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ALTERNATIVE ENERGY DEVELOPING INVESTMENT SUPPORT IN TERMS OF ENERGY DEPENDENCE

Abstract. *Introduction.* Usage of alternative energy sources has a global perspective for the further successful development of civilization. *Purpose.* It is necessary to develop and rational the organizational-economic mechanism for alternative energy developing investment support in conditions of energy dependence, as well as to identify the main levers of influence and factors that blocks its implementation.

Results. The factors contributing to increase of investment attractiveness of alternative energy in Ukraine, such as successful implementation of government development programs, development of mechanisms for emissions trading, increasing the share of equity in the structure of resources etc. have been analyzed and identified in the article. The organizational-economic mechanism for alternative energy developing investment support at the modern stage, which includes economic mechanism of leverages, has been grounded. Its principles and ways of implementation have been offered and substantiated. The authors proposed the program of investment processes in alternative energy activation, and the expected benefits from its implementation, such as diversification of energy balance of Ukraine; energy dependence of the state reducing; increase in investment attractiveness of alternative energy which may be achieved with the legislative settlement of investment activity.

Conclusion. Alternative energy is the basis of the country's power safety providing, which underlines the large value of the offered organizational-economic mechanism for the investment that support development of alternative energy in the conditions of power dependence and certain basic levers and factors of influence. Realization the Program of Investment Processes in Alternative Energy Activation to 2020, proposed by the authors, is aimed at stimulation of investment activity in alternative energy for the increase of this sphere's profitability and the power balance of Ukraine diversification.

Keywords: investment process; organizational-economic mechanism; state's energy dependence; alternative energy.

JEL Classification: E22, E60, O25, Q42

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ИНВЕСТИЦИОННОЕ ЗАБЕЗПЕЧЕНИЕ РАЗВИТИЯ АЛЬТЕРНАТИВНОЙ ЭНЕРГЕТИКИ В УМОВАХ ЕНЕРГЕТИЧНОЇ ЗАЛЕЖНОСТІ

Анотація. У статті проаналізовано і виявлено чинники, що сприяють підвищенню інвестиційної привабливості альтернативної енергетики в Україні. Розроблено та обґрунтовано організаційно-економічний механізм інвестиційного забезпечення розвитку альтернативної енергетики в умовах енергетичної залежності держави на сучасному етапі. Авторами запропоновано Програму активізації інвестиційних процесів в альтернативній енергетиці, а також розглянуто очікуваний ефект від її реалізації.

Ключові слова: інвестиційний процес; організаційно-економічний механізм; енергетична залежність держави; альтернативна енергетика.

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ИНВЕСТИЦИОННОЕ ОБЕСПЕЧЕНИЕ РАЗВИТИЯ АЛЬТЕРНАТИВНОЙ ЭНЕРГЕТИКИ В УСЛОВИЯХ ЭНЕРГЕТИЧЕСКОЙ ЗАВИСИМОСТИ

Аннотация. В статье проанализированы и выявлены факторы, способствующие повышению инвестиционной привлекательности альтернативной энергетики в Украине. Разработан и обоснован организационно-экономический механизм инвестиционного обеспечения развития альтернативной энергетики в условиях энергетической зависимости государства на современном этапе. Авторами предложена Программа активизации инвестиционных процессов в альтернативной энергетике, а также рассмотрен ожидаемый эффект от ее реализации.

Ключевые слова: инвестиционный процесс; организационно-экономический механизм; энергетическая зависимость государства; альтернативная энергетика.

Introduction. In modern conditions, the task of improving Ukraine's energy security is considered with the market potential of alternative energy, a prerequisite for effective regulation of which is to determine its developing strategic priorities, the development of an appropriate institutional environment and regulatory framework. The use of alternative energy sources has a global perspective for the further successful development of civilization, because there are phenomena that violate the stability of civilized society development in the world: traditional energy sources run out, increase in the value of their reproduction, intensely polluted environment, destroyed biosphere, an excess amount of organic waste of industrial, agricultural and domestic origin is formed. However, the alternative energy requires activation of investment processes developing in this area at the present stage. Taking this into consideration, the problem of formation the organizational-economic mechanism for alternative energy developing investment support is highly relevant today.

The purpose of the article is development and rational the organizational-economic mechanisms for alternative energy developing investment support in terms of energy dependence, as well as identification the main influence factors which lever and block its implementation.

Brief Literature Review. The study of theoretical and methodological aspects of improving and increasing the efficiency of the investment process, including energy, considered in studies of I. Blank (2001) [1], P. Korenyuk (2012) [2], T. Mayorova (2013) [3], A. Peresada (2005) [4], V. Potapenko (2012) [5], A. Udalykh (2007) [6], Y. Zhalilo (2009) [7], A. Glen (2010) [8], C. Jones (2010) [9], B. Esty (2014) [10].

However, despite the significant achievements of these authors, issues related to the definition of organizational-economic mechanism of investment development of alternative energy in terms of the energy dependence of the state at the modern stage remain poorly understood.

Results. At the present stage, the organization and effective functioning of the process of investment development of alternative energy received considerable attention. We identified several areas in which there can be actions, directed on investment process activation in the field of alternative energy. All the spheres are interrelated and have mutual influence. Implementation or activation of factors of one group will have a positive impact on all spheres of influence on this process. Qualitative and quantitative improvement of each of the factors will increase the volume of investment resources from the respective areas and, as a result of their interaction, from other sources of investment resources.

Priority in the offered mechanism are actions of the state, because they affect the possibility of implementing measures from other areas and can carry out activities in order to achieve social impact in the field of alternative energy, not for profit, and also to incentive measures in relation to energy to increase opportunities to attract additional resources [11]. Each of these areas of impact on the formation of investment resources has its own characteristics and methods of regulation. Successful investment process can be described only if positive results from it will be received by both the parties involved in its implementation, the investor and the investment object.

Let us define the factors contributing to the increase of investment attractiveness of alternative energy in Ukraine: the market of alternative energy in Ukraine is still not fully explored through different causes and there are many free or relatively free niches; unmet domestic demand, a large potential domestic consumption; unstable oil prices and gas prices which tend to increase, and the high costs of transportation of energy resources, which also makes the cost higher; environmental pollution; the need to develop renewable energy sources, as a condition for the access of Ukraine to the EU [12].

These factors can be classified as external to the energy sector. The following factors, which positively influence the development of investment in this area, belong to internal ones: significant technically achievable potential of alternative energy;

own production facilities for the construction of renewable energy plants; development of research in the field of alternative energy [13].

However, there are negative factors that diminish the investment attractiveness of alternative energy of Ukraine: the row of political crises, political instability; imperfection of legislative base, unsettled legal state; involvedness of the land items (however, the mechanism of lease of land fully allows to many foreign enterprises to work in Ukraine); financial and currency instability; excessive regulations concerning business (necessity to receive plenty of licenses, certificates and permissions). These factors can be classified as external, that influence the development of alternative energy regardless of a region in which they are located.

The next factors can be classified as internal, that influence on alternative energy on a micro-level: specific viewpoint onto the key problems in alternative energy; high level of corruption; not high solvency of consumers at the internal market; a low level of demand on alternative energy sources; a low level of informing population in relation to advantages of this type of energy; the specific of encouragement to make a purchase, namely acquisition of alternative energy sources, for at an enterprise such decisions are mostly made by either a leader of organization, taking into account the deputies' opinions, or proprietors of the company [14]. With regard to the cost of projects from passing to the alternative sources of energy, and also state and dynamics of factors of business-environment, positive decisions in this direction are made with extraordinary difficulties, and process of taking them over takes a long time.

Successful implementation of these factors depends on the degree of participation of state authorities, as in developed countries high performance of alternative energy is achieved with the help of the state [15]. Based on the experience of successful operation of renewable energy in developed countries, we can identify areas that need to be developed in Ukraine to encourage the development of this sector, to increase investment activity and intensify the process of formation of investment resources in the energy sector (see Figure 1).

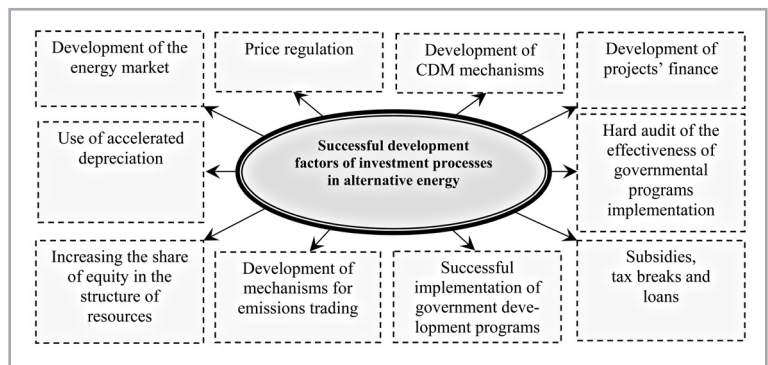


Fig. 1: Successful development factors of investment processes in alternative energy
Source: Compiled by the authors according based at [14; 16; 17]

The implementation of the presented factors will contribute to the investment processes in alternative energy in Ukraine that can increase significantly the volume of funds aimed at the development of production. Only the state can ensure effective and intensive development of investment in alternative energy preserving the interests of all its members and the public [16].

We suppose that the regulation of investment processes in alternative energy in modern terms requires the use of active state investment policy, as often the main source of investment can only be state funds, in addition, many areas of investment need policy regulation: formation of depreciation policy, tax policy, credit financing of alternative energy innovation policy, human resources policy, price policy [17].

The basis for effective development of investment in alternative energy processes is universal, not detailed, planning of these activities aimed at the achievement of the desired results, achievement of a certain goal.

The authors have presented the offered organizational and economic mechanism of the investment processes in alternative energy through the development and subsequent implementation of its development programs (see Figure 2). The program consists of two blocks of implementation of this process: the essential, including the purpose, object, subject, objective and conceptual development strategy unit that contains the objectives, principles and ways of its implementation.

The program also includes the implementation of the investment processes unit, which marks the necessary measures, and the effectiveness unit, which evaluates success of the strategy and marks its efficiency, reflected in achieving the desired effect (in the sphere of alternative energy achieving of both economic and environmental effects are important).

The program of investment development processes in alternative energy determines the necessary measures to stimulate investment in alternative energy sphere, consistency of implementation and main areas on which it should focus. Implementation of the program presented here requires a sufficient volume of investment resources to support effective activities and achieve the desired effect, which may be supported by several sources.

According to the authors, in this situation, interaction between alternative energy and credit institutions on the basis of already existing commercial banks is advisable. The help of the state is an important direction, contributing to improvement of interaction between the commercial banks and the energy sector, separate directions of state investment policy in relation to stimulating the growth of volumes of investment resources [18].

The optimal variant of development and activation of investment processes in alternative energy is effective management of separate elements of the system that forms the necessary level of resources, sufficient for realization of investment projects, introduction of investment developments and improved

advanced technologies as a result of investment developments introduction in the conditions of a limited budget financing [19]. It can be promoted by the realization of the project of the Program of Investment Processes in Alternative Energy Activation to 2020 which we propose to implement. The aim of the offered project of the Program is stimulation of investment activity in alternative energy for of profitability of this sphere increase and the power balance of Ukraine diversification.

The following results are expected from realization of the Program:

- an increase in investment attractiveness of alternative energy achieved with the legislative settlement of investment activity, taking into account the zonal and natural features of Ukraine;
- effective strategic development of regions, baring in mind activation of investment processes in the priority types of alternative energy;
- increase in amount of effective investment projects that will be realized, contribution to perfection of production technologies, increase in productivity and profitability of alternative energy using the improved technique;
- diversification of the energy balance of Ukraine and energy dependence of the state reduction;
- reducing greenhouse gas emissions and environmental load;
- growth of investment resources volumes in the sphere of alternative energy in Ukraine.

Energy and alternative energy as its component interact with many sectors of the economy, because, on the one hand, it is the supplier for other sectors and, on the other hand, it is a consumer of products of various industries. Because of this, intensification of investment processes in the field of alternative energy will stimulate activity in various sectors of the economy, positively affecting the economic welfare of the country as a whole.

Conclusions. Thus, alternative energy is the basis for the country's power safety providing that underlines big importance

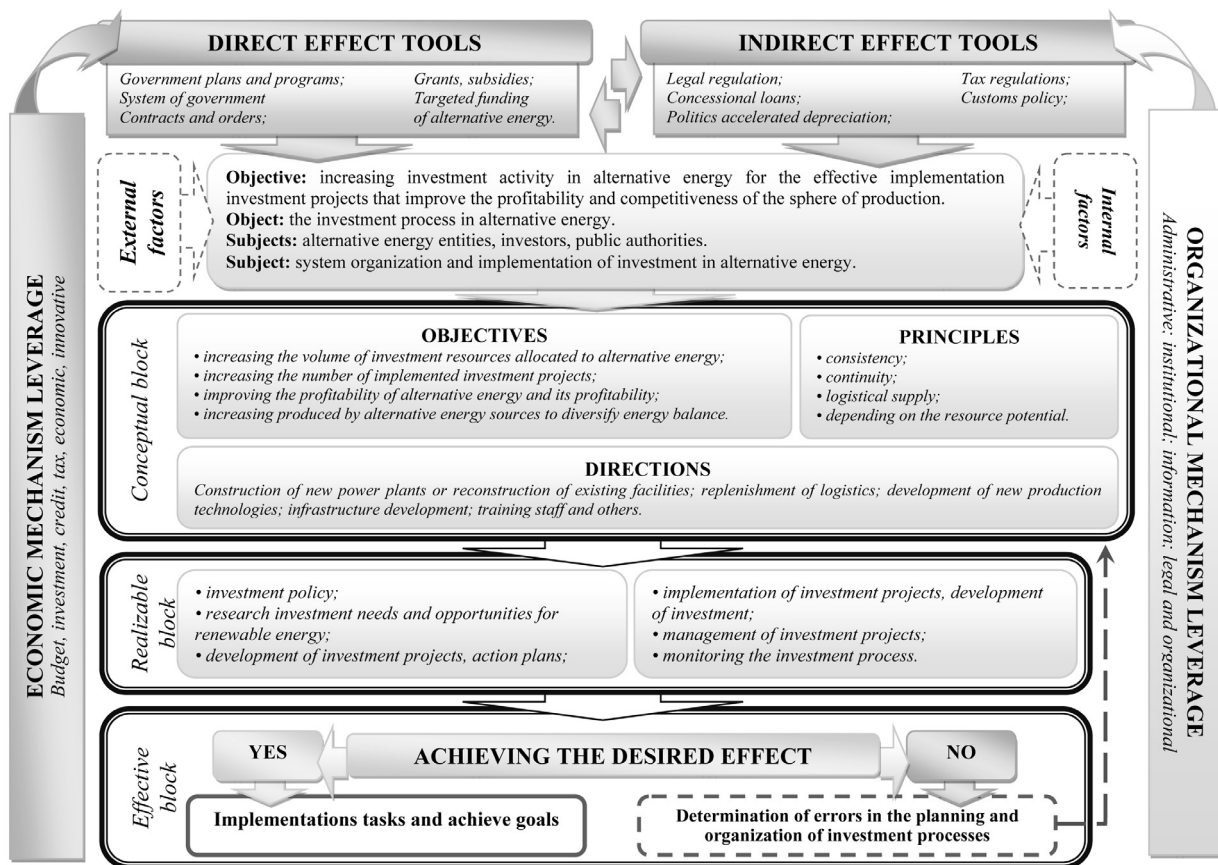


Fig. 2: Organizational-economic mechanism of effective functioning and investment process in alternative energy enhancement
Source: Compiled by the authors

of the offered organizational-economic mechanism of the investment which provides development of the alternative energy in conditions of power-dependence and certain basic levers and factors of influence to promote this mechanism, the realization of the Program of Investment Processes in Alternative Energy Activation to 2020 has been proposed by the authors. It will allow boosting investment activity in alternative energy and achieving positive influence not only on the energy sector, but also on the country as a whole.

Influence on the separate elements of alternative electric power production organization will assist bringing in additional volumes of investment resources in this sphere from different sources, promoting the amount of investment projects to be realized. The increase of the resource level, backing alternative energy, will promote the investment attractiveness of this sphere and attract additional investments from both local and foreign investors.

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