

Процеси інтеграції нашої країни у Європейське співтовариство передбачають модернізацію туристичної сфери, приведення ліцензування, стандартизації та сертифікації туристичного продукту, податкового та митного регулювання у відповідність до європейських вимог. Важливе значення має забезпечення належної якості надання туристичних послуг, дотримання вимог безпеки, розвиток наукових досліджень, запровадження інновацій, покращення кадрового забезпечення туристичної галузі.

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ECONOMIC MECHANISMS OF THE DEVELOPMENT OF RENEWABLE ENERGY

Renewable or inexhaustible energy resources are energy flows that are constantly or periodically operating in the environment. Renewable energy sources include the energy of the sun, wind, seas and oceans, the heat of the earth, biomass,

small rivers, and secondary resources that exist constantly or periodically appear in the environment [4].

Their main common feature is practical inexhaustibility and ecological purity. For almost all renewable energy sources (except geothermal), the energy source is the sun. And the arrival of solar radiation on the earth's surface, its spatio-temporal differences are considered as a certain deterministic stochastic process [3]. The main factors determining the use of RES in Ukraine are:

- energy deficit of certain regions of Ukraine;
- depletion of own energy resources;
- environmental consequences of energy production at thermal power plants and nuclear power plants;
- high potential of the main types of RES [3].

According to the Energy Strategy of Ukraine for the period until 2030, the main advantage of using non-traditional and renewable energy sources (RES) is their inexhaustibility and ecological purity, which contributes to the improvement of the ecological state and does not lead to a change in the energy balance on the planet. Prospective areas of renewable energy development in Ukraine are: bioenergy, production and utilization of mine methane, use of thermal energy of the environment, development of economically feasible hydro potential of small rivers of Ukraine [1].

The reduction of average prices on the wholesale market of electric energy due to the replacement of high-margin generators of traditional energy by RES stations is a very interesting process. The variable costs of many RES technologies are practically zero, since solar and wind energy are free resources. In order to support RES producers, in many countries, electricity produced on the basis of RES has a privileged status: it enters the grid, is received and consumed first. Thus, with the introduction of RES technologies into the market, the supply curve shifts to the right and the price falls to the P2 level, despite the fact that demand remains at a high level.

This theory is confirmed by practice. In the markets of countries where the share of RES is significant, a decrease in average exchange prices for electricity is

observed. In 2015, average day-ahead market prices in Germany (the largest European electricity market) fell to €31.68 (\$34.62) per 1 MWh. The main factors of the decrease are the increase in energy production at wind and solar power plants.

Solar, wind, hydro, geothermal energy and ocean energy are internal resources of the country, therefore the development of renewable energy sources can have a positive effect on the trade balance if the reduction in energy resource imports turns out to be more than the import of renewable energy technologies. According to estimates, in 2010 in Spain, the domestic production of electricity based on renewable energy sources allowed to reduce the import of fossil fuel resources by 2.8 billion dollars, while In 2012, Germany managed to save 13.5 billion dollars on fuel imports.

In many countries, including Ukraine, the RES support policy provides for a certain degree of localization of project implementation, which contributes to the development of domestic production, the creation of additional added value and jobs within the country. In addition, the construction of new RES capacities is relatively more labor-intensive (per MW of new installed capacity) compared to other traditional generating technologies. The RES sector already is an outstanding employer: in 2014, it employed 7.7 million people without taking into account large hydropower. Reduction of greenhouse gas and CO₂ emissions. Totally, considering the whole of life cycle of power generation, the effect of RES on the environment is much less than that of traditional energy. Most RES technologies do not consume fuel during operation and do not use depleted natural resources. RES is characterized by a minimal risk of man-made disasters, in contrast to traditional generation. During their life cycle, RES technologies emit 10-120 times less than gas power plants (the cleanest of traditional technologies) and up to 250 times less than coal.

2015 was an outstanding year for the renewable energy sector with the largest amount of installed capacity recorded to date. Thus, in 2015, 147 GW of renewable energy generating capacity was put into operation, which was completely unprecedented, and the number of thermal energy capacities increased by 38 GW. Growth was also observed in the production of biofuel. It should be noted that this

growth took place against the background of constantly fluctuating fossil fuel prices, subsidizing traditional energy, as well as other difficulties, for example, such as the problem of integrating an increasing number of RES capacities into the energy system, political instability, administrative and tax barriers. The increase in prices on the retail electricity market will be one of the main catalysts for the development of renewable energy in Ukraine. Over the past ten years, the price of electricity in Ukraine has tripled.

According to forecasts, rates of growth will remain the same in the coming years. In such a situation, it becomes increasingly profitable for consumers of small and medium power to partially or completely abandon centralized energy supply in favor of their own generating plants. Demand for off-grid generation is starting to grow spontaneously in Ukraine. According to some estimates, self-produced electricity is 1.5-2.5 times cheaper than purchased electricity, as there is no need to pay for transportation, a guaranteed power reserve for each consumer, and to pay for network losses.

The ecological situation of many Ukrainian cities and regions is very unsatisfactory. The electric power industry, being the largest emitter of greenhouse gases, makes a significant contribution to the overall environmental degradation. In this regard, decarbonization of the energy sector through the development of RES is one of the promising ways to improve the environmental situation of problem cities and regions, on the one hand, and to improve the image of the Ukraine in the context of the international climate dialogue – on the other. The problem of removing generation capacities that have exhausted their resource is becoming more and more urgent. Wear and tear of fixed assets in the electric power industry of Ukraine has marginal values. Against the background of the formation of a new technological platform for energy development, there is a unique opportunity to update fixed assets using low-carbon technologies, including RES technologies.

Usually, RES political support programs are aimed at achieving several goals at once: it can be improving the technological competitiveness of RES through reducing production costs, creating jobs, increasing domestic electricity production, and

decarbonizing the energy system [2]. All the variety of political RES support schemes can be presented in the form of a matrix depending on the relationship of one or another instrument to one of two parameters: 1) regulation of the price of "green" electricity or the volume of generation by a political instrument; 2) support for the policy of investment in RES capacity, or its direct subsidization. Over the past 10 years, the number of countries implementing RES support policies has increased more than 3 times: from 48 in 2005 to 164 in 2015.

Tax incentives (benefits, credits) are used almost everywhere to support RES. Investment subsidies and grants take place mainly in high-income countries. The most common support scheme is a fixed rate. At the beginning of 2015, 108 out of 164 countries around the world used this very tool. The essence of this mechanism is to provide a guaranteed income (fixed tariff) to producers of green electricity, which should cover all the costs of their generation. The tariff is guaranteed to the RES producer for a long period, usually for 20 years.

Energy is a very inertial and conservative business area due to the organizational and technological features of the industry. Many processes, including innovative ones, in most other industries proceed more intensively and investments pay off faster. In energy, the development and implementation of innovations takes more time, they require significant costs and the involvement of a large number of developers, since technological innovations in energy are the result of large-scale fundamental and exploratory research that can be implemented only with state support. At the same time, the economic effect of innovations can be more significant.

In order for renewable energy to be really on the scale in energy production, it is necessary to accelerate the pace of implementation of its capacities with a simultaneous decrease in the cost of produced energy based on the use of the latest technologies, primarily domestic developments. The development of new technologies and materials will increase the efficiency, reliability, and cost-effectiveness of RES.

The development of domestic science, its focus on the technical and technological problems of renewable energy will in many ways contribute to the solution of this task. In addition, it is necessary to coordinate the existing directions of research in the country within the framework of a single program, aligning it with international projects in this field.

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ТЕНДЕНЦІЇ РОЗВИТКУ БІРЖОВОГО РИНКУ УКРАЇНИ

Важливим елементом в інфраструктурі ринкової економіки є некомерційні підприємницькі структури – біржі. Враховуючи багатофункціональність бірж, неможливо переоцінити їх значення для розвитку економіки країни. Так, біржі є центрами ціноутворення, осередком експорту стратегічно важливих товарів (промислової і аграрної сировини, енергоресурсів) місцем інвестування капіталів та трансферу товарних і фінансових потоків. Біржовий ринок є