Abstract: This article offers concise overview of the Russian Federation’s energy efficiency problems, including obstacles to achieving greater energy savings and the need to establish a legal foundation for energy saving.

Key words: energy code, energy intensity, energy losses, energy maximization, energy saving, energy-consuming industries, power engineering specialists, thermal power station

1. Economic basics of energy saving.

The formulated energy maximization law clearly defines the main task faced by the world community and namely the task of the rational use of energy. Its importance is accounted for by those global trends which influence each state irrespective of its economic development. The climate change, global warming, contamination of ocean waters and depletion of oil and coal resources make it necessary not only to think about the effectiveness of existing resources use but also to find alternative sources of energy.

The Russian Federation is recognized as the leading energy power in the world. About 400 million tons of organic fuel are exported by our state annually. However, the low level of effective use of fuel and energy and, consequently, low competitiveness of the domestic production on the international market due to high energy inputs in the production demonstrate the necessity to solve a complex problem of rational use of energy. The urgency
of the problem is further proved by the data: every 1 billion tons of standard fuel in Russia
has 420 million tons of standard fuel energy losses.

The above mentioned factors of global and national significance make it necessary for
such a sector of economy as energy saving to develop. In the frameworks of this report I
would like to dwell upon the problem of *energy effectiveness in the industry referring to the
example of the Sverdlovskaya oblast which is a highly developed industrial centre*: to point
out the main obstacles on the way of its development and offer a number of ideas how to
overcome such barriers taking into account foreign experience and, first of all, the experience
of the Federative Republic of Germany, which was one of the first to adopt the necessary leg-
islation in the sphere of energy saving and which is widely recognized as the centre pos-
sessing the main potential of energy saving.

**1.1. Obsolescence**

One of the main obstacles on the way to energy saving development in the Sverd-
lovskaya oblast is *its old objects of energy supply and obsolete equipment which is morally
worn out*. Such industrial facilities consume a considerable amount of energy - much more
than the contemporary energy-saving equipment. This fact can be proved by the following
data. The average life span of thermal power station equipment (TPS) in Russia is 30-35
years while the share of the worn out equipment is about 50%. The United National electrical
network loses 5% of energy in comparison with the average 3.7% in the world. It’s only one
of the reasons.

The amount of energy-consuming industries in the Sverdlovskaya oblast is a quarter
more than the average amount of such branches in Russia, consequently the energy intensity
of the gross regional product in the region is 1.3 times higher than the energy intensity of the
gross domestic product in the Russian Federation. By all estimates the potential of energy
saving in the Sverdlovskaya oblast till the year of 2020 is not less than 188 million tons of
standard fuel. The main share (43%) belongs to the industry and construction, 33% - to the resources of fuel and energy complex and 13% - to the Building and Communal Utilities (BCU)\(^1\).

The Minister of Energy and BCU Yuri Shevelev said that the research conducted during the elaboration of the General Scheme of gas supply and gasification of the Sverdlovskaya oblast till the year of 2020 demonstrated that the region can save a third of all energy resources, including 6 billion cubic meters of natural gas, if the specific consumption of fuel and energy in the production of some goods and services as well as during the process of heat and energy generation is significantly reduced.

In this connection it would be reasonable to consider the experience of Germany which belongs to the countries of the most effective energy saving – if to take the level of the energy intensity to the GDP. This program is actively supported by the German major banks (for example, the Deutsche Bank), which finance the programs of effective energy saving. At present Russia also undertakes such measures but in a rather restrictive manner (for example, the Gasprombank holds bank-investment projects for mining enterprises). Thus, it is necessary to create legislative basis for full development of such investment programs in Russia.

1.2. Low Motivation

Another obstacle on the way to energy saving development in Russia is that Russian businessmen have low motivation\(^2\). Most enterprises in the Sverdovskaya oblast have to pay 3% - 5% of costs in the structure of all company costs (the exclusion is energy-reliant industries – like recovery and processing of hydrocarbons, petrochemical industry, metallurgy and others). The heads of many enterprises estimate the economic potential of energy saving too

\(^1\) See: the statement made by the governor of the Sverdlovskaya oblast A.S.Misharin at the meeting of Modernization Committee on 26.10.2010 // http://news.kremlin.ru/transcripts/9342

\(^2\) See: an interview by Vagit Alekperov concerning increased energy efficiency in the industry// Rossiyskaya gazeta. 2010, November 11.
conservatively, since they consider any profits from energy saving too low in comparison with the profit they may receive from elaboration and implementation of projects. However, experts say that in case Russia accedes to the WTO, the domestic production will not compete with the foreign production. The reason is that the level of energy consumption needed for the production of one unit several times exceeds the limit set by the European and American enterprises which use highly effective energy saving technologies. Thus, the Russian businessmen have to bear excessive costs in the production of the same amount and the same quality of goods.

Nowadays some enterprises of our region follow quite a far-going policy modernizing and installing energy saving equipment. For instance, the open joint stock company “Uralelektromed” (the main enterprise of which is a part of “UGMK” holding) which is a major consumer of fuel and energy resources of the Sverdlovskaya oblast invested about 55 billion rubles in the energy saving programs in 2007-2009, with conditional annual economic effect of 19 million rubles and a 3-year investment payback period\(^3\).

Different estimates and data show that the costs of reconstruction and modernization to be borne by domestic enterprises are too high for them. Therefore they need support from the state which must be aimed at encouraging and stimulating the transition of economy to a more innovative and energy saving pattern of development.

In this connection, summing up the opinions expressed in different literature and mass media, the opinions of scientists, experts and heads of enterprises we offer the following:

- to create such legislative mechanisms which would enable such declarations to be implemented in reality within the frameworks of the principles of economic incentives for energy saving programs and projects stipulated by Act No.261-FL dated November 23, 2009 (Art.27). In other words, it is necessary to adopt a set of legal normative acts of different legal force to implement the principles set forth by the main Act No.261-FL;

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\(^3\) See: Energy saving technologies in the industry// the Finansist program, ATN, 26.09.2010.
- to elaborate a system of state grants and subsidies which we find quite reasonable to render effective assistance to domestic enterprises within the frameworks of energy saving programs;
- to increase rates on energy resources to such a level which exists in the countries with restricted natural resources as an economic incentive;
- to elaborate the criteria of application as well as the system of reduced rates for the companies following the programs of energy saving and increased energy efficiency with the aim to reward such companies. Thus, we will have “double profit”: reduced energy consumption with the payment of the same level volume at lower rates;
- to impose stricter liability for officials violating the legislation in the sphere of energy saving and increased energy effectiveness (Art.9.16 of the Code of Administrative Offences of the RF).

1.3. Expertise Deficit

Another considerable drawback hampering the policy of energy saving is the lack of highly qualified personnel who are able to solve problems appearing within the frameworks of energy-saving programs at enterprises. The above said problem can be solved by a set of educational measures as well as by establishing special departments of energy saving. Their task is to follow how these projects are implemented. Thus, Germany effectively realizes the programs of further training of power engineering specialists. The German Chamber of Commerce and Industry (CCI) has a special department which especially trains managers for the sphere of power efficiency. Besides, there are other special agencies which regularly consult the representatives of small and medium enterprises. Moreover, this program has been financed by the state budget of Germany. In connection with the above said, it is reasonable to borrow some experience and programs of the German CCI\(^4\). In that case it is necessary to widely introduce such a subject as Energy Law as well as introduce a special major in particular in law schools.

Thus, the example of the Sverdlovskaya oblast makes it necessary to develop the energy saving policy in our country. The main aims of the energy saving strategy and measures

\(^4\) About 4 thousand students from Ural universities, 2 thousand specialists from industrial enterprises and the budget sphere and 1360 businessmen went through this study in 2004.
of economic development of the Sverdlovskaya oblast and its energetic safety are to reduce losses and specific costs of fuel and energy resources at the production of goods, to increase energy efficiency during transportation and consumption, to reduce a share of energy-consuming enterprises in the structure of economy and to innovatively develop the economy of the region. In particular, the Sverdlovskaya oblast has adopted and successfully implemented the program of the Russian Ministry of Energy, the government of the Sverdlovskaya oblast, the Siemens company and the DENA German energy agency which is aimed at introducing energy-saving technologies in Yekaterinburg. The package agreement on this project was signed in Yekaterinburg in July 2010.

2. The legal foundation of energy saving.

Nowadays experts often discuss a problem connected with the necessity to elaborate the Energy Code of the RF. But if to admit such a necessity then we’ll have to issue a Currency Code, an Investment Code, a Code of Bankruptcy, an Insurance Code and so on. Unlike the conventional codes these concern not the categories of law but sub-categories of law (legal institutions) which regulate some specific sphere of business activities. However, there is a risk of ‘getting drowned’ in the codification and making the conventional boundaries of any “code” blurred. Therefore the creator, and ultimately the legislator, has to be meticulous or even filigree working with legislation. Otherwise we can really face the problem of issuing even a Laundry Code (or a Tram-Trolley Code or a Pipeline Code).

The adoption of the Energy Code is not only a legal act but an act which has political and even international significance. In this case we’d rather stop arguing whether energy law exists or not (as well as business law). Pragmatism and rationalism come here first! From this viewpoint the adoption of the Energy Code of Russia fits into the conception of development and adoption of the World Energy Code that was suggested by the Vice-Chairman of the
Furthermore, the development and elaboration of energy legislation must be conducted by consolidating and codifying the current normative acts. The adoption of the Energy Code or of a consolidated act in Russia and Western countries is an essential prerequisite for closer regulation of relationships in the energy sphere.

Alongside with the Energy Saving strategies we have to adopt the conception of development of the energy legislation in Russia. The RF CCI adopted the Conception of development of the RF legislation within 2008 – 2011, which contains a section devoted to the regulation of Fuel and Energy Complex. The legal society has to maintain close cooperation with the representatives of the RF Chamber of Commerce and Industry and the Russian Union of Manufacturers and Entrepreneurs in the matters concerning the regulation of Fuel and Energy Complex, including the drafting of projects of federal acts.