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An Evaluation Of The Application Of Economic Environmental Policy Instruments In Uzbekistan

Galia Khusnutdinova and Brian Dollery **

Abstract

Economic instruments are integral part of environmental policy throughout the developed world. They have proved to be more efficient and often easier to implement than traditional command, restriction-based instruments. In transitional economies, like Uzbekistan, economic instruments were largely unused in the past, but have gained popularity in more recent times. This paper examines the contemporary experience of the Republic of Uzbekistan in using economic instruments for environmental protection and natural resource management and offers various policy recommendations for improving this form of indirect regulation.

Key Words: Economic instruments, environmental policy, Uzbekistan

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1. Introduction

The application of economic instruments to environmental policy represents a significant method of addressing urgent environmental problems. These policy instruments are regularly introduced in parallel with traditional command and control environmental policy measures, such as environmental standards and permits. Appropriately designed and implemented, economic instruments can be a powerful tool to achieve both economic efficiency as well as environmental and sustainable development policy objectives.

The term “economic instruments” has been defined by the Organisation for Economic Co-operation and Development (OECD 1991) as "instruments that affect costs and benefits of alternative actions, open to economic agents, with the effect of influencing behaviour in a way which is intended to be favourable to the environment". At present, diverse definitions of various types of economic environmental policy instruments are in use. Perhaps the most widely used classification of economic instruments (EIs) for pollution control and natural resources management is the taxonomy developed by OECD (2001). This typology includes emission charges and taxes, product charges, non-compliance fees, subsidies, fiscal environmental taxes, user charges, etc.

Countries in transition (CIT), which have typically inherited a bleak environmental legacy from previous governing regimes, face particular challenges in introducing environmental policies. At present several Central and Eastern European (CEE) countries are considered advanced in terms of economic transition, while reforms in other countries by contrast, especially some of the Newly Independent States (NIS), have been slow. The special meeting devoted to the EIs in NIS, which had been organised by the State Committee for Environmental Protection of the Republic of Uzbekistan and OECD was held in Tashkent on 22-24 March 2000. Over 60 officials from environment ministries and experts from the NIS, OECD and CEE countries,

that took part in this meeting. They overwhelmingly agreed that the application of economic instruments in the NIS had encountered profound problems (REC 2000). These problems included poor economic incentives, administrative complexity and a high level of discretion in the implementation and enforcement of economic policy instruments. The present paper seeks to examine the experience of the Republic of Uzbekistan in using economic instruments for environmental protection and natural resource management as a means of assessing these problems in a single national context.

The paper itself consists of three main parts. Section 2 provides the historical and institutional background to the use of economic environmental policy instruments in Uzbekistan. Section 3 examines the application of these instruments in Uzbekistan, including environmental pollution payments, user charges, product charges, nature use payments, non-compliance fees and environmental taxes. Section 3 also considers the problems associated with application of these economic policy instruments. The paper ends with some brief concluding comments and policy recommendations in Section 4.

2. The use of economic environmental policy instruments in Uzbekistan

Economic policy of Uzbekistan is presently characterised by a gradualist approach to reform and continued dependence on administrative measures and governmental controls. The Government of Uzbekistan has established market-based regulatory and financial mechanisms in order to reduce pollution in an incremental manner. As result, while in some regions of the country the environmental situation is relatively satisfactory, in general the effectiveness of system taken as a whole seems to be limited and real economic incentives for pollution abatement have yet to be introduced (UNECE 2001).

Uzbekistan relies mainly on command and control methods for environmental protection and management. OECD (1991) has described the “command and control approach” as consisting of "institutional measures aimed at directly influencing the environmental performance of polluters by the establishment and enforcement of laws and regulations prescribing objectives, standards and technologies polluters must comply with". The Act on Nature Protection, adopted by Uzbek Parliament in June 1992, established the legal basis for economic instruments and payments for environmental pollution. Article 33 of this Act defines the major principles for the application of economic instruments in environmental policy in the Republic (Act of the Republic of Uzbekistan on Nature Protection 1992).

The most recent survey of the application of economic instruments for environmental protection revealed that Uzbekistan is in many ways different from most OECD countries (UNECE 2001). Indeed, while the OECD countries have focused much more on product charges levied on environmentally harmful products, in Uzbekistan product charges are not commonly in use, except for transport-related charges. UNECE (2001) has developed a classification of applied economic instruments in Uzbekistan from a revenue-raising perspective. This classification includes the following eight categories of EIs:

1. *Pollution charges or fees*: direct payments for emissions or discharges of pollutants into water, air or soil;
2. *User charges or fees*: payments for public services, i.e. water supply, waste-water treatment and municipal waste collection;
3. *Product charges*: charges applied to products that create pollution when they are manufactured, consumed or disposed of;
4. *Nature use payments*: payments for the use of natural resources, such as for the extraction of mineral resources, fossil fuels, and water, and the use of bio-resources;

5. *Deposit-refund systems*: payments made when purchasing a product. The payment is reimbursed when the used product or its container is returned;
6. *Non-compliance fees*: payments imposed on polluters that fail to comply with certain regulations (e.g. fines, penalties etc.);
7. *Subsidies*: all forms of financial assistance to polluters or users of natural resources (e.g. grants, soft loans, tax breaks);
8. *Environmental taxes*: a tax introduced in 1998 that applies to every enterprise and amounts to 1% of the enterprise's production costs (Tax Code of the Republic of Uzbekistan 1997).¹

In 1996, the State Committee for Nature Protection established a framework for the introduction of economic and regulatory mechanisms for environmental protection and the use of natural resources. Actual implementation of the economic and legal mechanisms will be conducted in three distinct stages, and have to be in place by 2010. The first stage, which involved the development of a legal framework, was completed in June 1992 with the introduction of “Resolution on the introduction of payments for exceeding standards of emissions or discharges of pollutants into the environment and waste disposal” (UNECE 2001). During the second stage, payment for pollution below and above established limits and standards was introduced. This stage was completed in 2000 with “Resolution on the distribution of revenues from payments for pollution” (UNECE 2001). According to this Resolution (CMRUz 1999), 80% of the resultant revenues are to be allocated to the State budget and the remaining 20% to environmental funds. Finally, during the third stage, the payment system will be further

¹ An overview of economic instruments in use in Uzbekistan is presented in the Appendix.

developed and payments for natural resource usage will be introduced by 2010 (UNECE 2001).

The National Environmental Action Plan (NEAP) for Uzbekistan briefly mentions the application and further development of economic instruments as a tool to ensure the efficient use of natural resources. Sustainable and efficient consumption of natural resources and the implementation of the “polluter pays” and the “user pays” principles are among the aims of the NEAP (UNEP 1997).

3. Application of economic environmental instruments in Uzbekistan

3.1. Environmental pollution payments

The Government of Uzbekistan has introduced a system of payments for the disposal of waste and for emissions and discharges of pollutants whether below or above the permitted levels. The State Committee on Nature Protection (SCNP) proposed these rates in 2000 in the “Procedure for the calculation and discharge to the budget of payment imposed for the emission (‘throwing down’) to the environment of contaminating substances and the placement of pollutant waste on the territory of the Republic of Uzbekistan”. According to this regulation, fees are initially set at a low level and imposed on a large number of air and water pollutants. Moreover, fee rates are computed per ton of a pollutant and depend on the pollutant’s toxicity. The payments for the emissions and discharges are calculated according to the following formula (SCNP 2000):

$$P = (M_n \times R) + (M_{en} \times R \times 1,2),$$

where: P is the sum of the payment imposed for the pollutant emission to the environment of contaminating substances and the distribution of pollutant waste;

M_n represents the mass of contaminating substances emitted within the legally established limits, measured in tones or kilograms;

R constitutes the rate of the payment charged per a ton of contaminating substances emitted into the environment;

M_{en} is the mass of contaminating substances emitted in excess of the established norm measured in tones or kilograms; and

$1,2$ represents the adjustment coefficient applicable to the above emission norm.

It should be noted that, in some cases (for example, waste disposal taxes), fees are too low to have any substantial impact on the quantity of contaminating substances generated or emitted.

The above-mentioned Procedure identifies those entities subject to these payments and the responsibilities borne by them. Thus, legal entities, irrespective of their type of ownership, organisational form, or type of economic activity, that emit contaminating substances to the atmosphere, water and land territory of the Republic of Uzbekistan, must pay these taxes (SCNP 2000). Moreover, the Enclosures to this Procedure establish the rates of tax payments on the basis of categorisation of sources of pollution.

3.2. User charges

The main aim of user charges is to recover the operating and maintenance costs as well as the capital costs of these services (Gilpin 2000). User charges are mainly levied on municipal services, like municipal waste collection, water supply, and wastewater treatment. In Uzbekistan the tariffs for water use depend on the user type and the type of water source. For

example, households pay less than commercial users. Household water consumption is not based on the quantities of water used - only recently have water meters been installed in very small number of households. By contrast, for enterprises the charge is proportional to the amount of water used. Whereas in principle prices are calculated to cover operating costs, in practice they fall far short of this objective. Political considerations and the general economic situation in the country have not allowed these prices to be liberalised (UNECE 2001).

Municipal water companies (the so-called *vodokanal*) levy wastewater treatment charges on households and enterprises that are connected to a sewage system. However, according to the UNECE (2001), only about half the population in Uzbekistan is presently connected to sewage systems at present.

Municipalities are responsible for municipal waste collection and disposal. Charges depend on the type of a user. A monthly rate for domestic users in apartment buildings is paid by the building's manager, who in turn charges the occupants according to the number of persons in each household. Moreover, these charges are often included in the rent for the apartments. However, for commercial users, charges are levied per cubic metre of waste produced (SCNP 2000).

3.3. Product charges

In Uzbekistan product taxes and charges on environmentally harmful products are used to a very limited extent, except for a number of transport-related product charges on vehicles and transport fuel. However, product charges in transport (such as excise taxes, taxes on fuel, and taxes on the purchase, importation and ownership of cars) were not introduced for environmental purposes, but instead initially designed to raise revenue for the State (UNECE 2001).

Excise taxes on transport fuel are differentiated. Thus, the excise tax on leaded petrol is 60,4% of the retail price, on unleaded petrol 65,8%, on diesel 39,6%, and on natural gas 48% (Tax Code of the Republic of Uzbekistan 1997). Most vehicles run on leaded petrol, with only a few on relying on unleaded petrol.

Vehicle owners pay a vehicle tax. The Tax Code of the Republic of Uzbekistan (1997) specifies that vehicle tax is based on a vehicle's total engine capacity and road tax is calculated according to the car's aggregate weight.

3.4. Nature use payments

Economic instruments for biodiversity and nature protection in Uzbekistan include charges for hunting and fishing, water extraction and water use, the extraction and use of mineral resources, and the use of land and forests. The Act on the Protection and Use of Wildlife governs hunting, fishing and other uses of wildlife. As UNECE (2001) states, half the licence fee for hunting and fishing is paid into the State budget and the other half is paid into environmental funds.

Both legal entities and individuals are subject to the natural resource extraction tax. In the Republic, payments for the extraction and use of mineral resources are based on various legal documents concerning State taxes, environmental protection, and underground resource use. In essence, the tax is based on the volume extracted. The Act on Subsoil (1994) determines tax rates, which vary from 1% to 24% of the estimated sales prices of the processed mineral, depending on the type of mineral.

The Act on Water and Water Use (2000) defines payments for the use of surface and groundwater. Rates differ according to the source (surface water, groundwater, etc.) and the user. Tax rates for the use of mineral resources and water prices are established annually by the "Resolution on

macroeconomic indexes and State budget forecasts” of the Cabinet of Ministers. The Ministry of Finance and the Taxation Committee define the payment procedures. Payments for mineral resources and water resources are not used for environmental protection purposes, but rather go to the State Budget (UNECE 2001).

3.5. Non-compliance fees

Evidence of the violation of environmental regulations, standards and specific allowable emission limits results in fines and penalties. The value of the fines is defined by the Code on Administrative Liability that was adopted in 1994. The violator is also responsible for compensation for the damage caused. Some other legal acts define responsibility for violating environmental legislation, and contain special rules on ecological and legal liability, namely the Act on Nature Protection, the Criminal Code, the Civil Code, and the Labour Code. All fines for the violation of environmental legislation, penalty payments, and compensation payments are distributed to the regional environmental funds (UNECE 2001).

3.6. Environmental taxes

An environmental tax was introduced in 1998 with adoption of new Tax Code of the Republic of Uzbekistan. This tax amounts to 1% of an enterprise’s production costs and is applicable to every enterprise in the country. In common with the case of nature use payments, revenues from this environmental tax are allocated to the State budget and not to environmental expenditures. According to the UNECE (2001), these incomes are as much as twice as the combined revenues from pollution payments, fines and penalties.

3.7. Problems with the application of economic instruments

UNECE (2001) advanced the following reasons for the failure of these economic instruments to operate effectively in Uzbekistan:

1) The low level of pollution charges: The rates of charges do not adequately reflect the risks and damage associated with different pollutants, and consequently charges are not high enough to significantly influence the polluter's behaviour.

2) The low effectiveness of fines and penalties for environmental pollution and non-compliance: Fines and penalties for exceeding limits are not sufficiently severe, and it is sometimes more cost-effective for enterprises to pay fines rather than invest capital in reducing the pollution problem.

3) The high number of pollutants on which charges are levied and the administrative complexities of the system: The cost of monitoring and administering pollution charges for the large number of pollutants seems excessive.

4) The low collection rate: Complex administration and limited monitoring capacity have led to relatively poor enforcement and low collection rates of pollution charges.

5) The wide discretionary powers of environmental authorities: Discretionary powers give environmental authorities the right to adjust emission limits, or to accept payments in kind.

In addition to these problems, a number of further constraints have prevented wider use of economic instruments. These factors include:

- ◆ lack of legislative and institutional capacity;
- ◆ weakness of environmental agencies;
- ◆ ongoing economic recession;
- ◆ inadequate information concerning the costs and benefits of the economic instruments in use;

- ◆ lack of political will;
- ◆ absence of an economic strategy for national environmental protection; and
- ◆ little understanding of the actual and potential role of economic instruments in achieving environmental and sustainable development objectives.

4. Conclusions and policy recommendations

It seems clear that while system of economic environmental policy enforcement instruments in Uzbekistan has been established, it has not been properly implemented. As things stand, the system serves mainly to raise revenue, and it has become an important source of funding for the State Committee for Nature Protection. Moreover, a substantial part of the revenues raised from the different pollution fees and fines are allocated to the State budget and not to environmental funds. In addition, the effectiveness of the payment system is limited and collection rates remain low. In most cases, the tariffs are small, and they do not create adequate incentives for polluters to reduce the level of pollution. At present time, many enterprises in Uzbekistan are economically unprofitable and operate at reduced capacity, and if tariffs were increased, then they might collapse.

It is thus argued that the pollution charge system in Uzbekistan should be reformed. The number of pollutants on which charges are levied is currently very extensive. It thus seems appropriate to refocus on fewer major pollutants that can be monitored at reasonable cost rather than on the present extensive number of pollutants. It is therefore necessary to develop selection criteria for deciding on these pollutants that can be feasibly and systematically monitored and inspected.

A further problem is that payments rates are too low, and it is necessary to increase them to a level that would provide real incentives to

reduce pollution. However, charges should be increased gradually to allow enterprises to introduce incremental technical adjustments, without experiencing potentially crippling costs. As recognised by OECD (2001), charges and fees attain their optimal level when they simultaneously help to make resource consumption more efficient, increase productivity and economise scarce resources.

In sum, this paper has sought to demonstrate that although economic instruments have been introduced into the official environmental policy of Uzbekistan, they have not been adequately applied. Much remains to be done.

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List of Abbreviations

CIT	Countries in Transition
EIs	Economic Instruments
NEAP	National Environmental action Plan
NIS	Newly Independent States
OECD	Organisation for Economic Co-operation and Development

SCNP State Committee on Nature Protection of the Republic of
Uzbekistan

UNECE United Nations Economic Commission for Europe

APPENDIX: Overview of the Environmental Taxes and Charges in Uzbekistan

Type of Economic Instrument	Objective of tax/charge	Tax base	Revenue collection authority	Use of revenue
MOTOR FUEL TAXES/CHARGES				
Excise tax	Revenue raising	Leaded petrol Unleaded petrol Diesel Natural gas	State Tax Committee	State budget
Fuel product charge	Revenue raising	All fuels	State Tax Committee	State budget
Carbon dioxide tax	-	-	-	-
Value added tax	Revenue raising	All fuels	State Tax Committee	State budget
<i>OTHER ENERGY PRODUCTS</i>				
Excise tax	-	-	-	-
Value added tax	Revenue raising	Fuel oil Coal Natural gas Electricity District heating	State Tax Committee	State budget
<i>AIR EMISSIONS</i>				

Sulfur dioxide tax	Incentive/ earmarked environmental charge	SO ₂ emissions	State Committee on Nature Protection	Environmental Protection Funds
Nitrogen oxide tax	Incentive/ earmarked environmental charge	NO _x emissions	State Committee on Nature Protection	Environmental Protection Funds
Emission non-compliance fee	Compliance/ earmarked environmental charge	Excess/illegal emissions of air pollutants	State Committee on Nature Protection	Environmental Protection Funds
<i>TRANSPORT RELATED TAXATION</i>				
Excise tax	Revenue raising	Assessed value of the vehicle	State Tax Committee	State budget
Annual vehicle tax	Revenue raising	based on the vehicle's total engine capacity	Local Tax Administration	Municipal budget
Highway toll	-	-	-	-
Road tax	Revenue raising (road development)	calculated according to the car's weight	State Road Fund	State Road Fund
Sales tax	Revenue raising	Value of the vehicle	Local Tax Administration	Municipal budget
Import duty	Revenue raising	Dependent on the age and value of	Customs authority	State budget

		vehicle		
Registration charge	Administration cost recovery	All vehicles	Ministry of Internal Affairs	State budget
Company car tax	Revenue raising/ incentive	Value of the vehicle	Local Tax Administration	Municipal budget
AIR TRANSPORT				
Landing/flight taxes (landing only)	Revenue raising	Based on weight and engine quality of airplanes		
Noise tax/charges etc.	-	-	-	-
AGRICULTURE				
Pesticides	-	-	-	-
Fertilizers	-	-	-	-
WASTE RELATED PRODUCT CHARGES				
Ozone depleting substances	Incentive	Production or import of ozone depleting substances	State Committee on Nature Protection	Environmental Protection Funds
Batteries/accumulators	Incentive/ earmarked	Capacity of	State Committee on	Environmental

	environmental charge	batteries	Nature Protection	Protection Funds
Carrier bags	-	-	-	-
Disposable containers/packaging	-	-	-	-
Tires	Incentive	Single product		
Refrigerators	Incentive	Refrigerators Refrigerants		
<i>WASTE</i>				
Municipal waste user charges	Cost recovery	Monthly charge based on type of user	Municipalities	Waste treatment
Waste disposal charge/tax	Cost recovery	Different waste streams	Municipalities	Recovery of the operational costs and investment
Waste non-compliance fees	Compliance	Failing to meet waste information requirements, illegal dumping	Municipalities	Municipal budget
Deposit refund schemes	Incentive	Glass bottles		
Levy on nuclear energy	-	-	-	-
<i>INSTRUMENTS FOR MANAGING WATER QUALITY</i>				

Water user charge	Cost recovery/ Incentive	Based on user type	Municipalities	Water management, Municipal budget
Sewage charge	Cost recovery	Based on user type	Municipalities	Municipal budget
Water effluent charge/tax	Earmarked environmental charge	Non-treated wastewater	State Committee on Nature Protection	Environmental Funds
Water pollution non-compliance fee	Compliance	Per case of violation	State Committee on Nature Protection	Environmental Funds
<i>INSTRUMENTS FOR MANAGING WATER QUANTITY</i>				
Water extraction charge/tax	Resources management/ revenue raising	Surface water, underground water	State Tax Committee	State budget
<i>NATURAL RESOURCE AND MINING</i>				
Mining charge/taxes	Revenue raising	Volume of mineral extracted	Ministry of Finance, State Tax Committee	State budget
<i>INSTRUMENTS FOR BIODIVERSITY AND NATURE PROTECTION</i>				
Charges for conversion of agricultural and forest land	Revenue raising	Size and class of land	State Tax Committee	State budget
Hunting charges	Revenue raising/resource	Hunting permit	State Committee on	State budget,

	management		Nature Protection, State Tax Committee	Environmental Funds
Fishing charges	Revenue raising/resource management	Fishing permit	State Committee on Nature Protection, State Tax Committee	State budget, Environmental Funds
Natural park entrance charges	User fee/resource management		Natural Park authorities	
Nature protection non-compliance	Compliance/ earmarked environmental charge	Damage done to different species of fish, animals, plants, and their habitats	State Committee on Nature Protection	State budget – earmarked for nature protection
Tree cutting charges/taxes	Revenue raising/resource management	Dependent on the kind of tree and the use of material	State Committee on Nature Protection	Forest management