

**REFORMING ENVIRONMENTAL POLICIES
AND INSTITUTIONS IN EASTERN EUROPE,
CAUCASUS AND CENTRAL ASIA:
HIGHLIGHTS OF THE MAIN ACTIVITIES
IMPLEMENTED BY THE EAP TASK FORCE,
2000-2003**

This document presents short summaries highlighting the main findings from reports produced by the OECD/EAP Task Force secretariat. The reports address reform of the environmental policies and institutions in the countries of Eastern Europe, Caucasus and Central Asia (EECCA). The highlights are presented under the three main areas of work: reform of the urban water supply and sanitation sector; environmental finance; and environmental policy reform. Further information about these reports and the activities of the EAP Task Force can be obtained from:

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**I. SUPPORTING REFORM OF THE URBAN WATER SECTOR
IN EECCA**

1. URBAN WATER REFORM IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA - PROGRESS SINCE THE ALMATY MINISTERIAL CONFERENCE

At their meeting in Almaty in October 2000, EECCA Ministers of Environment, Finance and Economics, Ministers and senior representatives from several OECD countries, as well as senior officials from International Financial Institutions, International Organisations, non-governmental organisations, and the private sector recognised the critical condition of the urban water supply and sanitation sector in EECCA and endorsed “Guiding Principles for the Reform of the Urban Water Supply and Sanitation Sector in the NIS”. Participants requested that the EAP Task Force prepare a progress report for review at the next “Environment for Europe” Ministerial Conference, in Kiev, May 2003. The present report aims at responding to this request. The report provides a detailed description of the situation and main trends in the EECCA urban water sector. In doing so, it identifies the main trends in the reform process, establishes a detailed set of indicators, and a data base-line against which further progress can be measured at a follow-up conference of stakeholders in 2005.

The municipal water sector reform process in the EECCA region started in the late 1990s. The first steps were the decentralization of the water sector and transformation of water utilities into communal enterprises. These actions were taken without appropriate tariff and institutional reforms in place. The old concept of water as a purely a social service was abolished, and the municipal water industry was expected to be a key player in the transition process to a market economy. At the same time, governments phased out direct subsidies to water utilities, which became self-financed companies. This “shock-therapy” reform appears to have largely failed, and more reforms are now urgently needed.

While the level of connection to water supply and sanitation remains high in most EECCA countries, the actual quality of service provided is continuing to deteriorate, and so is the condition of infrastructure in general. Accident rates in the distribution network are increasing in many places, while continuity of service is decreasing (Figure 2.6) and quality of drinking water remains low.

The deterioration of water quality that goes along with an infrastructure that is slowly falling apart is resulting in levels of water borne diseases at significantly higher levels than in the EU. In some countries, essentially in Central Asia more than one-third of the population is using drinking water that does not meet hygiene standards, and in some sub-regions this proportion can exceed 50 per cent. Pathogenic micro-organisms remain the most important danger to drinking water in the region, with gastro-intestinal diseases an important cause of child morbidity and mortality in some countries. This is causing significant costs to public health systems and the economy. In Moldova, for instance, the National Environmental Action Plan (NEAP) calculated the social and economic impact of water pollution and reached the conclusion that polluted drinking water leads to between 950 to 1850 premature deaths annually, as well as between 2 to 4 million days of illness annually. The monetary cost to the economy was assessed to be as high as 5 to 10% of GDP.

The deterioration of water services and associated impacts on public health and the environment are likely to accelerate in the future if the status quo prevails given that the deterioration of the infrastructure is expected to follow a curved slope, falling more at later stages. This means that the situation could change quite dramatically in a very short time, and should be borne in mind when judging the figures that are provided in this report.

EECCA countries have been slow to react to this alarming situation, with little progress being achieved in the area of legal and institutional reforms. The governance frameworks for the water sector remain often too complex and sometimes incoherent, hampering decision making in the sector. Very little progress has been achieved in establishing institutional frameworks that allow water utilities to operate as commercial entities. Weak institutional frameworks together with an unfavourable investment climate in most EECCA have been responsible for making the water sector largely unattractive for private sector finance. The lack of reliable sector information further complicates decision making, and several countries have started to introduce measures to improve their information systems recently.

A similarly alarming, and obviously tightly correlated situation, exists in the economic and financial area. EECCA countries generally recognise the need to recover a more significant portion of utility costs from consumers, which are currently equal to or lower than 60% of operational and maintenance costs in most countries. As a consequence many governments have adopted policy targets to achieve cost recovery by the middle of the decade. This will need to be achieved through the reduction of operational costs and, where this is not enough, through increases of water tariffs. The implementation is progressing very slowly, however. This leaves water utilities in a situation where their revenues do not allow them to carry out proper maintenance; sometimes their revenues are even insufficient to cover operational expenses. The gap between operational costs and utility revenues per m³ of water sold for a sample of 100 utilities in the Russian Federation is as high as 30%. The non-payment problem, which is widespread, and the high level of operational costs, which often can only be reduced through investment, further exacerbates these problems. As a consequence, domestic sector investment has been insignificant over a very long period of time. ODA in the water sector is unable to compensate for the absence of domestic finance, both because investment needs are much larger than what ODA can provide, but also because of serious obstacles that are preventing more ODA finance from flowing into the EECCA water sector.

While the need to move towards the user-pays-principle is widely recognised in the region, this is already generating and will continue to generate serious social problems. There is evidence that a large portion of the population already pays a significant share of revenues for water services. If water tariffs increase to recover a greater share of utility costs, the number of those who have difficulty in paying their water bills is likely to increase dramatically. In the case of Khmelnytsky in the Ukraine, a 50% increase in water tariffs would result in more than 40% of households having to spend more than 4% of their total expenses on water¹. In order to prevent sector reform from negatively affecting the poor, and to make reform socially acceptable it is therefore of utmost importance that social protection systems be put in place and reinforced where they exist already, in parallel with the introduction of economic and institutional reforms. This will put additional demands on public budgets at all levels of government, and should be factored into any reform strategy for the sector.

It should be noted that all these problems are exacerbated in small and medium sized cities and towns. Data shows that the deterioration of water infrastructure is most advanced in these types of settlements. At the same time small and medium sized cities also face the toughest financial and economic problems. For instance, in small towns unit operational costs can be up to twice as high as in large cities, and the non-payment problem being far more serious, too. Due to higher operational costs and lower average household income in small and medium sized cities, the social aspects of water sector reform are also expected to represent a far more serious challenge.

¹ This is the rule of thumb benchmark that is frequently considered by donors and IFIs as the maximum acceptable level of household spending on water.

2. KEY ISSUES OF TARIFF REFORM IN THE WATER SECTOR IN THE EECCA

The document is a joint product of about 20 experts from the EECCA region, Chile, USA, and UK. It presents issues of tariff reform in EECCA and proposes a roadmap for the improvement and reform of the tariff process and tariff approval systems in EECCA. The report targets policy and decision-makers who need to develop a strategy for the water sector at the national and municipal levels, develop tariff systems for water services, optimise water investment programmes, attract funding for infrastructure development, and consider social objectives and specifics of the water sector.

EECCA governments recognize the challenge to reform the water sector. However, lack of professional expertise, a tendency for short-term solutions vs. the comprehensive municipal water reform, and the absence of funds prevent an expedient implementation of reforms. It becomes clear that water tariff reform is a necessary step in the transition to a market economy. The result of this reform is long-term sustainable development of water utilities based on demand for services and proper financing of all utility costs. Water tariff reform is a very complex process and cannot be resolved in a 'one-shot' intervention. It implies substantial changes not only in tariff formulas and levels, but also in water regulation, business environment, financial management approaches, subsidies and public relations. At the same time, it requires taking into account commercial orientation, transparent accounting, long-term investment programmes, and social and equity aspects. Water tariff reform also requires political will, long-term vision of sector development, and a lot of patience.

The first chapter describes the general mechanisms and principles underlying the urban water sector, including the monopolistic structure of the service, incentives behind consumers and providers, and interests of the government in provision of water services. The second chapter establishes general principles of tariff reform that follow the Almaty Guiding Principles bearing in mind the reality of the water sector in EECCA. This is followed by extensive analysis of the current situation with the municipal water services in EECCA. It creates the foundation for the last chapter that provides a checklist of the options that have to be considered during the implementation of the water tariff reform considering the historical background and specific conditions in EECCA. The document is relevant for all EECCA countries regardless of their water reform status.

Tariff regulation includes regulation of costs, the tariff setting process, and final tariffs. Traditionally municipal water utilities are operated as local natural monopolies, due to vast economies of scale that can be realised compared with a competitive situation. Regulation of the natural monopoly is intended to reduce the price of the good for the final consumer, while controlling its quality through administrative and financial incentives. Revenue from customers is usually the only source of funding for the water utility operation. A fair, efficient and simple system of tariff regulation for consumers is a necessary part of reform.

Principles of the tariff reform include economic efficiency, cost-recovery, fairness, financial stability, resource conservation and social orientation. However, it is necessary to state that the water utility is not a social agency and economic incentives cannot be diluted by unfunded mandates: tariffs and the tariff system have to help water utilities become free from non-financed social, environmental and public obligations. The tariff setting process has to avoid unnecessary complexity and be transparent and predictable for utilities, water users and decision-makers.

Each EECCA needs to make a strategic choice between establishing a regulatory agency (with powers over water utilities) or leaving the management and regulation of them to municipal authorities. Also, a choice between two cost formulas has to be operated: *cost-plus* and *price-cap*. The cost-plus formula puts incentives on the expansion of the water services, however, does not prevent from overspending and extensive development. The price-cap formula creates incentives on cost-reduction and increased efficiency, but also has some draw-backs that have to be carefully assessed by the sector authorities.

The water authorities need to find a balance between normative charges (based on the properties of consumer such as number of apartment residents, type of connection, level of service or altogether), and charges based on actual consumption of water services. Normative charges dominate in EECCA and the switch to metered billing is slow. However, clear and exact water metering benefits the sector and society. It increases the transparency of billing and thereby protects customers against abuse of power by the utility monopoly, and it protects the environment by providing incentives for a more efficient use of the resource. Reducing demand also helps to contain investment needs for reconstruction and expansion of facilities. It is also important to remember that the most advanced tariff formulas and subsidy schemes rely on metered consumption.

However, metering has a cost, and it therefore needs to be carefully examined whether the expected benefits from metering exceed these costs. In some cases it might well be more economical to rely on proxies for the estimation of consumption (e.g., such as in the UK, the level of property tax). Another potential drawback from the introduction of metering is that it can threaten the financial balance of the utility in the short run, due to the steep decrease of consumption and thereby of revenues that it can entail.

If the tariff increase is inevitable (as it is in practically all EECCA), the government needs to consider a way to protect the welfare of the most vulnerable members of society, in order to ensure that the tariff reforms are socially acceptable. At the same time the regulator needs to ensure that tariff increases are grounded in sound analysis of costs, and do not lead to the appropriation of rents by the monopolist. Similarly, the quality of water services needs to be regulated, namely using monitorable performance targets. In addition to these points, the utility needs to communicate with customers, and provide and publish information on development plans that may affect consumers.

3. KEY ISSUES AND RECOMMENDATIONS FOR CONSUMER PROTECTION: AFFORDABILITY, SOCIAL PROTECTION AND PUBLIC PARTICIPATION IN URBAN WATER SECTOR REFORM IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

This report analyses some social issues that arise when the price for water supply and wastewater services in EECCA countries is increased. It provides national and local decision-makers in EECCA with practical recommendations to address these problems.

Water charges represent a relatively small share of household expenditure. Water services in EECCA countries were traditionally considered as social services and were provided at very low prices, and, hence, represented a relatively small share of household expenditure. However, ensuring the financial sustainability of utilities requires increasing prices, sometimes significantly. This is difficult, especially in a situation of deteriorating service quality. The situation in many countries is aggravated by low income levels, widespread poverty and growing disparities in income distribution, which reduce the ability of the population in general, and of specific groups in particular, to pay for these vital services. The report presents and evaluates different methodologies to identify the socially acceptable level of water charges and provides recommendations on how and when they should be used.

One methodology is to measure *willingness to pay* (WTP) of water consumers. Studies suggest that most consumers would be willing to pay higher charges for better quality, more reliable water services. For instance, WTP studies carried out in Lutsk (Ukraine) showed that 22% of households would be prepared to accept a 10% tariff increase. While this methodology is an effective means to identify what tariff level is socially acceptable, it is also time and resource intensive, which limits its applicability to large investment projects.

Another methodology is to assess the *economic ability of households to pay for water services*. It involves estimating average household water and wastewater costs as a proportion of average household aggregate incomes or expenditures. The highest levels are reported for Moldova and Ukraine – 4.48% and 3.07% of household expenses for water respectively. International Financial Institutions often use 3-5% as a benchmark of affordability. However, macro affordability figures should be treated with caution, as they ignore potentially important impacts on various income groups, and do not take account of differences in the local costs of services or the proportion of these costs covered by tariffs. For example, in Armenia and the Kyrgyz Republic, the levels of cost recovery are 20% and 48% respectively, and the average water charges burden is 2.75% and 2.22%. However, at current prices, 18.5% and 9.7% of households already pay more than 4% of their total expenses for water and sanitation services and the situation will worsen substantially if tariffs were to increase. In order to get a better picture of the affordability problem, the report recommends *micro-affordability analysis*, which complements macro-affordability analysis by examining impacts on specific groups of consumers. It is also recommended that affordability analysis becomes an integral part of any major tariff reform.

As part of tariff reform, Governments in EECCA countries may need to develop more targeted approaches for ensuring that poor households have access to water services. Currently EECCA countries are using a wide array of social protection measures including cross subsidies between industrial and household consumers; cheap water tariffs for certain social and professional categories (privileges); housing subsidies for low income households; or debt forgiveness. The problem with

many of these measures in EECCA is that they are frequently not well targeted to those in need, and are insufficient to cover needs.

In order to help EECCA governments to improve and adjust their social protection systems the report proposes *a set of principles* to ensure adequate access to water services for poorer parts of the population and analyses existing EECCA social protection mechanisms in this light. The principles include: equal access to services; targeting and effectiveness of social assistance programmes; administrative simplicity and financial realism; water saving incentives and preventing market distortions. *Support measures* fall into two basic categories: measures to reduce the tariffs paid by low-income households (e.g. through general subsidies, cross-subsidisation or tariff rebates) and measures to increase incomes of low-income households (e.g. housing or poverty subsidies).

Some EECCA countries have begun to address these issues. Armenia, Uzbekistan and more recently Ukraine and Kazakhstan have launched programmes to provide means-tested *income support for families*. These programmes aim to ensure a basic income level, but do not target water or other communal services specifically. Such poverty reduction programmes are a more effective alternative to housing subsidies when the water bill is not significant in household expenses, but they might prove insufficient in the event of major tariff increases, requiring “water specific” support mechanisms to be put in place.

Main Consumer Rights and Framework for Public Participation

Relations between households and water utilities are marked by a deep lack of confidence. EECCA governments need to ensure the protection of consumer rights and promote public participation in the reform of the urban water sector in order to achieve *two main objectives*: to ensure public and political support for the proposed reform (including price increase), and to protect broad public interests from arbitrary decisions and abuse of monopoly powers of water utilities, in the frame of a broader regulatory reform.

Main rights of the consumers as identified by the UN Guidelines for Consumer Protection include the protection of consumers from hazards to their health and safety; the promotion and protection of the economic interests of consumers; access of consumers to adequate information; consumer education; availability of effective consumer redress; freedom to form consumer groups and the opportunity of such organisations to present their views in decision-making processes; the promotion of sustainable consumption patterns. The UN Guidelines should be used during urban water sector reform in EECCA countries: they should be introduced into national legislation, and reflected in transparent and predictable state policy in this sector.

The Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to justice in Environmental Matters provides a framework that can be used to promote public participation in the urban water sector reforms, including the following main forms:

Information: should be provided to consumer on issues such as major sector reforms, investment projects and performance of water services. Information should also be sought from consumers so as to determine their opinions and preferences. This could be complemented by *public awareness campaigns and educational programmes*.

Public participation in the decision-making in the water supply and sanitation sector: This should be developed on the basis of three main *principles*: *clear focus*; *representation and participation*; and *transparency*. The main tools are *public consultations and hearings* which should be stipulated by law,

and *administrative mechanisms* such as existing or specially established working groups, commissions and councils.

Access to justice: Unclear contractual relations between households and water utilities hinder effective prevention and resolution of conflicts between them. Typically, the final consumer does not have *direct contractual relations* with the water utility. To overcome these problems it is proposed to promote the development of direct contractual relationships between utilities and users, or, where this is not possible, to support the development of *associations of house residents and condominiums*. It is also recommended to develop alternatives to conflict resolution through the court system, since courts are often too slow and costly for typical conflict between utilities and consumers in the water sector.

Civil society organisations, including public associations, non-governmental organisations, associations of housing owners and consumer groups can play an active role in protecting consumer rights and facilitating public participation in the sector reform. Their activities should be acknowledged and supported.

4. PERFORMANCE OF WATER UTILITIES IN EECCA (SYNTHESIS REPORT)

This report consolidates work on water utility performance indicators that has been carried out in three countries of Eastern Europe, Caucasus and Central Asia (EECCA), Moldova, Russia and Ukraine, in the course of 2001 and 2002. It is based on the application of a World Bank methodology that comprises 27 utility performance indicators, covering physical and financial aspects, augmented by a few EECCA-specific indicators. The work covered more than 200 utilities, and involved the training of about 400 utility staff in the usage of the indicators methodology². The main findings are briefly presented in this executive summary.

While the coverage with water supply services remains stable at a high level in Russia, Moldova and Ukraine, the quality of water services appears to be deteriorating at an accelerating rate. Frequent and prolonged interruption of water supply (sometimes for more than 18 hours per day) is now becoming widespread in small utilities in all three countries, and usual for medium and large cities in Ukraine.

The deterioration of service quality has resulted in an increasing deterioration of the physical condition of water infrastructure. For instance, the accident rate in the three countries exceeds western European standards by 5-10 times, and physical losses of water are 10-30 times higher than in the West.

While EECCA officials and experts is generally agree that it is the dismal financial situation of utilities that is the main cause for the critical situation of water infrastructure, financial performance indicators tend to show that there has been little or no progress in tackling this issue, indicating the tremendous political obstacles to these reforms. Tariffs are growing, but rarely at rates above inflation of production costs, which signifies that cost recovery levels remain largely insufficient, although with the exception of Moldova, where the gap between costs and revenues has been narrowing. At the same time tariffs for industries are 5-10 times higher than for residential consumers, which causes many industries to resort to alternative ways of covering their water needs, and reduced utility revenue. The governments and municipalities are trying to reduce the tariff disparities, however, at a very slow pace.

A widespread non-payment problem further exacerbates the financial problems of the water sector. In Ukraine and Moldova, the tariff collection period exceeds one year on average and has a tendency to further increase. In the Russian Federation this indicator is more favourable, even though at high levels when compared to western standards with an average approaching 4 months (1-2 months is considered reasonable in the OECD). In Moldova this situation can be explained by the very high tariffs (up to US\$0.60 per cubic meter in some locations), and a lack of ability-to-pay in the population. In Ukraine tariffs are quite low for the residential consumers, and poor collection is possibly due to a lack of enforcement.

² While it is recognised that the data collection methodology that was used, based upon voluntary reporting from utilities involving no systematic checking of the accuracy of data, may not be fully accurate, it is nevertheless believed that the picture of the water sector roughly corresponds to the reality. The data that utilities provided are the same as those submitted to tax and municipal authorities, and punctual checks confirmed the accuracy of the figures provided. It is believed that the data reflect the situation that can be obtained by relying on existing information systems in utilities. Alternative approaches, involving systematic data collection through dedicated information systems, would by far have exceeded the amount of resources and time available for the implementation of this project.

Investment in water and wastewater systems is absolutely inadequate compared to the needs of the sector. Almost 70% of the utilities in the region operated no capital investment at all during the last five years, and very few of them had more than US\$10 per resident a year. This compares to annual investment rates per capita of around US\$40 per capita in the Baltic countries. Hence, low investment levels pose a serious problem for the future of the water systems, as most of them were constructed in the period between 1950 and 1970, and would need replacement very soon.

Finally, utility management did not change much during the last five years in all three countries of the region. Labour per thousand connections and share of labour cost are stable, which indicates that utility management is not resorting to outsourcing to improve efficiency. The share of labour cost is below the international level reflecting low salaries in the sector. However, the number of staff per 1,000 connections is three times the western average and has a tendency to further increase.

II. STRENGTHENING ENVIRONMENTAL FINANCE IN THE EECCA

5. TRENDS IN ENVIRONMENTAL EXPENDITURE AND INTERNATIONAL COMMITMENTS FOR THE ENVIRONMENT IN EECCA 1996 - 2001

With the assistance of the OECD EAP Task Force Secretariat, most EECCA countries have for the first time collected historical environmental expenditure data using an internationally-recognized methodology..

The *absolute size* of the environmental market in the EECCA region is still very small. The reported *total absolute volume of environmentally-related expenditures* in the EECCA countries was €5.7 billion in the year 2000 (or the latest for which data was available). The largest volume of environmental expenditure in the region is reported by the Russian Federation (about €4.5 billion in 2000), followed by Ukraine (€617 million in 2000) and Kazakhstan (€455million in 2000). In other EECCA countries, the overall size of the environmental market is very small by international standards, ranging from €7 to 49 million per year.

Many EECCA countries (in particular Moldova, Kazakhstan, Ukraine, Georgia and the Russian Federation) seem to devote a significant *share of their income to environmentally-related expenditure* (e.g. up to 2.4% in Moldova). This is not much less than in the EU accession countries with the highest environmental expenditures, and equivalent to many EU member states. Thus, it seems that at least some EECCA countries are more committed to improving environmental and water supply quality than is commonly thought. This suggests that it is the low ability to pay due to low income, rather than the lack of willingness to pay, that is the main obstacle to higher levels of domestic, environmentally-related expenditure in these countries. There is, however, a group of countries that assign a very low priority to environment in their domestic spending priorities to levels well below 1% of GDP (e.g. Azerbaijan, the Kyrgyz Republic, Turkmenistan and Armenia).

Capital investments in the EECCA countries account only for 26% of total environmentally-related expenditure, compared with 43% in accession countries. The aggregated volume of environmental investment expenditure in the EECCA countries is three times smaller than in the EU accession countries (€1.3-1.7 billion and €4 billion, respectively), despite a population in EECCA countries that is three times larger than in accession countries . Most resources seem to be spent on operation and ad hoc repairs of inefficiently designed infrastructure in order to prevent major disasters, rather than on strategic capital improvement.

In the EECCA countries, *environmentally-related investments contribute to between 0.1% and 3% of total capital investments in the economy*. In some countries, such as Moldova and Azerbaijan, environment is a low priority in domestic investments. In countries like Russia, Georgia, Ukraine, Armenia, environmental investments account for 2-3% of total capital investments in the economy.

As in most countries, domestic, rather than international, sources generally account for the largest share of total environmental expenditure in EECCA. In 1996-2001, domestic sources accounted for almost 90% of total environmental expenditure in Kazakhstan and Moldova, 90% in Ukraine, 93% in Turkmenistan and 97% in Russia. Domestic sources accounted for 50% or less of total environmental

expenditure in only three countries: the Kyrgyz Republic (28%) and Armenia (33%) and Georgia (38%).

Despite discontinuities, *the time trends* of environmentally-related expenditure in EECCA show that in the period 1996-2001, they have risen in some countries (Armenia, Kazakhstan and the Kyrgyz Republic) and declined in others (Azerbaijan, Russia, Ukraine and Uzbekistan).

In most countries, water supply and sanitation accounts for the largest share of environmentally-related expenditure - typically 50-85%. Air accounts for the second largest share - typically 11-17%. Kazakhstan appears to be an exception as air-related expenditure accounts for 64% of the total. However, it is uncertain whether some countries have reported water supply expenditure.

It seems unlikely that the EECCA countries will be able to rehabilitate and maintain environmentally-related infrastructure, or to achieve the Millennium Development Goals, without increased levels of environmental assistance. In 2000, environmentally-related assistance accounted for 6% of total assistance flows to EECCA, an increase from 2.8% in 1996. These proportions are very small compared to many other regions - e.g. 21% in the EU accession countries and up to 15% on average of global assistance to all regions. This suggests that there may be scope to further increase environmental assistance, even within existing budgets. However, EECCA countries could facilitate the benefits of international partnerships and further attract international environmental assistance flows by assigning a higher priority to environment in foreign co-operation programs. For example Kazakhstan is the only EECCA country to have prioritized environment within the EC/TACIS program.

Commitments of environmental assistance from donors to the EECCA countries have increased in absolute terms and as a share of total ODA/OA in the period 1996-2001.

In the period 1996-2001, the total bilateral environmental assistance to the EECCA countries amounted to €0.8 billion, compared with about €2.5 billion to the EU accession countries in the same period, where it was boosted in 2000 and 2001 with the EU pre-accession financial instruments to support investments. The European Commission and the United States were the major sources of environmentally-related assistance to EECCA in the period 1996-2001, each accounting for about 17.7% of total environmental commitments, followed by Denmark and Germany.

Russia and Ukraine have been the largest recipients of environmentally-related assistance, together accounting for more than two thirds of the total commitments. Over 1996-2001, Russia received €360 million, and Ukraine, €119 million. Uzbekistan, Kazakhstan, Georgia, Azerbaijan and Armenia each received between €31-43 million in the same period. Belarus, Turkmenistan and Tajikistan have been the least successful in attracting donor assistance to the environmental sector. However, on a per capita basis, the Caucasus countries (Armenia, Georgia and Azerbaijan) received the highest levels of external support, respectively €1.6, €1.3 and €0.7 on average. Belarus and Turkmenistan received the least on a per capita basis: €0.1 and €0.04, respectively on average.

Loans committed for environmentally-related purposes from International Financial Institutions increased from 1996 to 1998, collapsed after the 1998 financial crisis in Russia and has been slowly recovering afterwards. The overall volume of lending commitments in 2001 (€261 million) was still less than 70% of the peak level of commitments in 1998 (€375 million). Russia, Ukraine and Kazakhstan accounted for more than two-thirds of environmentally-related loans.

Private sector flows, in the form of foreign direct investment (FDI), are low compared to other regions. It is, however, not possible to distinguish environmentally-related FDI from the overall FDI flows, or to evaluate the environmental impact of FDI in EECCA countries.

Time series data for the period 1996-2001 were provided by all countries except Belarus and Tajikistan. For Georgia survey data are available for the point year only, as the environmental expenditure data collection system was only recently re-established with assistance of the OECD EAP Task Force. Data collection revealed important methodological, accounting and definitional differences that often make it difficult to interpret figures, develop continuous time trends and conduct cross-country comparisons. This experience underlines the need for reform of environmental expenditure data collection systems in the EECCA countries in line with internationally-recognized standards, such as those of OECD and Eurostat.

6. FINANCING ENVIRONMENTAL PROTECTION IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA (EECCA): BACKGROUND REPORT

This report, prepared as an input to the elaboration of the EECCA Strategy, synthesises work on environmental finance carried out by the OECD/EAP Task Force in conjunction with a Network of representatives from EECCA countries; the representatives were drawn from Environment, Economics and Finance Ministries. The report is organised around some of the main recommendations arising from this work:

Improve the data and information base for effective environmental financing

Policy makers in EECCA countries lack information of environmental expenditure trends and sources. Unless this information is collected on a more systematic basis, EECCA policy makers will find it difficult to develop realistic environmental financial plans. The introduction of internationally-recognised methodologies, such as those used by Eurostat and OECD, is recommended. Reference is made to a demonstration project illustrating how such methodologies have now been institutionalised in Georgia.

Develop high- quality and realistic environmental programs and associated financial plans.

Most environmental programmes in EECCA countries lack: operational objectives; clear priorities; cost-effectiveness analysis; implementation instruments; and realistic financial plans. Often government develop programs that involve investments by private sector and municipalities without providing effective incentives for economic actors to undertake these investments. Affordability constraints, both at a household and national level, are not analysed and mitigated. Scarce public funds are spread too thinly among too many programs and projects. Thus programs are typically under-funded and not implemented. Responding to these problems an environmental finance strategy model–FEASIBLE – has been developed by the OECD/EAP Task Force secretariat and the Danish EPA. The model has been applied in a number of EECCA countries, mostly in the water supply and sanitation sector, but also to solid waste management. The results obtained to date demonstrate that application of such approaches can help identify more realistic, affordable and cost-effective solutions to environmental problems.

Use Public Financial Resources for Environmental Purposes More Efficiently.

Public agencies managing environmental expenditure in EECCA countries might improve their effectiveness in attracting government resources and foreign finance if they operated according to acknowledged standards of good governance and sound public finance. Good Practices of Public Environmental Expenditure Management, developed within the OECD/EAP Task Force framework, could be used as a framework for reforming institutional arrangements for managing public environmental expenditures in three dimensions: environmental effectiveness, fiscal prudence and management efficiency. These reforms are urgently needed in particular for Environmental Funds because of their visibility in policy debates. But experience clearly shows that, except in Ukraine and Moldova, earmarked environmental funds are neither significant nor necessary elements in environmental finance systems.

Mobilise new resources for public environmental services and infrastructure.

The current system of environmental charges in EECCA countries are not effective for raising revenues or discouraging pollution. A number of steps could be taken to make the charge system more effective from a revenue-raising perspective: eliminating charges that generate negligible

revenue; implementing credible but simple systems of billing and collection; eliminating off-sets and other non-monetary transactions; indexing charges to inflation; and reducing the discretion of the authorities in determining charge rates and bases. Following these reforms, the charge rates for carefully selected pollutants could be gradually increased towards efficient levels in order to meet the revenue targets. Other mechanisms for raising additional revenues of environmental purposes include: fiscal instruments to capture rents (excess profits) that private agents earn on exploiting natural resources; carefully selected new environmentally motivated taxes that would finance the general budget. Such taxes, typically levied on products rather than emissions, may be introduced in a budget neutral way by reducing other taxes/charges; creating markets for environmental goods and services.

Strengthening municipal finance and financial sustainability of environmentally related utilities

Responsibility for environmental infrastructure and municipal services has been transferred to cities, towns or regional authorities and are delivered mostly through local enterprises. However, current legislation in EECCA leaves lower level budgets with little autonomy to determine and execute local budgets. There is an urgent need to rationalise decentralisation and improve fiscal relations between governments at different levels. This should encourage municipalities to strengthen their financial management and capital budgeting, e.g. through preparation and implementation of multiyear investment plans for municipal infrastructure and related creditworthiness enhancement programmes. This would increase the capacity of municipalities to implement and finance investments by strengthening their borrowing capacity and, more generally, providing better access to financial and capital markets. By borrowing directly, and not through the central government, local governments at regional or municipal levels can reduce the costs of and accelerate project development.

For local governments to achieve expenditure targets, in particular for infrastructure, will require increasing tariffs for water and other environmentally-related services, with the ultimate goal of full cost recovery, including capital replacement costs. A clear, transparent and predictable mechanism for tariff setting should be established, shielded from undue political interference. An intermediate goal could be to ensure that at least operation and maintenance costs are covered by tariffs. Measures may also be needed to ensure that the poor are not deprived of access to essential services. This implies the parallel development of more targeted assistance schemes for such groups.

Utilize opportunities of Debt for Environment Swaps

Foreign public debt service in many poorest indebted countries in the EECCA region accounts for large part of public spending, diverting resources away from social and environmental needs and encouraging unsustainable exploitation of natural resources to generate foreign exchange. Debt-for-nature/environment swaps are transactions that reduce a portion of external debt in exchange for the debtor country spending an agreed portion of the forgiven debt, under agreed conditions, on domestic environmental improvements in local currency. However, debt swaps should always be carefully designed; if not, they can affect the country credit rating and increase costs of sovereign borrowing. Inappropriate structure of transaction may also pre-empt future agreements on debt rescheduling or relief. Hence, such swaps are best considered back to back with an ongoing, wider debt-restructuring or debt relief scheme. The OECD/Task Force secretariat has supported Georgia to elaborate a debt for environment swap. Considerable additional analytical work and consultations would be needed for the initiative to succeed. Nevertheless work to date suggests that under the right conditions such initiatives are feasible. A regional initiative (e.g. linked to existing initiatives for debt relief to the poorest countries of former Soviet Union) could address some of the potentially adverse consequences of debt for environment swaps and take advantage of synergies between environmental and poverty-reduction goals.

Enhance the level and effectiveness of international co-operation

Although commitments of environmentally-related official assistance to EECCA countries have increased in recent years, overall levels of assistance remains low compared to other regions. Disbursement of IFI loans remains small compared to effort. Absorption capacity in EECCA countries remains limited. EECCA governments rarely identify environment as a priority in foreign co-operation programs making it difficult for most donor agencies to allocate funds for environmental assistance in their budgets. There is scope for refocusing assistance programs towards environment and improving the effectiveness and efficiency of co-operation without necessarily increasing total aid budgets. In this regard, donor and IFI assistance should better integrate policy and institutional reforms, capacity building, and investment support. Co-operation programs should evolve into more long term multiyear strategic partnerships rather than ad-hoc individual activities. Multilateral frameworks should be used more effectively to foster coherence and continuity among donor projects. More emphasis should be put on building local capacity of experts and consultants to provide policy advice and technical assistance according to high international standards.

7. FINANCING STRATEGIES FOR WATER AND ENVIRONMENTAL INFRASTRUCTURE

An important obstacle to achieving environmental goals in many countries has been the failure to adequately address the associated financial issues: the costs of achieving environmental goals; how those costs could be minimised; and the challenge of matching costs with available resources. This volume presents an approach for addressing these issues, particularly for investment-heavy environmental infrastructure, such as urban water supply, wastewater collection and treatment and municipal solid waste. Its main message is that a systematic modelling approach to investment and financial management can improve decision-making and ensure a better use of scarce resources. The main ideas underlying this approach are the importance of realism, affordability and cost-effective use of resources in achieving environmental goals.

A computerised decision support tool – FEASIBLE – was developed by OECD and Denmark to help develop financing strategies, mostly in the countries of Eastern Europe, Caucasus and Central Asia (EECCA), but also in EU accession countries and China. It currently may be applied in the water supply, waste water and solid waste management sectors, and the goal is to extend it to energy-related infrastructure. FEASIBLE is freely available and can be obtained through the web pages of OECD, the Danish Environmental Protection Agency and COWI, the Danish consulting firm that developed the model.

The basic approach underlying FEASIBLE is to take public policy targets in areas like water supply and sanitation, determine the costs and timetables of achieving them, and to compare the schedule of these expenditure needs with available sources of finance. This analysis generally reveals “finance gaps” during planned implementation. FEASIBLE can then develop various scenarios to determine how these gaps could be closed. This could be by: identifying policy reforms that could help achieve the targets at lower cost; identifying ways of mobilising additional finance; adjusting the ambition level of the targets; or extending the time period for achieving the targets.

An important feature of FEASIBLE is the emphasis on realism and affordability. The model can assess the levels of finance (public, private, domestic, foreign) that might be available under different macro-economic conditions. In this way it provides a check on what public budgets might realistically be expected to contribute. It can also help to assess the potential social implications of increasing tariffs by determining the impacts of such price increases on household income. By focussing on these issues, the application of FEASIBLE is more than a technical exercise: it also supports a process of dialogue and consensus building among the key stakeholders involved in financing environmentally-related infrastructure. In this way it can build a bridge between policy development and implementation.

The analyses prepared to date for EECCA countries have shown that the percentage of the urban population with access to water supply, wastewater treatment and solid waste management services is higher than in countries at a similar income level, but that these services are inefficiently designed and very costly to operate and maintain. At the same time, the existing arrangements for providing these services are financially unsustainable. Thus, in most EECCA countries there is a chronic shortage of funds for proper operation and maintenance of infrastructure, such as small repairs, replacement of worn-out parts, small capital repairs and essential rehabilitation. This has resulted in the rapid loss of the economic and technical value of assets. If corrective action is not taken, it may eventually lead to the physical collapse of the infrastructure, with severe consequences for human health, the environment and economic activity.

The grave situation in EECCA calls for a fundamental reform in the approach to financing environmentally-related infrastructure and the associated policy and institutional arrangements. Overly ambitious plans to extend the coverage and level of infrastructure services need to be replaced by more realistic, modest capital improvement programmes, tailored at providing essential repairs and rehabilitation of critical elements of infrastructure in order to maximise efficiency gains (mainly reduction of energy costs) within the limits of what households and public budgets can afford.

Even achieving these more modest objectives represents a major challenge for EECCA countries. *User charges* will be the most important long-term source of finance for operation and maintenance expenditure, though the low income in many EECCA countries represents an important affordability constraint. *Public budgets* will have an essential role in the short and medium term in financing rehabilitation and capital investments, in providing social protection and in facilitating access to credit. However, infrastructure programmes have to compete with other pressing social priorities. Thus, scarce *public funds and donor grants* need to be strategically prioritised; they will need to be increased in many EECCA if the Millennium Development Goals are to be achieved³. The importance of *domestic financial and capital markets* will grow over time. *International financial institutions (IFI)* will continue to have an important role in capital investments and promoting financial and management discipline. The role of the *private sector* will for many years be more important in providing managerial know-how than finance.

Even though the development of environmental financing strategies (EFS) has only been undertaken in the last few years, it has already triggered some significant policy changes in EECCA countries. *In Novgorod Oblast (Russia)*, the EFS for the water sector was officially adopted by Regional Government and used to identify a portfolio of projects co-financed by the Oblast and international donors. The municipal waste EFS for *the Novgorod and Yaroslavl Oblasts* led to a revision of the waste management plans that involved the identification of more cost-effective regional solutions. *In Moldova*, the EFS was adopted as an official policy document and supported a draft government resolution relaxing unrealistically stringent wastewater effluent standards. *In Kaliningrad (Russia)*, the EFS was used to identify a portfolio of projects co-financed by the Oblast and international donors. *In Ukraine*, the EFS was used to support a comprehensive water sector strategy. *In Pskov (Russia)*, the EFS stimulated a policy debate about infrastructure development targets that were revealed as being financially unsustainable and unrealistic. *In Georgia and Kazakhstan*, the EFS has provided a revealing “reality check” on possible co-financing arrangements with IFIs and donors.

The experience accumulated to date suggests that the environmental financing strategy methodology can be useful tool for governments in developing realistic plans to achieve nationally or internationally agreed targets. The underlying assumption is that governments should not finance all or most expenditure, or sponsor all or most projects. Relying on the public budget to finance operational and maintenance costs of collective infrastructure, for example, is not a sustainable solution. The main role of government in relation to finance is to establish the policy, regulatory and institutional framework within which resources from users, financial markets, capital markets, local budgets and enterprises can be mobilised in a complementary way, and applied as cost-effectively as possible to achieve agreed goals. Hence, the financing strategies can be useful not only to help plan the government budget, but also in suggesting how policy instruments that affect the capacities and decisions of other public and private financial agents might be reformed.

³ As one of the Millennium Development Goals, by 2015 all United Nations Member States have pledged to reduce by half the proportion of people without sustainable access to safe drinking water. At the Johannesburg Earth Summit it was further agreed, by 2015 to reduce by half the proportion of people without access to basic sanitation

8. GOOD PRACTICES OF PUBLIC ENVIRONMENTAL EXPENDITURE MANAGEMENT (PEEM) IN TRANSITION ECONOMIES

The Good Practices of Public Environmental Expenditure Management (PEEM) build upon and update the *St. Petersburg Guidelines on Environmental Funds in the Transition to a Market Economy*; the *St Petersburg Guidelines* had become an internationally-acknowledged framework for evaluating the performance of public environmental funds since their endorsement within the “Environment for Europe” process in 1995. The Good Practices of PEEM apply to all agencies and programmes managing public environmental expenditure programs, including environmental funds. They draw on both positive and negative experiences in OECD countries and transition economies and provide a framework for mainstreaming environmental expenditure programs in the core of public finance. The Good Practices of PEEM are intended mainly to meet the needs of countries undergoing transition to a market economy.

The Good Practices provide guidance on how to design and implement public environmental expenditure programs. They also address the principles, procedures and organizational frameworks that are likely to be most acceptable for Ministries of Finance and foreign sources of financing some of the key policy issues in managing public environmental expenditures, such as earmarking, and the consistency of extra-budgetary (environmental) funds with public finance principles; and, the rationale for providing environmental subsidies from the perspective of the Polluter-Pays Principle. The Good Practices have been developed through a series of international consultations with various stakeholders from the EECCA, CEE and OECD countries and international financial institutions.

The Good Practices help evaluate how a public environmental expenditure programme performs. The performance is measured along three dimensions: environmental effectiveness, fiscal prudence and management efficiency. The *environmental effectiveness* dimension measures the performance of public expenditure programs as instruments for achieving environmental goals. *Fiscal prudence* measures the alignment of environmental expenditure programmes with the principles of sound public finance. *Management efficiency* measures how efficiently and professionally financial and human resources are utilised. All three dimensions of good practices of PEEM are operationalised in the form of self-explanatory checklists. The results of performance assessments are visualised in a chart that plots the score on each of the performance dimensions. The OECD/EAP Task Force secretariat has used this methodology to review and evaluate the performance of some environmental funds in CEE and EECCA countries.

Without prejudice to country-specific fiscal, economic and institutional conditions, the document provides a generic "road map" for implementation of the Good Practices of PEEM. This road-map begins by defining specific, priority environmental objectives. It recommends that a careful assessment be made of the need for public expenditures to achieve these objectives. The next proposed step is to define sources of funds, the size of the financial envelope and, above all, the main elements of an expenditure program (such as specific objectives, cost estimates, description of eligible project types and beneficiaries, terms of financing, procedures, principles and criteria of project appraisal and selection, procurement rules, time frame, indicators of performance). Having done this, environmental authorities are ready to select the best institutional arrangement (implementing agency) for managing the expenditure program and ensuring compliance with good practices of PEEM by applying checklists.

Environmental authorities can use the Good Practices of Public Environmental Expenditure Management as a framework for designing effective environmental expenditure programs and

institutional modalities for their implementation. *Public and private implementing agencies* bidding for the management, or already managing public environmental expenditure programs, can use these Good Practices as guidance to improve the quality of their performance. The proposed methodology is easy to use and could also be applied for self-assessment. *External auditors and potential investors* can use the Good Practices of PEEM to evaluate the performance of implementing agencies as well as their supervising government structures.

9. MULTI-YEAR INVESTMENT PLANNING IN THE CITY OF LUTSK, UKRAINE

The report presents the results of a demonstration project conducted in the City of Lutsk, Ukraine to strengthen municipal investment capacity by introducing multi-year investment planning (MIP) for municipal and environmental infrastructure. Multi-year investment planning involves selecting strategic investment projects based on a realistic assessment of available budgetary resources in a mid-term perspective to achieve the greatest benefits (financial, social, environmental and other). The report also examines the public finance framework within which Ukrainian local governments plan their investments. A similar project is underway in Ekaterinburg in Russia. The overall goal of this work is to demonstrate the utility of the MIP approach and to develop a toolkit that could help municipalities in EECCA countries apply this approach.

The report reviews the potential for Ukrainian local governments to finance investment projects from their own sources, through interbudgetary transfers and through borrowing. It identifies at least four basic shortcomings:

- High fiscal uncertainty and frequent changes in financial provisions.
- Unclear division of responsibility among tiers of sub-national government.
- Informal negotiations involving budgets and intergovernmental transfers.
- Disincentives to save and to increase revenues
- Incentives to exaggerate expenditure needs.

Attempts to improve the budgeting and intergovernmental finance systems are reviewed, most notably the Budget Code of 2001. The Code takes some important steps to improve fiscal relations, and to clarify local government mandates and revenue sources. While the Ukrainian Budget Code may provide important lessons for other EECCA countries, it is too early to fully evaluate its impact.

The report examines the situation of the water supply and sanitation sector in Ukraine. It shows that substantial expenditures are needed for operation and maintenance, as well as for capital investments in order to provide adequate services to the population. Similar challenges exist in other areas such as solid waste management, district heating, transport infrastructure and public works.

There is a pressing need to improve investment planning for environmentally related infrastructure in Ukraine and other EECCA countries. In the past, investment planning was a highly politicised process based largely on limited local resources and whatever could be obtained from higher level authorities. The project, which was jointly developed by the City of Lutsk and the OECD/EAP Task Force secretariat, aimed to establish investment planning on a more objective basis. The process began with the preparation of questionnaires and using them to solicit City representatives to identify selection criteria of investment projects. Weights were then assigned to each of the criteria on the basis of priority determined by the City officials. Finally, the weighted criteria were applied to all investments recommended for inclusion in the investment plan, in order to develop a prioritised pipeline of capital improvement projects.

The most important evaluation criteria (greatest weight) included: budget revenue generation potential; social impacts (creation of lasting jobs); potential for obtaining extrabudgetary grant co-financing; stage of project implementation (investments that had already begun or for which much work had already been conducted); positive environmental benefits; and meeting the needs of inhabitants.

Applying these criteria resulted in a priority list of twenty-eight investments. This priority list was compared against a multi-year financial plan, largely based on the City's own resources, which was designed to determine the funds available to finance investments from 2003 to 2007. The report compares two options – one in which the City of Lutsk decides to invest in all 28 investments and the other in which lower priority investments are postponed for later periods. It was demonstrated that the second option enabled the city to maintain a positive balance over the forecasted period. The top ten investments ranked according to the criteria of importance are projects associated both with improving municipal infrastructure (heating systems, water supply and wastewater treatment) as well as cultural and historic infrastructure (old town).

On 30 September 2002, the Executive Committee of the Lutsk City Council approved the multi-year investment plan through the year 2007. The City Council subsequently approved this resolution and the proposed budget appropriations.

Demonstration project in Lutsk brought about a reality check of the large investment needs associated with municipal infrastructure. They were adjusted to the limited potential of the City to finance these investments. The MIP approach will benefit Lutsk in many important ways.

First, it will enable Lutsk to implement its investment plans more effectively and more efficiently. Investment plans will be prioritised, more realistic, more easily managed and completed more rapidly. Further, investment decisions will not be captured by narrow political interests as they were in the past, because ad hoc project selection process was supplemented by a more objective prioritization procedure based on commonly agreed criteria.

Second, improved investment and budget planning should translate into better use of budgetary resources. Given that the Budget Code was designed to encourage revenue generation and savings, improved planning will help the City of Lutsk without adversely affecting its fiscal transfer position. In this connection, the project showed that the City cannot afford to neglect potential revenues from its tourism base (e.g. hotels and restaurants), and from users of municipal infrastructure.

Third, the MIP approach strengthens the City's creditworthiness. By showing how each investment affects the city budget, potential creditors can better estimate their financial risk and offer the city better terms. Clearly, however, central government policies on local government debt will be an important factor in determining Lutsk's ability to use this instrument for investment financing.

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10. DEBT SWAP FOR ENVIRONMENT AND DEVELOPMENT IN GEORGIA: PRE-FEASIBILITY STUDY, INSTITUTIONAL OPTIONS

The main conclusion of this study is that a debt for environment swap between Georgia and creditors in the Paris Club is feasible and could generate benefits for Georgia and the international community, including creditors, providing that it is well designed and implemented. Lessons learned from the Georgian case are relevant for other low-income countries in the region and beyond. However, harnessing this opportunity will not be easy and will require further detailed analytical work and extensive consultations. In particular it would require concerted efforts by different components of the Georgian government, a credible fiscal capacity, and a convincing proposed expenditure program for the swapped debt. Debt swaps should always be carefully designed; if not, they can affect the country credit rating and increase costs of sovereign borrowing. An inappropriate structure of transaction may also pre-empt future agreements on debt rescheduling or relief. Hence, such swaps are best considered back to back with an ongoing, wider debt-restructuring or debt relief scheme. Georgia is more likely to obtain such swaps if (1) it implements strong economic reforms, (2) maintains macro-economic stability, and (3) continues to service all of its debts in a timely manner.

Currently, more than half of Georgia's public expenditure is used for servicing the public debt, crowding out essential spending on social and environmental infrastructure, and threatening the sustainability of further economic development. The club of government creditors (the Paris Club) agreed in 2001 to reschedule debt service due until 2002, and extended this rescheduling until 2003. Although Georgia is technically not in default, a further debt restructuring is expected by creditors in 2004. In the 2001 agreement, a special clause was included providing the possibility for additional bilateral local currency debt swaps on a voluntary and bilateral basis. Since then, the Georgian President has established an inter-ministerial working group, including the Ministries of Finance and Environment, to discuss and develop modalities for negotiating a debt for environment swap. Internationally, there seems to be a greater willingness to consider debt for environment swaps than there has been in the past. There may be an opportunity for Georgia to link the debt for environment swap initiative with the existing CIS-7 Initiative for a debt relief for the poorest former Soviet Union countries. This could address some of the potentially adverse consequences of debt for environment swaps and take advantage of synergies between environmental and poverty-reduction goals.

Creditors from the Paris Club that may be willing to negotiate a debt for environment swap include the United States, Austria, Germany, the European Union, Turkey and Russia. Japan, may have legal constraints. If those Paris Club bilateral creditors that seemed most able to swap 15% of their annual debt repayments according to the schedule as of the end of 2001, Georgia could expect over €7m (in 2002 prices) of annual revenue until 2007, decreasing to almost €5m per year for the following 4 years. After 2011, the revenue from potential swaps would fall below €2m. On the assumption that only Austria, Germany, EU and USA agreed to swap 15% of their debt, the annual revenue would be €2.34m in 2005 and then would increase steadily to reach the peak of almost €3.4m in 2011. Any future debt rescheduling or relief would alter this revenue schedule.

In these two scenarios, total revenues from the debt for environment swap over the period 2005-2020, might be €58 and €30.6m respectively (in 2002 prices and under the assumption of no future relief or rescheduling.). In net present value terms (@12% discount rate), this would represent €32.5 and €15.6m. While not large in absolute terms, these figures should be contrasted with the approximately €7m of capital investment expenditures on environment, and €24m on water supply purposes in 2001.

In the optimistic scenario outlined above, the debt for environment swap would almost double environmental investments until 2011 compared to the 2001 baseline.

Georgia would have to demonstrate credible fiscal capacity to service debt swaps. The country would also have to convince creditors that it will consistently implement economic reforms and strengthen the fiscal position of the public sector. Given its very limited fiscal resources, Georgia should not enter into debt swaps in a way that would limit the opportunity to reschedule or forgive some debts under any future agreement with its Paris Club creditors. One way of doing this could be to design the swap transaction so as it would cover not the stock of the net present value of debt, but the percentage of the flow of future debt service. Such a structure of transaction would also mitigate possible fiscal constraints, as well as exchange rate and inflationary pressures. The paper argues for all the debt swaps to be channelled through a local financial facility that would manage competitive project selection rather than swaps for specific projects under limited competition.

The report discusses the advantages that a debt for environment swap would have over other types of debt swaps. It also examines the benefits of such a swap from the perspective of Georgian and creditor countries, particularly in addressing global public goods. It argues that establishing a credible expenditure program that responds to priority concerns of both creditors and the Georgian government will be essential to gain support for a debt-for-environment swap. The proposed programme should be narrowly focused on a few priorities and demonstrate how a solid pipeline of projects could be prepared and supported to meet its objectives. Some of the most promising projects could be those which aim at:

- Reducing emission of greenhouse gasses which affect global climate;
- Reducing pollution of international waters;
- Protecting biological diversity;
- Facilitating access of the poor to safe water and sanitation services (possibly).

The study contains detailed analysis of various options for managing a debt for environment swap in Georgia. The estimated administrative costs of managing the debt for environment swap scheme (€102,000-133,000) would be fully justified only if the revenue amounted to about €2m per year. If this threshold was not achieved, more cost-effective institutional options will need to be considered for the phase-in period. Initial start-up costs are estimated at about €300,000 – 400,000, of which €200,000 – 300,000 are the costs for external consultants, which are envisaged to be financed by donor grants.

If preparatory activities go as scheduled, the first swap agreements could be signed in 2004. The debt for environment swap could be included in the 2005 budget law, and the financial facility could be established in early 2005. It would take at least until autumn 2005 to develop the project pipeline for a first appraisal session. This would imply that the first financing agreements and disbursements for projects could be expected before the beginning of 2006.

III. STRENGTHENING ENVIRONMENTAL POLICIES IN EECCA

11. DEVELOPING EFFECTIVE PACKAGES OF ENVIRONMENTAL POLICY INSTRUMENTS IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

Various instruments and approaches for environmental protection were developed in the former Soviet Union that were conceptually sophisticated but not feasible economically or sometimes technically. Over the last ten years, important steps have been taken in EECCA countries to reform environmental policies, laws, and institutions. As a result, the regulatory systems in the countries in the region include a broad range of environmental policy instruments, but nearly all of them do not result in any significant improvement of environmental conditions. *This suggests that the focus of environmental policy and regulatory reform in EECCA countries should be on policy implementation in general and the development of coherent implementing regulations in particular.*

This report analyses the shortcomings of existing environmental policy instruments and suggests how they might be reformed in a coherent and comprehensive way. In particular, the report promotes the use of policy packages (mixes) that would allow EECCA environmental authorities to coordinate reforms of the existing instruments and add new ones in order to ultimately develop environmentally effective, administratively efficient, targeted programs to pursue clearly established policy goals and address priority problems.

At the first stage of the reform process, the packaging approach should be used to pursue an integrated reform of all fundamental regulatory policy instruments (standards, permitting, monitoring, and enforcement) while preserving and strengthening the linkages between them. As the integrated reform process advances, more attention will need to be paid to targeting non-regulatory instruments at very specific priority environmental problems. In order for the regulatory reforms to be successful, an adequate policy and institutional framework should be put in place, including dramatically improved environmental planning, strengthened capacity of environmental institutions, and an effective mechanism for interagency cooperation in setting and achieving environmental and sustainable development goals.

The report also suggests that environmental Directives of the European Union provide important benchmarks for environmental policy reform, attractive to EECCA countries for a range of political and economic reasons. While some EU requirements are too demanding for the level of institutional development in environmental management that currently exists, many others can provide short and medium-term milestones for reforms of environmental policy instruments. In developing reform programmes, the environmental management principles and approaches in EU Directives will be the most important references. As reforms develop, the technical elements will also provide useful references.

The system of overly stringent environmental quality standards and discharge limits in the EECCA has clearly failed to provide the environmental quality it aspires: pollution in many “hot spots” continues to exceed standards several times over. In fact, it has produced the opposite effect to the one intended by inducing noncompliance and perpetuating disrespect for the law.

The revision of *environmental quality standards* should involve:

- Promulgating options for environmental quality objectives (and associated with them numerical environmental quality standards) in existing medium-specific laws; and
- Giving competent government agencies the mandate to choose between these options in order to establish environmental quality objectives appropriate for specific environmental conditions and available resources.

The number of polluting substances regulated should be limited to those that can be effectively monitored. *The definition of emission/effluent limit values* (ELVs) should be based on a combined assessment of environmental quality objectives (EQO) and the current state of technology and management – “best available techniques (BAT)” - for reducing harmful releases..

An effective *industrial hazardous waste management system* should be put in place on the basis of strict command-and-control regulatory mechanisms (technique-based standards, permits, monitoring and record keeping, and enforcement) concerning generation, storage, transport, treatment, and disposal of wastes.

Permitting systems need to be *gradually* improved. In the short-term, the goal should be to improve permitting procedures. Consolidation of existing single-medium permits into one document eventually can be achieved through increased transparency and coordination between permit-issuing authorities at different steps of the permitting process. Also in the near future, BAT-based integrated permitting could be introduced, including the establishment of a list of industrial sectors and the minimum size of installations to be controlled under BAT.

The system of pollution charges should be simplified by a drastic reduction in the number of pollutants on which charges are levied. In order to have an incentive impact, *pollution charges should be targeted at a few key pollutants* that are discharged mainly by a number of big stationary point sources. The process of reducing the charge base should be tied together with the increase of charge rates to a level that would provide significant incentives to reduce pollution. An effort to increase the collection rates will also enhance the overall credibility of the pollution charge system.

The existing *environmental quality monitoring systems* in the EECCA countries suffer from the dispersion of monitoring functions, low quality of monitoring equipment and laboratories, and the lack of exchange and incompatibility of the data collected by different agencies. These shortcomings cannot be solved in the short-term and require significant financial investment. Short-term goals should include prioritizing monitoring programs by targeting those pollutants or industries with the most significant impacts on human health and on ecosystems, and harmonizing data systems and methodologies. In addition, self-monitoring, record keeping, and reporting by polluters should be mandated in the law and be part of the conditions written into each facility’s environmental permit.

Non-compliance with environmental requirements is arguably the most serious problem of environmental management in the NIS. Each environmental enforcement agency should develop an enforcement strategy that would be tailored to a particular regulated community and effectively combine activities to both enforce and promote compliance with regulatory requirements. More attention should be paid to promoting compliance.

12. ENVIRONMENTAL REGULATORY REFORM IN EECCA: THE CASE OF THE WATER SECTOR

The process of transition to democracy and a market economy has ushered in far-reaching changes in the economic, social, and political spheres in Eastern Europe, Caucasus and Central Asia (EECCA). Comprehensive regulatory reform, including environmental regulatory reform, has been initiated and the countries now face the challenge of completing it. The achievements of reform include the creation of a comprehensive legislative framework for environmental protection and the introduction of market oriented and democratic principles into legislation throughout EECCA.

Ultimately, the effectiveness of regulatory reform will depend on the quality of the regulations it promotes and the ability of government to carry them through. The core principles of quality regulation that EECCA governments should embrace if reform is to be effective, include clarity and accessibility of regulations; feasibility of objectives; consistency of regulations with existing legislation and with the institutional framework; precision of authority delineation; equality before the law; economic efficiency; and public participation.

The context within which regulatory reform operates in EECCA, however, poses substantial constraints and obstacles. Capture of the state by special economic interests has skewed the reform process and enriched a chosen few, perpetuating the already endemic disenchantment with government policies. A high degree of fiscal centralism, i.e. formally centralised management and practically autonomous regional authorities, has encouraged discretionary enforcement and opened venues for corruption. Trust in the regulators is very low, even non-existent, and the evasion of legal rules is the norm rather than the exception. A revival (or creation) of the legitimacy of laws will be critical not only to the success of regulatory reform but to the building of a rule of law society.

The ultimate purpose of all regulation is to induce compliance with the requirements. The basis for environmental regulation is the system of environmental quality standards. The primary aim of environmental quality standards is to protect human health and the natural environment from adverse effects. However, environmental standards are meaningless unless implemented. Several factors determine the implementation of standards: (1) appropriate legal and institutional framework; (2) technical and administrative feasibility; (3) affordability considerations; (4) availability of adequate information; (5) support by target group.

Burdensome complexity and excessive stringency are the most prominent characteristics of the current environmental standards system in EECCA. The rigid water classification system dating back to the 1950s categorises virtually all water bodies as supporting commercial fisheries, subjecting them to stringent fishery standards. This results in imposition of *unfeasible requirements and excessive costs of regulation*. The unfeasibility of requirements creates an adversarial regulatory climate as enterprises are always in breach of the law and leads to *arbitrary enforcement procedures*. The multitude of regulations and their unclear legal status within the legislative system create confusion among regulated and regulators alike leading to a *failure of understanding* of the legal requirements. The complexity of regulations along with the strict standards thus encourages evasion and allows for unchecked regulatory discretion and corruption. It fosters a general disbelief in the reasonableness of regulatory requirements and ultimately leads to a *collapse of belief in the law*. The problems posed are

thus not only of environmental character but have wider societal implications as rule of law is undermined through the perpetuation of a regulatory culture of non-compliance and non-enforcement.

Feasible environmental standards based on sound scientific criteria and economic and technical analysis, applicable to all producers, will determine the effectiveness of regulation. To this end, the process of establishing environmental standards is essential as an appropriately designed procedure (transparent, open and participatory) ensures the legitimacy of the requirements and their acceptance by the regulated community. The main characteristics of the standard setting procedure in the NIS distinguishing it from that in OECD countries include:

- Lack of separation between scientific analysis and policy making. Environmental quality standards in EECCA are developed experimentally or from mathematical extrapolations by scientific and research institutes and are directly adopted as regulations. Thus, science has assumed the functions of a regulator, virtually prohibiting the consideration of technical feasibility, economic and regulatory cost of the requirements.
- Lack of risk balancing and management. The mainstay of environmental regulation in EECCA is the principle of zero-risk to human health. This approach presupposes full protective regulation of all environmental hazards regardless of the level of risk posed, preventing the implementation of risk management strategy which allows prioritisation by severity of threat and cost effectiveness of measures.
- Lack of technology considerations. The EECCA countries have centred their regulatory systems on ambient quality standards, failing to consider the technical feasibility of resulting requirements. This approach has led to greatly differentiated standards for similar enterprises and an imposition of excessive economic costs for their achievement.
- Lack of transparency and openness. The standard setting process in EECCA is expert-centred and has excluded stakeholders from participating. No opportunity has been given for involvement of the general public either and the absence of clear, adequate information for all parties has reinforced the hostile character of the regulatory culture.
- Lack of revision provisions. Revision of environmental standards is a procedure that would help to ensure the effectiveness of regulations. No provisions mandating the periodic review of ambient standards exist. This prevents the timely recognition of the inadequacy of the requirements and their improvement.

Burdensome, prohibitive environmental regulations are likely to be ignored in favour of short-term economic gains. Since the societies are now least likely to be able to afford the cost of implementation of such goals, overly ambitious environmental standards will remain unfulfilled. Thus, what the EECCA countries now need is an implementable environmental legal system. Specific, realistic, and time-bound environmental standards can have long-term value because they can induce compliance and thus foster a managerial culture of duty to society. This, in turn, would contribute to the creation of a co-operative regulatory culture to substitute the present adversarial approach.

Environmental regulatory reform would ultimately depend on political commitment in the NIS. Governments should take the initiative to begin a process of reinvigorating the institutional framework and building trust in regulators through an endorsement of a clear strategy and a sustained commitment to its execution. The emergence and empowerment of domestic constituencies with a stake in the reform process and outcome will be essential in strengthening the capacity and accountability of the state. To this end, improved access to information, awareness raising, environmental education, and greater transparency of the decision making process are critical.

13. REVIEW OF ENVIRONMENTAL PERMITTING

Environmental permitting is a fundamental tool of environmental management. In OECD countries it is evolving as a way to prevent and control, in a comprehensive manner, the risks to human health and environment associated with industrial facilities. Drawing on the experience gained in OECD countries and elsewhere, this review analyses some of the common weaknesses of the permitting systems that EECCA countries have largely inherited from the Soviet period, and suggests how they could be overcome.

In OECD countries, permitting programmes acted as a catalyst for the shift from pollution control to pollution prevention and provided an entry point for dissemination of best practices in environmentally sound management of industrial sites. Permits are granted based on environmental, economic, technological, territorial and other criteria; they also address accidental releases of harmful substances. In addition, permitting systems aim to ensure fair competition encourage public involvement and to provide incentives for a continuous process of improved environmental performance.

Environmental permitting systems in EECCA countries are generally oriented towards end-of-pipe controls, focus on single media, require substantial administrative resources while being institutionally fragmented and opaque to the public. Permits are treated as the outcome of an administrative procedure that “authorises” pollution, rather than as a tool to prevent and, where necessary, control emissions. Emission Limit Values (ELVs) constitute the core permit requirements. They are calculated to meet maximum allowable concentrations of pollutants in the receiving media. However the economic consequences of compliance with ELVs are not considered and sometimes they are not technically feasible. Less stringent temporary ELVs are usually applied to lower the compliance hurdle. Negotiating the levels of temporary ELVs involves the exercise of considerable discretion by competent authorities and often results in *ad hoc* if not corrupt decision-making.

Environmental permits in EECCA countries do not consider how pollution control may result in transferring pollution from one medium to another, nor do they provide incentives to reduce resource or energy intensity – which are very high in EECCA countries – or to identify least cost ways of preventing or controlling pollution. The linkages between permits and other environmental procedures and policy instruments are not coherent and mutually reinforcing. The same permitting procedures, with limited variation, are applied to both large and small enterprises. Obtaining a permit can take up to three years and must be renewed every one to three years. In many cases, enterprise managers prefer to avoid the permitting process and take their chances in negotiating “acceptable” sanctions.

Despite these fundamental flaws, there are several forces promoting reform of the permitting system in some EECCA countries; in fact reforms are underway in Armenia, Kazakhstan, Kyrgyz Republic, Moldova and the Ukraine. Driving forces for reform include: the need to establish clear and transparent regulations to attract foreign investors; the exposure of enterprises in some sectors to competition and the resultant need to reduce costs *inter alia* through greater resource efficiency; pressure to reduce pollution as levels increase with the resumption of economic growth in most

EECCA countries; the interest of some EECCA countries to begin a process of convergence with EU environmental requirements as part of a strategy to accede to the EU.

A major conclusion of this review is that EECCA countries should reform their permitting systems into more functional tools of environmental management but they should do so gradually by building on the positive features of the existing system. Thus, the major environmental impacts are already covered in EECCA permitting systems. Case-by-case permitting of large industry is already applied and several criteria are used for decision-making on ELVs. The division of responsibilities among major stakeholders is close to systems in OECD countries. The permit application process is quite comprehensive and the supporting infrastructure, *e.g.* specialised consulting companies, is developing. EECCA countries have used «environmental passports» that have promoted concepts like energy and resource intensity, etc.

The review suggests that, in the first instance, EECCA permitting systems for large industry should aim to acquire the following characteristics:

- Focus on environmental performance and case-by-case regulation of a facility throughout its entire life cycle, *i.e.* design, construction, operation and decommissioning;
- Prescribe feasible and enforceable permit conditions;
- Use several criteria to set ELVs, including a combination of environmental quality standards and best available techniques;
- Minimise administrative burden;
- Adopt clear, accountable procedures and establish transparent relations with stakeholders;
- Become better co-ordinated with other environmental procedures and policy instruments.

These characteristics reflect international trends; in particular, they are close to the integrated permitting model, which is gradually being adopted in many OECD countries. However, countries choosing to introduce this model should carefully assess its advantages and disadvantages, and relate them to local conditions. Potential benefits of integrated permitting include internal efficiency for the facility, streamlined application and reporting processes, incentives for pollution prevention and resource efficiency, reduced pollution control costs, and enhanced relationships with the general public. At the same time, integrated permitting can involve significant administrative and implementation costs.

The review discusses the use of environmental quality standards in combination with Best Available Techniques (BAT) – a concept that is central in the EU Integrated Pollution Prevention and Control Directive. The review warns that BAT should not be interpreted as «best technology». The primary value of this concept for EECCA countries is rooted in its broad definition, which covers facility design, construction, operation, maintenance and decommissioning, as well as the requirement of choosing «available» techniques, *i.e.* those developed on a scale that allow implementation under economically and technically viable conditions. Application of BAT as one of the criteria to define ELVs should not mean that the competent authority restricts the permittee's flexibility in choosing appropriate techniques, whatever their national origin.

At the same time, the scope of permitting should be carefully revised. Uniform approaches to regulate large industry and small and medium-sized enterprises should be avoided. For the latter, procedural simplification and compliance assistance will be crucial.

The most practical way of conducting reforms is a gradual adjustment of the existing systems over a longer period. «Co-existence» of different models may also be favoured to assess effectiveness and

implementation problems. A «revolution» requires strong political will and high investment and is not considered feasible in the EECCA region.

The review suggests several short-term actions to be taken within the evolutionary scenario: (i) refine permits' content and prolong their validity; (ii) improve the decision-making process, pursue institutional integration and adopt permitting procedures that are consistent across different media; (iii) provide specific guidance to, and establish a meaningful dialogue with, the enterprises; and (iv) ensure transparency of permitting for the general public. Medium and long-term actions are proposed as well. An example of an implementation schedule for reform of permitting is presented.

There are many obstacles to successfully reforming environmental permits. Perhaps the major challenge will be to develop mutual trust and respect between environmental authorities and enterprises. This will depend in part on developments beyond the control of the environmental sector, but there are important steps that they can take, notably to apply realistic and affordable standards, equitably and transparently. There is evidence that many enterprises in EECCA countries have adopted techniques and are meeting environmental standards comparable with international benchmarks.

14. ECONOMIC INSTRUMENTS FOR POLLUTION CONTROL AND NATURAL RESOURCE MANAGEMENT: REVIEW OF THEIR USE IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

This document reviews the use of economic instruments for environmental protection and natural resource management in Eastern European, Caucasus and Central Asian (EECCA) countries based on a survey conducted in 2000. Using an analytical framework developed within OECD, recommendations for strengthening their use are proposed.

EECCA countries have generally adopted the system of economic instruments originally developed in the Soviet Union. In all the countries the basic system of pollution charges exists for a very large number of air and water pollutants and solid waste. These charges are closely integrated with physical emission limits which are laid down in environmental permits. Standard pollution charge applies only for emissions within these limits whereas much higher non-compliance fees apply for emissions in excess of the limits. Although some efforts have been made to simplify the system (Ukraine) and to maintain the real value of charges (Kazakhstan).

Key weaknesses in most EECCA countries include:

- Excessive number of pollutants subject to a charge;
- Failure to index charge rates to inflation;
- Strict linkage to unrealistic environmental standards;
- Weak monitoring base for accurate calculation of the charge levels;
- Excessive flexibility and discretion in imposing charges and non-compliance fees.
- Low collection rates of the payments.

EECCA countries also apply similar charges for the utilisation and extraction of natural resources, such as water abstraction, logging, mineral extraction as well as hunting and fishing. They have also established systems of environmental liability, or damage compensation, which operate partly complementary and partly in parallel to the system of pollution charges and natural resource payments. These various systems share similar problems with the system of pollution charges. Only few experiments have been launched in EECCA with new types of economic instruments, including product charges, tax differentiation on fuel oil dependent on the sulphur content and taxes on certain waste products. However, these attempts were in most cases unsuccessful due to resistance from industry. Some of the types of economic instruments which were applied in the past, such as deposit-refund systems, have not survived in the new economic situation. Instead, informal market-based systems which rely on the commercial interest of individuals have emerged.

The amount of revenue raised from environmental taxes and charges differs among the countries. Pollution charges generate significant revenue in a few countries: Belarus, Kazakhstan, Russia and Ukraine. The revenue generated by product charges and natural resource payments are potentially more significant but Armenia is the only EECCA country to have experimented with product charges.

Until recently the revenue from economic instruments generally was earmarked for financing specific environmental protection and natural resource management programmes and projects, through environmental funds. Earmarking has been largely discontinued for various reasons, including pressures to consolidate public budgets, high administrative costs combined with insignificant

revenues, and challenges to the legal status of the systems. These extra-budgetary funds have been consolidated into the general budgets. However, transport and natural resources related taxes generally accrue to specialised funds, which finance road maintenance and construction, afforestation or geological exploration.

Main recommendations for reform

The present system of pollution charges is clearly not functioning properly, and requires comprehensive reform in conjunction with the reform of other environmental policy instruments. The key elements of reform should include the following:

1. When economic instruments are intended to help reduce pollution, they should be designed and implemented to address specific environmental problems according to clear and realistic targets.

The use of economic instruments is not an aim in itself and should be considered as one of possible options to promote positive changes in environmental performance or natural resource management. The present approach in EECCA where one type of pollution charge is applicable for all types of pollution and all sectors is not the optimal strategy. Based on analyses of the type and toxicity of the pollution, the type of sources responsible for pollution, the industry structure, the costs of and options for addressing the problem, as well as the level of uncertainty regarding factors such as risks and compliance costs, an adequate mix of policy instruments needs to be determined, using economic instruments along with regulatory, information-based tools. In so doing, the EECCA countries can consider some immediate steps, including: Some immediate steps that could be taken in this direction include:

- Replacing pollution charges on waste by user charges;
- Excluding hazardous air and water pollutant from the charge system and introducing specific legal provisions to regulate their releases;
- Using other instruments than pollution charges (e.g. motor fuel taxes) for air pollutants from mobile sources;
- Targeting the use of pollution charges towards key priority pollutants discharged by big stationary sources which can be more effectively monitored, and
- Increasing charge rates to a level that would provide significant incentives to reduce pollution.

2. When economic instruments are intended to raise revenues they should focus more on product charges

Experience from OECD and other countries has shown that larger, more predictable revenues can be generated from product charges, usually in the energy/transport sector, e.g. differentiated taxes on the sulphur or lead content of fuels. The introduction of these taxes can be linked to reductions in other more distortionary taxes, e.g. on capital or labour.

3. Individual instruments should be designed and assessed based on costs and benefits and measures to improve compliance should be strengthened along with reducing the scope for discretion.

EECCA countries need to develop the capacity to more systematically analyse the optimal levels of proposed taxes and charges, their costs and benefits, including potential impacts on competitiveness, and likely compliance rates. Economic instruments should be redesigned together with the reform of other policy instruments to make them more realistic and credible with the regulated community, to reduce the opportunity for inspectors to make decisions in an arbitrary manner, and to facilitate the

achievement of environmental policy goals through more effective sanctions supported by compliance promotion.

4. The effectiveness of economic instruments will be enhanced by broader co-ordinated reform promoting well-functioning markets and enterprises

The effectiveness of economic instruments for environmental protection and natural resource management depends on the overall functioning of the market. Environmental authorities need to work with economic and sectoral government agencies and other stakeholders on the following key actions:

- Removal of environmentally harmful subsidies. Before or parallel to implementing economic instruments, subsidies that have negative environmental impacts, e.g. subsidised prices on energy and agro-chemicals, should be phased out or reformed. If not, the price distortions they induce could undermine achieving the objectives of the economic instruments.
- Liberalisation of markets, hardening of budget constraints, removal of trade barriers and promoting competition will increase enterprises' responsiveness to economic signals.

5. Experience and knowledge sharing

In moving towards more effective design of economic instruments for environmental protection, EECCA countries will benefit from a continued exchange of experience and knowledge among themselves and with OECD and central and eastern European countries that have already accumulated substantial experience in this domain.

15. GUIDING PRINCIPLES FOR REFORM OF ENVIRONMENTAL ENFORCEMENT AUTHORITIES IN TRANSITION ECONOMIES OF EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

The «Guiding Principles for Reform of Environmental Enforcement Authorities⁴ in Transition Economies of Eastern Europe, Caucasus and Central Asia» represent a non-binding reference that aims at helping governments to identify key features of an effective and efficient system of environmental enforcement. The current summary briefly introduces the recommendations of this document that constitutes a valuable outcome of the consensus-based intergovernmental dialogue.

Fundamentals of enforcement

It is not the number of successful enforcement actions and cases handled, but the environmental results that should matter. Therefore the Guiding Principles call for enforcement not to be an end but to be a means to bring compliance with environmental requirements at least cost for society. In securing compliance, prevention is better than cure; therefore a deterrence atmosphere inducing voluntary compliance should be created.

Governments should ensure that good environmental performers do not suffer any disadvantage, in particular economic, as a result of their compliance activities. In this regard, clear enforceable requirements and feasible compliance objectives are particularly important. Within such a system, enforcement actions need to be based on a solid justification and the regulated community has to be treated equitably, with consistency, in a transparent and proportionate manner.

Another fundamental requirement is integrity and accountability of enforcers. Internal guidelines should be developed and applied to areas where decision-making is likely to be flexible or discretionary; these should be supplemented with appeal mechanisms.

Responsibilities, powers, and organisation

The Guiding Principles advocate that enforcement authorities are established as autonomous institutions, with clear, legally-defined responsibilities and appropriate powers to monitor compliance and exercise administrative enforcement, as well as offer compliance assistance and ensure open communication with, and participation of, the general public. Adequate powers should enable enforcement officials to identify violations and effectively bring violators to compliance. At the same time, oversight mechanisms – both formal, *e.g.* exercised by prosecutor offices, and informal, *i.e.* exercised by representatives of the general public – should be put in place to avoid any misuse of enforcement powers.

Organisational structures should reflect environmental priorities and legally-defined responsibilities. In a horizontal structure, priority environmental components or issues, as well as main management

⁴ The term ‘Environmental Enforcement Agency’ is used to define any part of the government structure whose primary responsibility is to identify, monitor, prevent, or take action to correct non-compliance with environmental requirements. The ‘environmental enforcement’ is addressed in the broad sense, as the application of tools to assure compliance, including compliance promotion, compliance monitoring and non-compliance response.

functions should be clearly established. In a vertical structure, the mandate to take enforcement-related decisions should be delegated to, and made at, the lowest level where issues can be effectively managed. National level authorities should support sub-national units in maintaining institutional integrity, strengthen their capacity, provide methodological guidance, staff training and establish appropriate funding mechanisms. The internal organisation should promote teamwork. Effective working relations should be established and maintained with other agencies and departments whose activities influence environmental enforcement.

Role of the general public and the regulated community

The Guiding Principles recommend that environmental authorities ensure communication with the general public and provide opportunities for citizens to contribute to environmental enforcement. The general public, including NGOs and mass media, should have access to information on enforcement activities and environmental performance of the regulated community. Civil society may be engaged in non-compliance detection and compliance promotion efforts in the framework of the so-called system of citizen's environmental enforcement, with active involvement of environmental NGOs and other citizens' organisations.

Mechanisms to assist the regulated community to better understand and comply with requirements should be put in place. At the same time, the regulatees should be required to conduct self-monitoring and to report on environmental performance.

Working methods, strategies and tools

The Guiding Principles encourage the adoption of a performance-based approach in working methods, rooted in an iterative regulatory process. An enforcement agency should actively promote, and rely on, feedback between inspection and permitting, and between these two and legislative development. Also, better assessment of compliance requires feedback between ambient monitoring and inspection.

Taking into account the need to set priorities, effectively balance preventative and punitive measures and efficiently use scarce resources, tailored enforcement strategies should be developed, supported by annual implementation plans. These strategies should be applied to potential and actual violators. Within strategic planning, authorities should accurately identify and profile the regulated community.

New regulatory requirements should be gradually phased in over an appropriate transition period and take account of actions to be undertaken by the competent authorities and the regulated community, and their associated costs. Each inspection should be planned and executed according to specified minimum criteria; an integrated approach should gradually be applied.

The Guiding Principles suggest that environmental enforcement agencies should have access to the full range of informal, administrative, civil and criminal remedies in order that non-compliance is sanctioned in a timely and proportionate manner. Whatever remedies are available, guidelines should define the criteria for selecting one path to justice over another. Recourse to courts will be necessary for serious criminal and civil cases. For cases that are small and simple (seeking financial penalties or other limited remedies), administrative enforcement, with appropriate provisions for appeal, should be optimal.

Indicators should be developed against which performance can be measured and continuously improved. They should be designed for both outputs (activities carried out) and outcomes (environmental compliance and results achieved).

Resources, budget and financial management

The Guiding Principles call upon governments to establish an adequate system of personnel management that addresses remuneration, motivation and professional development. The human, material and financial resources required to carry out responsibilities should be carefully assessed; requests should be submitted for resource allocations, with full justification, through the normal budgetary process. Information systems need to be created that would allow for gathering, storing and using data for decision-making, including planning and performance assessment. Budget proposals should be prepared based on cost-effective approaches. Rigorous procedures should be applied in managing budget and financial operations of the inspectorates.

Whether the enforcement agency should be authorised to collect and use the monetary penalties in addition to money provided from the state budget, is a question governments should address with great care. Including such fees as a source of financing could encourage maximising revenue instead of compliance.

International cooperation

Finally, the Guiding Principles recognise that enforcement authorities should participate in developing international environmental requirements and harmonising them with national legal frameworks. If not involved in the negotiation phase of Multilateral Environmental Agreements (MEA), the enforcers should, at least, be informed and have the opportunity to comment on the implications of enforcing international agreements, and be trained and equipped proportionally to these new tasks. The enforcement agencies should follow guidance provided by international organisations (e.g. UNEP, UNECE) to facilitate compliance with, and enforcement of, MEAs. They may want to co-operate, through formal or informal networks, at regional and global level.

Adoption and implementation

A Joint Statement on the Guiding Principles was adopted on October 7th, 2002 in Almaty, Kazakhstan by the representatives of environmental enforcement agencies of the EECCA region. Among others, this statement recognised the need to gain political support, as well as support from the general public, for ensuring the implementation of the Guiding Principles. In response to this, the Guiding Principles are submitted to the fifth “Environment for Europe” Ministerial Conference in May 2003 in Kiev. Environment Ministers from the UNECE region intend to welcome the implementation of the Guiding Principles in the Conference Declaration and call upon the environmental enforcement authorities in EECCA to implement the Guiding Principles and on donor countries to assist in this process.

16. ENVIRONMENTAL ENFORCEMENT AND COMPLIANCE PROMOTION PRACTICES IN EECCA

Enforcement of environmental requirements and compliance promotion are indispensable elements of effective environmental policies. As in many other regions, the states in Eastern Europe, Caucasus and Central Asia (EECCA) recognised the need for reform of the current compliance assurance and promotion systems as weak enforcement results in diminished credibility of governmental interventions and the entire regulatory framework. The current review analyses compliance assurance and promotion systems which operate in EECCA against the background provided by the «Guiding Principles for Reform of Environmental Enforcement Authorities in Transition Economies of EECCA» and establishes a baseline for further monitoring of progress in the implementation of their recommendations.

Enforcement as part of the regulatory process

Over the last decade comprehensive systems of environmental laws and regulations have been developed in EECCA countries, however, the enforceability of their requirements is rarely considered. Even though inspectorates are part of ministries of the environment and abundant feedback on enforcement actions is provided to policy-makers and legislators, many laws remain unclear and lack measurable compliance objectives and do not provide enforcement agencies with a solid basis for compliance assurance.

Performance of enforcement agencies in EECCA is still assessed using the number of enforcement actions rather than data on emissions or the state of environment. As a result, the intensity of inspections, number of penalties and court cases may increase without changing the behaviour of the regulated community. Lack of enforcement policies, inconsistent and discretionary enforcement and non-transparent procedures further weakens inspectors' status and the impact of their work. At the same time, there are signs of excessive relaxation of procedures: in some countries every single inspection has to be approved by the courts and un-announced inspections are not allowed by law. Although this is part of the administrative "de-regulation" processes, which is taking place in a number of EECCA countries and aims to promote economic development and limit the administrative "red-tape" and costs, such a trend, if influenced by powerful lobbies, may lead to a weakening of the basic requirements and obligations of industry.

Organisation, responsibilities and powers of enforcement agencies

Even though EECCA countries have specialised units responsible for environmental enforcement, inspectorates are generally not independent as in many OECD countries. Responsibilities of inspectorates cover a vast range of issues. This often includes compliance monitoring and enforcement of air and water pollution control, waste management, natural resource management and nature protection. Such broad coverage should assist in providing a more integrated view of environmental management in country but usually it leads to fragmentation of efforts.

In all countries sub-national units exist and report to the national level agency or/and the regional administration. The relationships with local governments vary and the cases of limiting the authority of enforcement units by the regional administration have been reported. Environmental enforcement agencies tend to have good relationships with most other part of the government such as those

responsible for transport, health, interior, fisheries or forestry agencies. The one major exception is the judiciary, which often fail to support the enforcement agency in enforcement.

Co-operation with the public and the regulated community

In EECCA countries activities that promote a dialogue with the regulated community are reported. They focus mainly on passive information provision to industry and there are no comprehensive compliance promotion programmes as in OECD or CEE countries. There are even doubts whether such programmes should be undertaken by inspectorates as they are considered to fall beyond their mandates. Experience shows that the companies that enter into a meaningful dialogue with inspectorates, and those which are targeted by active information provision, tend to be better performers.

The role of the public and their opportunities to influence environmental policy implementation have been expanding and their relationship with inspectorates improving. In a number of countries the public has rights to receive information on emissions as well as information on the results of enforcement. Enforcement agencies use a variety of mechanisms for providing information to the public, including their own information dissemination channels and work with the public media.

Enforcement strategies and tools

Several documents guide inspectorates' activities in the EECCA countries but none of them have a strategy which would establish objectives, priorities and performance based management system. In many countries enforcement agencies use inspection guides to ensure the quality and consistency of inspections. However, many report that the guides are outdated or do not cover all aspects of inspection activities.

Significant problems are reported with the compliance monitoring system which in some countries collapsed due to lack of resources. Self-monitoring is usually required but is not reliable or absent.

The inspectors report shrinking enforcement powers, such as restrictions in the ability to undertake administrative responses to non-compliance. In practice, post-inspection reports containing prescriptions for corrective measures and administrative penalties are the most frequent. Other instruments include environmental damage claims. The cases of temporarily or permanently halting the operations following an environmental offence are very rare as economic and social pressures to allow facilities to continue operation influence inspectors' decisions. Formal enforcement, especially judicial actions, is constrained on the one hand by the low quality of filed cases and on the other by lack of environmental awareness among the judges and general capacity problems faced by the courts in the EECCA countries. The low level of fines and penalty collection rates (they can be as low as 6% in some countries) reduce dramatically impacts of enforcement efforts and cannot create deterrence effect.

Strengthening enforcement institutions

A range of actions are required to build stronger inspectorates so they are able to apply enforcement strategies and tools consistently and continuously. Unfortunately, past efforts focused on continuous reform of institutional structures without improving decision-making processes and management approaches. This has led to institutional instabilities, distortion of priorities and general reform "fatigue".

The number of inspectors at the national and regional level seems to be sufficient in most EECCA countries but the capacity of staff is a major challenge. Recruitment of good specialists is a problem as other government agencies, and especially the private sector, offer competitive salaries and other benefits. The balance of necessary skills is not well maintained and there is a significant shortage of experts in law and economics. The majority of inspectorates do not provide sufficient training for staff. Improvement of qualifications and knowledge of requirements should become a priority for ensuring strengthened inspectors' skills, allowing transfer of experience and consistency in applying inspection procedures across the country as well as personnel's satisfaction from work.

The EECCA inspectorates are mainly funded from the state budget. As the public budgets usually face severe constraints, they do not receive funds necessary to cover minimum operational expenses. Some inspectorates' may rely on revenue from charges and penalties that makes them dependent upon such payments and create perverse incentive to impose unnecessary/higher than needed sanctions.

Networking

The exchange of experience, know-how transfer and co-operation among the EECCA inspectors provide important support for enforcement and compliance efforts. The regional Environmental Compliance and Enforcement Network in EECCA (known as NISECEN) proved to be a useful mechanism for promoting regional co-operation, exchanging information and experience and assisting in development and implementation of regional and country-specific capacity building and technical assistance projects.

17. PROGRESS IN IMPLEMENTATION OF THE AARHUS POLICY STATEMENT ON ENVIRONMENTAL MANAGEMENT IN ENTERPRISES IN EECCA

In their Policy Statement on Environmental Management in Enterprises adopted at the Aarhus “Environment for Europe” conference in 1998, ministers invited the EAP Task Force to prepare a report for their next gathering assessing progress in the implementation of the Policy Statement. This report responds to the invitation. It provides a broad-based overview of progress in implementing the Policy Statement since Aarhus. It uses the thematic structure provided in the Policy Statement, focusing on the general framework conditions that enterprises operate under, characterised by (i) the economic and (ii) environmental policy frameworks, as well as on some of the key policies and activities to promote environmental management in enterprises (EME), such as (iii) education and institutional arrangements, and financial mechanisms. The main results from the report are briefly summarised below.

The Aarhus Policy Statement on Environmental Management in Enterprises, in which environment ministers committed to catalyse, facilitate and strongly support the implementation of effective environmental management in enterprises in CEEC/EECCA, has not resulted in a notable increase in governmental support for EME. From the data collected, it is apparent that neither EECCA governments nor donors have significantly increased their efforts following the adoption of the Aarhus Policy Statement.

As a result, EECCA companies still have little incentive to adopt EME. The economic framework conditions for the development of environmental management in enterprises in EECCA remain broadly unfavourable, despite some progress achieved, namely in the general economic context in EECCA and enterprise reform. This is overshadowed, however, by a deeply depressed investment climate that prevents the modernisation of productive capital, and a backlog of reforms in the utility sector that prevents the removal of sometimes massive tariff subsidies. Tariffs for gas and electricity in EECCA can be up to ten times lower than the OECD average and provide significant perverse incentives for the efficient use of these resources.

A similarly unsatisfying situation characterises the environmental policy framework, which does not yet include adequate incentives for enterprises to improve environmental management methods. The weakness of enforcement systems paired with ineffective economic instruments and insufficient measures to support enterprises in achieving compliance tend to discourage EME. As a result, non-compliance strategies in dealing with environmental requirements are frequently the least cost options for EECCA enterprises.

This context considerably reduces the potential of “win-win” EME opportunities, as the economic benefits of such measures are reduced due to low expenditures on compliance with environmental regulation and subsidised resource prices. Despite this situation, many “win-win” opportunities exist, as documented in a large number of demonstration projects. Especially low and no-cost EME opportunities remain easily accessible, but companies infrequently exploit them as they lack incentives to develop the expertise to identify and implement such measures. The absence of business networks to disseminate EME information, as well as the small number of EECCA enterprises that have introduced certified environmental management systems supports these arguments. Larger EME investments are more difficult to realise as finance is not readily available. This is due to the under-

developed state of the commercial banking sector in EECCA, and the lack of awareness and capacity in financial institutions to evaluate such projects.

Despite this adverse situation, most EECCA countries have achieved significant progress since the Aarhus conference toward reaching the basic capacity level for CP. There are now more than 20 Cleaner Production Centres established throughout EECCA, although equipped with varying degrees of capacity and resources. Donor support for various, though often uncoordinated and isolated, training programmes deserves some credit. The initiative to develop CP services, however, mostly came from a number of “CP entrepreneurs” who set up companies to provide these services. Unless support from donors and EECCA governments for these initiatives is increased, their impact will remain limited, and some CP service providers will disappear.

Governments (including those ministries and agencies responsible for economic and industrial development and environmental protection), rather than enterprises, have a key responsibility for promoting and sustaining EME. Unless economic and environmental policy frameworks are improved, there will be little scope for market forces to stimulate “win-win” EME opportunities. Hence, well-targeted government support will remain necessary to continue the build-up of a basic capacity level for cleaner production in EECCA until framework conditions have improved and market forces can play a more important role. Educational and informational EME measures appear to constitute the most appropriate response to the actual situation, as they contribute to improving the basic capacity level in the long-term, and have proved that they can stimulate entrepreneurial CP initiatives in EECCA. In parallel, in a transitional period, support (e.g., through subsidised finance such as NEFCO’s revolving fund for CP) might be provided for large EME investments with long pay-back periods, especially when this contributes to reducing the environmental pressures in pollution hot spots, and provided they support and do not undermine the emergence of more commercial forms of finance.