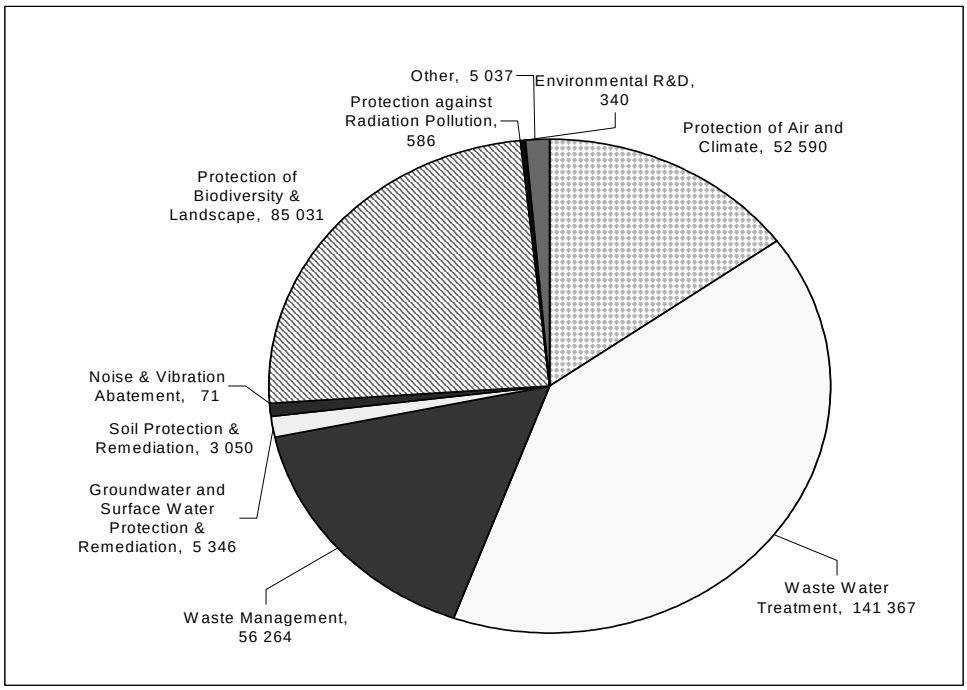
Graph 4: Total Environmental Protection Expenditure by Sector



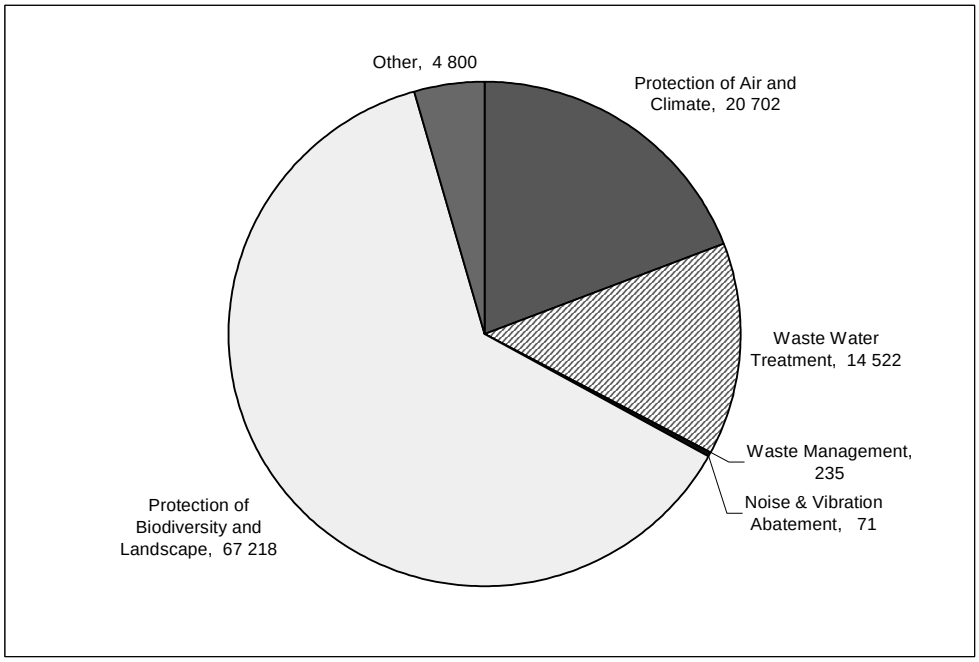
Graph 5: Total Environment Related Expenditure by Ownership



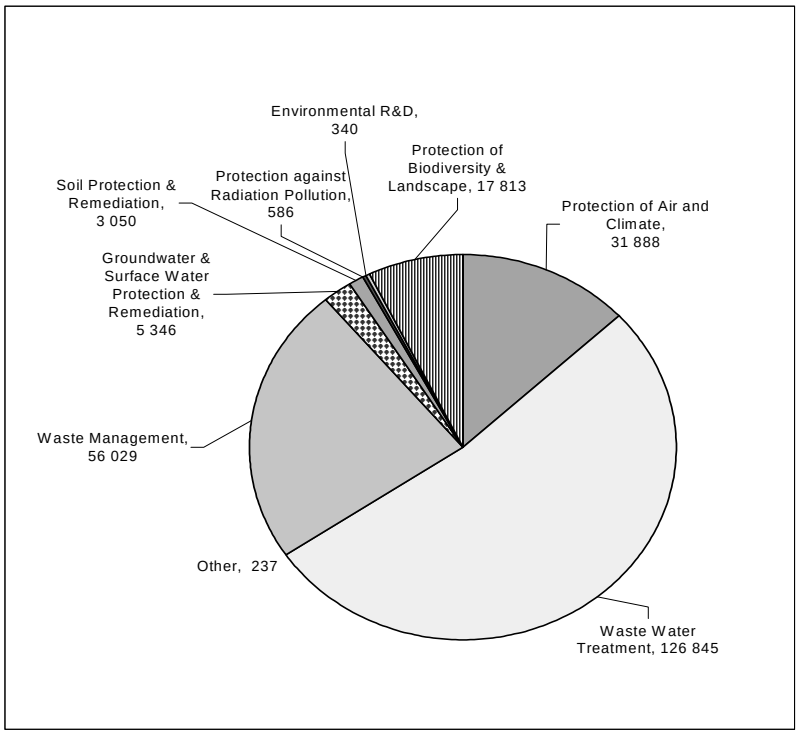
Graph 6: Total Expenditure by Environmental Domain, thousand Soms



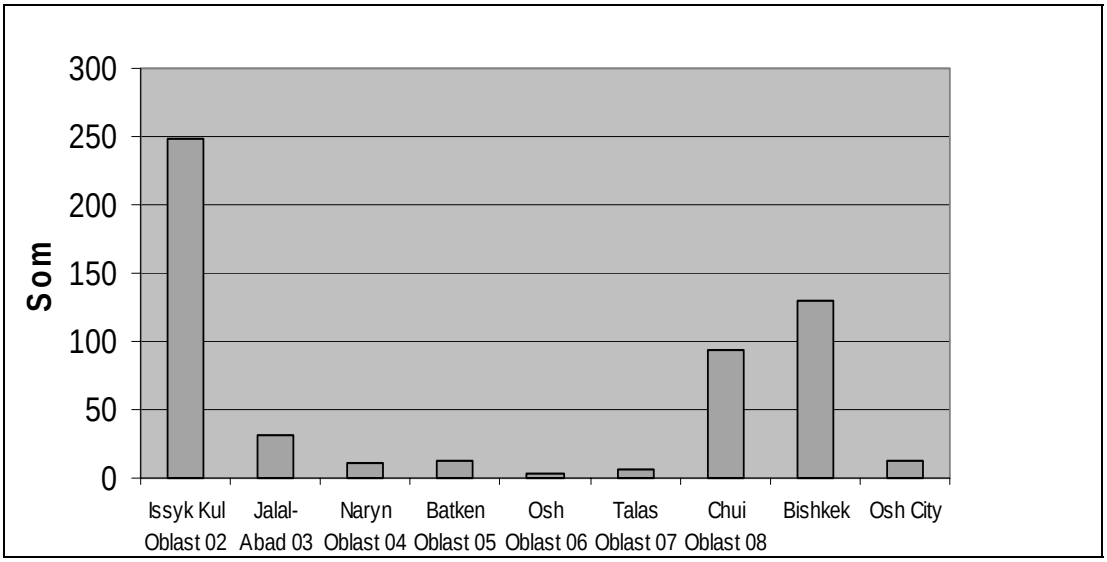
Graph 7: Investment Expenditure by Environmental Domain, thousand Soms



Graph 8: Current Expenditure by Environmental Domain, thousand Soms



Graph 9: Total Environmental Protection Expenditure by Region per capita



5.3.1 Comparison with existing environmental expenditure data

It is useful to make comparisons between these preliminary survey findings and data reported in the most recent official surveys of environmental expenditure. Table 9 gives the latest official results split by sectors and has attempted to approximate CEPA environmental domains for reported expenditure. Protection of biodiversity expenditure is not included here in the NSC current expenditures total because at present it is not officially classified as such. However, officially data available for protection of biodiversity is presented separately to allow comparison with the project survey total.

Table 9: Data from NSC 2004 Survey on Current Environmental Expenditures (Thousand Soms)

Types of economic activities	Current Expenditure Total	Of which:						Protection of biodiversity
		Water resource management	Waste water treatment (including capital repair)	Protection of ambient air (including capital repair)	Waste disposal	Protection and rehabilitation of soils	Land protection (mineral resources)	
Total according to NSC data, of which:	**295 817**	189 780	42 339	36 913	24 344	1 026	1 416	15 309
Agriculture, hunting and forestry	100	27	6	1	66	0	0	15 309
Mining and quarrying	137 412	112 434	813	10 308	12 367	250	1 240	0
Manufacturing sector	36 952	10 551	12 685	9 386	3 428	728	176	0
Generation and distribution of electricity; gas and water	116 656	66 547	25 001	16 857	8 252	0	0	0
Other	4 483	34	3 822	361	217	49	0	0
Provision of utility, social and individual services	215	188	13	0	15	0	0	0
Totals from Project Survey (CEPA current expenditure)[12]	**242 134**	5 346	126 845	31 888	56 029	3 050		17 813

[12] Note that the total from project survey (CEPA current expenditure) is not the sum of individual expenditure categories given in the table. This is because some CEPA environmental domains (protection against radiation, research and development, and other) are not included in the table as they are not reported in the NSC figures.

Table 9 shows that while there are clear differences between official 2004 totals and project survey totals (in some cases official totals are more than the survey and in some cases less) they are in the same order of magnitude. The NSC total is greater as not all the enterprises that reported for 2004 have filled-in the survey forms (e.g., not all forestry and hunting units, and also some industrial enterprises for the reasons indicated in the Section 5.1).

Table 10 shows official investment expenditures for 2004. The total is considerably higher than the environmental investment total of about 107.5 million Soms in the project survey. A possible explanation is that in the project survey environmental investments were more strictly defined than in the official figures for 2004. It is also possible that not all enterprises included in the official figures participated in the survey, although the project team made considerable efforts to ensure enterprises known to have major environmental investments were included.

Table 10: Investments into fixed capital in 2004, thousand soms

Total	**164 415**
Protection and rational use of water resources	9 132
Protection of ambient air	14 369
Protection and rational use of land	140 915

6. CONCLUSIONS ON SURVEY PROCEDURES

Procedures followed in the survey indicate that the National Statistics Committee are well equipped to undertake a national survey of this type in an efficient and timely manner. Good co-operation was gained with NSC oblast staff in distributing, collecting and returning survey forms and with NSC IT staff in the entry of data into Excel input tables. International consultants played the lead role in data processing and the provision of preliminary survey output tables and graphs. However, from our consultations and training with NSC national computer centre staff we are confident that they have good capacity to work with the computer tools developed for the project or, if it is required, to further develop existing computer reporting systems.

It is also emphasised that the local consultants, having agreed on the survey process with international consultants, played a lead role in its day to day management. This included providing advice and support to a large number of enterprises, coordination with NSC oblast offices and computer centre staff, and checking of all forms for logic and consistency prior to data processing.

In order to further improve the capacity of NSC to undertake national environmental expenditure surveys using OECD/Eurostat methodology it is recommended that, to the extent possible, in the future survey tasks are decentralised to NSC oblast offices. These tasks may include provision of advice on form completion, checking of forms for logic and consistency, and verification of data. The key requirement to achieve this would be regional training and on-going national office support to enable oblast level staff to understand the new forms and competently carry out the tasks. It is noted that the existing practice is for double-checking of completed forms both at oblast and national level.

While it is the practice of NSC to make thorough logic and consistency checks on completed forms and this was done in the project survey, there remains the issue of data reliability. Enterprises complete forms according to their official accounts. However, it is noted that the capacity for auditing environmental expenditure data is quite weak among auditing and financial companies in the country[13]. Therefore, there is a need for development of such capacities as part of the process of ensuring data reliability.

A further issue of data reliability is the capacity of existing enterprise selection criteria to adequately take into account all environmental protection expenditures under CEPA definitions. The basis of enterprise selection for the project survey was the Unified State Register for Statistical Units (USRSU) as explained in Section 4.1. While this provides a list of enterprises in line with ISIC (NACE) sector codes and is updated annually, it is likely that some environmental expenditures have been omitted from the survey and official data because they have not fully included small enterprises. Also, as stated in Section 4.3 some hunting and forestry enterprises were omitted due to their remote location and the difficulty of delivery and collection. It is recommended that selection of enterprises is expanded to include small enterprises and this will be further considered in the final phase of the project.

[13] The project team has made enquiries to auditing companies in Bishkek and found a lack of specialist knowledge in the subject of environmental expenditures.

6.1 Next Steps

1. Address legal and organizational issues for the implementation of new statistical reporting forms developed within the framework of the project starting from 2007;

2. Conduct educational workshops and trainings for the NSC departments and MEES inspection personnel on the new forms and OECD methodology (depending on funds availability).

3. Conduct periodic examination of the provided data reliability; including recommendation that large single expenditures above a cut off point (to be defined) are automatically subject to further verification by NSC officials. This is of particular relevance to large single expenditures in the mining, and fishing and forestry sectors.

4. Develop Environmental Registry of enterprises;

5. Give special attention to the special enterprises; consider a separate reporting form for them.

6. Further adaptation and development of computer software developed for the project survey. This is necessary for effective data processing by NSC computer department of upcoming national surveys using further revisions of reporting forms.

7. Develop appropriate introduction of environmental expenditures reporting for small business which currently are not included in reporting sample;

8. Periodically review reporting forms; modify them as necessary.

7. REFERENCES

GoKR (2003) National Poverty Reduction Strategy 2003-2005: Expanding the Nation's Potential, Prepared by the Kyrgyz authorities, January 2003.

OECD (2004) OECD/Eurostat Environmental Protection Expenditure and Revenue Joint Questionnaire, OECD Working Group on Environmental Information and Outlooks, Draft August 2004. (Available in Russian)

ANNEX A1: REPORTING FORMS AND GUIDANCE NOTES

GOVERNMENT STATISTICAL REPORT
(ARTICLE 11 OF THE LAW ON GOVERNMENT STATISTICS)
CONFIDENTIALITY IS GUARANTEED BY THE INFORMATION RECIPIENT

Breach of the information reporting time or its misstatement shall entail accountability as established by the Kyrgyz Republic Code of Administrative Responsibility of August 4, 1998, No. 114

Enterprise name _____ OKPO

Location (oblast, raion, town, village) _____ SOATO

Address _____

Type of economic activity _____ GKED

Ownership _____ OKFS

Report on Environmental Expenditure

Head of the Entity_____ (signature)

Name of the person in charge_____

Telephone: _____

Date: _____

I. Investments in Fixed Capital for the Environmental Protection

(If the enterprise makes no investments in environmental protection, switch to filling in the next section)

1.1 "End of pipe" investments

(thousand soms)

Item	No.	Total (2+3+4)	Of which		
			Construction (construction of new environmental facilities)	**Equipment** (modernization, reconstruction, replacement and extension of fixed environmental assets)	**Other**
A	B	1	2	3	4
Total: (sum of lines 02+03+04+07+08+12+13+14+15)	01				
Protection of ambient air and climate	02				
Sewage water collection, total	03				
Waste disposal (sum of lines 05+06)	04				
wastes collection and transportation	05				
wastes processing	06				
Soil and subsoil water protection and rehabilitation	07				
Soil protection and rehabilitation (sum of lines 09+10+11)	08				
soil erosion	09				
salinization and swamping	10				
land reclamation	11				
Noise and vibration abatement	12				
Protection against radiation pollution	13				
Environmental research and development	14				
Other (specify)……	15				
Water Resources (17+18)	16				
Drinking water supply	17				
Other water resource management (specify)…….	18				

1.2 Process-integrated investments

(thousand soms)

Item	No.	Total (2+3+4)	Of which		
			Construction (construction of new environmental facilities)	**Equipment** (modernization, reconstruction, replacement and extension of fixed environmental assets)	**Other**
A	B	1	2	3	4
Total (sum of lines 02+03+04+07+08+12+13+14+15)	01				
Protection of ambient air and climate	02				
Sewage water collection, total	03				
Waste disposal (sum of lines 05+06)	04				
wastes collection and transportation	05				
wastes processing	06				
Soil and subsoil water protection and rehabilitation	07				
Soil protection and rehabilitation (sum of lines 09+10+11)	08				
soil erosion	09				
salinization and swamping	10				
land reclamation	11				
Noise and vibration abatement	12				
Protection against radiation pollution	13				
Environmental research and development	14				
Other (specify)……..……	15				
Water Resources (17+18)	16				
Drinking water supply	17				
Other water resource management (specify)……..	18				

1.3 Investment Expenditure for Biodiversity and Landscape Protection

(thousand soms)

Item	No.	Total (2+3+4)	Of which		
			Construction (construction of new environmental facilities)	**Equipment** (modernization, reconstruction, replacement and extension of fixed environmental assets)	**Other**
A	B	1	2	3	4
Protection of Biodiversity and Landscape sum of lines (02+10+14+19)	01				
Protection and preservation of biodiversity (flora and fauna): sum of lines (03+04+05+06+07+08+09)	02				
Preserves	03				
Natural national parks	04				
Sanctuaries	05				
Forestries	06				
Hunting grounds	07				
Biosphere territories	08				
Transboundary biosphere reserves	09				
Forest protection (sum of lines 11+12+13)	10				
Forest regeneration	11				
Protection of forests from fire	12				
Protection of forests from pests and Diseases	13				
Land protection and rational use, total sum of lines (15+16+17+18)	14				
Hydro engineering installations	15				
Mudflow-preventive, landslide-preventive and anti-avalanche installations	16				
Bank-protecting structures	17				
Other land protection and rational use. Specify……	18				
Environmental Research and Development	19				

1.4 Capital investment financing sources used for environmental protection

(thousand soms)

Item	No.	Total (2+3+4+5+6 +7)	Subsidies from republica n budget	Subsidies from local budget	Foreign grants and humanitarian aid	Foreign loans	Own funds of enterprises	Other
A	B	1	2	3	4	5	6	7
Total sum of lines (02+03+04+07+08+12+13+14+15)	01							
Protection of ambient air and climate	02							
Sewage water treatment, total	03							
Waste disposal (sum of lines 05+06)	04							
wastes collection and transportation	05							
wastes processing	06							
Underground and surface water protection and rehabilitation	07							
Soil protection and rehabilitation (sum of lines 09+10+11)	08							
soil erosion	09							
salinization and swamping	10							
land reclamation	11							
Noise and vibration abatement	12							
Protection against radiation pollution	13							
Environmental research and development	14							
Other……..……(specify)	15							
Water Resources (17+18)	16							
Drinking water supply	17							
Other water resource management (specify)……	18							

1.5. Capital investment financing sources used for biodiversity and landscape protection

(thousand soms)

Item	No.	Total (2+3+4+5+6+7)	Including funds for extraordinary situations	Subsidies from local budget	Foreign grants and humanitarian aid	Foreign loans	Own funds of enterprises	Other
A	B	1	2	3	4	5	6	7
Protection of Biodivsersity and Landscape sum of lines (02+10+14+19)	01							
Protection and preservation of biodiversity (flora and fauna): sum of lines (03+04+05+06+07+08+09)	02							
Preserves	03							
Natural national parks	04							
Sanctuaries	05							
Forestries	06							
Hunting grounds	07							
Biosphere territories	08							
Transboundary biosphere reserves	09							
Forest protection (sum of lines 11+12+13)	10							
Forest regeneration	11							
Protection of forests from fire	12							
Protection of forests from pests and Diseases	13							
Land protection and rational use, total sum of lines (15+16+17+18)	14							
Hydro engineering installations	15							
Mudflow-preventive, landslide-preventive and anti-avalanche installations	16							
Bank-protecting structures	17							
Other Land protection and rational use. Specify……	18							
Environmental Research and Development	19							

II. Current (Operating) Environmental Expenditures

2.1. Current (operating) expenditures for environmental protection

(thousand soms)

Item	No.	Total (2+3)	Own environmental expenditures	Payments to entities providing environmental services	Of which: Payments to municipal and other state organizations for environmental services
A	B	1	2	3	4
Total Sum of lines (02+03+04+07+08+12+13+14+15)	01				
Ambient air pollution abatement and control	02				
Sewage water treatment	03				
Waste disposal (sum of lines 05+06)	04				
wastes collection and transportation	05				
wastes processing	06				
Subsoil and surface water protection and rehabilitation	07				
Protection and rehabilitation of soil (sum of lines 09+10+11)	08				
soil erosion	09				
salinization and swamping	10				
land reclamation	11				
Abatement of noise and vibration	12				
Protection against radiation pollution	13				
Environmental research and development	14				
Other……(specify)	15				
Water Resources (28+29)	16				
Drinking water supply	17				
Other water resource management (specify)……	18				

2.2. Financing of current operating environmental protection expenditures

(thousand soms)

Item	No.	Total (2+3+4+5)	Including:				Receipts from by-products
			Payments from Republican Budget	Payments from local budget	Own funds of enterprises	Other	
A	B	1	2	3	4	5	6
Total (sum of lines 02+03+04+07+08+12+13+14+15)	01						
Protection of ambient air and climate	02						
Sewage water treatment, total	03						
Waste disposal (sum of lines 05+06)	04						
Wastes collection and transportation	05						
wastes processing	06						
Underground and surface water protection and rehabilitation	07						
Soil protection and rehabilitation (sum of lines 09+10+11+12)	08						
soil erosion	09						
salinization and swamping	10						
land reclamation	11						
Noise and vibration abatement	12						
Protection against radiation pollution	13						
Environmental research and development	14						
Other (specify)……..	15						
Water Resources (17+18)	16						
Drinking water supply	17						
Other water resource management (specify)……..…	18						

2.3. Current (operating) expenditures protection of biodiversity and landscape and financing of current operating environmental expenditures

(thousand soms)

Item	No.	Total (2+3+4+5)	Including:				Receipts from by-products
			Payments from Republican Budget	Payments from local budget	Own funds of enterprises	Other	
A	B	1	2	3	4	5	6
Protection of Biodiversity and Landscape sum of lines (02+10+14+19)	01						
Of which, from the line 03 Protection and preservation of biodiversity (flora and fauna): sum of lines (03+04+05+06+07+08+09)	02						
Preserves	03						
Natural national parks	04						
Sanctuaries	05						
Forestries	06						
Hunting grounds	07						
Biosphere territories	08						
Transboundary biosphere reserves	09						
Forest protection (sum of lines 11+12+13)	10						
Forest regeneration	11						
Protection of forests from fire	12						
Protection of forests from pests and Diseases	13						
Land protection and rational use, total sum of lines (15+16+17+18)	14						
Hydro engineering installations	15						
Mudflow-preventive, landslide-preventive and anti-avalanche installations	16						
Bank-protecting structures	17						
Other Land protection and rational use. Specify……..…	18						
Environmental Research and Development	19						

3. Payments, penalties and claims for pollution of the environment and rational use of natural resources

(thousand soms)

Item	No.	Payments		Penalties (for violation of environmental legislation)	Claims (for violation of environmental legislation)
		monetary	non-monetary (barter, offset)		
A	B	1	2	3	4
Payments for permissible pollution, discharge and waste disposal (sum of lines 02+03+04)	01				
of which: for water resources pollution	02				
for ambient air pollution	03				
for waste disposal	04				
Payments for pollution, discharges and waste disposal in excess of the limits (sum of lines 06+07+08)	05				
of which: for pollution of water resources	06				
for pollution of ambient air	07				
for waste disposal	08				
Payments for the use of natural resources, sum of lines (10+11+12+13)	09				
of which: for the use of water resources	10				
for the use of forest resources	11				
for the use of mineral resources	12				
for the use of biological resources	13				

4.1. Investment expenditures and capital investment financing sources used for entities providing environmental services

(thousand soms)

Item	No.	Total (2+3+4+5)	Including:			
			Payments from Republican Budget	Payments from local budget	Payments from population, enterprises	Other
A	B	1	2	3	4	5
Total (sum of lines 02+03+06)	01					
Sewage water treatment, total	02					
Waste disposal (sum of lines 04+05)	03					
Wastes collection and transportation	04					
wastes processing	05					
Other……(specify)	06					
Water Resources (08+09)	07					
Drinking water supply	08					
Other water resource management (specify)……	09					

4.2. Current (operating) expenditure and capital investment financing sources used for entities providing environmental services

(thousand soms)

Item	No.	Total (2+3+4+5)	Including:			
			Payments from Republican Budget	Payments from local budget	Payments from population, enterprises	Other
A	B	1	2	3	4	5
Total (sum of lines 02+03+06)	01					
Sewage water treatment, total	02					
Waste disposal (sum of lines 04+05)	03					
Wastes collection and transportation	04					
wastes processing	05					
Other……(specify)	06					
Water Resources (08+09)	07					
Drinking water supply	08					
Other water resource management (specify)……..…	09					

Environmental Expenditure Report Completion Guidelines

1. INTRODUCTION

1.1. This report shall be filed by the following organizations: public governance bodies, industrial, transport, construction, public utility companies, and organizations and institutions, which have treatment facilities and implementing environmental measures (capital investments), engaging in construction, modernization, expansion and re-equipment of the capital environmental assets, and protected territories, sanctuaries, forestries and hunting grounds. .

1.2. The report shall be prepared on the basis of primary accounting data (Jan 05) on the actual expenditures for the environmental protection and rational use of natural resources.

1.3. The report shall be filled in a clear and readable manner. In the absence of data on individual indicators, dashes shall be placed in relevant columns/lines.

1.4. The report shall be signed by the head of the reporting enterprise/institution.

2. TERMS AND DEFINITIONS

Environmental activities include all measures aimed at prevention, abatement and elimination of pollution or other damage to the environment resulted from productive activity.

Environmental expenditures include total amount of expenditures from the state, enterprises (organizations, institutions) aimed at activities on prevention, control and abatement of pollution of the environment, nature conservation and management of natural resources.

Investment expenditures include expenditures related to the construction of environmental facilities and installations, replacement, modernization and extension of the fixed environmental assets.

Current (operating) eexpenditures include expenditures for power, materials, maintenance and remuneration of labor for own personnel involved in environmental activities. Considerable amount of such expenditures refers to maintenance of the environmental equipment.

Environmental payments include payments made by different economic entities (irrespective of their ownerhip and subordination) for pollution of the environment. These include payments for permissible and excessive emissions/discharges of pollutants, waste disposal, payments for the use of natural resources, claims and fines collected to cover the damage caused by violation of environmental legislation.

VAT accounting

Environmental expenditures should be accounted as follows:

- Transfers from commercial organizations shall be reflected without VAT;
- Receipts for environmental services shall be reflected without VAT.

3. ENVIRONMENTAL EXPENDITURE DOMAINS

This section provides explanations of which activities should be included under environmental expenditure domains given in column ‘A’ of the reporting forms.

Activities aimed at obtaining economic results shall not be included into the report.

3.1. Protection of ambient air and climate includes all measures and actions aimed at prevention of ambient air pollution, and control over emissions of greenhouse gas and ozone destructing substances;

treatment of exhaust gases and ventilation; measurements and control over concentration of pollutants in exhaust and emitted gases, air quality; other measures and actions aimed at regulation, administration, management and training.

Include investment costs and current costs for construction and maintenance of:

- gas and dust catching plant and devices, intended for catching and neutralization of harmful substances;
- pilot industrial plants and departments involved in the development of the emitted gas purification from harmful atmospheric emission;
- regulation and control stations for checking and reducing toxicity of the vehicle exhaust;
- construction and equipping and operation of the atmosphere pollution control laboratories;
- plants and devices for afterburning and other tail gas after-purification methods;
- plant (productions) for utilization of substances from the emitted gas;
- capital repairs of plants and installations for entrapping and neutralization of hazardous substances polluting ambient air;
- other measures pertaining to atmosphere protection.

3.2. Wastewater treatment includes measures aimed at prevention of surface water pollution by reducing discharge of wastewater to surface water objects and landscapes. Actions are aimed at functioning of sewerage systems, i.e. collection and transportation of wastewater, wastewater treatment (mechanical, biological, physical-chemical), treatment of cooling water, measures and control over concentration of pollutants in wastewater, water quality; other measures and actions aimed at regulation, administration, management and training.

Include investment costs and current costs for construction and maintenance of:

- stations for biological, physical-chemical and mechanical treatment of production municipal wastewater;
- facilities and plants for wastewater after purification including the agricultural sewage farms;
- experimental plants and departments at enterprises related with the development of wastewater purification methods; plants and facilities for wastewater collection, transportation, treatment and elimination of liquid production wastes, which are polluting water reservoirs and underground water;
- individual facilities for primary treatment of wastewater (oil removers, grease traps, neutralization stations at floatation installations, and sludge neutralization installations);
- sewerage networks in cities and villages connected to the wastewater treatment facilities;
- sewerage networks for disposing sewage water to filter frams, sewage farms, to specially constructed collectors, evaporators;
- municipal sewage water treatment facilities;
- off-site sewerage networks for disposing industrial wastewater (including rainwater), and construction of pumping stations, stations for control, preparation, neutralization of wastewater, and reservoirs for temporary accumulation of such water in case of emergency pollutive discharge and exceeding the concentration above the maximum permissible level for further transmission to the treatment stations; at that, in-site networks of enterprises are not part of the main service lines;

- closed water supply cycle (with wastewater recycled for technical use after appropriate treatment and processing), including circulating sytems for hydraulic ash removal of sludge, industrial water circulating systems, and the systems for consecutive and repeated use of water, including water received from other enterprises;
- maintaining in a proper condition of water protection zones with a system of technological measures, forest amelioration, agro-technical, hydraulic engineering, sanitary and other measures aimed at prevention of pollution, chocking up and exhaustion of water resources;
- dispersive discharging;
- filter farms, sewage farms, specially constructed storage units, evaporators and sediment chambers, disposal (discharge) of polluted sewage water, which does not result in pollution of surface and underground water resources;
- capital repairs of plants and installations for treatment of sewage and rational use of water resources;
- other measures related to sewage treatment.

Expenditures related to potable water supply shall be excluded. Expenditure related to protection of groundwater from pollution infiltration and cleaning of water bodies after pollution should also be excluded here (see 3.4 below).

3.3. Waste management refers to activities and measures aimed at the prevention of the generation of waste and the reduction of its harmful effect on the environment.

Include investment and current expenditures for:

- waste collection and treatment;
- waste collection and elimination, removal and recycling (including wastes caught as a result of wastewater treatment and treatment of exhaust technological gases and ventilation air);
- operation and maintenance of grounds and specially organized storage sites for solid wastes, and installations for neutralization of solid toxic and other hazardous wastes;
- measurement and control over toxicity of wastes;
- other measures and activities aimed at regulation, administration, management and training.

3.4. Protection and remediation of groundwater and surface water refers to measures and activities aimed at the prevention of pollutant infiltration in water bodies. It includes monitoring, control of surface water and groundwater pollution as well as other measures and activities aimed at regulation, administration, management and training.

Include investment and current expenditures for:

- operation and maintenance of water inlets for underground water;
- activities aimed at prevention of water source pollution;
- run-off control at small rivers, and other activities aimed at rehabilitation and maintenance of favorable hydrological regimen and sanitary condition at small rivers;
- other activities

3.5. Protection and remediation of soil refers to measures and activities aimed at the prevention of pollutant infiltration, cleaning up of soils and the protection of soil from erosion, swamping, salinisation

and other physical degradation. It includes monitoring, control of soil and other measures and activities aimed at regulation, administration, management and training.

Include investment and current expenditures for:

- construction and maintenance of anti-erosion systems (forest plantations along ravines and gullies, pond and river banks, on sands, terraces and mountain slopes exposed to erosion), land treatment and land protection;
- construction and maintenance of collecting and drainage systems, systems for land improvement of the solonetz and saline soils (gypsuming of solonetz and flushing of saline soils);
- land reclamation (removal, storing and use of the fertile layer of soil, including current costs for the use of special machinery);
- other costs related to protection and rational use of soil.

3.6. Noise and vibration abatement (excluding workplace protection) refers to measures and activities aimed at the control, reduction and abatement of industrial and transport noise and vibration. Activities for the abatement of industrial noise, installation and management of soundproofing means (screens and windows), soundproofing of buildings and mechanisms; modifications to be made at factories to absorb vibrations; control over regulation of noise and vibration, other measures and activities aimed at regulation, administration, management and training.

Excluded is the abatement of noise and vibration for purposes of protection at the workplace.

3.7. Protection of biodiversity and landscapes refers to measures aimed at protection and rehabilitation of individual fauna and flora species and ecosystems.

Include investment and current expenditures for:

- costs related to protection of flora and fauna, and protection of natural landscapes in preserves, natural national parks, sanctuaries, biosphere territories, transboundary biosphere reserves, hunting grounds and forestries;
- protection and reproduction of wild animals and birds, including biotechnical activities, preservation and reproduction of wild animals and birds;
- procurement, storage, placing of fodder to feed up wild animals and birds, creation of sites for additional feeding, feeding farms, artificial nests;
- carrying out activities to control diseases of wild animals;
- settling wild animals and birds;
- registration of wild animals' and birds' population;
- salaries of employees carrying out such works, payments made for entrapment and shooting off vermin (e.g., wolves, stray dogs), and costs for maintaining nurseries and farms for rearing of wild animals, transportation and other costs related to biotechnical measures, cost of uniform, authorized weapon, costs of acquisition and maintenance of communication means, specialized inventory and other costs related to the services of supervision and protection;
- other costs.

3.7.1. Costs related with forest restoration include the cost of the following works:

- construction and maintenance of fire safety facilities, purchasing fire-fighting equipment and technical means for them;

- construction and maintenance of bio-stations and biological laboratories for the biological and chemical forest protection, and purchasing equipment for them, and machines for fighting forest pests and diseases;
- measures related with rational use of forest resources (purchasing machinery and equipment for sanitary felling, maintenance felling, forest restoration, etc.);
- planting and seeding of forests on cultural forest areas (felling, patches, fire-sites, waste areas, etc.). By seeding of forest is meant seeding of tree seeds in cultural forest areas irrespective of the method of seeding. Works on planting and seeding of forest also include reconstruction of low value natural vegetation via introduction of economically valuable sorts;
- creation of protective afforestation in pastures;
- facilitation in natural forest restoration;
- creation of field protective afforestation;
- protection of forests against forest fires – includes total amount of damage caused by the fire to the forestry, inventory value of the burnt-out and damaged forest, expenditures related with fire extinguishing.

Excluded: creation and maintenance of green plantations along the roads and in pleasure resorts, protection and restoration of historical monuments and artificially created landscapes. Expenditure on protection of forests in the above definitions which is predominantly for 'economic' reasons should be excluded. Only those expenditures for landscape preservation purposes should be included.

3.7.2. Cost related to land protection:

Investments and current costs of land protection (excluding protection of soil) reflect costs of:

- construction and maintenance of hydraulic engineering, mudflow-preventive, landslide-preventive, avalanche-protection, landslip-protecting constructions including bank-protecting structures (excluding irrigation and land-reclamation systems);
- terracing of steep slopes;
- creation (planting and care taking) of protective afforestation;
- other costs related to protection and rational use of land.

3.8. Protection against radiation refers to activities and measures aimed at the reduction or elimination of the negative consequences of radiation emitted from any source. Included are the transportation and treatment of high level radioactive waste, management of tailings; measurement and control of radioactivity; other measures and activities aimed at protection against radiation, administration, management and training.

3.9. Scientific research and development. Costs for environmental scientific research and development in the following areas:

- Protection of ambient air and climate
- Protection of water
- Waste disposal
- Protection of soil, groundwater and surface water
- Noise and vibration abatement
- Preservation of biodiversity and habitats
- Protection against radiation

- Other environmental research

3.10. Water Resource Management refer to expenditures related to activities of management and exploitation of water resources including:

- provision of drinking water supply;
- other water resource management activities including: direct abstraction (such as for cooling purposes in industrial processes), purification of water and operation of irrigation systems.

Excluded are expenditures related to "Protection and remediation of groundwater and surface water" (as defined in 3.4 above) and "Wastewater treatment" (as defined in 3.2 above).

3.11. Other environmental activities

Activities, which can not be split to make a separate item, and types of activities not included into other categories.

4. REPORT COMPLETION PROCEDURE

4.1. Investments in fixed capital (capital investments) **for environmental protection** (tables 1.1, 1.2, 1.3, 1.4 and 1.5)

Please note that when filling Tables 1.1, 1.2 or 1.3, there should also be described the sources of financing, i.e. Tables 1.4 or 1.5 should also be completed.

In case it is not possible to split investments into "construction" and "equipment", total amount of investments should be indicated (Tables. 1.1,1.2, 1.3).

The investment expenditures are divided into the following categories:

- **"End of pipe" investment expenditures** (Table 1.1) mean the investments, which do not impact on the production process and are aimed only to reduce the related pollution. **(insert on at least filling total)**

- **Investment expenditures for integrated technologies** (Table 1.2) mean the investments which result in the modification of the production process with the main purpose to reduce pollution, and in reduction of pollutants generation. When a new technology is implemented, the environmental component comprises the additional expenditure as compared with the cheaper but less environmentally sound technology available. If the existing production is modernized, the environmental expenditures will be equal to the total cost of compliance with the environmental requirements.

- **Investment expenditures (capital investments) for protection of biodiversity and landscape** (Table 1.3.) include expenditures related to nature protection.

Definitions for environmental expenditure domains of column A **in the Tables 1.1, 1.2, 1.3, 1.4 and 1.5** are provided in Section 3 of this Instruction.

When filling in Tables 1.1, 1.2 and 1.3:

- in column 2 "Construction", the expenditures should be specified, which are related to the construction of the fixed production environmental assets;

- in column 3 "Equipment", the expenditures of the operating enterprises should be specified related to the renovation, reconstruction, replacement and expansion of the fixed environmental assets,

- in column 4 "Other", the expenditures should be specified, which are not included in columns 1 and 2.

There is no division of investment expenditures into "end of pipe" and "process-integrated" for specialized enterprises. The specialized enterprises should fill in table 4.1.

When filling in Tables 1.4 and 1.5:

- columns 1 - 6 should reflect investments by source of financing, and **include:**
  transfers for the financing of environmental activities from the republican and local budgets, own funds of the enterprises and organizations, foreign aid, loans and grants;

- in column 7, the expenditures should be shown that are not included in the above discussed columns.

4.2 Current (operating) **environmental expenditures** (tables 2.1, 2.2, 2.3)

This item includes the expenditures for the electricity, materials, equipment maintenance and wages of the permanent staff involved in the environmental works. A substantial proportion of such expenditures is related to the maintenance of the environmental protection equipment.

Own operational expenditures do not include fees for the environmental services provided by the public sector or specialized organizations, such as collection of wastes, sewage water processing, and consulting, environmental audit or inspection services.

Please note that when completing Tables 2.1, there should be also described receipts for financing, i.e. Tables 2.2 have to be completed.

When filling in Tables 2.1, 2.2, 2.3 note that definitions for column A are given in section 3 of this instruction, respectively.

When filling in Tables 2.1:

- column 1 "Total" should include own environmental expenditures and payments to enterprises providing environmental services

- column 2 "Own environmental expenditures" should include expenditures for maintenance of environmental equipment and remuneration for own personnel involved in environmental activities;

- column 3 "Payments to enterprises providing environmental services" shows payments made to enterprises for environmental services both by state and private abaters. These transfers are related with environmental activities carried out by other organizations;

- column 4 "Payments to municipal and other organizations for environmental services" shows payments made for environmental services only to enterprises of public or municipal ownership.

  Environmental penalties and compensation of damage are excluded.

  Payment of services include:

  – payments for collection and recycling of wastes, diversion and treatment of wastewater (no matter how they can be called – collections, tariffs, etc.), payment for consultation services, e.g., environmental management and training, and payment for issuance of permissive environmental documents.

When filling in tables 2.2:

– column 1 «Total» shows all receipts for financing environmental activities including those from the republican (column 2) and local (column 3) budgets, Own environmental expenditures (column 4) and other (column 5).

– column 6 "Receipts from by-products" shows revenues from selling by-products (secondary products), which is reflected the line 15 "Other".

By-products (secondary products) are products having demand in the market, which are produced in a number of cases during production process, and allowing either to sell them away and receive profit, or to use within the enterprise itself and to lower the cost of production.

Revenues from selling by-products are the sum of the sales away, and saving of own costs (in case of internal use of by-products).

Energy-saving and saving of raw materials due to the use of more advanced technologies and other benefits resulted from environmental activities are not included into the receipts from by-products.

When filling in tables 2.3:

– column 1 «Total» should include current (operating) expenditures protection of biodiversity and landscape.

– column 2-5 shows all receipts for financing environmental activities including those from the republican (column 2) and local (column 3) budgets, own environmental expenditures (column 4) and other (column 5).

– column 6 "Receipts from by-products" shows revenues from selling by-products (secondary products), which is reflected in relevant lines.

4.2.1. Current (operating) expenditures are composed of the following components:

Materials – cost of materials and purchased semimanufactured goods that are consumed in the process of the environmental capital assets functioning, and also cost of materials used for improving technical condition and engineering development of the environmental capital assets, and for conducting trials and tests aimed at engineering development of such assets.

Fuel and energy – cost of fuel and energy consumed in the process of the environmental capital assets functioning (including cost of the fuel necessary to maintain technological processes devised to reduce content of, and neutralize harmful substances contained in the wastes) and other environmental protection works.

Wages (base and additional) including social insurance contributions of the workers employed in servicing of all environmental capital assets, and bringing lands in usable condition, including the land reclamation works and other environmental protection measures.

Expenditures for maintenance and operation of environmental capital assets including depreciation and routine repairs.

Shop and factory (general operating) costs as per the list of the relevant expenditure items related to maintenance of the administrative staff of the shop, enterprise or organization's environmental protection service.

Expenditures for labor protection of the workers employed in environmental capital assets servicing and other works related to the environmental protection and rational nature management.

Expenditures related to the joint use by enterprises and organisations in a region of environmental protection facilities (purification facilities, slag and slurry damps, production waste neutralization, storing and destruction plants, etc.), and fees for environmental services provided to the enterprise (organization) (after purification of sewage water, biological treatment of sewage water at the shared purification facilities, etc.) - to be included in the shop or factory costs.

4.3. Payments, penalties and claims for pollution of the environment and for the use of natural resources (table 3)

When filling in columns 1, 3, 5 actual monetary payments shall be indicated.

When filling in columns 2, 4, 6 non-monetary payments shall be shown (barter) or offsets, when environmental activities conducted by the enterprises are taken into consideration when calculating payments for the pollution of the environmental.

When filling in columns 1, 2 the following payments shall be indicated:

Payments for permissible emissions/discharges of pollutants, and waste disposal (rows 01 - 04) - payments should be specified for the emission/ discharge of pollutants within the limits established for the enterprise (maximum permissible emission/discharge, or provisionally permitted emission/discharge). Under this item total environmental fees should be reflected for the disposal (transport, storing, burial) of wastes.

Payments for the excess of permissible emissions/discharges of pollutants and waste disposal (rows 05 - 08) - payments should be specified for the excess (above the limit) pollution of the environment, i.e., for the emissions, discharges/disposal of pollutants/wastes in excess of the limits established for the enterprise. Under this item, also the charges should be reflected with regard to those pollutants/wastes for which the enterprise failed to obtain through the established procedure a permit for pollutants emission/discharge or wastes disposal.

Payments for the use of natural resources (rows 09-13)*:* include all actual payments for natural resources, including the fee for the title to natural resources, charges for the reproduction and protection of natural resources, etc. In this item also the payments should be reflected, which are made under the

legislation currently in effect, resolutions of the government or local governing bodies with regard to all types of natural resources (specifically, fees for water draw off from the waterworks systems, for land, for minerals, etc.).

This should not include cost of the natural gas, oil products and other types of fuel that re consumed in the production process as energy carriers or raw materials.

Columns 3-4 include claims and penalties collected to compensate damage resulted from violation of environmental legislation. There must be accounted all the means (claims) brought and actually collected from enterprises to compensate the damage resulted from violation of environmental legislation irrespective of the fact whether these amounts were collected as a result of a decision made by judicial (arbitral) bodies, or other way. They include penalties for one-time or emergency pollution of the environment, for non-rational use or damage of natural resources, etc. They also include appropriate fines collected from specific officials.

4.4. Specialized enterprises providing environmental services (Table 4.1, 4.2)

Some enterprises (both privately and publicly owned) and separately identified departments of large municipalities have the production of environmental protection services as their main activity. These are mainly activities within ISIC/NACE 90 such as:

- 90.01 Collection and treatment of sewage
- 90.02 Collection and treatment of solid waste
- 90.03 Sanitation, remediation and similar activities.

Specialised producers could also include environmental management activities provided by environmental consultants, the activities of e.g. volunteer environmental organisations or secondary environmental activities in e.g. ISIC/КВЭД37 Recycling, if such information is available. These should be entered in the domain "Other" along with a footnote describing the coverage.

When filling in tables 4.1:

- column 1 «Total» should reflect investments by source of financing, and include**:**

- column 2-5 shows all receipts for financing environmental activities including those from the republican (column 2) and local (column 3) budgets, payments from population, enterprises (column 4) and other (column 5).

When filling in tables 4.2:

- column 1 «Total» should reflect current environmental expenditures, and include:

- column 2-5 shows all receipts for financing environmental activities including those from the republican (column 2) and local (column 3) budgets, payments from population, enterprises (column 4) and other (column 5).

ANNEX A2: INSTRUCTIONS FOR DATA INPUT FOR ENTERPRISE SURVEY

This note sets out recommended procedures for computer input of data received on questionnaires for the survey of enterprises undertaken for the "Harmonising Environmental Expenditure Information Systems with OECD/Eurostat Standards" project.

The Kyrgyzstan data collection package is basically a set of Excel Spreadsheets tailored to mirror the hard copy questionnaires used in the survey. Rather than sharing a single copy of the Spreadsheet file it is recommended that an individual Spreadsheet file is used by each person entering data. Provision has been made for data to be input for a maximum of 250 responding enterprises in a single Spreadsheet file - if this limit is met, please start again with another blank copy of the original Spreadsheet file. This allows the files to be limited in size and transmitted without problems.

Each Worksheet is related to a single hard copy questionnaire table. Data should be entered sheet by sheet from the completed questionnaire tables.

All cells in the questionnaire tables have been included in the corresponding worksheets so that they can be easily cross-referenced to aid data input. The header rows in the spreadsheet are parked at the top of the file. When starting a new enterprise entry, it is recommended that the user scrolls down the entry list so that the currently amended entry appears at the top of the screen underneath the header.

The data input process should be as follows.

- Enter the details from the front page of each questionnaire in the worksheet named 'enterprises', including local codes as required. Start a new row for each responding enterprise.

- Each enterprise has a unique Reference number (Seed No.) in the first column of the Enterprises table - this number is already copied to the first column of each of the data input tables starting from Table 1.1, allowing the user to ensure that the information is being entered for the appropriate enterprise consistently.

- Data entry should start from Table 1.1 running through to the final table - Table 3.

- Data from each returned questionnaire should be entered on a single row in the worksheets starting from the top left hand cell of the questionnaire running left to right across the page and then jumping down to the left hand cell of the next line of the questionnaire.

- Cells in each spreadsheet table that are shaded will automatically update themselves with the appropriate sum of other cells in the table. Where only totals have been put in by the responding enterprise (i.e. data is entered into shaded cells on the questionnaire but not into the appropriate cells that sum to the shaded cells) then these totals should be entered into the appropriate shaded cells in the spreadsheet.

- If a total has been given by the responding enterprise in a shaded cell which is <u>not</u> the sum of figures given by the enterprise in other cells that make up the total (i.e. there is inconsistency

between the total given by the responding enterprise and the automatically updated total), then the total given by the enterprise should be entered in the shaded cell. In other words, in cases of inconsistency the total stated by the enterprise should be overwritten on the automatically updated total. In such cases it would be helpful to mark the cell accordingly by changing the text colour to RED.

- After each complete set of data for an enterprise is entered the best practice is to save the spreadsheet before moving on to the next questionnaire. Autosave has been enabled, so that in the event of a system crash or other problem the maximum amount of data that should be lost is no more than 10 minutes worth.

- If there are any queries relating to how the data given by specific enterprises on the questionnaires should be interpreting for input into the Spreadsheet, these should by noted by the person entering data and given to the project team experts (Nina Kabanova and Natalia Baidakova). The project team experts will then advise how to interpret the data for input or, if this is not possible, keep records of unresolved queries to aid our conclusions for further refinements of questionnaire design.

- It is recommended, that project team experts and statistical committee experts review completed data input for a sample (5% of responding enterprises) of responding enterprises to check for accuracy and any other problems.

ANNEX A3: KEY SOCIAL AND ECONOMIC INDICATORS FOR 1995-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross domestic product, million soms	16 145	23 399	30 686	34 181	48 744	65 358	73 883	75 367	83 872	94 078
Gross domestic product per capita, soms	3 518	5 024	6 495	7 126	10 020	13 297	14 912	15 094	16 646	18 473
Gross capital formation, million soms	..	..	..	..	..	13 078	13 299	13 270	9 922	9 393
Investments in fixed capital, million soms	3 221	4 766	5 692	4 215	6 708	10 855	9 842	9 378	8 951	10 219
Volume of industrial production, million soms	7 126	9 998	18 053	21 277	33 725	41 408	44 595	42 466	48 940	52 772
Gross output and services in agriculture, hunting and forestries, million soms	9 728	15 552	18 925	20 936	30 875	40 998	47 738	47 899	53 879	59 189
Index of consumer prices for goods and services (% change previous year)	130	130	113	116.8	139.9	109.6	103.7	102.3	105.6	102.8
Exchange Rate (soms per USD)	10.8	12.8	17.4	20.8	39	47.7	48.4	46.9	43.6	42.6

Source: National statistics.

B. COUNTRY CASE STUDY: UKRAINE

1. INTRODUCTION

1.1 Outline of Report

This report outlines the activities undertaken in the inception and implementation phases of the project for strengthening the existing environmental expenditure information systems in Ukraine. These activities have involved an analysis of the current system of environmental expenditure reporting and its compatibility with OECD/Eurostat systems, developing possible new reporting forms and instructions, and undertaking a first data collection survey in the Donetsk region aiming at compatibility with Eurostat and OECD methodological standards to the extent possible under institutional capacities of the country. Project tasks have been undertaken by the team of international and national consultants in close cooperation with Ministry of Environmental Protection (MEP), Goscomstat National Statistics Committee (NSC) and OECD EAP Task Force.

Section 2 of this report gives a brief overview of international environmental expenditure information standards of OECD and Eurostat as a foundation for subsequent explanation of the development of the possible new reporting form and the reporting of survey findings.

Section 3 outlines the current environmental expenditure data collection and reporting system for the business sector in Ukraine and analyses compatibility with OECD/Eurostat standards. It also discusses the availability of environmental expenditure data in the public sector.

Section 4 explains the development of the reporting forms including key decisions on the design of forms.

Section 5 gives details of the survey of environmental expenditure undertaken in the Donetsk region using the newly developed reporting forms. This includes a description of the survey process, response rates and conclusions about the design of the form.

Finally, Section 6 provides recommendations on the survey process and next steps for implementing OECD/Eurostat standards. It also discusses the policy relevance of harmonisation with international environmental expenditure standards. Annexes B1 to B4 include key outputs from the implementation phase of the project, including the reporting forms and instructions used in the survey.

This report was prepared by Nick Dale (Metroeconomica Consultant), Alistair Hunt (Metroeconomica Project Coordinator), Vladimir Morozov (local consultant) and Vadim Diukanov (local expert), with assistance from Olga Merenich (local consultant). We are grateful to Lydmila Petrovna Kvashuk (Deputy Chief, Natural Resources and Environmental Statistics Department of State Statistics Committee) and Natalya Grigoryevna Karpenko (advisor) for coordination of survey activities on behalf of Goscomstat. The project survey was greatly assisted by Goscomstat Donetsk oblast office staff namely Lazareva

Tatiana Gerasimovna (Chief of agricultural and environmental statistics department); Tsupor Svetlana Kirillovna, (Chief of environmental statistics section); Gladkovskaya Lydmila Pavlovna (Senior expert-economist of environmental statistics section) and Romashenko Elena Vladimirovna (economist of 1 category of environmental statistics section); and Savchenko Ekaterina Aleksandrovna (researcher from UkrNTEC, Donetsk).

1.2 Project Objectives

In accordance with the OECD EAP Task Force Terms of Reference for the project "Harmonisation of Environmental Expenditure Information Systems with Eurostat/OECD Standards: Ukraine and Kyrgyz Republic" the main objectives are as follows:

1.2.1 Development objective

The overall objectives of the EAP Task Force in the countries of Eastern Europe, the Caucasus and Central Asia (EECCA) are "promoting the integration of environmental considerations in the processes of economic and political reform, upgrading institutional and human capacities for environmental management, and broadening political support for environmental improvement". An important element within these objectives is the collection and transparent reporting of reliable environmental expenditure information based on internationally agreed methodologies. The key reasons for developing such environmental expenditure information systems are:

- To assist in the development of more effective environmental policies and regulations. This includes national and regional budgetary decisions and the design of economic and administrative instruments for environmental protection.

- To aid integration of environmental policies into economic and sectoral policies, indicating where synergies and trade-offs exist.

- To allow international comparisons on trends in environmental expenditure information.

- To raise public awareness and participation in environmental policy issues.

It is intended that the results of the Ukraine and Kyrgyz Republic elements of this project, and those of a related project in Georgia (OECD, 2001), will provide valuable demonstrational experience for other EECCA countries.

1.2.2 Immediate objective

The immediate objective of the project is "to establish more credible environmental expenditure information systems in Ukraine and Kyrgyz Republic that follow international standards and classifications, which provide policy relevant information at a price affordable to the Ministries of Environment and the National Statistics Committees".

2. OVERVIEW OF ENVIRONMENTAL EXPENDITURE INFORMATION STANDARDS OF OECD AND EUROSTAT

This section provides a brief summary of key methodological aspects of OECD/Eurostat environmental expenditure information systems which underlie the development of reporting forms and data collection during the implementation phase of the project[14].

2.1 Definition of Environmental Protection

The information collected by the current "Joint Questionnaire on Environmental Protection Expenditure and Revenues" (OECD 2004) includes a range of environmental protection expenditure and revenues which is wider than the formerly used concept of pollution abatement and control (PAC) expenditure. Environmental protection is defined as including "all purposeful activities directly aimed at the prevention, reduction and elimination of pollution or any other degradation of the environment resulting from the production process or from the use of goods and services." The scope of Environmental Protection is defined according to the Classification of Environmental Protection Activities (CEPA), which distinguishes nine environmental domains given in Table 1.

2.2 Methodological Definitions of OECD/Eurostat Joint Questionnaire

Key definitions used in the questionnaire framework are summarised below.

Abater principle and financing principle:

- Expenditure according to the abater principle (EXP I) includes all expenditure that a sector has for measures they themselves execute.

- The financing principle (EXP II) measures how much money a particular sector (directly) *contributes* to overall environmental protection activities, wherever they are executed. This means that the part of EXP I that was directly financed by others (through subsidies or revenues received) should be deducted, while the part of EXP I in other sectors that a sector finances directly (through subsidies or fees paid) should be added.

The questionnaire is designed to allow for evaluation of expenditure using both principles for each sector and industry. This distinction makes it possible to aggregate expenditure by different sectors and industries without double counting.

[14] For more comprehensive information on OECD/Eurostat environmental expenditure methodologies see *OECD/Eurostat Environmental Protection Expenditure and Revenue Joint Questionnaire/SERIEE Environmental Protection Expenditure Account, Converison Guidelines*, Eurostat, 2005.

Table 1: Scope of Environmental Protection Expenditure

1. Protection of ambient air and climate
Prevention of pollution through in-process modifications for the protection of ambient air, and of climate and ozone layer.
Treatment of exhaust gases and ventilation air for the protection of ambient air, and for the protection of climate and ozone layer.
Measurement, control, laboratories and the like and other activities.
2. Wastewater management (includes prevention of emission to surface water)
Prevention of pollution through in-process modifications
Sewerage networks
Waste water treatment
Treatment of cooling water
Measurement, control laboratories and the like and other activities.
3. Waste management (includes treatment of low-level radioactive waste, composting, street cleaning and sweeping, recycling)
Prevention of pollution through in-process modifications
Collection and transport
Treatment & disposal of hazardous waste: thermal treatment, landfill, other
Treatment & disposal of non-hazardous waste: incineration, landfill, other
Measurement, control, laboratories and the like and other activities
4. Protection and remediation of soil, groundwater and surface water (includes all cleaning-up activities)
Prevention of pollutant infiltration
Cleaning up of soil and water bodies
Protection of soil from erosion and other physical degradation
Prevention and remediation of soil salinity
Measurement, control, laboratories and the like and other activities
5. Noise and vibration abatement (excluding workplace protection)
Preventive in-process modifications at the source from: road & rail traffic, air traffic, industrial & other noise
Construction of anti noise/vibration facilities for road & rail traffic, air traffic, industrial & other noise
Measurement, control, laboratories and the like and other activities
6. Protection of biodiversity and landscape
Protection and rehabilitation of species and habitats
Protection of natural and semi-natural landscapes
Measurement, control, laboratories and the like and other activities
7. Protection against radiation (excluding external safety)
Protection of ambient media
Transport and treatment of high level radioactive waste
Measurement, control, laboratories and the like and other activities
8. Research and Development
Includes all research and development with an environmental protection objective both in the public and business sector.
9. Other environmental protection activities
General environmental administration and management including: general administration, regulation and the like, environmental management
Education, training and information
Activities leading to indivisible expenditure and activities not elsewhere classified

Source: Eurostat, Classification of Environmental Protection Activities (CEPA) 2000. For further details see: http://europa.eu.int/comm/eurostat/ramon/

Sectors: The questionnaire consists of four tables for the main sectors of the economy:

- **Public sector** includes central, regional and local governments, authorities, communities and government agencies (mainly recorded under standardised activity classifications ISIC/NACE 75). Typical activities are regulation, control, research, education and information and other

services provided to the community, mainly financed by general government budgets or funds and not directly or partly by the users of these services.

- **Business sector** includes all environmental protection activities in ISIC/NACE 01-99 intended for own use, excluding public sector (mainly ISIC/NACE 75) and the activities of specialised producers (mainly in ISIC/NACE 90). Total business sector is divided into five sub-categories according to ISIC/NACE classifications for (a) agriculture, hunting, fishing, forestry; (b) mining and quarrying; (c) total manufacturing (with a more detailed industry breakdown); (d) electricity, gas and water supply; (e) other business activities.

- **Household sector** environmental protection expenditure according to the abater principle should include only purchases of connected and adapted products. For example, purchase of air pollution control devices for motor vehicles, sewage treatment facilities such as septic tanks and goods used in connection with waste management. Household expenditure according to the financing principle includes all payments and fees for services purchased from municipalities and public or private specialised producers of environmental protection services. These include mainly, payments for the collection and treatment of waste and for the collection and treatment of wastewater.

- **Specialised Producers of Environmental Services** include public and private corporations producing services mainly financed by the users of these services. These are mainly activities within ISIC/NACE 90 such as collection and treatment of sewage; collection and treatment of solid waste; and sanitation, remediation and similar activities. Specialised producers also include environmental management activities provided by environmental consultants and the activities of volunteer environmental organisations.

Type of expenditure: The questionnaire defines a number of types of environmental expenditure as follows:

- **Total Investment Expenditure** includes end-of-pipe investments (treating pollution already generated) and investments in integrated technologies (modifications of production process that reduce the amount of pollution generated).

- **Total Current Expenditure** is the sum of internal current expenditure and fees/purchases for environmental protection services. It is expenditure for execution of environmental protection activities (excluding purchase of capital goods), for example: operation of environmental equipment, measuring and monitoring, environmental management, education and administration.

- **Receipts from by-products** are the monetary value of any by-products generated by environmental protection activities. These could either be sold and generate revenues, or be used internally and lead to reductions in costs. Examples include energy generated or material recovered, as a result of waste treatment.

- **Subsidies/Transfers** include all types of transfers (capital and current) financing environmental protection activities in other sectors, including transfers to or from other countries, subsidies paid by the public sector and subsidies received by other sectors.

- **Revenues** from the sales of environmental services are monies received by public sector and specialised producers from the users (the counterpart to fees/purchases). This is mainly related to waste collection, waste treatment and sewage treatment.

3. EXISTING ENVIRONMENTAL EXPENDITURE DATA COLLECTION AND REPORTING SYSTEMS IN UKRAINE

3.1 Business Sector Environmental Expenditure

This section provides a description of the existing collection and reporting systems for environmental expenditure in Ukraine. This information serves as a basis for analysis of the present system performance, its compatibility with international standards of OECD/Eurostat. We also include an outline of the present legal framework and institutional arrangements for the environmental expenditure information system, and information on statistical reporting forms and collected data.

3.1.1 Legal Framework for State Environmental Expenditure Reporting

Ukraine inherited a complete state statistics reporting system from the Soviet Union and has retained and further developed it during the economic slump of 1990s. Subsequently, attention has been paid to the harmonisation of state statistical reporting with European standards. In 1997 Ukraine cancelled the outdated Soviet Classification of Economic Sectors and adopted NACE (Classification of Economic Activities in the European Community).

This whole process has been supported at the highest level. In March 2004 Rada (the Parliament) passed the Law of Ukraine "On State Program of Ukrainian Legislation Adaptation to European Acquis Communautaire", where environment is listed as one of the priorities. The Cabinet Resolution No. 475 of April 7, 2003 “On Approval of the Programme for National Accounting Development until 2010” envisaged introduction of the European System of Accounts in Ukraine; *inter alia* satellite Environmental and Economic Accounting. This requires that the system that produces data on environmental expenditure be harmonised with OECD/Eurostat standards.

Among the other official documents the following are noted for their relevance to the harmonisation process:

- The Cabinet Resolution No. 326 of May 4, 1993 “On the Concept of National Statistics Development and State Program for Transition to International System of Accounting and Statistics” with amendments introduced by the Cabinet Resolution No. 403 of June 8, 1995;

- The Cabinet Resolution No. 1074 of July 13, 1998 “On Co-operation between Ukraine and the European Union” with amendments adopted by the Cabinet Resolution No. 1289 of August 21, 2000;

- The President Decree No. 1299 of November 22, 1997 “On State Statistics Development Efforts” with subsequent amendments adopted by Decree No. 399 of March 3, 2000 and Decree No. 889 of July 14, 2000.

The Cabinet Resolution on the Programme of State Statistic Reforming (No. 971 of June 27, 1998) has been prolonged by Resolution No. 1417 of September 26, 2002. Currently a new State Program for Statistics Reform is under development.

The new Ukrainian leadership which came to power at the beginning of 2005 declared a course of accession to the European Union. This has strengthened and speeded up the harmonisation processes. In particular, an Action Plan for Ukraine–EU harmonisation until 2007 was signed on 21 February 2005.

The national system of statistics is based on the Law "On State Statistics", which determines the main principles of identification, collection, keeping, analysis, summarizing, presentation and publication of data on the activities and processes occurring in the economic and social spheres of the country, and is binding on all public authorities, enterprises, institutions and organizations regardless of their ownership, subordination and location, and also on individuals.

Article 21 of the Law guarantees confidentiality of commercial data contained in statistical reports presented by legal entities and individuals. Publication of such information is allowed only by their consent or in aggregated form.

Article 186 (item 3) of the Code of Ukraine on Administrative Responsibility defines liability for non-provision of information. Responsible employees could be fined 170-255 UAH, and for violation of confidentiality 170-340 UAH.

The official list of State Committee for Statistics (Goscomstat) of Ukraine for 2004 contains 283 questionnaires, which are grouped into 15 categories:

- State Statistics of Foreign-Economic Activity;
- Prices;
- Structural Data of Enterprises;
- Finances of Enterprises and Organizations;
- Ownership Changes;
- Industry;
- Construction Industry;
- Investments;
- Fixed Assets;
- Agriculture and Fishery;
- Services;
- Population;
- Environment;
- Labour;
- Consolidated Data.

These questionnaires are distributed annually or in some cases on quarterly or even monthly basis, and virtually all institutions and companies of Ukraine are covered by statistical reporting.

Reliable information on environmental revenues and expenditures has a special importance for Ukraine, where environmental spending is strongly linked to sources of funding. The basic Law "On Environmental Protection" passed in 1991 envisages a wide range of economic instruments for environmental management; the most important are natural resources use fees and pollution charges.

Payments (fees) for use of natural resources, namely for use of land and forests, special use of fresh water, mineral resources in mining operations, wild animals, fish and other animate water resources, should be used for nature conservation projects. A mechanism for earmarked disbursement of these means was established in 1997 but has not been enforced.

Environmental pollution charges, namely for pollutants' emissions, water discharges and disposal of solid wastes should be used for pollution abatement. The mechanism for their disbursement was established in 1992 and now creates the financial basis for the existing system of Ukrainian environmental funds. Currently it is the most reliable source of funding for many types of environmental projects, not only for pollution abatement and control. The eligibility criteria are based on a list of 83 environmental protection activities endorsed by the Cabinet Resolution[15] in 1996. It should be noted that it is not consistent with similar classifications used by the State Committee for Statistics and Ministry of Finance.

Ukrainian environmental funds expenditures now require special attention, since a separate statistical form 1-Ecofunds was abolished in 2003 by State Committee for Statistics. Proper procedures for recording of expenditure data by environmental media, and by abater and financier accounting principles still have to be introduced. This requires close coordination with the regional funding authorities and consideration of the provisions of the Budget Code of Ukraine that was adopted in 2001.

Assessment of effectiveness of a broad range of economic instruments for pollution control and natural resources management greatly depends on the reliability of reported data. The basic Ukrainian questionnaire for current environmental expenditures is "1-Environmental Expenditures". This is an annual questionnaire for enterprises, organisations, institutions, individual entrepreneurs that have emissions, dispose of waste, and have environmental protection expenditures. The procedure of choosing reporting entities draws from previous years experience and is based on pollution charge payers, in particular for air emissions. The share of enterprises that submit their reports on environmental expenditures and air pollution is rather limited: respectively 25,000 and 15,123 out of 500,000 registered legal entities.

According to the existing procedures the regional agencies of the Ministry for Environmental Protection are responsible for selection of enterprises to be included in environmental expenditure surveys. They should provide corresponding Statistics Agencies with updated lists of enterprises by December of each year, taking into account in particular the division of big enterprises formed in the Soviet period into separate units, changes of ownership and changes of names. As outlined above, selection is based on pollution charge payers which account for only about 5 per cent of the total of registered legal entities.

Capital expenditures are reported in questionnaire "1-investments", which contains a special section for environmental investments. There are several other Goscomstat questionnaires that also provide environment related expenditures data, see Table 2. More details on forms 1-Environmental Expenditures and 1-Investments are given in Annexes B1 and B2 of the Inception report of this project.

[15] The Cabinet of Ministers Resolution No. 1147 of 17 September 1996 “On the list of Environmental Protection Measures” (with amendments of the Cabinet Resolution No. 1519 of 17 November 2001)

Table 2: Main Environmental Expenditure Information Categories and Sources of Data

No	Information Category	Data source	Data reporting time
1.	Report on current environmental expenditure of organizations and institutions, including individual entrepreneurs; pollution taxes; capital repair expenditure	Form No. 1-Environmental Expenditures	Annually on 25 February following the reporting year
2.	Report on investments in fixed assets, including environmental protection related investments	Form No. 1-Investments	Annually on 20 February following the reporting year
3.	Report on investments in fixed assets, including environmental protection related investments	Form No. 2-Investments	Quarterly on 25.04, 25.07, 25.10 for previous quarter
4.	Report on ambient air protection[16]	Form No. 2-TP (Air)	Annually on 25 January following the reporting year
5.	Report on water use	Form No. 2-TP (Water Issues)	Quarterly on 05.01, 05.04, 05.07, 05.10 for previous quarter *)
6.	Report on formation, use and neutralisation of toxic waste	Form No. 1 – Toxic Wastes	Annually on 20 January following the reporting year
7.	Report on natural reserves and natural parks	Form No. 1 – Natural Reserve	Annually on 25 January following the reporting year
8.	Report on game-preserves	Form No. 2 – Hunting	Annually on 5 February following the reporting year
9.	Report on forest fires extinguishing	Form No. 5 - Forestry Industry	Annually on 10 November of the reporting year
10.	Report on soil protection measures	Form 4 - Soil	Annually on 10 January following the reporting year *)
11.	Urgent report on exploration work	Form 1 - gr (Urgent)	Monthly on 3-rd day for previous month *)
12.	Report on exploration work	Form 2 - gr	Monthly on 8/12-th day for previous month *)

*) Departmental form: Plants report to relevant departments (such as water authorities and tax administration) and provide a copy to MEP, but do not report to statistical bodies.

[16] This form consist of three chapters:
1) Total air emissions by pollutant
2) Air emission per installation
3) Environmental project costs: This is for investments in environmental project implementation.

3.1.2 Institutional Arrangements of the Environmental Expenditure Information System

The State Committee for Statistics of Ukraine has the main responsibility for the timely collection and processing of environmental expenditure information. The statistical data gathering system is based on a comprehensive record-keeping system and use of State statistical reporting forms. The organizational structure of the environmental expenditure information system is given in Figure 1. The list of questions included in these forms is coordinated with the relevant State Agencies and Ministries (especially with the MEP). If necessary, additional changes and improvements are made. Thereafter the State Committee for Statistics approves them by special order.

The approved statistical reporting forms and guidelines are sent to the regional statistical services; in turn they send them to enterprises and organizations depending on their area of activity (as per the register) for mandatory completion.

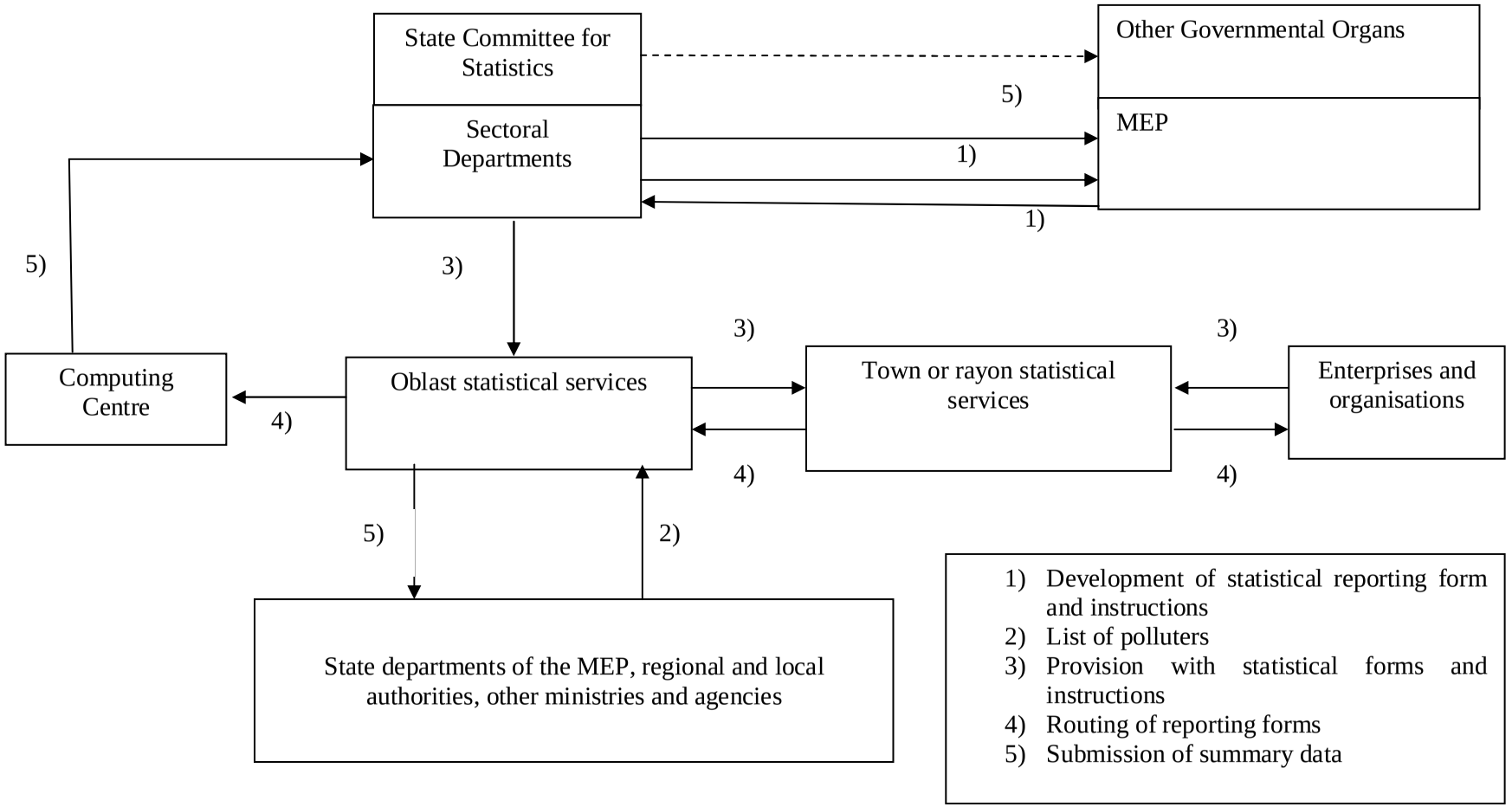
The enterprises and organizations file their completed primary reports with the local statistical services, which supervise the collection of primary reports and correct completion. Primary reports must be signed by an official of the reporting enterprise. Then primary reports are sent to the oblast statistical services, which make their logical and arithmetic checks, and check correctness of completion. Very frequently these forms are delivered from enterprises directly to oblast by regular mail.

Computer operators at oblast statistical services undertake data entry of completed statistical reporting forms. They also make checks of calculation and logic of data. Then the data are transferred to the Main Computing Centre of the State Committee of Statistics for additional such checks and, if necessary, appropriate corrections are made. Thereafter, summary reports are made according to departmental subordination, types of ownership, economy sectors, etc. Finally a country summary is prepared. The output tables prepared by the Computing Centre for each of the reports are passed to the appropriate department of Goscomstat at an agreed date.

Prepared information is published in Statistical Yearbooks and bulletins such as the annual Environmental Survey published by Goscomstat. This information is also used for the completion of international questionnaires, analytical reports, notes, etc. Necessary statistical and analytical information is also provided to the state authorities and governing bodies of the country.

Staffing and computer resources: At the environmental Ministries and State Committees there are no separate units for statistical data collection. Usually, this work is carried out in parallel with other work. The staff engaged in environmental statistics still has limited access to internet and e-mail. General computer literacy and software quality in all ministries is rather low. In many cases source information is available in hard copy only and its processing requires additional time and effort. Specialised software and databases for unified environment statistics are not available. Goscomstat bodies at oblast level still use separate software for each statistical questionnaire and are also in need of more data processing hardware.

Figure 1: Organizational Structure of the Environmental Expenditure Information System of Ukraine



3.1.3 Users of Information on Environmental Expenditures

The Ministry for Environment Protection is the main user of information about environmental expenditures. Every year the Ministry publishes a National Report on the State of the Environment, which also includes some information about environmental expenditures. The Ministry plays a leading role in identification of needs for improvement of the environmental expenditures data collection system. Among the other recipients of environmental information there are Ministry of Finance, Ministry of Economy and European Integration, Cabinet of Ministers, Council for National Security and Defence, Presidential Secretariat and the Parliament.

The Ministry for Environment Protection and other agencies use these data for the development of environmental policy and norms, including decisions on funds allocation at the national, regional and local level, and development of administrative and economic instruments to support environmental protection activities. These data also serve as a basis for environmental financing strategies aimed at support of the National Programs on Environmental Protection. In addition, these data can be used for coordination of environmental policy with other sector policies, including finance, employment and energy. Environmental expenditure information is also of interest to other bodies including NGOs, local authorities and universities.

3.1.4 Compatibility with International Standards of OECD and Eurostat

Ukraine still use the methodology that was developed in the former Soviet Union more than 20 years ago. As yet, there is no precise and clear definition of environmental expenditures, but on the whole terminology and classification are similar to a certain extent to that of the OECD.

3.1.4.1 Classification of Environmental Domains in OECD/Eurostat and Ukraine

A comparison between OECD classification of environmental domains (as given in Table 1) and related Ukrainian classifications allow us to highlight similarities and differences:

- **Protection of ambient air and climate:** In Ukraine this type of expenditure approximately corresponds to the expenditures and investments in atmospheric air protection (see national statistical reporting form No. 2-TP (Air), No. 1-Environmental Expenditures, and No. 1 – Investments).

- **Wastewater management (includes prevention of emission to surface water**): This type of expenditure is reflected in the reporting forms No. 2-TP (Vodhoz), No. 1-Environmental Expenditures, and No. 1 - Investments.

- **Waste management**: Environmental expenditures for wastes treatment may be partially collected from the forms No. 1 – Toxic Wastes, No. 1-Environmental Expenditures, and No. 1 - Investments.

- **Protection and remediation of soil, groundwater and surface water (includes all cleaning-up activities):** This type of expenditures may partially correspond to the form No. 4-zem, No. 2-TP (Vodhoz), No. 1-Environmental Expenditures, and No. 1 - Investments.

- **Noise and vibration abatement:** There are no statistical observations on this type of expenditures in Ukraine.

- **Protection of biodiversity and landscape**: This type of expenditure is reflected in the reporting forms No. 1 - Natural Reserve (for natural reserves and natural parks), No. 2 - Hunting for game-preserves, and No. 5-LG for forest fires extinguishing, and No. 1 - Environmental Expenditures.

- **Other:** all activities on radiation protection, R&D work, general management of environmental protection and administration, education and training of personnel: There are no statistical observations on this type of expenditures in Ukraine

3.1.4.2 Methodological Compatibility between OECD/Eurostat and Ukraine

There are several methodological differences (including information gaps) between OECD/Eurostat and Ukraine approaches to statistical reporting:

Environmental expenditures and data coverage:

- Statistic reporting includes only pollution payments, not payments for natural resources use. This makes the measurement of expenditure according to the financier principle impossible for conservation activities;
- Reporting on expenditures related to waste treatment is rather limited (including processing of low active radioactivity wastes, disposal of communal waste, garbage, cleaning and recycling of wastes);
- Reporting does not include expenditures for reduction of noise and vibration;
- Expenditures for radiation protection, R&D works, general management of environmental protection and administration, education and training of personnel are not reported. Due to difficulties of even partially deriving the expenditure on general administration and management from the state budget current expenditure are largely underreported;
- Coverage of environmental expenditures by enterprises is incomplete because of problems with collection of information from enterprises that have split into smaller units, changes in their activities or changes of ownership;
- Not all of the enterprises with foreign investments are completing statistical reporting forms on environmental expenditures;
- Reporting on the form No. 1 – Environmental Expenditures includes only those enterprises, which have environmental assets, thus enterprises which provide environmental services (e.g. collection and transportation of solid domestic wastes) do not complete the form;
- Investment expenditures are reported only by enterprises carrying out environmental construction. Therefore, other environmental investments not connected with construction such as purchase of analytical or monitoring equipment are not included.

Types of expenditures:

- Data on the state budget spending are not broken down by types of environmental activities. Such data as general administration and training of personnel for environmental purposes are not separated from general activities;
- There is no division between investments in the "end of pipe" technology and integrated investments for modification of the industrial process;
- There is no information about international financial investments in the environmental protection;

- There is practically no information on households expenditures for environmental protection;
- Payments for services cover only the sector responsible for waste water treatment and waste management;
- Pollution payments are not divided in accordance with national, oblast and local levels;
- Existing statistical system does not foresee reporting about environmental expenditures of governmental bodies;
- There are also problems with dividing expenditures between water drainage and water supply.

Abater and financier principles:

The existing statistical system makes it difficult to determine the sources of environmental protection financing since it covers abater expenditures only.

Definition of economic sectors:

There should be no differences between the OECD/Eurostat classification of sectors and those used by the State Committee for Statistics of Ukraine. Goscomstat adopted the Classification of Economic Activities based on the NACE standard as early as 1997.

A summary comparison between the OECD/Eurostat methodology and the existing Ukraine system is given in Table 3.

3.2 Public Sector Expenditure

Standard reporting forms outlined in Section 3.1 focus primarily on the business sector, whether privately or publicly owned. Clearly, this is only part of the complete picture of environmental expenditures and revenues in Ukraine. Figure 2 provides an overview of environmental expenditure financing including the private and public sector (household expenditure is included in the figure in terms of taxes paid that contribute to public sector environmental expenditure but not direct environmental expenditure for goods and services).

For completeness the project has also assessed the availability of data on all public sector environmental expenditure including those by Ministry of Environmental Protection, oblast and local departments of environment, other Government Ministries, and oblast and local departments. A key document in this regard is the Report on Budget Execution by Ukrainian Treasury which gives actual and planned expenditures at national and local levels.

The OECD report on trends in Environmental Expenditure in EECCA countries (OECD 2003) notes the low proportion of expenditure reported for the public sector but concludes that this may be due to overestimates of business sector expenditures (94% of the total), so the share of public environmental expenditure should have been higher than reported. The absolute levels of public expenditure (€19.2m) and environmental funds (€32.1m) reported for 2001 were comparable with other 'low middle income countries' given in the survey.

3.2.1 Analysis of public sector expenditure methodological issues, data availability and compatibility with OECD methodology

The new Budget Code of Ukraine adopted by Rada (the Parliament) in June 2001 and the whole budgeting system [1-4] were introduced to help better manage public expenditures and increase control

over their financial resources. It should be mentioned that the new Budget Code made the governmental environmental expenditures broadly consistent with the definitions in the UN Classification of Environmental Protection Activities and Expenditure (CEPA 2000). But definitions used by the national and regional state environmental protection funds are not fully consistent. As for enterprises, they do not use the CEPA environmental protection expenditure classifications at all.

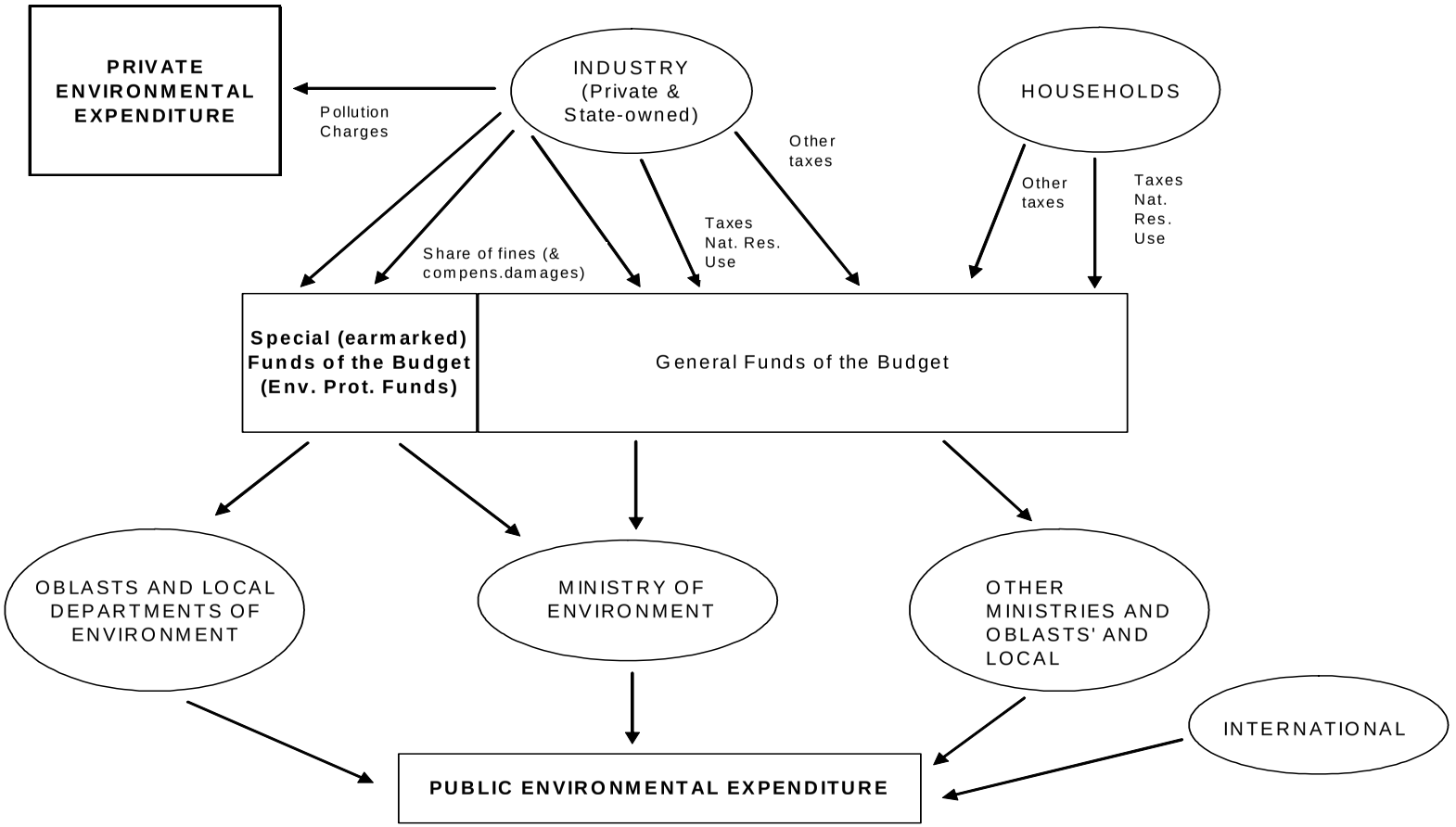
Table 3: Summary Comparison between the OECD/Eurostat Methodology and Existing Ukraine Business Sector System

	OECD/Eurostat Methodology[17]	Current System of Ukraine
Environmental Domains	Protection of ambient air and climate	Corresponding classification
	Wastewater management	Partially corresponding classification but problems in distinguishing between waste water treatment and water supply
	Waste management	More limited reporting
	Protection and remediation of soil, groundwater and surface water	Partially corresponding classification
	Noise and vibration abatement	Not collected
	Protection of biodiversity and landscape	Partially corresponding classification
	Research and Development	Not collected
	Other environmental protection activities	Not collected
Reporting Principles	Abater principle and financing principle	Abater expenditures only
Economics Sectors	Business	Reporting by enterprises but limitations in coverage
	Public	No detailed reporting
	Household	No reporting
	Specialised Producers of Environmental Services	No reporting except for waste water treatment services
Types of Expenditure	Investment Expenditure	No division between investments in "end of pipe" technology and integrated technology
	Current Expenditure	Reported
	Receipts from by-products	Not reported in environmental expenditure forms
	Subsidies/Transfers	Only partially reported: environmental fund transfers are reported but not international transfers
	Revenues from environmental services	Not reported

In contrast to the OECD countries, Ukraine still does not have a law (by-laws) with a formal definition of environmental protection activities and expenditures similar to OECD environmental protection expenditure and/or CEPA 2000. The country has in place an Index of activities that refer to the environment protection measures. The Index has been approved by the Resolution of the Cabinet of Ministers #1147 of Sep. 17, 1996. It consists of 84 items joined into 10 paragraphs (i.e., protection and rational use of water resources, atmospheric air protection, protection and rational use of land, etc.).

[17] Definitions of these items are given in Section 2 "Overview of Environmental Expenditure Information Standards of OECD and Eurostat".

Figure 2: Flow diagram of Ukraine environmental expenditure financing



Source: Environmental Public Expenditure Review (EPER) of Ukraine, 2002.

3.2.2 Compatibility with OECD Methodology

It is particularly necessary to assess the extent to which currently available public sector data is consistent with OECD methodology and therefore its validity for international comparisons. For example, we need to know the extent to which public expenditures data are available according to CEPA definitions and whether data are available at a level of detail that will allow the avoidance of double counting with expenditures also recorded in the business sector survey.

On December 27, 2001 Ministry of Finance issued the Order # 604 About New Budget Classification and its Implementation. Annex 1 of the Order gives the structure of public environmental expenditures as presented in Table 4. This table also indicates compatibility of expenditure categories with CEPA. While there is some correspondence with CEPA definitions a number of categories only partially correspond and demonstrate the need for further revision if public sector reporting is to be consistent with business sector reporting and international standards. Available expenditure data for 2005 for this structure are given in Table 4.

Table 4: Categories of Public Environmental Expenditure (0500 Environmental Expenditure)

Number	Category
0510	Pollution prevention and pollution elimination (in the whole corresponds to items 1, 2, 4, 5, and 7 of CEPA 2000)
0511	Protection and rational use of natural resources (corresponds to items 1, 2, 4, and 5 of CEPA 2000)
0512	Waste utilization and recycling (corresponds to items 3 and 7 of CEPA 2000)
0513	Liquidation of other sorts of pollution, i.e., Chornobyl Shelter and SIP Programme, water sewage, decommissioning of chemical plants, etc. (partly corresponds to item 7 of CEPA 2000)
0520	Protection of nature reserves, biodiversity and landscapes (more or less corresponds to item 6 of CEPA 2000)
0530	R & D (corresponds to item 8 of CEPA 2000)
0540	Other environmental protection activities (only partly corresponds to item 9 of CEPA 2000. For example, it also includes collaboration and membership fees of international environmental organisations, and support from state budget of natural reserves under the jurisdiction of the National Academy of Sciences)

Table 5: State Budget Public Environmental Expenditures, 2005

Code	Title	Sub Title	General Fund	Special Fund[18]	Total (kUAH)
0500	Environmental Protection (Total)		**518 156**	**486 288**	**1 004 444**
0510	Pollution prevention and pollution elimination (Total)		366 497	420 310	786 806
0511		Protection and rational use of natural resources	120 385	43 310	163 694
0512		Waste management[19]	94 180	57 267	151 447
0513		Elimination of other kinds/types of contamination [20]	151 932	319 733	471 655
0520	Nature reserves protection		36 945	16 642	53 586
0530	R & D in the environmental sphere		59 251	11 989	71 240
0540	Other kinds of the environmental protection		55 464	37 348	92 812
	Total		**518 156**	**486 288**	**1 004 444**

[18] Special Fund corresponds to State Environmental Protection Fund (SEPF). The revenues of the fund primarily come from environmental charges, taxes, pollution fees etc.

[19] Military wastes are under the jurisdiction of the Ministry of Emergencies.

[20] Jointly with the Min. of Fuel and Energy, Min. of Coal, Min. of Industrial Policy, etc.

4. DEVELOPMENT OF NEW ENVIRONMENTAL EXPENDITURE REPORTING FORMS

The basis of decisions on the development of the new forms was the introduction of OECD/Eurostat methodology (as set out in Section 2) to the extent feasible, taking into account the capacities of business sector recipients to complete the form, the needs of the MEP and Goscomstat for collecting specific items of data and the requirements of the OECD/Eurostat Joint Questionnaire (2004). This approach should benefit the Ukrainian harmonization processes with EU legal and reporting systems and ensure a consistent approach to environmental expenditures data assessment and treatment; at the moment big discrepancies may be observed between OECD/Eurostat and Ukrainian approaches. The harmonisation process fully coincides with the general strategy for reform of national statistical reporting system.

Contrary to some EECCA countries, e.g. Georgia, where similar project was undertaken in 2000-2001, the state statistical system did not suffer much during the transitional period of 90s and regained its ability to operate and develop. Therefore, existing procedures can be used as a reliable basis for undertaking data collection using the newly developed environmental expenditure reporting forms.

It should be noted that, in the development of the forms the consulting team were aware of the challenging nature of some proposed questions for enterprises and corresponding methodological difficulties of data interpretation, such as the primary purpose of investments and deciding on the environmental element of purchases. However, it is necessary to be ambitious in questions of the draft reporting forms while accepting that in the final analysis it may be necessary to recommend some correction of the forms used in the survey.

Special attention was paid to classifications which are to be used in the proposed reporting form and associated data processing. It is reasonable to retain existing well-developed Goscomstat classifications system including *inter alia* unique business registration numbers, code of territories, economic activities (corresponding to NACE), type of ownership, type of legal entity and list of state administrative institutions. The significant innovation is implementation of Classification of Environmental Protection Activities and Expenditure (CEPA), which was never used in Ukrainian practice before.

Proposed questionnaire was developed on basis of the existing reporting tables used in Ukraine, outputs of a previous related OECD project in Georgia, and the scope of the OECD/Eurostat Joint Questionnaire. This represented a significant departure from the format of existing environmental expenditure reporting forms used in the country, for example, it is the first time environmental investments questions are including in environmental expenditures form, not in the special Ukrainian forms for all purposes investments (Form No.1 and No. 2 Investments). According to existing practice, it is proposed to use the newly developed form on an annual basis.

The set of forms are as follows (see Annex B1 for full details):

Table I is for *environmental charges*, including charges for ambient air pollutions, environmental pollution charges within and above the established limits for water bodies protection and waste disposal, fines for environmental offences and losses recovery due to environmental offences.

Tables II – IV include environmental expenditures in accordance with CEPA domains with attribution of source of financing for correspondingly environmental investments (Table II), major repair of environmental fixed assets (Table III) and current expenditures (Table IV).

Table V considers other revenues and expenses, namely revenues and payments for environmental services, receipts from by-products, state budget funding, grants and transfers. These are reported according to CEPA domain divisions.

OECD/Eurostat methodological principles, as outlined in Section 2 of this report, which are included in the new reporting forms to the extent feasible, were as follows:

4.1 Environmental Expenditure Definitions

As it was mentioned above, a key innovation is the introduction of **CEPA definitions** for environmental protection expenditure domains. Thus, the sequence of expenditure items given in the forms for investment and current expenditure listed above follow these CEPA definitions.

4.2 Types of Expenditure

The forms aim to allow for investment data to be interpreted using the concepts of 'end of pipe' and 'process-integrated' investments. It was decided not to explicitly state these concepts on the reporting forms since the level of detail required on investments, on the basis of CEPA definitions, would be sufficient to divide between of 'end of pipe' and 'process-integrated' investments during processing of data.

Data are provided in accordance with **Financier Principle** with division for state budget, State Environmental Fund, local budgets, other sources and from enterprise's own resources.

Information on '**Grants and Transfers**', '**Receipts from by products'** are included in Table V.

4.3 Sectors

Finally, the forms are designed for inclusion of data on all business sectors and on **specialised producers of environmental services** (NACE/ISIC code 90), which to date have not been included in environmental expenditure surveys in Ukraine.

5. SURVEY OF ENVIRONMENTAL EXPENDITURE

5.1 Description of survey process

Organization of the data collection survey in the Donetsk region using the reporting form #1 "Environmental Expenditures" as developed within the project was undertaken by project consultants jointly with the Main Office of Agriculture and Environment Statistics in Donetsk region.

The lists of enterprises were compiled by the staff of Environmental Statistics Department Donetsk region in the beginning of June taking into account the recommendations of Goscomstat and project consultants. The enterprise selection focused on (1) the largest polluters (the major ambient air and waste water polluters as well as environmental charges payers according to existing data) and (2) selecting a representative sample of existing economic activities in the region. The list included enterprises of all types of ownership: state, joint and private. The total number of registered legal entities in the region is approximately 75,482 (including inactive entities) with about 10,000 having over 10 staff. All the selected enterprises were from this category of entities having over 10 staff.

260 enterprises from 28 economic sectors in Donetsk region were chosen (see Table 6). In the official 2004 survey for Donetsk oblast 1360 completed questionnaires 1-Environmental Expenditures were received. The project survey sample included some enterprises that could be classed as providing environmental services. However, these were enterprises that already report in the existing environmental expenditure survey in Ukraine, four water companies (NACE 41) and two facilities which utilise mercury-contained lamps and scrap metal (NACE 37). No enterprises classed as 'Specialised Producers of Environmental Protection Services' under NACE 90 were included in the sample. Donetsk region does have enterprises classed as NACE 90, primarily those providing waste treatment services. However, sewerage treatment is usually combined with water supply services and at the moment these local Vodokanals report as NACE 41.

Training of Environmental Statistics Department Donetsk Oblast Office staff took place in two ways. Local consultants provided general training on OECD methodology and specific 'on the job' training on the new reporting forms and survey procedures. Also national level Goscomstat staff provided necessary clarifications of survey procedures and outputs.

The questionnaire package was ready by the end of May and contained the reporting form, instruction with appendix, questionnaire and covering letter. The questionnaire (Annex B1) was included in order to obtain structured feedback from enterprises on the new draft reporting form and instructions, and thus to aid the process of assessing their design. In the letter the enterprises were informed that they should complete the proposed forms and submit them by 20 June. The staff of local statistical offices was engaged in the delivery process. The packages were mailed to five main cities of Donetsk region (Artemovsk, Krasnoarmeysk, Slaviansk, Novoazovsk and Shahtersk). The packages for 66 main enterprises with large environmental expenses were delivered in person by local statistical officers who also assisted in completion of the reporting form.

Throughout the period of form completion local oblast staff were available for dealing with telephone inquiries from enterprises. There were nearly 150 phone calls in first few days. Local consultants also dealt with more complicated questions. The first reports and questionnaires were received on June 21.

All the information was processed manually. The enterprises do not have specialized software for completing this and other statistical reports. All the reports are completed and submitted in hand-written

form. Goscomstat statistical offices at oblast level have software for processing data for the existing environmental expenditure reporting system. However, this is outdated (it is in the 'Dos' computer platform – only the national level office has computer running Windows software packages) and was not adapted for processing data in the project survey because of its age, and the time and resources necessary for such a task.

While reviewing all survey responses data was grouped according to Classification of economic activity (ISIC/NACE). Great attention was paid to responses given in questionnaires. Summary analysis of questionnaire replies is given in Annex B4. Initial findings on refining the reporting forms and instructions are given in Section 5.3.

5.2 Survey response rate

Of the 260 packages delivered to selected enterprises we received 244 replies (94%). Table 6 shows the list of enterprises that returned the questionnaire and reporting form sorted by classification of economic activity (ISIC/NACE). All enterprises completing the reporting form also completed the questionnaire about the form.

Table 6: The list of enterprises that submitted the report and questionnaire according to ISIC/NACE Sector

No	Economic sector	Code NACE	Enterprises in sample	Enterprises replying
1	Agriculture, hunting	01	7	7
2	Forestry	02	1	1
3	Coal and peat mining	10	17	16
4	Other mining industries	14	12	12
5	Food industry	15	20	18
6	Textile industry	17	4	3
7	Tanning industry	19	3	3
8	Coke, oil and nuclear fuel production	23	7	6
9	Chemical	24	5	4
10	Rubber and plastic industry	25	6	4
11	Other non-metallic mineral products	26	30	26
12	Metallurgy	27	16	15
13	Metal working	28	9	9
14	Heavy engineering	29	28	29
15	Electric equipment production	31	3	3
16	Manufacture of medical, precision and optical instruments, watches and clocks	33	1	1
17	Vehicle production	34	1	1
18	Other transport facilities production	35	1	1
19	Furniture production	36	3	2
20	Waste disposal	37	5	5
21	Energy, gas, water supply	40	18	19
22	Waste water treatment and disposal	41	26	25
23	Construction	45	7	7
24	Retail trade of household equipment and repairs	52	1	1
25	Transport	60	10	8
26	Other transport services	63	16	15
27	Real estate	70	1	1
28	Research and development	73	1	1
29	Public management	75	1	1
			260	**244**

Table 1 Environmental charges: Completed by 100% of enterprises.

Table 2 Environmental investments: Completed by 11% of enterprises. The low level of completion is similar to proportion of enterprises completing the previous reporting form.

Table 3 Major repair of environmental fixed assets: Completed by 23% of enterprises.

Table 4 Current environmental expenditures: Completed by 69% of enterprises.

Table 5 Other revenues and expenditures: Completed by 75% of enterprises.

5.3 Conclusions on design of form

The proposed structure of the reporting form was quite effective and suitable for enterprises to complete. Since the new design was evolved from the existing reporting forms, rather than a completely new format, it was in many ways recognisable to respondents, which will have aided the ease of completion. General conclusions are that:

- Integration of current expenditures and investments in one reporting form was justified in methodological and organizational terms, and allowed the avoidance of doubling counting and data distortion.

- Having a separate Table III on "Major repairs of environmental fixed assets" allowed us to resolve the issue of data compatibility according to national and international standards. In Ukraine these types of expenses are considered as investments but according to OECD/Eurostat methodology these are usually reported under current expenditures.

A summary of comments and suggestions made on the assessment questionnaire are given in some detail in Annex B4. These demonstrate that, as well as completing the reporting form, enterprises went to some effort in giving feedback on the design of the form itself. Key comments and suggestions on the reporting form tables are given below.

- **In Table I: Environmental charges** the main problem concerns reliability of entries in the "Charges Paid" column. According to the existing procedure the enterprises pay all environmental charges in one payment having made calculations themselves for ambient air pollution, water pollution or waste disposal charges. Inspections are made by random sample. The State Treasury Department allocates the collected revenues to environmental funds of different levels. Therefore, for the Goscomstat oblast office it is impossible to assess the charges by type (ambient air pollution, water pollution or waste disposal). It was proposed that enterprises use their calculation of payment documents as verification for the split of pollution charges paid. This requirement should be stated in the reporting forms instructions.

- **For Table II: Environmental investments** suggestions included:

  - To refer in the Instruction to the Tables of the previous statistical reporting form #1 – Investments "Report on investments" and highlight the difference in reporting requirements. In particular, it should be noted that the other statistical report required data including VAT while this environmental reporting form uses net figures (this reference to former forms can be envisaged during a period of transition to a new system).

  - To indicate the data sources.

- **Table III: Major repair of environmental fixed assets** suggestions included:

  - Paragraph 1 of the Instruction to state as follows: "Major repair of environmental fixed assets include all the expenditures of current year concerned with fixed assets improvement (modernization, modification, construction finalizing, equipment supply, reconstruction, etc.) that result in future economic benefits from operation and increase the value of fixed assets (capital repair of buildings, equipment, technique and other environmental facilities)".

  - To indicate the data sources.

  - To refer the Instruction to the reporting forms # 1-investments and # 2-investments.

- **In Tables II to V** are number of comments addressed the need for clarification of specific aspects of CEPA environmental expenditure definitions related to rows 100 to 900 of these Tables.

About one in four enterprises (22%) considered the new form to be very bulky and time-consuming, and proposed either to keep the previous form or to reduce the new one (While this is a typical reaction when facing new reporting, it could be addressed by making sure that any given enterprise can easily identify the sections that are relevant to it).

6. CONCLUSIONS

6.1 Policy Relevance

Given the various studies and projects on environmental expenditures carried out in Ukraine the question of the incremental contribution of the present study is addressed here. The following is a brief overview on the value added of the study as a whole and of individual sections.

First of all it needs to be pointed out that the harmonisation of environmental expenditure information systems with OECD/Eurostat standards" covers a key issue raised in the WB Review (World Bank 2002) and the EAP Task Force study (OECD 2003) - inconsistency or partial consistency of Ukraine environmental expenditure statistics with the OECD/Eurostat methodological framework.

The prime aim of Section 2 is to bridge the gap between the scope of Environmental Protection defined according to the Classification of Environmental Protection Activities (CEPA) and the Ukrainian Index of environmental protection activities, approved by the Resolution of the Cabinet of Ministers No. 1147 of September 17, 1996, that refers to environmental protection measures. More specifically, at the macro level comprehensive information systems and regularly gathered expenditure data detailed by environmental media and type of expenditure will assist public authorities to address a wide range of problems in political, economic and technical sphere and answer the following questions:

- Is the overall level of expenditure on environmental protection adequate?
- Do we have enough resources that are devoted to environmental domains considered as priorities in the National Environmental Action Programme?

- Is division of responsibility for environmental protection between the public and private sectors appropriate?
- Can we identify the most appropriate activities for increasing the efficiency of environmental expenditure programs?
- Can we make a trade-off between investments and maintenance of the existing capital assets?

Section 3 gives a holistic picture of Ukraine environmental expenditure reporting both in the business sector and public sector.

Section 4 gives recommendations for the development of environmental expenditure reporting forms to be implemented in Ukraine with the aim to improve understanding of environmental expenditure at the enterprise level. Environmental expenditure data at a plant level show the effective burden supported by each economic actor for environmental protection activities and help in the analyis of the levels of resources allocated to the environmental sector. Thereby these data are essential for identifying new sources of financing for environmental projects.

Section 5 gives a description of data collection survey undertaken in the Donetsk region. This is in our view very important element of the whole study that demonstrated a smooth transition at a plant level to the new reporting form #1 “Environmental Expenditures” developed within the project and undertaken jointly with the Main Office of Agrarian and Environment Statistics in Donetsk region.

6.2 Survey Process

The environment expenditure survey in the Donetsk region using the newly developed reporting forms and instructions, as outlined in Section 5 of this report, was undertaken with supervision from project local consultants. However, it is stressed that when instructed to carry out the survey by Goscomstat national office, the regional office demonstrated its capacity to play the key role in administration of the task and to complete it in a timely and efficient manner. This involved not only distribution and collection of reporting forms but also provision of advice on completion to enterprises, and initial preparation of findings of the questionnaire survey.

In order to further improve survey procedures and the capacity of Goscomstat to undertake national environmental expenditure surveys using OECD/Eurostat methodology it is recommended that:

- Existing Ukrainian criteria for selection of enterprises for the national environmental expenditure survey are reviewed to ensure that they adequately take into account all environmental protection expenditures under CEPA definitions and do not introduce bias. Current selection lists are based largely on air pollution charge payers and checked for solid waste disposal and waste water emission charge payers, and it is recommended that more broad based selection criteria are applied.

- Specialised Producers of Environmental Services under ISIC/NACE code 90 should be included in future surveys. Those enterprises that have not been included in environmental expenditure reporting before will require extra support and guidance from Goscomstat oblast level staff. A particular problem here is the overlap between ISIC/NACE code 90 and ISIC/NACE code 41 for water supply/waste water treatment. Donetsk region does have enterprises that undertake activities classed as NACE 90, primarily those providing waste treatment services. However, sewerage treatment is usually combined with water supply services and at the moment these local Vodokanals report as NACE 41. According to the OECD/Eurostat methodology, expenditure for water supply should be reported separately from environmental protection expenditure, under activities of specialised producers.

- A program of training on OECD/Eurostat methodologies and the new reporting form is developed for Goscomstat oblast level staff across the country to facilitate the introduction of reformed systems in the reporting year 2006.

- Urgent attention should be given to the issue of computer processing of data using the new reporting forms. Goscomstat oblast offices have outdated software. Therefore, it is preferable that support is given for the upgrade of computer software and hardware. In the absence of investment in new systems, existing software will need to be reprogrammed to take account of the new reporting form. Survey efficiency will also be enhanced with the provision of on-line reporting form completion and support for enterprises. In the Current official survey enterprises are only provided with paper copies of the reporting form.

6.3 Next Steps

Given the stated intention of Goscomstat and MEP counterparts to build on the work of this project by moving towards implementation of reformed environmental expenditure information systems at the national level for the accounting year starting Jan 2006 (with first reporting in 2007), it is necessary to consider the next steps to facilitate this target. The suggested steps are:

The procedure for adoption by Goscomstat of new environmental expenditures questionnaire, as follows:

- Draft preparation of proposals by specialised department, Department of Agriculture and Environment in co-operation with Ministry for Environment Protection (early 2006).
- This draft is to be examined by relevant departments of Goscomstat, i.e. Department of Macroeconomics, Department of Statistic of Investments, and Legal Department.
- After receiving necessary comments proposed questionnaire is to be reviewed at Methodological Commission, which consists mainly of Heads of Departments of Goscomstat. Special attention is paid there to avoid doubling in data collection and processing (March-April 2006).
- On ground of recommendations of Methodological Commission, including any corrections, proposed questionnaire and its corresponding guidelines are adopted by order of both Goscomstat and Ministry for Environment Protection (May-June 2006), and then registered at Ministry of Justice (July 2006).
- Resolution of Cabinet of Ministers to approve use of CEPA definitions in environmental expenditure reporting (This is planned before the end of 2005).
- Organisation of training program of the regional staff of Goscomstat throughout the country to facilitate a first collection of data under the new system at the national level.
- Development of data processing capacity for a national collection of environmental expenditure information. At implementation stage Goscomstat foresees special procedure of developing necessary software, special different programs for Oblast Departments and Central Computing Centre of State Committee for Statistics. This should be done by early 2006, to make necessary arrangements for software development from April
- Printed copies are to be send to plants by end of 2006 to give possibility to fill them in January-February before deadline of 25 February

7. REFERENCES

Eurostat (2005) OECD/Eurostat Environmental Protection Expenditure and Revenue Joint Questionnaire/SERIEE Environmental Protection Expenditure Account, Conversion Guidelines.

OECD (2001) *Environmental Expenditure Data Collection in Georgia: Final Report*, prepared by COWI consultancy for OECD EAP Task Force and Danish Environmental Protection Agency.

OECD (2003) Trends in Environmental Expenditure and International Commitments for the Environment in Eastern Europe, Caucasus and Central Asia, 1996-2001. Fifth Ministerial Conference Environment for Europe Kiev, Ukraine 21-23 May 2003

OECD (2004) *OECD/Eurostat Environmental Protection Expenditure and Revenue Joint Questionnaire*, OECD Working Group on Environmental Information and Outlooks, Draft August 2004. (Available in Russian)

World Bank (2002) Financing the Environment: Ukraine's Road to Effective Environmental Management (A Public Environmental Expenditure Review). October 22, 2002.

ANNEX B1: REPORTING FORMS FOR DONETSK SURVEY

Registration number ☐☐☐☐☐☐☐☐

State statistical survey

Confidentiality of statistical information is provided by Article 21 of the Law of Ukraine "On State Statistics"

Violation of the procedure of submitting and usage of statistical data causes the responsibility according to Article 186.3 of The Code of Ukraine on administrative torts

Report on environmental charges and environmental expenditures
2005

To submit by:	Deadline
Organizations and entities, citizens – private entrepreneurs that pollute ambient air, waters, dispose waste and have environmental expenditures 1) To local statistical office; 2) To local environmental authority.	**June 20**

Form #1-environmental expenditures

ЗАТВЕРДЖЕНО
Наказ Держкомстату України
р. №

Annual
Postal

Name of enterprise						
Address						
Codes of enterprise						
Registration number	Territory code	NACE	Form of ownership	Organizational structure	Supervising organization code*	Business sector
1	2	3	4	5	6	7

* Only for public enterprises.

Table I. Environmental charges

UAH

Charges	Row #	Accrued charges	Paid charges
Charges for ambient air pollutions – total (011+012)	010		
From which: from stationary source	011		
from mobile sources	012		
Environmental pollution charges within the established limits – total (021+022)	020		
From which: in water bodies	021		
waste disposal	022		
Environmental pollution charges above the established limits – total (031+032)	030		
From which: in water bodies	031		
waste disposal	032		
Fines for environmental offences	040		
Losses recovery due to environmental offences	050		

For information:
Exemptions for environmental pollution charges in case of environmental activities held by the enterprise (060) _____

Table II. Environmental investments

UAH

Investments	Row #	Actually spent	from which:					
			from National Budget - total	Including National Environmental Fund (as a part of National Budget)	from local budgets - total	Including local Environmental Funds (as a part of local budgets)	from other sources	from enterprise's resources
Total investments : (total of rows 100, 200, 300, 400, 500, 600, 700, 900)	**000**							
including:								
1 Protection of ambient air and climate	**100**							
2 Wastewater management (including surface water pollution prevention and treatment) – total	**200**							
3 Waste management (including law-radiation waste disposal, waste composting, recycling) – total	**300**							

4 Protection and remediation of soil, groundwater and surface water (including all treatment activities) – total	**400**							
5 Noise and vibration abatement (excluding workplace protection) – total	**500**							
6 Protection of biodiversity and landscapes –total	**600**							
7 Protection against radiation (excluding accident prevention activities) - total	**700**							
8 Environmental research and development – total	**800**							
9 Other environmental protection activities – total	**900**							

Table III: Major repair of environmental fixed assets

UAH

Expenditures	Row #	Actually spent	from which:					
			from National Budget – total	Including National Environmental Fund (as a part of National Budget)	from local budgets – total	Including local Environmental Funds (as a part of local budgets)	from other sources	from enterprise's resources
Total : (total of rows 100, 200, 300, 400, 500, 600, 700, 800, 900)	**000**							
including:								
1 Protection of ambient air and climate	**100**							
2 Wastewater management (including surface water pollution prevention and treatment) – total	**200**							
3 Waste management (including law-radiation waste disposal, waste composting, recycling) – total	**300**							

4 Protection and remediation of soil, groundwater and surface water (including all treatment activities) – total	**400**							
5 Noise and vibration abatement (excluding workplace protection) –total	**500**							
6 Protection of biodiversity and landscapes –total	**600**							
7 Protection against radiation (excluding accident prevention activities) - total	**700**							
8 Environmental research and development – total	**800**							
9 Other environmental protection activities – total	**900**							

Table IV. Current environmental expenditures

UAH

Expenditures	Row #	Actually spent	from which:					
			from National Budget – total	Including National Environmental Fund (as a part of National Budget)	from local budgets – total	Including local Environmental Funds (as a part of local budgets)	from other sources	from enterprise's resources
Total : (total of rows 100, 200, 300, 400, 500, 600, 700, 800, 900)	**000**							
including:								
1. Protection of ambient air and climate	**100**							
2 Wastewater management (including surface water pollution prevention and treatment) – total	**200**							
3 Waste management (including law-radiation waste disposal, waste composting, recycling) – total	**300**							

4 Protection and remediation of soil, groundwater and surface water (including all treatment activities) – total	**400**							
5 Noise and vibration abatement (excluding workplace protection) –total	**500**							
6 Protection of biodiversity and landscapes –total	**600**							
7 Protection against radiation (excluding accident prevention activities) - total	**700**							
8 Environmental research and development – total	**800**							
9 Other environmental protection activities – total	**900**							

Table V. Other revenues and expenses

UAH

Revenues, expenses	Row #	Revenues				Payments for environmental services
		For environmental services	Including National budget	Grants and transfers	Sale of by-products	
Total : (total of rows 100, 200, 300, 400, 500, 600, 700, 800, 900)	**000**					
including:						
Protection of ambient air and climate – total	**100**					
Wastewater management (including surface water pollution prevention and treatment) – total	**200**					
including:						
Sewerage networks	220					
wastewater treatment	230					
Waste management (including law-radiation waste disposal, waste composting, recycling) – total	**300**					
including:						
collection and transport	320					
treatment and disposal of hazardous waste	330					
thermal treatment	331					
Landfill	332					
other treatment and disposal	333					
treatment and disposal of non-hazardous waste	340					
Protection and remediation of soil, groundwater and surface water (including all treatment activities) – total	**400**					
Noise and vibration abatement (excluding workplace protection) -total	**500**					
Protection of biodiversity and landscapes –total	**600**					
Protection against radiation (excluding accident prevention activities) – total	**700**					
Environmental research and development – total	**800**					
Other environmental protection activities – total	**900**					

Data provided in whole numbers.

" ____ " _____ 2005

_____

(name and phone of executor)

Head _____

Chief accountant _____

SEAL

ANNEX B2: INSTRUCTIONS FOR REPORTING FORMS

For the reporting form #1 – environmental expenditures "Report on environmental charges and environmental expenditures"

This instruction establishes the order of filling and submitting of the reporting form #1 – environmental expenditures "Report on environmental charges and environmental expenditures".

This report should be submitted by June 20 by organizations and entities, citizens – private entrepreneurs that carry out any environmental activity and registered as potential pollutants of ambient air from stationary sources, water or other resources.

The list of reporting enterprises, in particular, may include the companies in agricultural, hunting, fishing, timber, exploration, processing industries, energy production, gas and water supply, municipal and other economic sectors, including state and private companies that financed by rendering their services to the customers.

If the enterprise has the affiliates in different regions, these affiliates should submit the reports to their local statistical offices. In this case the main enterprise does not include the affiliates' data in its report.

The enterprises that pollute the ambient air only from mobile sources (the exemption is transport enterprises) are not required to submit the report.

The companies that render environmental services in sphere of waste water collection and treatment, solid waste disposal, sanitation, territory cleaning, environmental consulting, etc should submit two different reports: one – on environmental services, another – on the main company activities. It is the case when environmental services are not the major type of company's business.

Code and address part of the report is filled based on the registration certificate (the Overall State Register of the Companies and Entities of Ukraine). All companies, excluding the specialized environmental service companies, should put the code "0" in the cell 7 of the report. Specialized environmental service companies should put code "1".

The report should contain the data of preliminary accounting of actual environmental expenditures.

The expenditures can be classified as environmental if they aimed at prevention or/and reduction of environmental pollution caused by production and consumption of process.

Resource- and energy-saving activities might be considered as environmental only if they aimed at environmental protection, for example, waste disposal. Not included:

- Technical improvement activities that have positive side effect
- Consumption of natural resources (for instance, water supply)
- Depreciation and fixed assets value,
- Deposits, fines and recovery of losses due to environmental offences that are not classified as environmental expenditures but should be presented in Table I "Environmental charges"

The list of main environmental activities is given in the Appendix 1 to the Manual. All lines of the report should be filled. If the enterprise does not have any of these activities it should put dash in that line. All type of company's environmental activities should be presented.

The figures should be filled in UAH, in whole numbers without VAT.

Table I: "Environmental charges"

The Table I present the charges for emissions, pollutions and waste disposal (industrial, construction, agricultural, domestic, etc.), losses and fines paid for environmental offences.

The main legal documents that form the structure of environmental charges are:

The Law of Ukraine "On environmental protection" (1264-12); the Law of Ukraine "On taxation system" (1251-12); The Principles of establishing the norms of environmental charges and charging procedure, approved by the Resolution of Cabinet of Ministers of Ukraine on March 1, 1999 #303 (303-99-п) with changes and amendments; The Instruction on calculation and charging of the environmental charges, approved by the Ministry of environmental protection and nuclear safety jointly with the State tax administration of Ukraine dated July 19, 1999 # 162/379 (z0544-99), registered in the Ministry of Justice on August 9, 1999 # 544/3837 with changes and amendments.

In column 1 the amount of accrued environmental charges for the reporting year is presented.

In column 2 is presented the amount of environmental charges, losses and fines for environmental offences actually paid for the reporting year.

The actually paid charges consist of the amounts really transferred by the banks from the account of enterprise to the account of environmental fund (it is not the amounts printed in payment orders)

If the amounts paid include the debts for the previous year it also should be added in column 2 of Table 1.

The row 010 shows the amount of environmental pollution charges paid for the emissions within the established pollution limits.

The row 020 presents the amount of environmental pollution charges paid for the emissions above the established pollution limits as well as charges for pollutions for which the enterprise did not receive the permission.

The row 030 includes the charges accrued and paid for ambient air pollution from stationary and mobile sources.

Note: The amounts in rows 010, 020, 030 include only charges accrued and paid by enterprise for emissions in ambient air, waste water disposal into water bodies, industrial waste disposal or storage if the site of this storage is owned by the enterprise.

Payments for emission content in sewerage system are showed by local enterprises responsible for water supply ("water sewerages").

Payments to other companies under the contracts of pollutions and waste disposal are not presented in Table I because it should be located in Table V.

The row 040 includes the fines for environmental offences not depending on how they were established (by court or in another way). This row does not include the fines charged and paid from responsible persons.

The row 050 shows the amounts charged and paid by companies for recovery of losses caused by environmental offences.

The row 060 shows the amount of unpaid charges due to official permission (this exemption might be received when the enterprise conducts any environmental protection activity).

Table II: "Environmental Investments"

Environmental investments include the investments in equipment, technique and environmental construction. Expenditures on major repair of environmental fixed assents are not included into this Table and should be presented separately in Table III "Major repair of environmental fixed assets"

Rows 100 -900 classify the environmental investments by types listed in Appendix 1 to this Manual. Environmental media stressed in bold is equal to the sum of the amounts filled in empty lines using the List of environmental expenditures.

The amount in columns 1-7 row 000 is the sum of correspondent cells in rows 100. 200. 300. 400. 500. 600. 700. 900.

The figures of column 1 are the sum of figures in columns 2, 4, 6, 7.

Table III: "Major repair of environmental fixed assets"

Major repair of environmental fixed assets include the investments in equipment, technical technique and environmental construction.

The environmental facilities include plants, facilities, equipment mentioned in p.1-17 of Table IV.

Rows 100 -900 classify the major repair of environmental fixed assets by types listed in Appendix 1 to this Manual. Environmental media stressed in bold is equal to the sum of the amounts filled in empty lines using the List of environmental expenditures.

The amount in columns 1-7 row 000 is the sum of correspondent cells in rows 100. 200. 300. 400. 500. 600. 700. 900.

The figures of column 1 are the sum of figures in columns 2, 4, 6, 7.

Table IV : "Current environmental expenditures"

To fill the Table IV you should use "The main types of environmental expenditures" presented in Appendix 1 to the Guidelines and the following explanations. Row 000 shows the total amount of all environmental expenditures that is equal to the sum of consistent amounts (rows 100,200,300,400,500,600,700,800,900).

The total amount for each type of environmental expenditures consists of the sum of expenditures shown in empty lines that should be filled according the Appendix1.

The figures of column 1 are the sum of figures in columns 2, 4, 6, 7.

The companies that paid to other companies for services concerned waste water disposal, industrial waste storage, reclaiming of lands as well as companies that render the environmental services present that data only in Table V of the report.

Table IV shows the current expenditures for maintenance of:

1. Stations for biological, chemical and mechanical sewage treatment for manufacturing and municipal waters; facilities and equipment for land-reclamation systems (including the wastewater of wheat fields); research-industrial plants on development of sewage treatment methods; facilities, equipment and transport for collection, transporting, recycling and neutralization of liquid industrial wastage that cause surface of ground water pollutions; coastal buildings for intake and treatment of domestic sewage, disposal, storing and rectification of waste from the floating vessels; separate facilities for first stage of water treatment (oil remover, grease skimming tank, stations of neutralization of after treatment sludge cell); drainage systems and facilities of waste water drain to filtering sewage ponds; municipal waste water treatment facilities; external sewage systems and their facilities for drain of industrial waste water – pump stations, stations of waste water control, treatment, and storage, other storage capacities for emergency disposal in case of exceeding of pollution limits. In this case main facilities do not include internal sewage systems of industrial enterprises.

If municipal, industrial and other sewage systems are not linked to treatment facilities and waste water disposes directly into water bodies, the expenditures on maintenance and utilization of these facilities are not mentioned in Table IV.

2. Coastal and floating stations for treatment of ballast waters

3. Closed loop water-supply systems with the sewage return to technical water-supply facilities after their rectification and treatment (including the recycling hydraulic ash removal system and hydraulic handling of different slag); circulating industrial water supply system, serial and recurring water disposal system, including other plant waters

4. Pumping and technological fleet for collection of oil, garbage and other liquid and solid waste on rivers, seas, other water pools, ports as well as renovation of vessels according to requirements of International Convention on sea water pollution.

5. Water-protection areas with the complex of land treatment, forest amelioration, hydro-engineering, sanitary and other measures aimed at prevention of water pollution and exhaustion

6. Special water pools for nuisance water control as well as supporting of appropriate hydrological regime and sanitary conditions of rivers. Exception is water pools for hydro energy and irrigation.

7. Aeration stations and other water protection facilities

8. Disperse return for treated sewage; implementation of measures aimed at prevention of water thermal pollution

9. Filtering sewage ponds, waste water disposal that do not cause the pollution of surface and ground waters

10. Storage capacities, settlings, aeration facilities, bio-channels, hold-up screens for pesticides etc.

11. Development and utilization of environmental monitoring system for water resources

12. Equipment of shops and various activities aimed at extracting different valuable matters from waste waters

There are equipment and shops on refining of water solutions, organic solutions, compounds of metals and other valuable matters from galvanic and etching solutions, from waste waters of ferrous and non-ferrous metallurgy and other industries, from film production, etc., for extracting from waste water and refining of calcium, magnesium, sodium, fluorine compounds, etc. for chemical, titanium-magnesium and other enterprises; for disposal of alkali and acid from waste technological solutions for the enterprises of paper, chemical, oil-chemical and other industries; for oil extracting from waste waters; for refining of redundant silt in water treatment facilities; for extracting and refining of waste and other substances (slag and silt) of food industry; for toxic waste disposal and other facilities and shops on enterprises of different industries, transport, agricultural and municipal spheres.

Table IV does not include the expenditures on maintenance of industrial and municipal water-supply systems, including water refining.

The payments for water use are also not included.

13. Tools for removal and neutralization of harmful substances from gases evolved by the technological sets and ventilating air before their atmospheric emission. These expenditures are considered as environmental only if these facilities provide decreasing of air emissions. Here is also the maintenance of research and research-industrial plants on development of gas rectification that carrying off the sources of detrimental atmospheric emissions; automatic controlling systems of detrimental atmospheric emissions and the centres of control and monitoring of air pollution.

14. Facilities for removal of harmful substances from gases

15. Control centres aimed at checking and reducing of waste gases toxicity

16. gas-dust arresters as well as equipment that is an element of process flow-sheet and specified for obtaining the product from minerals (gas neutralization for soot production in technical carbonic acid industry; neutralization of gas from liquid-ball furnace in yellow phosphorus production of phosphorus industry; neutralization of gas from boiling bed furnace in sulphuric acid production; etc.) should not be included.

Current environmental expenditures do not include expenditures for maintenance of: gas bleeders (off-takes), smoke exhausters, ventilation and conditioning systems in offices and other working premises; buffer areas; green plantations, etc, because they are related to industrial sanitation, accomplishment, etc.

The exception is maintenance costs of after-popping and other after-treatment facilities for end gas before atmospheric injection because in this case it avoids the pollution.

Moreover, in some exceptional cases, when induce of draught-blowing facility directly related of stubborn resistance of gas-dust arrester, purchase and maintenance of this machine are also considered as environmental expenditures.

17. Special ranges and other objects for storage of solid waste as well as facilities for neutralization of solid and other dangerous industrial wastage. Costs of solid industrial wastage neutralization (including wastage removal from waste waters and gas) and waste transportation are also included.

Table IV also includes the expenses on protection and rational utilization of mineral resources, nature reserves protection, protection and rational utilization of flora and fauna, protection of lands.

Current expenditures consist of:

- The cost of raw materials for environmental fixed assets maintenance, small repairs, technical improvement, as well as research & development aimed at technical improvement.
- The cost of fuel and electricity for environmental fixed assets and other environmental activities,
- Wages and salaries (including salary taxes) of maintenance staff and land reclaiming staff
- Other maintenance costs, including amortization and small repairs of environmental fixed assets,
- Other indirect costs according to chart of expense accounts for environmental management staff of an enterprise, including research and development expenditures.
- Labour protection expenses for environmental staff,
- Costs for joint use of environmental facilities (waste disposal plants, slag- and sludge-heaps, industrial waste disposal and neutralization plants, etc.) and payments for environmental services (drain after-treatment, biological waste treatment on cluster waste treatment plants, etc.)

Table V: Other revenues and expenses

The row # 000 presents the total revenues for environmental services, grants and transfers, sale of by-products as well as payments for environmental services. The amount of row 000 is the sum of correspondent cells in rows 100, 200, 300, 400, 500, 600, 700, 800, 900.

Enterprises that paid to other companies for services of waste transportation, storage, neutralization; reclaiming of fouled lands show their expenditures according to the List of environmental expenditures in column A.

In column 1 the revenues from environmental services are stipulated. They include, in particular, storage, neutralization of waste, waste water treatment, reclaiming of fouled lands.

Column 2 presents the part of total revenues received from the National Budget.

Column 3 shows the annual amount of grants and transfers received by the company.

Grants and transfers are non-refundable financing of environmental activities.

Column 3 shows the revenues from the sale of products that were created due to environmental activities, for instance, energy or waste disposal products.

Resource- and energy-saving as a result of technical improvement activities as well as other gains of environmental activities are not included.

In column 5 the payments to other companies for environmental services are filled. This figure includes the payments for storage, neutralization of waste, waste water treatment, reclaiming of fouled lands, and utilization of good layer in the process of implementation of measures connected with the land fouling, consulting services. Environmental fines and losses are not included.

The report should be signed by company management. Management bears responsibility according to article 20 of the Law of Ukraine “On state statistics”

Appendix

To the Manual to the reporting form #1 – environmental expenditures "Report on environmental charges and current environmental expenditures"

The list of main types of environmental expenditures

Row #	Expenditures	Notes
100	**Protection of ambient air and climate**	
110	prevention of pollution through in-process modifications aimed at ambient air, climate and ozone layer protection	Including: • Installation of cleaner and more efficient production processes and other technologies (cleaner technologies) • Consumption or use of cleaner products (modification of facilities aimed at substitution of raw materials, energy, catalysts and other resources by non- or less polluting products, pre-production treatment of raw materials in order to make them less polluting, including switch to new fuel, raw materials, etc.)
111	Protection of ambient air	
112	Protection of climate and ozone layer	
120	treatment of exhaust gases and ventilation air aimed at protection of ambient air, climate and ozone layer	Including: • Elimination of emissions at the source • Supporting of facilities for removal and neutralization of harmful substances from gases • maintenance of research and research-industrial plants on development of gas rectification that carrying off the sources of detrimental atmospheric emissions • Development and implementation of devices of neutralization and getting smokeless of transport engine's waste gases and supporting of control centres aimed at checking and reducing of waste gases toxicity on the transport facilities
121	Protection of ambient air	
122	Protection of climate and ozone layer	
130	measurement, control, laboratories and the like	Including: • Activities aimed at monitoring of concentrations of pollutants in exhausted gases, the quality of air, etc. (including the measurement services of exhaust gases from vehicles and heating systems and the monitoring related to ozone layer, greenhouse gasses and climate change (except the weather stations).
140	OTHER ACTIVITIES	Including: • Activities aimed at inventory of ambient air pollution sources • Regulatory and management activities, information, education, trainings, etc.

200	**Wastewater management (including surface water pollution prevention and treatment)**	
210	prevention of pollution through in-process modifications	Including: • Installation of clean technologies and clean production processes • Consumption of clean products Excluding: • Actions and activities aimed at protection of groundwater from pollutant infiltration and cleaning up the water bodies after the pollution
220	sewerage networks	Including: • Supporting and running of waste water treatment facilities in industrial, municipal and other sectors
230	wastewater treatment	Including: • biological and mechanical sewage treatment and after-treatment Excluding: • Payments to other companies for waste water disposal and treatment
240	treatment of cooling water	Including: • Activities aimed at cooling water treatment to meet applicable environmental standards before releasing it into the environment • Supporting and running of disperse return for treated sewage; implementation of measures aimed at prevention of water thermal pollution
250	measurement, control, laboratories and the like	Including: • Monitoring and control of pollutant concentration in waste waters as well as surface water quality in inland water bodies and sea water in places of waster water disposal
260	other activities	Including: • Activities aimed at inventory of surface water pollution sources • Regulatory and management activities, information, education, trainings, etc.
300	**Waste management (including law-radiation waste disposal, waste composting, recycling)**	
310	prevention of pollution through in-process modifications	Including: • Installation of clean technologies and clean production processes aimed at prevention or abatement of solid waste production, technology process modification • Consumption of clean products (change of raw materials, catalysts and other resources)
320	collection and transport	Including: • Collection and transportation of waste to the places of its neutralization or storage (including hazardous waste, domestic waste and public litter except winter services) • Supporting of plants, facilities and transport for collection, transporting, recycling, neutralization and storage of domestic, agricultural and industrial manufacturing waste

330	treatment and disposal of hazardous waste	Including: • Supporting, technical reequipping and reconstruction of recycling and incineration factories • Supporting of treatment plants, polygons and other objects plants aimed at neutralization and disposal of pesticides, dangerous and toxic industrial and other waste • Composting and recycling aimed at environmental protection Excluding: • Payments to other enterprises for waste disposal and neutralization • Compost production as a part of economic activity (production of fertilizers and nitrogen compounds)
331	thermal treatment	
332	Landfill	
333	other treatment and disposal	
340	treatment and disposal of non-hazardous waste	Including: • Physical or chemical treatment, incineration, biological treatment, landfill of waste, etc. • Composting and recycling aimed at environmental protection Excluding: • Compost production as a part of economic activity (production of fertilizers and nitrogen compounds)
341	incineration	
342	Landfill	
343	other treatment and disposal	
350	measurement, control, laboratories and the like	Including: • Control and measurement of generation and storage of waste, their toxicity, etc.
360	other activities	Including: • Activities aimed at inventory of waste and landfill sources • Regulatory and management activities, information, education, trainings, etc.
400	**Protection and remediation of soil, groundwater and surface water (including all treatment activities)**	
410	Prevention of pollutant infiltration	Including: • Sealing of soils of industrial plants, installation of catchments for pollutant run-offs and leaks, straightening of storage facilities and transportation of pollutant products • Establishing of water-protection areas • Supporting and running of filter beds, sewage farms, filtering sewage ponds • Supporting of river aeration stations • Renovating and supporting of appropriate hydrological regime and sanitary conditions of rivers; measures aimed at controlling their harmful effects

420	cleaning up of soil and water bodies	Including: • Measures for separating, containing and recovering deposits, extraction of buried casks and containers, decanting and re-storage • Installation of off-gas and liquid effluent drainage networks, soil washing by gasification, pumping of pollutants, removal and treatment of polluted soil, etc. Excluding: • Lime-slaking of lakes and artificial oxygenation of water bodies as well as civil protection services
430	protection of soil from erosion and other physical degradation	Including: • Restoration of protective vegetal cover of soils, construction of anti-erosion walls • Reclaiming of fouled soil • Erosion protection • Supporting of soil-saving, hydro-engineering, anti-karst, bank-protection, anti- slide, anti-caving, anti-avalanche and anti- mudflow facilities Excluding: • Payments to other companies for soil reclaiming • Economic activity and civil protection from nature hazards
440	prevention and remediation of soil salinity	Including: • Measures aimed at increasing of groundwater tables, remediation of soil salinity, rehabilitation of soil Excluding: • Economic activity such as agricultural production or soil drainage
450	measurement, control, laboratories and the like	Including: • Control and measurement of quality and pollution of soil, ground and surface waters, measurement of soil erosion and salinity
460	other activities	Including: • Monitoring of hazardous places • Regulatory and management activities, information, education, trainings, etc.
500	**Noise and vibration abatement (excluding workplace protection)**	
510	preventive in-process modifications at the source	Including: • Activities aimed at reduction of noise and vibration from industrial equipment, vehicle motors, aircrafts and ships engines, exhaust systems and brakes, or noise level due to tyre/road or wheel/rail surface contact • Noise reduction by surface modifications Excluding: • reduction of industrial noise aimed at workplace protection
511	road and rail traffic	
512	air traffic	
513	industrial and other noise	

520	construction of anti noise/vibration facilities	Including: • activities aimed at installation and supporting of anti-noise facilities (screens, embankments and hedges)
521	road and rail traffic	
522	air traffic	
523	industrial and other noise	
524	measurement, control, laboratories and the like	Including: • installation and operation of stationary measurement and monitoring sites or mobile equipment in urban areas, observation networks, etc.
530	other activities	Including: • Regulatory and management activities, information, education, trainings, etc.
600	**Protection of biodiversity and landscapes**	
610	protection and rehabilitation of species and habitats	Including: • Protection, reintroduction or recovery of fauna and flora spices, as well as restoring, rehabilitation and reshaping of damaged habitats aimed at strengthening of their natural functions • Conserving the genetic heritage, re-colonising destroyed ecosystems, placing bans on exploration and trade of specific animal and plant species for protection purposes • Restoration of water bodies as aquatic habitats: artificial oxygenation and lime-neutralisation actions • Purchase of land for protection of spices and habitats
620	protection of natural and semi-natural landscapes	Including: • Supporting of national parks, botanic gardens, dendrology parks, zoological gardens and memorial gardens of landscape architecture • Reservation of new territories for natural reserves • Land and natural reserves cadastres, the Red Book • Safety of animal and plant species entered to the Red Book of Ukraine • Safety of natural historical sites Excluding: • Protection and rehabilitation of historical places and artificial landscapes • Agricultural wild grass control • Forest fire protection activity • Creation and support of green belts along the roads and recreation and sport facilities
630	measurement, control, laboratories and the like	Including: • Measurement, monitoring and analysis of nature and landscape conditions
640	other activities	Including: • Regulatory and management activities, information, education, trainings, etc.

700	**Protection against radiation (excluding accident prevention activities)**	
710	Protection of ambient media	Including: • Activities aimed at environmental protection from radiation (creation of buffer zones, etc.) Excluding: • Actions and activities related to the prevention of technological hazards, workplace protection • Activities related to collection and treatment of low-level radioactive waste
720	transport and treatment of high level radioactive waste	Including: • Transport, conditioning, containment or underground disposal of high level radioactive waste
730	measurement, control, laboratories and the like	Including: • Measuring, controlling and monitoring ambient radioactivity and radioactivity due to high level radioactive waste using the specific equipment, instruments and installations.
740	other activities	Including: • Regulatory and management activities, information, education, trainings, etc.
800	**Research and development**	
810	Protection of ambient air and climate	
811	Protection of ambient air	
812	Protection of atmosphere and climate	
820	Protection of water	
830	Waste management	
840	Protection of soil and groundwater	
850	Abatement of noise and vibration	
860	Protection of species and habitats	
870	Protection against radiation	
880	other research on the environment	
900	**Other environmental protection activities**	
910	General environmental administration and management	
911	General administration, regulation and the like	
912	Environmental management	
920	Education, training and information	
930	Activities leading to indivisible expenditure	
940	Activities not elsewhere classified	

ANNEX B3: QUESTIONNAIRE ON DRAFT REPORTING FORM

Questionnaire
To approbation of draft reporting form „Report on environmental charges and environmental expenditures" and its Manual

Please, answer these questions:

1. What primary data sources you used to fill:

Table I _____
_____
_____

Table II _____
_____
_____

Table III _____
_____
_____

Table IV _____
_____
_____

Table V _____
_____
_____

2. What figures are difficult to calculate and fill (Why?) (please, put the number of row and column) of:

Table I _____
_____
_____

Table II _____
_____
_____

Table III _____
_____
_____

Table IV _____
_____
_____

Table V _____
_____
_____

3. Your comments and notes to reporting form and manual

_____
_____
_____
_____

4. Your propositions as to changes into reporting form and manual

_____
_____
_____
_____

5. How much time you spent for filling the report

_____
_____
_____
_____

6. What time schedule is most appropriate for submitting such reporting form and why

_____
_____
_____
_____

7. What departments of your enterprise participate in filling this form

_____
_____
_____
_____

Sign of executor _____, tel._____

ANNEX B4: GENERAL COMMENTS AND SUGGESTIONS TO IMPROVEMENT OF REPORTING FORM #1 – ENVIRONMENTAL EXPENDITURES.

State Committee of Statistics of Ukraine
(Goscomstat)

The Main Statistical Office in Donetsk region

Goscomstat of Ukraine
Department of agricultural
and environmental statistics
Prokopenko O.N.

General comments and suggestions to improvement of reporting form #1 – environmental expenditures

According to project plans Donetsk statistical offices have conducted survey on the basis of the new statistical reporting form #1 – environmental expenditures and its instructions. 260 enterprises from different economic sectors were engaged in this process. Survey packages were delivered in person to 66 main enterprises with large environmental expenses by local statistical officers. They also assisted these enterprises in the completion of the reporting forms.

The table below shows the list of enterprises that were included in the survey by sector and those that returned the reporting form and questionnaire. 244 in total or 93.8% of the sample returned the forms and questionnaire.

No	Economic sector	Code NACE	Enterprises in sample	Enterprises replying
1	Agriculture, hunting	01	7	7
2	Forestry	02	1	1
3	Coal and peat mining	10	17	16
4	Other mining industries	14	12	12
5	Food industry	15	20	18
6	Textile industry	17	4	3
7	Tanning industry	19	3	3
8	Coke, oil and nuclear fuel production	23	7	6
9	Chemical	24	5	4
10	Rubber and plastic industry	25	6	4
11	Other non-metallic mineral products	26	30	26
12	Metallurgy	27	16	15
13	Metal working	28	9	9
14	Heavy engineering	29	28	29
15	Electric equipment production	31	3	3
16	Manufacture of medical, precision and optical instruments, watches and clocks	33	1	1
17	Vehicle production	34	1	1
18	Other transport facilities production	35	1	1
19	Furniture production	36	3	2
20	Waste disposal	37	5	5
21	Energy, gas, water supply	40	18	19

22	Waste water treatment and disposal	41	26	25
23	Construction	45	7	7
24	Retail trade of household equipment and repairs	52	1	1
25	Transport	60	10	8
26	Other transport services	63	16	15
27	Real estate	70	1	1
28	Research and development	73	1	1
29	Public management	75	1	1
			260	**244**

The proposed reporting form and its instruction were studied by the enterprises and filled in based on the year 2004 figures. Most of the enterprises considered the form as corresponding to the growing demand for environmental information and to existing primary and accounting documents. General comments and suggestions made by responding enterprises in the questionnaire assessing the reporting forms (see Annex B4) are presented below. Project consultants and Goscomstat do not necessarily accept or agree with all comments and suggestions.

Question 1: What primary data sources did you refer to?

Table 1

- calculation file on environmental charges;
- payment orders;
- general ledger;

Table II

- report on enterprise's operations;
- account # 15;
- certificate on cost of works executed;
- acts on fixed assets;

Table III

- "Act on acceptance of executed contract";

Table IV

- general ledger;
- cost estimates on repairs;
- orders on withdrawal;
- workshops reports;
- accounts on current expenditures on maintenance of treatment facilities, sludge tanks;
- payroll journal;
- acts of acceptance from vendors;
- ledgers №№ 5, 5a, 7, 8, 10, 13 and others;

Table V

- general ledger;
- contracts, payment documents (paid invoices);
- acts of acceptance;
- waybills;
- acts on acceptance of industrial waste delivered to other specialized enterprises;
- contracts on waste transporting, invoices;
- statement on expenses on waste disposal.

Question 2: What figures are difficult to calculate and complete (Why?)

In Table I - 15 companies indicated the problem in filling the column "Charges Paid";
In Table II - 10 enterprises (4,3%) had difficulties with Appendix 1;
In Table III - 7 enterprises (3%) had difficulties with Appendix 1;
In Table IV - 45 enterprises (19,1%) had difficulties with rows 200,220,230,250,260, 320;
In Table V - 40 enterprises (17%) had difficulties with rows 300-340.

Questions 3 and 4: Your comments and notes about reporting form and instruction

Table 1 Environmental charges

Table 1 of the reporting form was filled out by 100%. The main problem was to fill column "Charges Paid" because according to existing procedure the enterprises pay all environmental charges in one payment. Then state treasury department allocate the money to environmental funds of different levels. Therefore, it is impossible to assess the charges by type (ambient air pollution, water pollution or waste disposal). We propose to use the calculation file to payment order as a primary document (but not the payment order by itself). This concept should be stated in the Instruction.

Another problem is omissions in the numbering of rows and columns in the reporting form and in instruction. For example, the instructions refer to column 1 and 2 of the report - "accrued charges" and "paid charges" - but in the reporting form these columns are not numbered. Moreover, the instruction contains mistakes in codes of the following items:

- Environmental pollution charges within the established limits (according to report – row 020, according to Instruction – 010);

- Environmental pollution charges above the established limits (according to report – row 030, according to Instruction – 020);

- Charges for ambient air pollution (according to report – row 010, according to Instruction – 030).

Table II Environmental investments

Table 2 of the reporting form was filled in by 13% (32 replies from 244 submitted forms). The suggestions were:

- To clarify the difference between "investments" and "major repair" (in the Instruction these terms have the same definition): Environmental investments are all types of expenditures of current year related to capital aimed at environmental protection and rational usage of natural

resources. They include construction of new as well as extension, reconstruction, technical re-equipment of existing environmental enterprises, plants and facilities (except the major repair expenditures that are stated in Table III).

- To refer the Instruction to the tables of the existing statistical reporting form #1 – Investments "Report on investments":

  # 1-environmental expenditures - # 1-investments

  row 000 column 1 < row 070 column 1

  row 000 column 2 < row 070 column 2

  row 000 column 4 < row 070 column 3

  row 000 column 6 < row 070 column 5

  row 000 column 7 < row 070 column 4

- It should be noted that this report contains data including VAT while environmental reporting form uses net figures. Some respondents suggested completing the new reporting form with environmental expenditures including VAT.

- To add the list of environmental investments as a separate annex;

- To indicate the data sources.

Table III Major repair of environmental fixed assets

Table 3 of the reporting form was filled in by 24% (59 replies from 244 submitted forms). The low level of response to this Table is typical for previous reporting forms also. The suggestions were:

Paragraph 1 of the Instruction to state as follows: "Major repair of environmental fixed assets include all the expenditures of current year concerned with fixed assets improvement (modernization, modification, construction finalizing, equipment supply, reconstruction, etc.) that result in future economic benefits from operation and increase the value of fixed assets (capital repair of buildings, equipment, technique and other environmental facilities) (article 14 of the Accounting Regulation (Standard) #7)".

To separate the list of environmental expenditures for this Table;

To indicate the data sources;

To refer the Instruction to the reporting form # 1-Investments and # 2-investments:
Difference between row 025 column 1 of report #2-investments "Expenditures on environmental protection and rational utilization of natural resources" and row 070 column 1 of report #1-investments "From total amount of investments to environmental protection and rational utilization of natural resources" should be more than the figure in row 000 column 1 Table III of the report #1-environmental expenditures to the amount of VAT.

Maintenance costs constitute the current expenditures and should be specified in Table IV of report #1-environmental expenditures (article 14 of the Accounting Regulation (Standard) #7).

7 enterprises expressed the idea to joint Table II and III into one.

Table IV Current environmental expenditures

Table 4 of the reporting form was filled in by 69% (170 replies from 244 submitted forms). In the Instruction (5th paragraph) the wrong Table number is stated (Table III instead of Table IV).

Table IV was most difficult for respondents. The reason is that some environmental facilities (for instance, cyclone collectors of workshops) are not accounted as a separate asset, so cost control on these facilities is centralized. Therefore, it is impossible to count the share of wages, energy and other costs for these assets. The same situation is for expenses on waste transporting to the places of neutralization or storage, sewage systems maintenance, etc.

The following suggestions were proposed for Table IV:

To develop a separate list of environmental activities to this Table and to give more clear explanations to this list.

To clarify rows 111 and 121, 112 and 122 (to explain the difference);

To explain where to put the expenditures on operation and maintenance of water closed-loop facilities (very important for heat-power engineering industry);

In Tables II-V to regroup and extend the types of expenditures for the following:

- Protection and rational utilization of water resources (to add waste water purification codes 210-260 and protection of ground and surface water – codes 410, 420 and 450);
- Protection and rational utilization of soils (codes 410 - 460).
- To clarify the explanations to rows 220 «sewerage networks» and 230 «wastewater treatment» because many enterprises do not see the difference;
- To give clear explanation to row 330 «hazardous waste» and 340 « non-hazardous waste ». to give them definitions;
- To add to specification of row 360 «Others» the following: «inventory and certification of sources of waste formation and disposal»;
- To specify where to put the expenditures on dump extinguishing;
- To specify where to put expenditures on protection of mineral resources (questions from mining industry), soils;
- To specify the expenditures for codes 800-880, 900-940;
- To explain if the expenditures on state registration of enterprises are included to row 140 “Others”;

A lot of companies do not understand the last paragraph of the Instruction to Table IV (page 8) that concerned the joint use of environmental facilities;

To exclude from the Instruction to Table IV the wages to maintenance staff, because they are responsible not only for environmental facilities and their wages are not counted proportionally to their involvement.

Table V Other revenues and expenditures

Table 5 of the reporting form was filled in by 76% (185 replies from 244 submitted forms). The major questions were about the last paragraph of the Instruction (page 8). Suggestions were as follows:

It is worth specifying the content of rows 400-900, and details on row 100 “ambient air protection and climate changes - total”.

We should explain that the row 200 is equal to the sum of rows 220 and 230; row 300 – to rows 320, 330 and 340; and row 330 – to rows 331, 332 and 333.

Some respondents did not see the practicability to divide rows 320 and 330. In reality (if the company pays to other companies for waste transporting and storage) these expenditures are mixed and it is difficult to divide them.

Many enterprises had difficulties in completing expenditures for air pollution and waste services paid to other companies. Where to put these costs – in Table IV or to Table V?

In the Instruction to Table V we use terms “earnings” as well as term “revenues” that is actually profit. That is why to avoid misunderstanding it is important to change this to term “earnings”.

Question 5. How much time did you spend filling the report?

Labor output for filling this report depends on size of enterprise and scope of activities. Enterprises that do not have investments and major repairs spent less than 2 hours, whereas large enterprises spent twice as much time. The timings are given in the table below:

	Quantity of enterprises	**Share, %**
Up to 2 hours	50	24,1
3 - 8 hours	58	27,9
10 - 24 hours	56	26,9
32 - 48 hours	25	12,0
56 - 160 hours	15	7,2
from 1 to 2 month	4	1,9
Total	**208**	**100,0**

Question 6. What time schedule is most appropriate for submitting such reporting forms and why?

All the enterprises agreed that the deadline for report should be the same as currently for official reporting, February 25.

Question 7. What departments of your enterprise participated in filling this form?

The following departments were given as participating:

- environmental service;
- economic-planning department;
- production and technical department;
- accounting.

General Comments

The general comments on reporting form #1-environmental expenditures were:

1. To give clearer definitions of environmental expenditures. The definition in paragraphs 3 and 4 on page 2 of the instructions is vague. Here are two from many examples: first – changing from liquid to gas fuel in boilers is economically efficient but it also decreases the negative ecological effect. Another example is improvement of working conditions (equipment of woodworking shops with exhaust ventilation of cyclones) that decrease the consistence of hazardous substances in working area and thereby minimize negative environmental consequences. What documents and what criteria should be applied to determine the economical orientation of expenses?

2. Incorrect legal reference in last paragraph of the Instruction, according to which the general manager bears responsibility (for what?) according to Article 20 of the Law of Ukraine "On State Statistics". Here is the text of this article "for violation of legislation on state statistics guilty person is responsible in terms of existing laws". So, this article refers to other legal documents. That is why it is better to indicate the following "…bears responsibility according to Article 186^3 of the Code of Ukraine on administrative torts".

In addition to above mentioned methodological comments and suggestions, the enterprises made proposals to improve the design of the reporting form. Among them are:

- To enlarge vertically the row for enterprises' codes (page 1);
- To enlarge vertically rows of Table I (page 2);
- To have a website for downloading the reporting form, because there is not enough rows for codes 300 and 500 in Tables II, III and IV.

It should also be mentioned that about one in four enterprises (22%) considered the new form as very bulky and time-taking and propose either to keep the previous form or to reduce the new one. Enterprises that participated in the survey on the basis of the new reporting form #1-environmental expenditures suggested that the authors should use their practical experience for improvement of the reporting form.

This Annex was provided by Chief of Main Statistical Office in Donetsk region: O.A. Zeleniy

PART III: KIEV WORKSHOP REPORT

Overview

The key task in the final phase of the project "Harmonisation of Environmental Expenditure Information Systems with Eurostat/OECD Standards: Republic of Kyrgyzstan and Ukraine" was the organisation of a Regional EECCA Workshop. This was held on 12 October 2005 at the Post-Graduate Institute of the National Taras Shevchenko University of Kyiv, Ukraine under the title *"Dissemination of Good Practices in Environmental Expenditure Accounting in EECCA countries"* (see Annex C1 for the agenda). It was chaired by Mr Oleg Mykolayovich Prokopenko (Director of Environmental and Agricultural Statistics Department of State Committee of Statistics of Ukraine) in the morning session and Mr Xavier Leflaive (OECD) in the afternoon session. The list of participants is given in Annex C1 and demonstrates comprehensive attendance from EAP Task Force member countries.

Introductions and background to the OECD/Eurostat programme of work on Environmental Expenditures Accounting, and to the challenges and potential benefits for EECCA countries were first presented by OECD representatives. This was followed by presentations on the processes and outcomes from the most recent country-specific applications of the accounting methodology in Ukraine and Kyrgyz Republic the respective consultancy teams.

The afternoon session included interesting presentations from representatives of countries in transition with longer experience with introducing OECD/Eurostat methodology, namely Georgia, Russia and Poland.

Main Findings

Key messages coming from both the countries with most recent projects and those with longer experience were as follows:

1. The importance of improving application at the business level. This includes issues of coverage (ensuring business registers are comprehensive and up to date), differences in accounting practices between enterprises and monitoring quality of data. The Georgian presentation provided an example of poor communication between the business and state sector. There is also a potential difficulty between commercial confidentiality and survey requirements.

2. Ensuring good communication and common understanding between relevant state structures (Ministries of Environment, Statistical Committees and Ministries of Finance).

3. The importance of exploiting and building upon existing systems of data gathering. The future viability of the new reporting requirements will depend – initially at least – on there not being a major increase in public resource requirements

4. Practical difficulties with applying specific aspects of the methodology. In particular, the issues of distinguishing between 'end of pipe' and 'process integrated' technologies, identifying sources of finance and separating sanitation and water supply expenditure.

5. Challenges in improving reporting of public sector expenditures. Unlike business sector, public sector finances have not in general been reported in a detailed or consistent way in EECCA countries.

6. Challenges in introducing collection of household sector expenditures, which neither the Ukraine or Kyrgyz Republic projects were able to undertake in their recent projects. The Polish presentation provided details of progress in this area over the last five years.

7. A widespread lack of understanding as to the use to which the data being gathered will be put. At a minimum, administrators should be provided with further information as to the purpose of the survey, as part of any training they receive in implementing it. Related to this, adequate resources should be available to support effective implementation of the survey.

8. Recognition of the new reporting requirements being part of a process towards improved information provision and public policy formulation. The current OECD survey forms should not be seen as an ideal; rather, the data they collect represents a level of data provision felt to be adequate to inform present policy priorities. However, changing priorities and improved data availability will allow further evolution of the forms. Conversely, the data requested in the forms should not be seen as imperative to collect; rather, they should be used as a guide, or target, in developing countries' data gathering and management systems.

The workshop concluded with a presentation by OECD representatives on the Report on Environmental Financing Trends in EECCA countries, its objectives, findings and timetable for the next report in 2007.

ANNEX C1: WORKSHOP AGENDA AND PARTICIPANT LIST

Workshop on
"Dissemination of Good Practices in Environmental Expenditure Accounting in EECCA countries"
Kiev, Ukraine
12 October 2005
Post-Graduate Institute "Instytut Pisliadyplomnoi Osvity"
Kyiv, 36 Vasylkivska Street.

Purpose

The OECD, in conjunction with Eurostat, has promoted the adoption of a common framework for environmental expenditure accounting in a number of EECCA countries that will facilitate harmonisation of methodologies, comparison of resulting data, and support sound environmental policies.

The workshop will explore:

- The extent to which EECCA countries have adopted OECD/Eurostat environmental accounting frameworks;
- Remaining country-specific differences and the reasons for these differences;
- Benefits and problems in the adoption of a common environmental accounting framework.

It will be an opportunity:

- To present the key features of the common methodology to countries which are not yet familiar with it;
- To reiterate the benefits of such a common approach, in particular to design, implement, and monitor sound environmental policies;
- To examine practical measures that have been taken in some EECCA countries to establish an effective framework for collecting environmental expenditure data.

It will rely primarily on experience:

- From countries which have established mechanimsms for the collection of environmental expenditure data using the common methodology;
- From countries which have already been through the process, and which have experienced the benefits of the methodology and the challenges related to its recurrent implementation.

Organisation

The workshop will last one full day.

Delegates are welcome to attend a reception on the evening of 12 October.

Agenda

Session 1: Setting the scene – Overview of OECD/Eurostat Environmental Expenditures Accounting methodology This session will provide introductions and background to the OECD/Eurostat programme of work on Environmental Expenditures Accounting, and to the challenges and potential benefits for EECCA countries		
08.45	Arrival and Coffee	
09.00	Welcome and introductions	Ukranian Ministry of National Nature Resource Protection, and National Bureau of Statistics
09.15	Objectives of the workshop	Metroeconomica
09.30	The joint OECD/Eurostat methodology: principles, definitions, tools (questionnaire)	OECD
10.00	Challenges and benefits for transition economies; support from OECD and donor countries	OECD
10.30	Questions and answers	
11.00	Coffee	
Session 2: EECCA Country Experience: New Projects This session will provide the opportunity to discuss the processes and outcomes that have arisen from the country-specific applications of the OECD/Eurostat accounting methodology in the most recent EECCA country applications		
11.15	The Ukraine experience • Reasons for initiative • Project structure • Issues arising & solutions • Results & further work	Metroeconomica and country consultants
11.45	The Kyrgyz experience • Reasons for initiative • Project structure • Issues arising & solutions • Results & further work	Metroeconomica and country consultants
12.15	Discussion on Ukranian & Kyrgyz experiences Next steps	
12.45	Lunch	
Session 3: Lessons learnt from previous experience in transition countries This session will provide the opportunity to discuss the lessons learnt from countries in transition which have longer experienced with the OECD/Eurostat methodology		
14.30	The Georgia experience • Reasons for initiative • Results • Lessons learnt • Current work	
14.50	The Russian experience • Reasons for initiative • Results • Lessons learnt Current work	
15.10	The experience in accession countries (Poland) • Reasons for initiative • Results • Lessons learnt • Current work	
15.30	Discussion: Conditions for sustainable implementation of the methodology	
16.00	Coffee	
Session 4: Using the New Accounts Investigating current uses of the Environmental Protection Expenditure framework in policy applications: other European experience		
16.15	Use of Environmental Expenditure data in reporting progress in relation to the Environment for Europe process (Trends report)	OECD
16.45	Discussion	
17.00	End	

Workshop on "Dissemination of Good Practices in Environmental Expenditure Accounting in EECCA countries"
Kyiv, Ukraine, 12 October 2005

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Environmental Finance

Monitoring Environmental Expenditure in Eastern Europe, Caucasus and Central Asia

Implementing the OECD/Eurostat Standards in the Kyrgyz Republic and Ukraine

The countries of Eastern Europe, Caucasus and Central Asia (EECCA) are strengthening how they monitor environmental expenditure in order to ensure that funds are used as cost-effectively as possible.

This study presents the experience of the Kyrgyz Republic and Ukraine in reforming their environmental expenditure data collection systems. It provides insights into the challenges and potential benefits of implementing internationally-recognised classifications and methododologies when collecting such data.

It is part of a wider series of reports on environmental finance in EECCA countries that provide advice to governments on policies for harnessing innovative sources of finance and for better managing existing resources.

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