

THE PROBLEM OF ENERGY EFFICIENCY IN THE INNOVATION ECONOMY IN RUSSIA

Levchaev P.

Mordovia State University, Saransk, e-mail: levchaevpa@yandex.ru

The article studies the problems of formation of an energy-efficient economy. The development of energy saving processes in the world economy. Shown financing options and prospects of development of energy saving projects in the Russian regions.

Keywords: National economy, saving energies, innovations, economic system, process of financing

In modern conditions of functioning of the Russian economy, the strategic importance of innovation development. International competition and the fight for the consumer is forcing producers strive to maintain a competitive level of products. The criterion "price-quality" is largely determined by the ability to influence the level of cost competitive and marketable products. In the race to meet the growing needs of human society is always relevant is the issue of energy efficiency. It comes as the world's leading manufacturers and famous brands, and producers of the defining trends of regional markets.

Modern economic structure is totally dependent on energy availability, and to produce and to sell products in an economy requires a leading role for the production of energy and its efficient use. Energy, being one of the main types of resources, ensures continuity of production processes in industry, agriculture, construction and other sectors of the national economy. The dynamic development of these sectors, as well as the widespread use of household appliances and electronics often accompanied by the emergence of energy problems at times of peak energy consumption. The economic system of any level, based on improved energy efficiency, *ceteris paribus*, more competitive in the present, as well as potentially competitive in the future, because maybe at a lower level of production costs, and to ensure the establishment of a minimally comfortable prices to the consumer. The importance of this issue increases with increasing scale of production, but also for manufacturers located at the highest technological levels of the pyramid of the division of labor.

Global politics of energy conservation and efficiency originates after the oil crisis in 1973 [1]. Under the Kyoto Protocol, signatory countries are reducing emissions of greenhouse gases or impose trade quotas on them. Priority in the practice of energy saving is the industry sector of transportation and the condition of the buildings. In the action Plan on energy efficiency the European Commission has acknowledged that cost savings is about 20%,

and when it comes to technology, the potential for even more. Under scenario accelerated development of technology, building energy efficiency in industry and transport will reduce energy use in 2050 by one third. For the design of smart and integrated energy systems (involving complex consistent use of wind, solar, geothermal and other forms of energy, biogas) future.

On the transfer of Russia to the energy-saving mode of development was announced in 2009, Dmitry Medvedev, although attempts to improve the energy efficiency of production had been made previously. The Russian government is implementing a program aimed at demonstrating effective from the point of view of energy projects in the Russian regions. In Russian practice, the main types of financial support measures to improve the efficiency of economic entities, perform the following: 1) self-Financing. Implemented at the expense of the entity engaged in the implementation of energy saving projects. 2) Budgetary financing. Is funded from: (a) subsidies to the subjects of the Russian Federation on the implementation of energy efficiency programs; C) targeted funding for the implementation of Regional programs of energy saving and increasing energy efficiency funds from regional and local budgets; d) tax credits. 3) Lending. Involves the use of resources of commercial banks and international financial organizations. It is also possible the implementation of energy service contracts, equipment leasing, public-private partnerships. 4) the Use of borrowed funds. Through grants in the framework of Russian and international programs energy efficiency of buildings, as well as project co-financing foreign foundations and international organizations.

Under the state program "energy Saving and increasing energy efficiency up to 2020" provides for the allocation of 9.5 billion rubles, of which about 7% are funds of budgets of the Russian Federation and the subjects, and 73% for non-budget sources.

In many Russian cities and regions are complex projects for energy efficiency

“energy Efficient quarter”, “Smart metering” [2]. So, in Moscow on funding attracted more than 117 billion, of which more than 99 billion from non-budgetary sources. Special attention is given to air conditioning systems, as the consumption of electricity by them reaches 70% of the total value consumed by the building. In St. Petersburg a similar financing of energy saving measures also exceeded \$ 100 billion and the saving is a priority in the public sector, and promotion of reduced energy consumption among citizens. In Yekaterinburg, Nizhny Novgorod and other Russian cities are “energy Efficient city”. Gaining popularity in almost all regions of Russia was the design and creation of “smart” or energy efficient homes. In such projects, the technology used renewable energy sources, reduce energy consumption. The main project solutions such houses is: heating by geothermal waters; the use of the solar collector; the use of insulated walls and glass with a thermionic coating, as well as energy-saving regenerative ventilation system and automatic lighting control, equipment accounting system of energy.

Notable is the experience of the Republic of Mordovia [3] where the energy-efficient housing construction is carried out in the framework of the program on resettlement of citizens from emergency housing. The mechanism of realization of this program is a complex of organizational measures and financial-economic nature, ensuring effective implementation of energy saving policy and the interests of all parties that involves the following elements:

- 1) providing energy savings through implementation of energy saving programmes and activities;
- 2) promotion of energy saving activities;
- 3) financial instruments providing for the rational use of budget funds;
- 4) budgetary financing of energy saving measures in the social sphere only if the developed project;
- 5) maintaining control over the targeted use of funds; 6) creation of infrastructure to support energy-saving activities.

The complex nature implemented in Mordovia programs highlights the fact that it focuses energy efficient lighting, and enterprises

this industry take the leading position in most segments of the lighting market in Russia.

Financing of energy efficient technologies in Russia is seen as the key decision in the face of rising energy prices, because the high level of energy companies, an incentive of investing in energy efficient technologies. This need led to the development of various types of financial instruments offered by banks to companies. Such schemes allow you to offset the cost of companies to invest in new equipment to help save energy costs. For example, leases, energy service contracts, and other specialized services are becoming more popular because they stimulate enterprises to implement the modernization of equipment without detracting from the circulation of substantial quantities of scarce capital.

Among established international practice options for reducing energy intensity of the economy there are various forms of direct and indirect impacts: the use of tax benefits, incentives saving energy end users and energy management in public buildings, intensification of development in the field of renewable energy.

In tune with international practice in Russia at full speed, are taking steps to transition to energy-saving technologies. This applies to both the public sector and all sectors of the economy, the ultimate consumers of services. Logistic schemes of optimization of the processes of conservation areas and industries, various financial and credit methods of enhancing the implementation of EE projects, the construction of “smart” houses, the transfer of urban transport on the supply – here is a list of the currently implemented programs. Russia has ambitious goals for improving the effectiveness of, starting from the production and distribution of energy and ending with its consumption.

References

1. Energy efficiency. The development of energy policies, challenges and opportunities / the Energy Charter Secretariat, with the participation of the European Bank for reconstruction and development and Euroheat & Power, 2007.
2. The efficiency of Russian cities / FederalPress / access Mode: http://old.fedpress.ru/federal/polit/analit/id_267327.html.
3. Levchaev P. Particular qualities of the financial information structure of the present-day *economy*. // International journal of applied and fundamental research – 2013 – № 1, <http://www.science-sd.com/452-24348>