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TAX INCENTIVES FOR ALTERNATIVE ENERGY IN EUROPE

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Abstract. The article analyzes the mechanisms of tax incentives for alternative energy and energy efficiency used in European countries. Conclusions are drawn about the degree of their effectiveness and the possibility of adapting this experience in Uzbekistan.

Keywords: ecology, financial and credit mechanism, tax incentives, alternative energy, energy efficiency, innovation, green economy.

Global investment trends indicate a likely change in the structure of the entire global energy system in the coming decades towards the use of renewable energy sources. Studying the experience of leading countries in the development of alternative energy makes it possible to identify and adapt the most effective mechanisms for developing investment programs of federal and regional significance to improve energy efficiency

Most European countries initiated their programs to support alternative energy and improve energy efficiency in the early 1990s and actively incorporated various mechanisms of tax incentives for the development of "green technologies".

It should be noted that one of the main measures of tax incentives for alternative energy producers in the United States is the investment tax credit. It has a special feature. Unlike the investment tax credit in Russia and a number of other countries (here it is simply a form of changing the term of fulfillment of a tax obligation with subsequent payment of the loan amount and interest), in the United States, this tax incentive measure reduces the tax base by part of the investment in the purchase of land, equipment, and installation of facilities for generating electricity from alternative sources. That is, it serves as an investment tax benefit.

Table 1

Tax incentives for alternative energy investments in European countries, Korea and the United States

Country	Credit or reduction of tax amount	Rate, %	Technologies covered by discounts / credit
Belgium	Reduction of amountss	13.5	All
Holland	Reduction of amountss	13	All
Spain	Reduction of amountss	10	Solar energy, biomass
Ireland	Reduction of amountss	18	Wind, solar, hydro, biomass
Czech Republic	Reduction of amountss	100	All (hydro plants up to 1 MW)
Korea	Reduction of amountss	5	Energy efficient technologies
USA	Reduction of amountss	30 10	Solar, wind, fuel cells. Geothermal, micro-turbines,

			cogeneration plants
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In different tax systems of European countries, such measures to encourage investment in alternative energy take different forms and sizes, but they are aimed at achieving the same effect – to make high-risk and long-term payback investments in energy objects more profitable.

Tax credits for producers (production tax credit, PTC) of electricity from alternative sources are also a fairly popular tax incentive measure abroad. It should be noted that in Russian practice this concept is not found. The production tax credit is provided either in the form of a deduction from the tax base, or in the form of a loan at a fixed rate per kilowatt-hour of renewable energy produced.

For the first time, this tax incentive mechanism was introduced in the United States. The Production Tax Credit (PTC) and investment tax credit (ITC) differ in that the PTC reduces federal tax payments based on the amount of electricity generated at the output (measured in kWh), while the ITC reduces payments based on the amount of capital investment (measured in monetary units). Moreover, you can get an ITC benefit only when the equipment is already put into operation [4].

According to experts of the Oak Ridge National Laboratory (USA), a federal ten-year industrial tax credit of 1.5 cents per kWh can reduce the average life cycle cost.

wind power by about 25 %. This type of incentive is more widely supported by specialists in the field of large-scale renewable energy facilities due to the fact that it encourages more efficient production of renewable energy, rather than just large capital investments. The European countries that currently use this type of tax incentive are shown in Table 2.

In some European countries, a reduction in the property tax is used to encourage the development of alternative energy, which can eliminate up to 100% of the amount of tax on property, land and fixed assets used for renewable energy production. Reducing property taxes can be a particularly important incentive for capital-intensive technologies, such as wind power and converting solar energy into electricity. After all, property taxes often lead to a higher tax burden per kWh of energy produced for capital-intensive technologies for producing energy from alternative sources than for less capital-intensive conventional energy technologies.

Therefore, reducing the property tax can help create tax parity between alternative energy and traditional technologies. The countries currently using this type of tax incentive are shown in Table 3.

Many countries that rely primarily on value-added tax (VAT) rather than corporate income tax, use its reduction to encourage the production of energy from renewable sources. It should be noted that this type of tax can be particularly painful for producers of energy from alternative sources, if it is charged on capital investments in the production process, and not on the energy generated. Countries that practice VAT reduction are shown in Table 4.

Investment tax incentives are also often applied to small, customer-oriented or service companies that are not producers, but consumers of energy and energy-saving technologies. Such incentives are usually aimed at increasing the practice of

installing certain types of generation or cogeneration equipment for heating, lighting and ventilation of residential and commercial buildings.

Often, tax deductions apply not only to the amount of the equipment itself, but also to the amount of its installation, since the installation of a cogeneration system may in some cases be commensurate with the cost of the equipment.

Such measures encourage individual homeowners and companies to buy cogeneration equipment.

It should be noted that some European countries have abolished the practice of granting production tax credits due to the fact that it requires constant monitoring of the production activities of companies and leads to high administrative costs. Tax deductions for the purchase and installation of cogeneration and energy-saving equipment achieve the same goal as the production tax credit, and administrative costs for their implementation are significantly lower.

Tax benefits for consumers of energy-efficient and cogeneration technologies,

Table 2

Production tax credit in some European countries [3]

Country	Loan amount	Technology loan amount
Finland	0.69 euro	Wind energy, hydroelectric power, pellets, biogas
Sweden	0.181 SEK	Wind energy

In the energy sector, such measures only indirectly affect the growth of investment in ИИР & D. The fact is that electricity suppliers and service companies themselves are not the creators of specialized technologies and do not make investments in ИИР & D, but are a platform for introducing innovations. The same can be said about companies that produce new types of fuel. The main technological innovations in the energy sector are implemented by manufacturers of power and power engineering equipment. Therefore, tax incentives for energy efficiency should first stimulate the demand of power generating companies for energy-efficient equipment, and then-the demand for new technologies in power engineering.

Therefore, in this case, industrial investment in science is stimulated by:

- dynamic markets.
- a healthy competitive environment.
- the desire of companies not to lose their won market positions and only then get tax benefits.

Unfortunately, the development of alternative energy and energy - efficientmachine-building is not a priority.

So far, insufficient attention has been paid to this issue in Russia. This creates risks of preserving technological backwardness and further loss of the country's position in the world markets of high-tech products and services. There are practically no tax incentive mechanisms in this area, if we do not take into account

tax incentives for enterprises that are residents энергоэффективности «of the Skolkovo energy efficiency cluster.

According to the author, the development of a mechanism for tax incentives for the introduction of innovative technologies in the field of energy, given the current state of the industry, it is advisable to start with the introduction of a set of measures aimed at stimulating the demand for energy – efficient technologies in the mass consumption sector: – technologies for heating and cooling homes; – hybrid cars; – biogas stations; - pellet heating systems.

They are present in the range of innovative products of domestic manufacturers.

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