Sustainable Natural Resources Use: Financial and Tax Issues

N N Bashkirova¹, S N Lessovaia²

¹Higher School of the State Audit, Lomonosov Moscow State University, Leninskie Gori, 1 build. 4/13, 119234, Russia
²St. Petersburg State University, Institute of Earth Sciences, 199034, Universitetskaya nab, 7/9, St. Petersburg, Russia

E-mail: nadezhda.bashkirova@gmail.com

Abstract. The ecological stability and environmental security are becoming relevant issues being the elements of the national security. The development and the improvement of the financial (including tax), legal, educational, social and cultural components of the environmental regulation system is now a worldwide trend. The publication aims to analyze the financial and fiscal aspects of sustainable use of natural resources. Based on the consideration of advantages and disadvantages of the current system of ecological taxation in Russia, the critical analyses of implementing the “polluters pay” principle was provided and the key disadvantages of the energy and transport tax system were disclosed. The main challenges that arise from the implementation of the traditional objectives of ecological taxes and charges were examined in the paper. As a result of the summarized data the recommendations are suggested to improve the ecological taxation system. The alternative to the fiscal regulation, which aims to develop the mechanisms to solve the problem of sustainable natural resources use was justified in the paper. One of such mechanisms is creation of joint infrastructure that involves both state and business institutions, and enables companies to pursue environmental protection activities.

1. Introduction

At the present time, environmental stability and security are becoming particularly relevant issues in the context of both national and transnational security. Various negative impacts emerging from environmental reactions to unsustainable natural resources use, including unauthorized emissions of toxic and hazardous substances, are becoming more extensive. Due to this fact, the environmental regulation development has become a worldwide trend [10], as well as formation of ecological economy, which represents the type of economy aimed at achieving the level of economic development considered acceptable from the environmental perspective, meaning that the ecology or the environment become the dominant factors in sustainable socio-economic development [11]. The ecological aspect of fiscal systems and adoption of environmental regulation mechanisms define new and relevant development paradigm for fiscal theory. The state, business institutions, and society are currently facing the urgent task of increasing business interest and public motivation in developing economic mechanisms and instruments that affect environmental quality. Traditionally, the society’s hopes for achieving certain environmental goals, such as reduction of emissions, decrease in anthropogenic load and industrial impact, are associated with business. It can be achieved, inter alia, by accumulating money in the budgets of the budget system (in the form of a tax), creating funds that can be used for environmental purposes. The proposals considering the feasibility of such approaches have been previously illustrated. [1]
International experience offers a wide range of approaches to financial management of environmental risks [6, 8, 15, 17, 21]. Technical and institutional capacities need to be developed to elaborate financial strategies for sustainable environmental management. The financial instruments ensuring sustainable natural resources use include: (1) fees paid for the use of natural resources; (2) ecological taxes; (3) a set of measures aimed at using environmentally friendly technologies; (4) environmental credit and insurance programs offered by the state; (5) establishing the system of ecological funds, including voluntary contributions paid by business institutions and individuals.

2. Analysis of different financial and tax issues related to sustainable use of nature

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) defines an ecological tax as an obligation imposed by the state on those, who affect environment by means of nature use [12]. For international statistics, the European Statistical Office defines environmental tax as a tax whose tax base is a physical unit of something that has a proven, specific negative impact on the environment [8]. The key objective of ecological taxes is to provide incentives for organizations to manage the environment in sustainable manner. However, practice shows that such approach may not always be effectively implemented. Ecological taxes and charges are classified as follows, in accordance with their main objectives [9]:

(i) cost-covering charges required to reimburse public expenditures on environmental protection against damage resulting from the negative environmental impacts of economic entities;
(ii) incentive charges applied as tools to correct the taxpayer’s behavior;
(iii) Fiscal taxes aimed to increase state tax revenues.

The main challenges encountered in attempting to implement the abovementioned objectives to impose ecological taxes and charges can be listed briefly as following.

1. As for the first objective: the main problem is the difficulty to provide adequate quantification of both the damage, and the volume of funds required to neutralize the damage incurred. An increase in the payment for environmental pollution up to the amount necessary to compensate for the damage incurred will inevitably lead to an increase in the tax burden on economic entities. However, in the present reality, where the attempts to overcome the global economic crises tend to fail, such approach could have a negative impact on the overall investment and tax climate. For a majority of companies, the increase in fiscal burden will inevitably occur as a result of the reduction of the funds that could be potentially aimed at the expanded reproduction, technology renewal, research and development (R&D) expenses, staff incentives [3].

2. As for the second objective, the question remains controversial, because insignificant environmental fiscal load considered as not onerous for business institutions, does not create incentives for rational use of natural resources. In this case, taxes serve as regulators, which, on the one hand, constrain activities with high industrial burden on the environment, and on the other hand, encourage the use of eco-efficient and eco-balanced technologies [15].

3. The fiscal role of the ecological taxes is very insignificant as well. The share of ecological taxes in the structure of government budgets in OECD countries averages around 3% (from 0.4% in Iceland and the USA up to 9.7% in Hungary) [14, 21].

Attention should be paid to the fact that a distinctive feature of European countries is a significant number and a high variability of ecological taxes, which are neutral for the budget at the time of their imposition. The concept of green taxation in European countries is based on a “win-win” strategy according to which the imposition of ecological taxes does not create additional tax burden for taxpaying organizations, but occurs due to lowering social contributions for employees and adjustments to income tax [9].

The win-win principle is a conceptual basis for greening the tax systems of the European countries. The point of this principle is that an entity, who produced pollution should bear the costs of managing it to prevent damage done to the society, and pay out the sum equal to the amount of the damage caused or to the amount that it exceeded the acceptable pollution level (standard). In theory, this is true, but in
practice a win-win situation is never observed when implementing the “polluters pay” principle, and the problems are as follows.

1. It is technically challenging to obtain reliable environmental impact assessment, and therefore, to establish objective level of tax burden.

2. It is necessary to consider whether tax burden is commensurate not only with damage caused but also with the polluter’s actual ability to pay.

3. In fact, tax burden is shifted to the consumers, who buy from the polluter, as the ecological costs are reflected in the product prices. In fact, the alleged “win-win” turns into a “lose-lose” situation for the polluter’s consumers, because in addition to the negative effects of the industrial burden the consumers have to pay price premiums that have resulted from the ecological tax shift.

4. The question about social costs ratio and failure to compensate damaged people’s health and environment remains open [18, 19]. There is currently no ecological tax in Russia as such. However, in economic terms, this group may include the following taxes and charges: fee for a negative impact on the environment, disposal fee, environmental charge, and transport tax.

3. Discussion

3.1. Environmental charge versus extended social responsibilities of business

Environmental charge is levied on producers and importers of goods to be disposed when they no longer can be used due to wear. Such goods include paper and paper products, rubber and plastic products, textiles and leather, metals and electronics. It should be noted that the charge is not formally a tax, but is established by federal law, which is not part of the tax legislation. The charge is levied on the companies which relate to the specific industries and produce goods having proven negative impact on the environment that has to be compensated. The funds in the amount of the environmental charges received as revenue by the Federal budget are directed to ensure the disposal of waste arising from the use of goods that damage the environment. It is important to take into account the fact that there is no specialized environmental fund in Russia, and taxes are unmarked, i.e. not “highlighted”, when they come to the budget. Therefore, it is not possible to correlate the funds received when paying the environmental charges with the amounts actually spent on disposal.

An alternative to the ecological charge is the expanded responsibility of producers (ERP), the development of public-private partnership and the increase of social responsibility of business institutions when addressing the challenges in ecologically unfavorable territories. The ERP system [16] often aims to ensure the safe and secure collection and disposal of substances or products that would be hazardous or harmful within the general waste stream. Another reason why the ERP system is often implemented is to reduce budgetary spending of municipal authorities on managing significant parts of the waste stream [5]. This approach is the most consumer-oriented and allows the state to reduce the administrative burden in this area. One of the ways to implement the public-private partnership in order to reduce environmental burdens is through joint actions taken by the state and polluting organizations to dispose waste [2].

Activities for improvement of waste management assume that besides those problems, which are solved by the producer in the organization, some issues outside the enterprise also, has to be implemented. The principle of the expanded responsibility of producers has to be applied to collecting, sorting, processing and restoration of waste of consumption [13]. The ERP principle means liability of the producer for ensuring collecting and utilization of a considerable share of waste of production made and put on the market. ERP includes producing, distribution of the made production, recycling, control over the expiration dates, processing and/ or re-use of waste. While previously the usual liability of the producer included liabilities have been restricted by only producing, distribution of production and recycling. Thus, ERP is a political approach that transfers a part or all responsibilities on producing and/ or packaging from public authorities (municipalities) to producers of this production and/ or packaging. Consumer waste represents the greatest number of all packings, and they are most difficult for collecting.
Due to application of ERP principle industrial, commercial and packing wastes are formed in the smaller number of places and then they are collecting, processing and recycling [20].

3.2. Transport tax and motor fuel excise tax issues
In Russia, as in European countries, fuel taxes are levied on a unit of volume of fuel consumed, which is used as a tax base. The tax base does not reflect the amount of pollutants contained in the fuel, but the tax rates vary depending on the environmental class of the fuel. Since the existing tax rates are based on fuel consumption, but do not take into account the carbon footprint of the fuel and its energy content, this approach leads to distortions for competing energy sources, for example, when gasoline is compared to diesel fuel. Analysis of the motor fuel excise taxes for road industry in Russia shows that the taxation mechanism is consumption-based and does not take into account the negative environmental impact and energy intensity. Herewith, there is a distortion of competition between the two major types of motor fuel, gasoline and diesel, manifested in unreasonably low tax rates for diesel compared to gasoline and a failure to generate substantial tax revenues for the state.

In addition to fuel charge traditionally related to energy taxes, the vehicles are associated [15, 21] with transport taxes levied on vehicle owners on an ongoing or periodic basis. In Russia, the transport tax burden increases with the engine power. That is, a transport tax in its present form does not take into consideration the environmental class of an engine, the type of fuel used, and the vehicle operation mode. Thus, in the contemporary context, the transport tax in Russia is closer to luxury taxes than to environmental taxes. It is logical to conclude that the existing system of taxes related to vehicles and motor fuel is not optimal and needs to be improved.

3.3. Non-tax Issues of Sustainable Natural Resources Use
In particular cases the application of environmental taxes and charges fail achieve an effective . Case study was performed based on the example of a mono-city [1]. Mining and mineral processing (in particular, copper-nickel sulfide ores) creates an industrial impact on environment and inevitably affect the health of people who live in the region. Specifics of industrial pollution make it impossible to use direct methods to prevent or remedy the negative impact on eco-systems. The problems related to the implementation of the sustainable natural resources use program using the urban locality of Nickel situated in the Pechengsky District of Murmansk Oblast have been considered and identified [1]. The plant illustrates the long-term impact of an industrial enterprise on the environment. In addition to the environmental disruption expressed in complete destruction of soils and vegetation, there has been revealed contamination of remote areas due to aerial spread of pollutants [4]. Closing the plant responsible for contamination will not solve the problem, as the population of the mono-city is strongly involved into its activities. An increase in payments for environmental pollution will lead to an increase in the tax burden, which will result in reducing funds that can potentially be directed to expanded reproduction and R&D costs. It is therefore relevant to use financial mechanisms aimed not at increasing the tax burden on the “polluter”, i.e. the enterprise, but at promoting technical upgrading of production and the use of environmentally friendly technologies. A possible solution that resolves the contradiction is to develop a system of tax credits and deductions that may be granted to business institutions that invest in green technologies. This approach is a popular and promising direction to reform the Russian tax system. Another effective mechanism that could be used to solve the problem of sustainable natural resources use is to create joint infrastructure for environmental protection activities (including ecological monitoring) to be performed by organizations that pollute the environment. This would allow a company to accumulate the funds it could not afford tackling environmental challenges on an individual basis. However, achieving this objective without the state support becomes challenging. This is the situation when public-private partnership could be a relevant solution when addressing problems of environmentally unfavorable territories. Joint actions of the state and the organizations which pollute the environment, such as monitoring the areas with elevated levels of soil and air contamination, creation of research laboratories jointly managed by the state and a company, and development of environmental education programs could be promising avenue to establish environmental programs.
4. Conclusions
Summarizing data, the current system of financial and fiscal mechanisms for the development of sustainable natural resources use in Russia is not effective. Existing environmental taxes and charges do not allow for the accumulation of the amounts necessary to reimburse public spending on environmental protection from damage caused by negative impact of economic entities. Also, the current system of environmental taxes and charges does not serve as an effective tool to change the taxpayer’s behaviour. The insignificance of tax burden does not motivate the “polluter” to carry out technical renovation and use environmentally friendly technologies. An increase in environmental charges and taxes burden would negatively affect the overall investment and tax climate.

A possible solution that resolves the contradiction is to develop a system of tax credits and deductions that may be granted to companies that invest in green technologies. This approach is a popular and promising direction to reform the Russian tax system. Another effective mechanism that could be used to solve the problem of sustainable nature use is to create joint infrastructure for environmental protection activities (including ecological monitoring) to be performed by organizations that pollute the environment. This would allow a company to accumulate the funds it could not afford tackling environmental challenges on an individual basis.

An alternative to the ecological charge is the expanded responsibility of producers (ERP), which would allow establishing public-private partnership to reduce environmental burdens. Joint actions taken by the state and polluting organizations to dispose waste would lead to the reduction of public spending on waste disposal activities, and association of producers would allow for effective use of available funds. The transport tax has to acquire more features of ecological taxes, and the correlation between the rates and the environmental class of an engine has to be considered to eliminate the features associated with the luxury taxes.

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