

## **Tax Incentives for Environment Protection and Reasonable Energy Consumptions**

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*Austerity exists for poor, while rich have tax deductions.*

**Abstract:** Energy is new deficit consumer goods. The states aware that regulation of energy consumption via tax system is a complex problem, especially taking into considerations that balance between social justice and household's economic freedom is not easily maintained. Russian energy efficiency policy was studied to see whether it can be an effective in regulation of consumption. We suggest the sumptuary taxation as the most effective, both economically and socially, form of taxation on energy consumption.

**Key words:** Sumptuary taxation, Tax incentive, Energy efficiency

### **INTRODUCTION INTO THE PROBLEM**

Households' economy is a place of final consumption of goods and services for products provided by national economy and imported from abroad. Consumption is usually accompanied with specific taxation – indirect taxes, for example value-added tax or VAT, which in many economies is very significant one. Consumers face indirect taxes as a surplus above price, which should be paid in a moment of purchase.

Consumption taxation can be divided into two groups: general and specific. General includes VAT and sales taxes of different forms, while specific is formed by various custom duties and excises on certain types of goods, often it were food, alcoholic products, cigarettes and other smoking substances. Taxes on consumption can be of single-stage and multistage nature, the former, for example Sales tax, and the latter, for example VAT, differ in a way in which tax base is formed

toward final consumption. It is important to notice, that all taxes are finally paid by consumer – households, even taxes that were collected in a process of making unsold products, in this case the burden of taxes lay down on owners of the producer company, who are also households.

Authorities are looking forward to maintain tax incentive for reasonable consumption of energy both for budgetary and environmental purposes. Energy consumption, as well as energy saving, is a service which doesn't have a material form. That is why for the market, energy is a stream of value, which can be regulated, but not stored. Consumer is benefited in a very moment of consumption, and price elasticity of such a service is very low. Therefore simple tax instruments in the form of an excise on the consumed volume of services can hardly be effective.

#### SUGGESTIONS

The process of expanded reproduction of value-added in the economy, understood as a whole, includes actual production of the benefits, their distribution, exchange and consumption. Circulation of value between mentioned above stages creates transitional or transformational expenditures. The process of production in the same time is a process of consumption of different types of tangible and intangible resources. The economic relations of “use” are one of the moments or attributes of the relations of “property”, which reflect

public forms of consumption, both productive, and personal [10].

That is why all costs of production eventually are indirect costs of consumption. The prices of the final consumed products include all cost expenses of production of an intermediate products, including costs for maintenance of public institutes, including, institute of the state, financed from both tax and non-tax sources. From this follows that, regulation of final consumption by the individual can be carried out directly at a consumption phase and indirectly at stages of production of a semi-finished or intermediate products. Government, as a major institution in charge of enforcing effective proportions (as Karl Marx stated – “die Planmäßigkeit”) in a national economy, possess various mechanisms such as subsidies, price regulation, sanctions, duties and even direct production of goods and services by state-owned enterprises. All means that government can use for maintaining the socially beneficial proportions in the economy can be split into incentive for cheaper and faster production of goods and services and restriction of harmful business practices or excessive consumption. Government tries to restrict those business practices that consume indivisible recourses, such as clean air, while generating private revenues.

The corresponding economic contradiction is that, without proper taxation, indivisible goods that belong to all society are used, hurting many and benefiting a few economic

agents. Famous aphorism of Adam Smith: “one can’t live in a society and be free from the society” can be used to address the problem, that pursue of profit or greater market penetration will lead to exponentially greater harm for the environment. If pollution of natural water reservoirs, air and soil will exceed particular level, there is will be irrevocable loss of ability of the nature for self-restoration. So the proportion between preservation of indivisible goods and consumption both personal, in a form of better quality of life of a particular consumer, and productive, in a form of economic growth, can’t be done via pure market forces.

According to Key World Energy Statistics of the International Energy Agency, in 2017 industrialized countries consumed from 1 to 10 Kilowatts per citizen. Rate of annual growth of world consumption of electric energy have increased by 2.5 times in recent years, having exceeded population growth rate [17]. Energy consumption per capita is the indicator reflecting the level of industrial development of the country, one of important indicators of a national wealth. Increase in power consumption in the country may reflect process of replacement of live work with machines and industrial robots. So, policy directed to restriction of energy consumption may hamper economic growth.

Economic efficiency of energy use in addition to the consumption numbers is linked to the number of times energy changes its form (heat-electricity-light etc.) and thus with

the “exergy”. The “exergy” of a system is the maximum useful work possible during a process that brings the system into equilibrium with its environment. “Exergy” is the energy that is available to be used, so this term can be used for measuring the energy efficiency [15]. It means that the term “energy saving” that is so wildly used is the economy of “exergy”.

According to the model of de Gouy – Stodola, the loss of “exergy” is in proportion with increase of the entropy of a thermodynamic system [13, 936-941]:

$$D = \Delta S \times T \quad (1)$$

$\Delta S$  – Sum of increase of entropy of all surrounding objects, participating in process of transfer and transformation of heat;

T - Environmental temperature.

It can be inferred from above, that new technologies should increase the amount of useful energy, which can be generated by the same amount of fuel. According to G.W.F. Hegel's theory, people seek to carry out the purposes, using at the same time all available resources, which are given to them by the nature and created in the course of practice. But at the same time they solve the problems more general than those that they mean initially. This achievement of the purpose, external for the person, is "cunning of reason" (die List der Vernunft), or the situation when particular solutions for smaller problems becomes useful for more general ones. And

again the major problem is to protect common good from private interests – that is the ultimate goal of state authorities [2].

Historically, during long time intervals private interests bring particular economic entities and households to the level of domination, doing harm to the surrounding environment. However "the cunning of reason" can be implemented, and become reality as a result of activation of institutional factors, such as the state intervention in energy saving processes that will promote decrease in anthropogenic burden for the nature.

Production of any type of energy should be understood not as pure creation, but as a process of transformation of energy conserved in natural resources that it is connected with energy losses, dissipation of energy.

At the same time the thermodynamic optimum often differs from an optimum technical and economic for just a little that is explained by the fact that change of parameters of the system in the limits necessary for thermodynamic optimization doesn't change other types of power expenses. It proves an opportunity to improve assessment of power balance of complex technical systems. The latter doesn't consider qualitative distinctions of energy resources and features of functioning due to their irreversibility and also impossibility to estimate external losses [1].

Therefore, energy saving and use for this purpose of tax instruments can be most

effectively applied in the branches of economy changing and transferring energy in high-level networks, the generating installations. Household's saving can gain the economic importance only because it becomes a final stage consumption of energy and due to mass character this consumption. For this purpose the state can introduce the system of preferences, subsidies, taxes for the enterprises and households, regulating activities for stimulation to energy saving.

As an example of policy aiming to preserve nature via energy saving can be mentioned a Federal Law «About energy saving and increase in power efficiency, and about introduction of amendments to particular acts of the Russian Federation» (№ 261-ФЗ from 23.11.2009), which on a state level regulates economic interactions linked to energy efficiency [9]. The law, mentioned above is a major, but not the only legal attempt to form an institutional environment, creating social and technological precursors for lowering the amount of energy used to create additional dollar of goods and services.

The main concept of the law is that effective use of energy resources is built on the principles of efficiency and rationality, active support and stimulation of energy saving that will allow increasing power efficiency, providing system approach for the actions of energy saving both for the natural and produced energy resources. Actions for energy saving are considered by society as the

main part of process of reproduction of power resource [8].

The main attention of State regulation in the sphere of energy saving and increase in power efficiency have been focused on stating the requirements for economic turnover of the particular goods manufactured in Russia and imported to the country. It at the same time assumed restriction of production, import and turnover of goods which showed low energy efficiency. Conditions of life of citizens will objectively require better energy consumption which has to be guided by requirements of the International standard ISO 50001:2011 «Energy Management Systems – Requirements with Guidance for Use» [7].

Russia imposed since January 01, 2011 the ban on use of lamps with power more than 100 watts. Production of low power efficiency devises is limited and at the same time circulation of higher power efficiency lamps is stimulated for both businesses and households. Goods which are made in the territory of Russia as well as imported ones since January, 2011 should have information on a class of power efficiency.

Also for ensuring energy saving, officials realize programs for regulation of an expense of thermal energy in living apartments. In the sphere of consumer and housing services, regional and municipal programs for energy saving and increase in power efficiency of housing and municipal infrastructure are developed.

It is planned to accompany implementation of the law with such economic measures and mechanisms, as the system of incentives, the system of pricing (tariffs), and in the state support of investment activities in the field of energy saving and increase in power efficiency. Along with different tax stimulus, the mechanism of compensation of part of investments in power efficiency, and compensation of interests on credits for such projects can be used. Options for tax preferences are provided by the article 36 “About Modification of a Second Part of the Tax Code of the Russian Federation”, where were made changes and additions regarding the depreciation of fixed assets, relating to the equipment having high power efficiency, according to a list, approved by the Government of the Russian Federation.

Nevertheless, careful analysis of opportunities of use of tax incentives, shows that tax incentives are not used enough to foster energy efficiency in Russia.

## CONCLUSION

We may assume a debatable hypothesis that as an effective form of tax incentive for greater energy efficiency can be used so-called sumptuary taxes on the basis of sumptuary laws (Latin for “leges sumptuariae”) Such laws were invented in times of Ancient Greece and Ancient Rome. Generally, sumptuary taxation is a form of taxation on demonstrative or luxurious consumption.

If we assume energy as a deficit resource, because its extraction requires consumption of non-renewable natural resources, such taxation looks applicable. Even if this energy has been generated in a so-called renewable form, the equipment for energy transformation has been made using non-renewable natural resources. The “cunning of reason” in the more adequate form can be shown as focus on saving, not irretrievable extraction of energy resources for society. Consumption of energy over the established standards can be estimated as wasteful consumption and can be regarded as luxury in terms of taxation. As well as in times of Lycurgus (7th century B.C.) as sumptuary (regulating) taxes can be used excises and special duties on wasteful consumption.

Theoretically the introduction of sumptuary taxes was given in Thorstein Bunde Veblen's work “The theory of an idle class”. Since 17th century laws on luxury encountered difficulties of control of real consumption that has drawn attention of the authorities to use of more sophisticated tax tools.

Thereby the expediency of introduction of taxes on some groups of goods, which consumption didn't fit into model of equitable distribution of wealth was proved. As a result, need of introduction of system of the taxation, based on mechanisms of fiscal control over purchase and consumption of luxury goods has been historically proved [5].

Duties as some historically modified form of sumptuary taxes on scarce energy resources, can become that external factor, which will create an incentive for realization of energy saving model of the behavior of end user - households. The modern option of sumptuary taxes on excess consumption of scarce energy resources, assumes also introduction of progressive tax rates on consumption when tax base for calculation of payment is not the income of the taxpayer, but volumes of his consumption. The higher the consumption level, the higher the tax rates.

In a comparatively modern history, in the USA in 1995 a group of senators suggested to impose similar taxes. Introduction of a value-added tax for consumption is equivalent in terms of social and economic consequences to introduction of a sumptuary tax. The difference is that value-added tax is applied rather widely and treats all levels of consumers, and the sumptuary tax will deal only with consumption of specific goods and services, in our case - an excess electricity consumption and its inefficient use [14]. It can also be used for the indirect taxation of purchase of the power inefficient equipment and household goods that fail to follow from requirements of the State program of the Russian Federation “Energy saving and increase in energy efficiency until 2020”.

As the economist Robert Frank noted [16], partial replacement of income tax with a tax on consumption can become the idea accepted for politicians as receiving large income in

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market economies becomes non-punishable act, and introduction of sumptuary taxes on excessive use of scarce energy resources would allow to remove partly social stress in society and to reach higher social justice.

However it is necessary to be aware of a number of potential problems, which authorities may face, introducing sumptuary taxes on consumption of energy resources in Russia. Existing flat scale of an income tax

can't be sustained for a long-term in Russia. Transition of tax system to the progressive taxation of income will be badly combined with taxes on excess consumption. Therefore the system of the state tax management designed to create the reliable system of energy saving can't depend solely on neither the sumptuary tax on consumption of energy resources, nor a value-added tax for consumption.

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