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"Green" Procurement to Improve Energy and Environmental Efficiency of Russian Economy

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Development of "green" procurement-procedure-based mechanisms to improve energy and ecological efficiency of Russian economy are considered. Russian experience to reduce environmental stress by clean technologies is analyzed.

Keywords: ecological economics, green procurement, environmental and energy efficiency of economy, green growth, incentive mechanism, audit of climate change, adaptation of economy to climate change, market of environmental products, jobs and services

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World financial crisis of 2007-2009 and its consequences made many countries, Russia including, change over to a new innovative development model. According to Prof. Porfiriev B.N. the basis for the new economy will be not money, but nature and man, or – in the terms of modern economic theory – natural and human capital assets. Russia is specific for its very high natural capital asset which, by different estimates accounts for 39-42 % of total assets and considerable part of the world natural wealth [16]. Whereas earlier the topic of "green development", "green growth" aroused interest only in a small group of ecological economists, while, as the vivid expression goes, in many managers it induced only sleep and irritation, nowadays – in 2009 and 2010 – the situation radically changed. After the world financial crisis the subject of ecological growth, of "green" economy" became popular. Economic patterns, opportunities to establish special ecological funds began developing. This is largely explained by the possibility for the economy to develop without prejudice for the environment, to create additional jobs on "green development". To-date the process involves practically all leading economies of the world.

According to the study of the Institute of Sustainable Development made by Bobylev S. N. and Zakharov V. M. (2009), the crisis has multiple-valued impact on environment, deteriorates the ecological situation, at the same time the crisis generates new opportunities and options to solve

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environmental problems. New, compared to pre-crisis period "window of opportunities comprises the following lines [2]:

- increased involvement of the state in the economy caused by the crisis can help use the state support to make structural-technological restructuring in favor of ecologically "cleaner" industries, i.e. to facilitate transition to ecologically sustainable development;
- decline in production caused by the crisis can reduce environment pollution. This situation was typical to the crisis of the 1990s;
- active participation of Russia in the mechanisms of Kyoto Protocol can have great ecological and economic effect and prevent global climate change. The state should stimulate the energy saving measures.

As noted in «Priorities of National Ecological Policy of Russia» (2009) the main line that has settled into shape and aimed to improve energy efficiency and reduce environmental intensity of economic growth is to realize the priority of nature valorization [17]. Environmental, economic and social interests unite to solve this problem.

Under these circumstances of theoretical and practical interest are the efforts made in Russia to adapt the economy of the country to new global environmental and climate challenges. Speaking at the conference on improvement of environmental and energy efficiency of Russian economy on June 3, 2008 President of Russia D.A. Medvedev noted that the environmental topics are closely related to improvement of the quality of life, health status of the population. Change-over to environmental standards affects innovative development of the country, competitiveness of economy, in essence. To solve this problem involves development of economic mechanism, measures to stimulate and motivate commercial entities, population to use environmental and resource-saving technologies, to use environmentally benign and energy-efficient materials, commodities work and services. This makes necessary to change requirements to the energy efficiency of the technologies, buildings, structures, production operations on the whole on the basis of technical regulation system development [11].

«Principal Directions of Action of the Government of the Russian Federation for the Period until 2012», passed by Executive Order of the Government of the Russian Federation of 17 November 2008 N 1663-p as a priority task outlined change-over to new environmental standards of life [12]. This involves:

a) to develop a new system of standardization of admissible environmental impact to reduce anthropogenic load;

b) to improve economic mechanisms for environment protection, including changes in payment for negative impact on the environment and develop instruments for environmental liability insurance of economic entities;

c) to develop mechanisms of state support for works aimed to mitigate and eliminate environmental damage caused by economic activities;

d) to develop and implement modern environmental audit system, etc.

RF Presidential Edict of 4 June 2008 №889 «On Measures to Improve Energy and Environmental Efficiency of the Russian Economy» states the necessity to reduce by 2020 energy intensity of gross domestic product of the country by not less than 40 % as compared to 2007, to promote rational and environmentally responsible use of energy and energy resources [3]. This implies several measures, among them – to develop federal laws aimed to economically stimulate economic entities employing energy-saving and ecologically clean technologies. E.g. federal budgeting for 2009 and the following

period provided for financing projects (state order, in essence) involving use of renewable sources of energy, implementation of environmentally and energy-efficient technologies. This approach can be characterized as an attempt to ecologize the budget for the future development of the country. In addition, this document provides for allocating from the federal budget individual subsidy types to the budgets of constituent entities of the Russian Federation, regions with account of use of energy-saving and ecologically clean technologies. Measures to improve environmental and energy efficiency of economy closely correlate with main provisions of the Climate Doctrine of the Russian Federation approved by RF Presidential Edict of 17 December 2009 N 861-rp [6]. As President of the Russian Federation D.A. Medvedev noted at the session of Presidium of the State Council for Improvement of State Regulation in the Field of Environment Protection of 27 May 2010 «…now we consider the subject of environment protection as traditional, and not extraordinary because the society has developed awareness that without taking into account current status of environment, without strict fulfillment of ecological standards we merely have no future» [18].

It should be noted that various environmental aspects of regulating economic activities, e.g. in the form of protection of property and private rights have been known in Rus long ago. As early as the Russkaya Pravda («Русская правда») – Code of Old Russian laws (XI century) – provided for a system of punishments and sanctions for deliberate damage to wild hive bee-keeping (for bee-farming) and hunting areas. In the Council Code (1649) – most systematized compiled laws of the Moscow state – Article 218 states punishments and fines for damage to a wild-hive tree with bees. Article 216 reads on punishment for forcible fowling «because of evil will». Rules of Construction, Article 408, in force in the second half of the XIX century, prohibited construction of factories and works harmful for the cleanliness of the air, in cities and on rivers and tributaries upstream the cities [4].

As the world experience shows, one of the lines to stimulate the market of ecological goods, jobs and services is the system of environmental or “green” procurement. It should be noted, that since ancient times the state procured goods necessary for its needs. Elements of procurement regulation appeared in Russia as early as under Peter I (1672-1725). E.g. the edict of Peter I of 22 February 1709 «On keeping yards and streets clean by Moscow dwellers, on removal of garbage beyond Zemlyanoi Val, and on keeping the streetway in working order» states the necessity to keep the streets clean, for the residents to render any assistance for the benefit and cleanliness. Essentially, this refers to a kind of a state ecological order to keep streets, markets and bridges clean «to clean the garbage and remove it into an indicated place». Examples of holding a competitive tender for such procurement are available at the epoch of Ivan the Terrible (1530-1584) [19]. Presently environmental supplies amount approximately to 16 % of GDP of the European Union, which in terms of value is 1700 billion Euro. This economy sector is considered important to develop environmental innovations, technologies and competitiveness of the EU countries. In 2008 the European Commission made a decision that by 2010 50 % of all public procurement should be environmentally benign. Specifically, communiqué «On legislation of European community in the field of public procurement and use of public procurement to pursue social policy» provides for implementation of environmental policy to place state orders: a) to develop appropriate engineering specifications; b) to use certain raw materials; c) to use specific technologies; d) to choose appropriate suppliers; e) to develop recommendations to assess

proposals and choose the best proposal with account of ecological requirements.

In Russia the "green" procurement system is at the stage of intensive formation and development. Considerable interest to development of "green" procurement system is observed in such cities as Moscow, Sochi, Novokuznetsk (Kemerovo oblast), etc. [9,15].

In its essence the state "green" procurement system is close to the system of state order, including municipal order. According to Kutafin O.Ye. and Fadeev V.I., municipal order is a contract between an agency of local self-government and an economic entity to perform a certain kind of work funded from the local budget or municipal extrabudgetary funds [7]. From this viewpoint municipal ecological order can be defined as a need of agencies of local self-government for goods, jobs and services with account of requirements to their environmental and energy efficiency as compared to analogous goods, work and services satisfied by the budget of a municipal formation.

Analysis of Russian practice of holding tenders, auctions, including Moscow, Novokuznetsk (Kemerovo oblast) shows that the base criterion to hold them and requests for quotation is the minimum price, but not the best conditions for performance of a contract. This approach, in our opinion, does not completely take into account expenses for the life cycle of supplied goods (product) in terms of its environmental and energy efficiency. Regretfully, in the history of our country in recent years the approach we had essentially ignores environmental aspects of economic activities. It was as long ago as 1989 that Peter Poletaev (the then First Vice-Chairman of the USSR State Committee for Environment Protection) noted that slogan "Economy should be economical" repeated over and over oriented the project appraisal activities of ministries and agencies primarily to reduce the contract price [13], i.e. the ecological aspects had been given no consideration at all.

"Green" procurement in Russia is obviously closely connected with improvement of the system of regulating negative impact on environment, with change-over to the principles of the best existing (accessible) processes. Ecological regulation should be based on application of the best existing processes to reflect modern level of technological development, the best technologies capable of setting guidelines and being the basis to assess success of implementing the innovation development programs to improve competitiveness of Russian enterprises in compliance with international standards and WTO standards. It should be taken into account that the potential market of Russia is fairly receptive for development of the state "green" procurement system. Currently more than 100 thousand legal entities, individual entrepreneurs perform in the Russian Federation activities affecting the environment. However, the lion's share of the negative impact on environment quality belongs to about 300 enterprises only. Mostly they are from energy, oil- and gas production, metallurgy, pump-and-mill industries and housing and utilities structure.

From our point of view, an important source of financial support of the "green" procurement system can be a united state fund for environment protection reestablished as a target source to fund environmental efforts. Such ecological funds existed in Russia from 1998 till 2001 to be later consolidated in the budget. The environmental fund system well proved itself in Russia at the level of municipal formations, city as a source to accumulate means coming from enterprises for their negative impact on environment and used for different environmental purposes, the environment rehabilitation of territory including. Currently the Government of Russia is considering a question to recreate the system of state

extrabudgetary funds. As for the environmental procurement system connected with drawing into economic circulation of secondary material resources, implementation of resource-saving technologies, it is wise to consider the means coming from payment for displacement of wastes as an instrument for economic stimulation and additional source of funding to use the production wastes.

As mentioned above, the most important challenge for the development of Russia and its individual regions under current circumstances is to improve environmental and energy efficiency of Russian economy. To solve this problem it is required to modernize production facilities, implement technologies meeting high ecological standards. Among these lines can be the use of renewable energy sources – "green energy". E.g. the Republic of Kalmykia is one of constituent entities of the Russian Federation to implement construction projects of wind-power stations. To-date the first two wind-power stations with a capacity of 1.5 MW each have been commissioned in the territory of the Republic of Kalmykia. Projects to develop renewable sources of energy, wind energy, in particular, are successfully implemented in Kaliningrad oblast involving private investments.

Analysis shows that 103 countries of the world have passed a law on renewable sources of energy to promote construction of wind-power stations and solar-power stations. E.g. in the US wind annually produces 120 thousand MW of energy. In European countries (Germany, Holland, Italy, Spain) from 60 to 90 thousand MW is annually produced by wind. In the Russian Federation –5 megawatts only. E.g. the European Union has passed a law: to bring by 2020 production of electric energy from renewable sources of energy to 20 %. Currently a draft law on "green energy" or renewable sources of energy for the total produced " green energy" to amount to 10 % of the total energy produced is ready to be moved to the State Duma of the Russian Federation. Today it is 0.9 %. Another consideration is that the prime cost of products produced on the basis of renewable sources of energy is higher than the cost of heat generation, to say nothing of hydro- and atomic energy. To stimulate state procurement of "green" energy in Russia it is proposed to oblige the state grid companies to purchase renewable-source-based energy at fixed price which is to be defined as average prime cost for this type and generation. In addition it is possible to use a mechanism when "green" energy is sold at the wholesale market in the usual way at the price formed by market mechanisms of demand and supply. Each kilowatt-hour sold in this manner shall have supplemental payment from a special extrabudgetary fund to be formed by special-purpose allocations of wholesale market suppliers from each kilowatt-hour sold.

Incentives to stimulate change-over to the best available technologies by estimates of the Ministry of Natural resources and Ecology of the Russian Federation will increase the payment for negative impact 2.3 times by 2011 and 3.4 times – in 2016. Total annual payment for negative impact will, at this, be 138 billion rubles or 1.1 % of the profit of enterprises Of the Russian Federation. To modernize Russian economy will require expenses in the amount about 2 % of GDP annually. At the same time, the effect of modernization will increase competitiveness of the enterprises, accelerate economic growth, create reliable basis for further development of Russia and improve environmental parameters of the quality of life.

In addition to measures aimed to strengthen government environmental control ecological audit procedure which will touch upon implementation of "green" standards will evolve. To study adaptation of economy to climate change some authors suggest auditing climate

Table 1. Analysis of Russian experience of placing state order s of federal and regional purpose

Analysis criterion / City	Moscow	S.Peterburg	Vladimirskaya oblast
Similarities:	Differences	Differences	Differences
Strategic tasks of procurement policy			
– development of competitive environment; – support of mass media (small business entities)	– to provide for city needs on the basis of optimum ratio between the cost and quality of purchases in compliance with requirements of budget policy.	– efficient city budget expenditures defined by achievement of prescribed economic results with minimum financial means.	– economy of budget means in placement of state orders; – improved transparency of relations between state structures and business; – optimized expenditures of customers and participants of order placement by development of competitive procurement.
Organization of order placement system			
– official site; – development of normative acts at the municipal level and requirements to tender and other documents.	Centralized procurement system; Two levels of order placement: – 1 level: municipal procurement for the some more than 10 million rubles and contractual work more than 20 million rubles.	Combined procurement system – part of state procurement is made an authorized government body; Three levels of order placement.	Procurement system centralized, authorized body – Department of property and land relations, part of order placement functions is performed by holding tenders and transferred to – the fund of state property of the oblast;
	– 2 levels: orders are placed in sectoral structures and administrative districts on the basis of uniform principles of holding tenders.	Commissions are set up on grounds of industry depending on procurement profile and make decisions on procurements above 15 million rubles.	2) centralized commissions for order placement are established: Commission for placement of orders to supply goods and render services and Commission for placement orders to perform work including concerned parties.

change [14]. Presently the law on environmental and energy efficiency is to be altered to take into account procurement of eco-efficient goods for state and municipal purposes, eco-labeling of goods, ecological requirements to new buildings, structures, installations, special mechanisms to increase production of heat- and electric energy, program to enhance eco-efficiency of regions, municipalities, organizations. The Government of Russia is instructed to consider feasibility of purchasing wind energy, other energy produced from renewable sources at free market prices, and these should, of course, be understandable for us generation objects [18].

Table 1 gives analysis of Russian experience of placing a state order.

Foreign systems of state procurement differ substantially. E.g. the procurement system in the US is non-centralized, in Canada – centralized. The European Union has both a distributed model when each unit, departments, ministry, etc. establishes specialized procurement departments with independent conduct of business; centralized system establishes a procurement center where procurement activities (establishment of a procurement center collecting applications purchase requests from subdivisions, and a combined procurement

system when overall charge of procurement activities (development of regulatory and legal framework, planning, control and coordination) is by the ministry of finances or economy, and specific purchases are made by special procurement structures (offices). Characteristic for the american model is for this work and services to be coordinated by the Directorate of Federal Procurement Policy established in 1974 as a consultative body at the Ministry of Management and Budget which in 1988 became an independent permanent government body. To purchase military hardware and equipment a specialized organization was established – Shared Services Administration. In Canada the authorized body for the market of said work and services is the Ministry of Public Work and Government Services which makes purchases in the interests of more than 100 federal agencies. Small purchases up to 5000 canadian dollars can be made independently by any state customer. Regulatory document for the US in the field of state procurement is the Code of State Procurement developed in 1984, describing all stages of making procurements from questions of planning, management of concluded state contracts to realization. In Canada each province has the right to independently define its policy of state order placement, providing it does not contradict international agreements and agreements between the provinces and the government of Canada. Federal state procurement of Canada is regulated by the following regulations: North American Free Trade Agreement; WTO Agreement on state procurement; rules for conclusion of state contracts; Federal Procurement Regulations. In the European Union the state procurement system is regulated, subject to scope and other conditions, by three levels of legislative control: international, laws of the European Union and national. Requirements of WTO Agreement on state procurement come under the heading of international procurement regulations. Regulations at the European Union level comprise a number of legal acts providing uniform conditions for federal procurement. As for the order placement method for this purpose the US generally hold public tenders, negotiations; various simplified methods of procurement are used when the contract value is not big (up to $100 hundred) provided their sum does not exceed $5 million a year (request for quotations; corporative purchasing cards for especially small purchases – up to $2500, placement of purchasing orders, framework agreements for regular purchases of a variety of products, etc. In Canada invitation to tender is necessary when a known goods or common service is purchased for more than $25000. The lowest bid wins subject to meeting all requirements stated in the request. Request for contract of delivery implies, at this, a certain agreement between the customer and potential suppliers of goods and services. In the European Union it is generally open and closed competitive one- or two-stage tender, the method of requesting quotations, purchasing from a single source. Some countries also use methods of requesting proposals and competitive negotiations, and for construction work placement at the customer’s discretion on the basis of negotiations. The american system of state order placement functions in two major lines: for current operation (supply of materials and machinery) and procurement for the type of job of a specific state body (primarily R&D and capital investments). Information support of US state procurement is performed within the framework of activities of the Federal Procurement Data Center – Internet portal. In Canada such information support is performed in the Internet by MERX system – www.rerx.com. It is designed to publish notices both about state procurement and about tenders held by

the business community. Provisions are made for a printed publication to publish information about state procurement. For this purpose the European Union uses electron base of (Tender Electronics Daily, TED).

Preferences in the federal procurement system, the “green” purchases among them, comprise, e.g. preferences for R&D for small business entities as a certain quota, a share of the state order, which in the US, for instance, is about 23 %. In addition the American companies have preemptive right to conclude a contract with the state, providing their price is not than 6 % higher than the quotation of foreign suppliers. In some EU countries local suppliers and contractors are given various preferences at the level of 5–10 %. In Hungary preferences for a certain period amounted to 20 %. In addition to special restrictions on access of foreign suppliers to federal orders it is common to use less explicit methods, such as customs fees and non-tariff restrictions (standards, certificates, licenses, etc.), and express prohibition. Some countries, e.g. Germany, passed special laws to stimulate “green” purchases, produce and consume environmentally benign products and services, e.g. to develop renewable sources of energy, implement a system of bonuses to produce bioenergy, etc. [20, 21].

It should be noted, that, the attitude of different population groups and specialists to the problem of enhancing environmental and energy efficiency of economy is different and depends on their ecological awareness and concern to practically realize environmental and energy-efficient policy. The latter circumstance according to Edward Girusov, has an ever increasing impact on the attitude to environmental requirements, because they strongly affect the interests of both producers and consumers. Meanwhile change-over to sustainable development implies considerable transformation of production activities and rationalization of consumer structure to being them in compliance with resources of nature and conformity with requirements of the generations to follow [5].

So, federal “green” procurement system may become an important instrument to stimulate economy of Russia to change over to the principles of resource- and energy-efficiency which is a pre-requisite for environmental enhancement on the whole.

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Повышение энергетической и экологической эффективности российской экономики на основе процедуры «зеленых» закупок

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Рассматриваются вопросы формирования механизма повышения энергетической и экологической эффективности российской экономики на основе применения процедуры «зеленых» закупок. Анализируется российский опыт в сфере экологической экономики по снижению нагрузки на окружающую среду за счет применения чистых технологий.

Ключевые слова: экологическая экономика, зеленые закупки, экологическая и энергетическая эффективность экономики, зеленый рост, механизм стимулирования, аудит климатических изменений, адаптация экономики к изменениям климата, рынок экологических товаров, работ и услуг.

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