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POLITICAL MECHANISMS OF SUSTAINABLE ENERGY DEVELOPMENT IN WESTERN COUNTRIES

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Abstract

This article is about the development of politic mechanisms in sustainable energy in western countries (primarily EC, USA). The development of sustainable energy in western countries should be greatly based on government and business support and common ways of such help are described below. Also shown the significance of development of sustainable energy, its importance for environmental protection and perspectives

Key words: *sustainable energy, government regulation, wind energy, EC, USA, biofuel*

Development of alternative energy sources has recently become the European Union's political task of strategic importance. The reason for this phenomenon was the absence of the overwhelming majority of European stocks of conventional energy sources, environmental threats and the desire to ensure my EU's own energy security. Brussels intends to solve the energy program in two main directions: at the national level (within individual European countries) and European. The trend for new sources of energy is due to, among other things, significant scientific and technical progress in the field of advanced energy technologies.

One of the key doctrine of sustainable development is slowing exploitation of exhaustible resources, ensuring playback duction of renewable resources and their replacement by renewable, reducing the load on the carrying capacity of the environment.

The growing dependence of the EU on energy imports, its threefold rise in the last four years, known events on transit routes, of course, led to the fact that the influence of the EU is now concentrated on the development of new, renewable energy, and replaces existing traditional hydrocarbon based in Europe for its energy.

World experience shows that one of the most promising solutions - is the formation of an effective mechanism of state incentives for renewable energy. Particular attention is paid to the various types of renewable energy sources - renewable energy, allowing to obtain a "clean" energy (Ie virtually no negative impact on nature).

Was one of the initiators of the Kyoto Protocol (1997), requiring the developed countries to provide for 2008-2012. 5.2% reduction in emissions of greenhouse gases, the EU expressed its readiness to reduce by 8% (compared to 1990) emissions of "greenhouse" gases - including 28% Luxembourg, Germany and Denmark - 21%, Austria - 13%, etc. [1].

One of the main ways to implement these international obligations considered to be more widespread use of alternative energy sources and increasing their share in the energy mix of the EU countries.

Environmental pollution causes significant damage to the economy. In European countries, it is estimated at 4-6% of GDP. Therefore, along with the aggravation of the global energy problem, the rapid rise in energy prices and the desire to reduce risks and losses when importing, the importance of environmental issues in the EU is an important incentive for government intervention in the economy, in particular to stimulate the development of alternative energy.

Clear favorite race energy advocates wind energy installed capacity of wind power plants in 34 GW, which have become a familiar part of the landscape in Germany, the Netherlands, Denmark, Belgium, France and other countries. It is expected that by 2010, their capacity to 40 gigawatts will be exceeded by almost half.

Equally ambitious plans are linked to the EU with the processing of biomass (waste from agriculture and forestry, wood, household garbage, recycling and stocks of agricultural products, etc.). In 2005 adopted the "Action Plan", comprising bringing the share of biomass to 44-65% of the "green" energy in the EU with a corresponding reduction in emissions of "greenhouse gases" in the atmosphere by 209 million tons. Derived from biomass are biogas to generate electricity and heat, as well as ethanol and biodiesel.

EU lags significantly behind the world level in the use of solar energy, having to convert it into electricity and heat capacity of 11.8 GW in total (1.0 and 10.8 GW, respectively). Solar electricity is produced in 9 EU countries (Germany - 47%, Austria - 12%, Greece - 11%, France - 6% of the total). This equipment has yet technically perfect, but jobs here in 2010, is expected to be surpassed by photocells, but performed on 1/3 panels.

Finally, the breakthrough technical solutions in the energy sector promises to be the use of hydrogen as fuel and helium-3. Hydrogen is planned to be used primarily as a motor fuel and power for mobile communications, with its spare aces s practically unlimited. In E UROPE already prototypes of cars and buses on hydrogen are coming tested. Using helium-3 refers to the area until the science fiction.

Development of renewable energy in the EU declared a priority, using a wide range of mechanisms of state support - from a purely market-based incentives to funds mobilization economy.

Mobilization is primarily constructed nuclear power EU where licensing NPP construction, technical expertise of their projects, fuel and methods of operation and repair determines EURATOM. In particular, only the Purchasing Agency shall have the option of radioactive ores and nuclear fuel, as well as contracts for its delivery.

Conditional acceptance of nuclear power in the range of renewable redeemed by the fact that nuclear power is really able to enter into non-carbon energy future.

Now in 12 EU countries, there are about 150 units, which provide up to 40% of the total EU-25 electricity, and in France, Slovakia and Belgium - its main part.

Fear of radiation threat led to the adoption of programs phased dismantling of nuclear power plants in Germany and several other countries in the EU-10 were shut down almost all Soviet-made power units, which threw nuclear energy E of Europe many years ago. But the severe shortage of electricity has forced the EU authorities to change this later. All this leads us to expect renaissance of nuclear power in the EU. However, the construction of nuclear power plants until 2.5 times more gas power plant and very slowly paying off. Leave them with energy can not respond flexibly to fluctuations in demand, which makes conventional nuclear power plants combine TPP, including to cover peak loads. Finally, the technical modernization of the industry is just beginning, but the problem is that the EU's own poor uranium.

Installed capacity of hydroelectric power plants in developing non-carbon electricity in the EU is about 130 GW, but reserves are short generation increase due mostly plain terrain and the development of river navigation. Because the most common small hydro (up to 10 MW) on streams and rivers for local supply, which now operate in five EU countries with installed capacity of 11.6 GW, and the outline of their development by 2010 (14 GW), are likely to be made .

In modern developed countries of the world with a market economy a lot of work carried out to optimize the economic, legal, administrative, organizational and managerial mechanisms aimed at ensuring energy security and activating energy saving policy, which is an important factor in increasing energy security.

In industrialized countries, the growth of the economy begins to dominate high-tech products at lower spending resources. The most significant results of energy savings achieved by the introduction of Western countries teploizatsiyu norms for residential buildings, the introduction of more efficient heating systems and public awareness of the energy consumption of household appliances.

Study of the experience of a number of European countries shows that a reasonable alternative to the liberalization of the energy sector can be formed, the fiscal system in which electricity will develop due to energy rents, and its ownership will not be of fundamental importance. In this global trend is slowing liberalization of the energy market.

Another natural tendency is a significant increase in world energy prices, is forcing major energy consumers - the EU, the U.S., China, India to provide systematic pressure on OPEC to increase oil production.

One of the leading European countries in the field of state stimulation of alternative energy and energy saving technologies is Germany. Already since 1991 the Law on the priority of renewable energy contributed to energy production from renewable sources, and in April 2000 was replaced by the Law on Renewable Energy [2], which has since been considered a central tool for the development of renewable energy in this country. Development of alternative energy in Germany has reached a level that the government was actively fund renewable energy projects abroad, so, according to the Chancellor, in 2004 on the development of renewable energy in developing countries has been allocated nearly one billion dollars. [3]

France used resource lending activities. Norma interest rate of such loans by 8-10% below normal. Functioning regional energy agencies, operating and coordinating role of information and acting s at 22 regional councils. Their goal - to develop energy and the five-year interim plans which provides registry country's energy resources, and examines the conditions for achieving the greatest possible energy savings, improve energy security of the country, its activities in this area and identify measures for the implementation of energy plans [4]

In Sweden, for several years the problem of saving energy on a national scale is engaged in state administration Board Programming energy saving, whose activities extend to all sectors of the economy and by the relevant sections. Swedish State in the amount of 25% of capital investments subsidized heating systems, solar powered. In addition, in Sweden ten-year plan was adopted, defining the energy policy of the country and outlines a series of measures (technical and economic considerations, including price regulation) to make better use of energy, the maximum limit oil imports while maintaining the social needs of the country.

Alternative energy in the U.S. is also developing quite rapidly. According to Randy Swisher, executive director of the American Association for the use of wind power in 2007, the industry has expanded by 45%, securing U.S. leadership in it for the last three years.

"This is the third record in the history of wind industry - said Randy Swisher. - The past year was marked by a fantastic success. Judge for yourself: using wind generated more than 5244 megawatts of electricity two times larger than in 2006. "

Wind turbines produce 30% of all alternative energy. Has expanded significantly in the past year and solar power. Ron Resch - Chairman of the Association for the use of solar energy.

"2007 - he says - has become for us a record. In the U.S., installed new solar panels on 314 megawatts. Compared with 2006, the volume of electricity production increased by 125%. "

Using geothermal energy - steam power and groundwater - has increased compared with 2006, by 40%. This has contributed to the creation of new jobs in all regions of the country.

Attention to the use of alternative energy sources has increased in 1998, after the ratification of the Kyoto Protocol of the United States, proposes to significantly reduce greenhouse gas emissions.

According to experts, the rapid development of alternative energy has been made possible thanks to the support provided by an environmentally oriented projects at the state level. However, you can consolidate the successes achieved only through changes in federal legislation and, in particular, in the federal tax policy.

Research experience of some European countries and the United States shows that a reasonable alternative to the liberalization of the energy sphere can be formed, the fiscal system in which electricity will develop due to energy rents, and its ownership will not be of fundamental importance. In this global trend is slowing liberalization of the energy market.

Another natural tendency is a significant increase in world energy prices, it forces the United States and other major energy consumers - the EU, China, and India to provide systematic pressure on OPEC to increase oil production.

Market forces that develops because the U.S. government will create greater dependence United States and the world economy on oil reserves in the Gulf, which are the cheapest and most readily available source of energy. The concentration of energy production in this region makes the world economy is very vulnerable to supply disruption posed by political intrigues, which burdened the growing social, demographic and economic problems. This concentration of resources and social problems clearly shows the need for ongoing accounting role of alternative energy as a factor of energy security.

Chris Fleyvin - president of World watch Institute (Washington research center specializing in the global energy and environment) believes that the development of alternative energy largely due to higher oil prices.

Currently, non-traditional sources cannot compete with the traditional, so states try to provide a variety of benefits: grants, loans at low interest rates; removing the fiscal burden with part of the profits, invested in the development of this area; exemption consumers "clean" energy from environmental taxes, etc.

Conditions for the development of alternative energy in the EU member states are different. These differences are due to the following factors:

- Political and social (international treaties and programs that influence the parties 'green' in the state and local authorities, administrative initiative and responsibility, public opinion, etc.)

- Economic (level of prices for oil and gas, the value of subsidies for energy based on traditional and nuclear sources, a system of economic incentives and environmental regulators character, etc.)

- Geographical and natural (rainfall, direction of water flow, solar intensity, wind rose, the availability of fossil fuels, etc.)

- Technological and other

Mix and various combinations of these factors cause the differences in orientation and scope of development of alternative energy of individual EU countries. [5]

There are also differences in the interpretation of the electricity produced from the combustion of industrial and household waste. Some countries such as Germany and Greece, eliminate the energy obtained from burning waste, classification of renewable energy sources. And in Belgium, the UK and the Netherlands, the source for many years is the main source of energy.

Netherlands and the UK, have on their territory substantial oil and gas reserves, less concerned with the development of alternative energy than most EU countries. For solar energy Southern European countries certainly have more opportunities than, say, Sweden. Not surprisingly, the leader in the use of solar energy is among the European countries Greece, where it was established about one third of solar power capacity of the European Union.

European experience shows that the natural factor is important, but not the only prerequisite for the successful development of renewable energy. Best natural conditions for wind power plants in Europe have France, Great Britain, Estonia and Ireland. As a result of the favorable geographical and natural conditions of wind generators in Ireland can produce 2 times more electricity than the same units installed in Germany.

The main emphasis is on financing attraction of private businesses, including through the tax, depreciation, tariff and other benefits. On "green energy" rules apply primarily of government subsidies. As a result, "green" energy makes its way to the consumer so far mainly through the state budget. But in general, the necessary costs for promoting the use of new energy sources, the EU Commission estimated 9 billion euros per year. These emergency measures, apparently, is not enough. For example, half of the countries - EU member state support wind energy is regarded as insufficient. Biomass is characterized as inefficient in almost 50% of EU countries, Biogas - 70%, and geothermal, tidal and solar energy in most of them "is not yet produced on a commercial scale." The reason for that, apart from indivisibility powers in the field of energy, resistance to traditional suppliers, differences in natural and economic specifics of individual countries, the lack of reliable technology and investment.

Prospects for the development of alternative energy in the European Union are enormous. They invested a lot of money and carried out extensive public support. Protecting the environment and reducing dependence on external energy sources is an important factor in the EU's energy security. Brussels in the future intends to withdraw completely from the old - traditional - sources of energy and switch to the new: economic, ecological and political stability (depending on not causing energy importers). Already energy boom took European character and should expect it all the more growth in the countries of the European Union and worldwide.

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