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У випуску висвітлюються різноманітні аспекти соціального підприємництва та інновацій в економіці України та Норвегії. Даний збірник підготовлений в рамках співпраці економічного факультету Чернівецького національного університету імені Юрія Федьковича та Інституту доктора Яна-Урбана Сандала, зокрема наукового обміну молодих науковців до норвезького інституту. Результати досліджень представлені на 60 Саміті «Розмови про нові проблеми соціального підприємництва. Відзначення 10 річниці проведення 2008-2018» в рамках проведення IV Міжнародної Шумпетерівської конференції «Наукова спадщина Йозефа Алїза Шумпетера та сучасність: погляд із минулого в майбутнє» (03-04 жовтня 2018 року, Чернівці).

Для науковців, фахівців-практиків, викладачів навчальних закладів, аспірантів, студентів - усіх, кого цікавлять теоретичні та прикладні аспекти економічних досліджень.

The issue covers various aspects of social entrepreneurship and innovation in the economy of Ukraine and Norway. This collection was prepared within the framework of the cooperation of the Faculty of Economics of Yuriy Fedkovych Chernivtsi National University and the Fil. Dr. Jan-Urban Sandal Institute, particularly scientific exchange of young scientists to the Norwegian Institute. The results of the research are presented at the 60th SUMMIT Conversations on Emerging Issues in Social Entrepreneurship Ten Years Anniversary 2008 - *2018* within the framework of the IV International Schumpeterian Conference "Joseph Alois Schumpeter's Scientific Heritage and Modernity: A View from the Past into the Future" (October 03-04, 2018, Chernivtsi).

It can be used by scientific employees, practitioners, teachers of institutions of higher and secondary specialized education, students. This issue is intended for all who are interested in theoretical and applied aspects of economic research.

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SOCIAL ENTREPRENEURSHIP DEVELOPMENT IN ALTERNATIVE ENERGY OF UKRAINE

The article deals with various definitions of the "social entrepreneurship" concept. It is proved that the introduction of the social entrepreneurship system in the alternative energy sector of Ukraine is relevant. The basic social problems that can be solved by the development of alternative energy sources in the state are determined. The experience of European countries in solving such issues using analytical data is analyzed. Practical examples of the implementation of the social entrepreneurship idea in alternative energy of the EU member states is illustrated. The main renewable energy sources advantages and disadvantages are determined. The recommendations on stimulating the alternative energy development based on the principles of social entrepreneurship in Ukraine are given.

Keywords: *social entrepreneurship, energy sector, alternative energy.*

The formulation of the scientific problem and its significance. Uninterrupted and effective energy sector functioning in Ukraine is an important condition for the development of its national economy. Currently, 96% of the energy supply sources in the state have traditional sources of energy, that are of concern to environmentalists. Renewable energy can radically change the trend of industry development as a whole. The implementation of social entrepreneurship in the alternative energy field, which meets the priorities of sustainable development, is relevant. Revitalization of production and popularization of energy from renewable sources can solve other problems, not only environmental issues. Currently, an important social problem in Ukraine is the lack of a basis for the practical development of scholars who, in search of the possibility of implementing ideas, go abroad. Alternative energy is a high-tech industry and opens a wide springboard for innovation. In addition, the development of this sphere is able to solve the urgent problem for the state of increasing unemployment by creating new jobs for different segments of the population: from specialists in the field of energy to representatives of the simplest professions. Renewable energy is a way for Ukraine to meet energy independence. This aspect is particularly relevant nowadays, in the period of deepening of crisis phenomena in geopolitics. Energy supply is a profitable activity that ensures stable operation and further development of the industry. Independence of the sphere's operation from external factors (export of fuel, military actions in the east of the country) helps to avoid fluctuations in prices for heat and electricity, which is important for the normal development of the economy and citizens comfortable life.

Currently, the development of social entrepreneurship in Ukraine is at an early stage. For the energy sector, such system of activity in the state was not used, despite the significant potential for its implementation. It is advisable to identify problems and perspectives of using the concept in practice, including taking into account the leading European countries experience.

Analysis of recent research on this problem. Separate issues regarding the study of the prospects of alternative energy development in Ukraine and the study of potential positive results of its implementation were undertaken by such scholars as Shkarbetst F., Prutska O., Braginets A., Braginets S., Pivniak G., Bobrov Ye.,and others. Features of the implementation of social entrepreneurship in the energy sector and the experience of different countries are given in the works of Dan van der Horst, Sören Becker, Conrad Kunze, Mihaela Vancea etc. J. Mair, J. Ostin, H. Stevenson, J. Sandal, A. Brooks, K. Banks, and others have made significant contribution to the definition of the term «social entrepreneurship» and the disclosure of the essence of this concept.

Formulation of the purpose and objectives of the article. Despite a large number of scientific papers on the development of alternative energy in Ukraine, many issues remain insufficiently highlighted and require further research. To date, the prospect of introducing social entrepreneurship as a system of functioning of the energy sector of Ukraine has not been considered.

The main purpose of this work is to study the problems and prospects of the social entrepreneurship development in the renewable energy sector of Ukraine.

Presentation of the main material. Now, in the period of the crisis deepening in the Ukrainian

economy, a new approach to the development is needed. This can be achieved through the introduction of social entrepreneurship, which can not only accelerate the development of the economy, but also solve numerous social and environmental problems.

There is no single approach to the definition of "social entrepreneurship". Scientists offer the following definitions of the term (Table 1).

Table 1

The definitions of the concept of "social entrepreneurship» given by different scholars

Scholar	Definition
Seelos, C., and Mair, J., 2005	Social entrepreneurship creates new models for the provision of products and services that directly to basic human needs that remain unsatisfied by current economic or social institutions [19]
Mair, J., and Marti, I., 2005	We view social entrepreneurship as a process involving the innovative use and combination of resources to pursue opportunities to catalyze social change and/or address social needs [13]
Austin, J. , Stevenson, H. , Wei-Skillern, J., 2006	We define social entrepreneurship as innovative, social value creating activity that can occur within or across the nonprofit, business, or government sectors [2]
Mair, J. , Robinson, J. Hockerts, K., 2006	The concept of social entrepreneurship (SE) is, in practice, recognized as encompassing a wide range of activities: enterprising individuals devoted to making a difference; social purpose business ventures dedicated to adding for-profit motivations to the nonprofit sector; new types of philanthropists supporting venture capital-like 'investment' portfolios; and nonprofit organizations that are reinventing themselves by drawing on lessons learned from the business world [14]
Sandal, J., 2007	Social entrepreneurship is a «special form of management, which purpose is to run a production function in such a way as to ensure increased value for all the participating parties in that function» [17]
Brooks, A., 2007	Social entrepreneurship is a much newer concept that commercial entrepreneurship. Social entrepreneurship addresses social problems or needs that are unmet by private markets or governments. Social entrepreneurship is motivated primarily by social benefit. Social entrepreneurship generally works with – not against – market forces [4]
Mulgan, G. 2007	understood as the use of entrepreneurial skills to achieve a social purpose but not necessarily involving social enterprise [9]
Banks, K., 2016	Social entrepreneurship is a a specific term to describe those driven, persistent, ambitious individuals working on innovative solutions to society's most pressing social problems [3]

Note: the author's development

That is, the main features of social entrepreneurship are the social significance and innovation of activity. Such a system is suitable for implementation in the field of energy using renewable energy sources, since it is able to solve a number of social problems (Fig. 1).

Traditional energy's considered one of the largest pollutants in the world.

The structure of energy supply in the context of traditional and renewable sources directly affects environmental pollution. For example, emissions of sulfur oxides (the largest air pollutant by volume) into the atmosphere from entities operating in the energy sector in Ukraine are 977400 tons (90.8% of total emissions).It significantly exceeds the value of all EU member states (from 0 t in Liechtenstein to 409302 tons in Poland);the emission of sulfur oxides in the energy sector in Norway is 4063 tones [5, 1].The introduction of alternative energy will contribute to reducing emissions of sulfur oxides and a number of other hazardous compounds: carbon monoxide, nitrogen oxides, methane, and particulates. In addition, the use of traditional energy sources negatively affects the lithosphere (the formation of waste heaps from coal mining, drilling of wells for oil and gas production) and hydrosphere (the use of large amounts of water for the operation of thermal power plants and nuclear power plants).Alternative energy is considered "friendly" to the environment. The development of social entrepreneurship in this area can significantly reduce the negative impact of the energy sector on the environment.

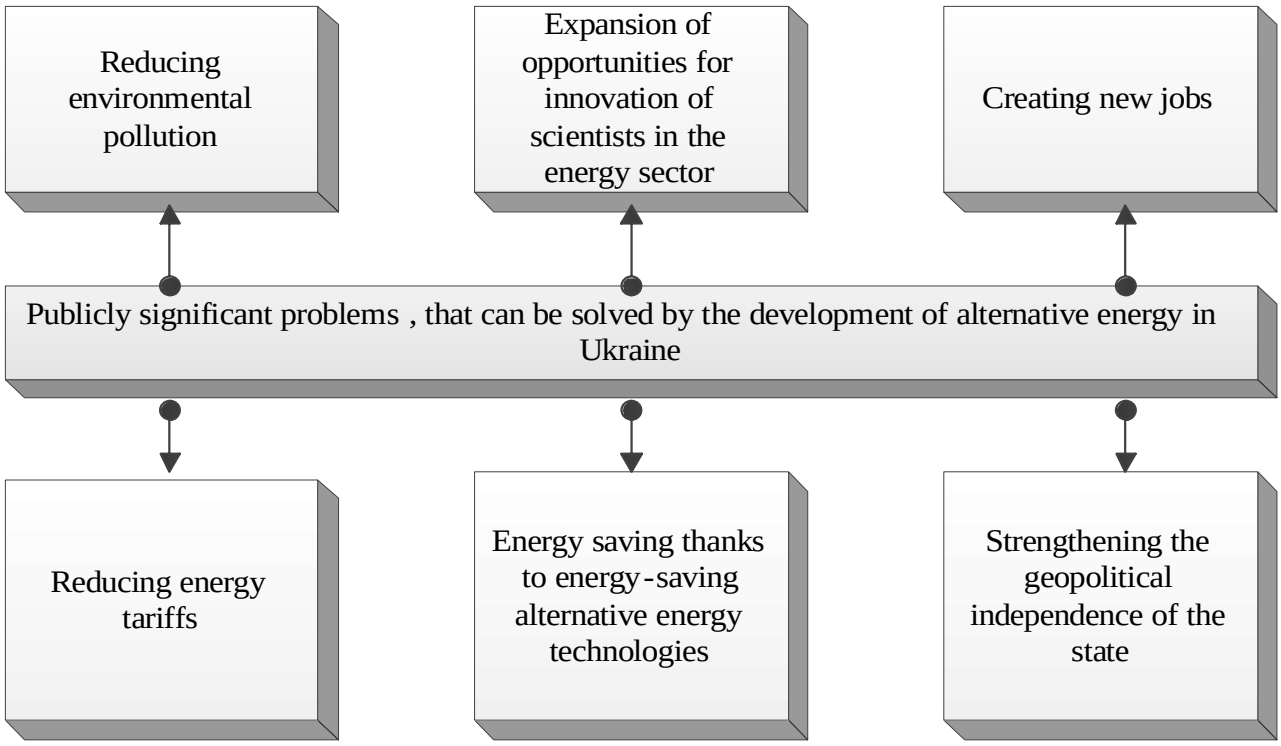

Fig. 1. Public problems that can be solved due to the development of alternative energy in Ukraine
Source: compiled by the author

In Ukraine, the energy sector is represented by more than 96% of traditional energy sources (Fig. 2).For comparison, in the EU, alternative energy accounts for 13% of the final consumption of energy, in Norway 42%.

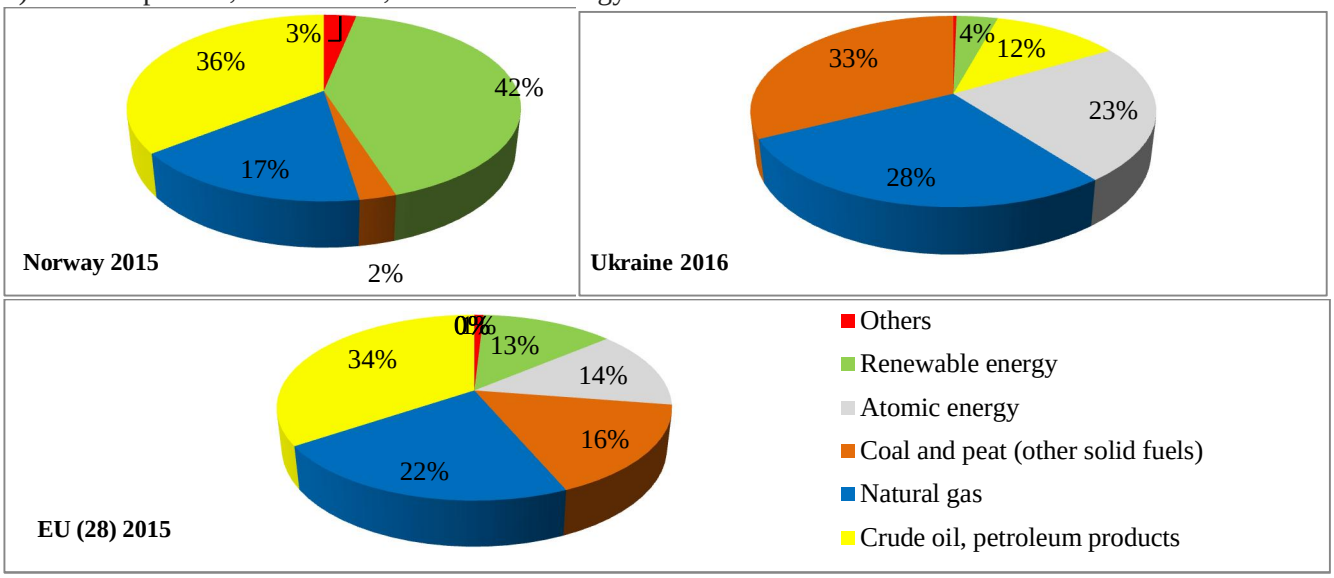

Fig. 2. The structure of gross energy consumption by type of fuel in Ukraine compared to Norway and the EU, %
Source: compiled by the author based[11, 6]

Implementation of renewable energy in Ukraine envisages broad prospects for creating new jobs. For example, in Germany, this sector provides work to 334 thousand workers, in France - 162 thousand, in the UK - 110 thousand, in Spain - 76,15 thousand, in the EU in total - 667 thousand people. According to the results of 2016 in the field of supply of electricity, gas and steam, the status of the unemployed was 5.4 thousand citizens of Ukraine [16, 12].That is, even at the initial stages of the development of alternative energy there is a possibility of a significant improvement of the situation on the labor market. In addition, the introduction of renewable energy sources will

stimulate increased demand for labor in other sectors of economic activity: agriculture (cultivating crops for biofuels), where the involvement of socially vulnerable groups or persons without a permanent place of residence is relevant; processing industry (production of generating installations, etc.);construction where it is possible to provide work for representatives of the simplest professions; transport and courier activities; financial activity (accounting of income and expenses, development of business plans); administrative service, etc.

Particular attention deserves the development of scientific activity in the energy sector, which is possible due to the introduction of alternative energy. Nowadays, renewable energy (except for hydropower) in Ukraine is not even represented as a separate specialty. The scientific branch "Electrical engineering" involves the research of atomic, thermal, hydropower and power engineering. In 2016, the structure of the scholarship direction was as follows: 93 graduate students and 12 doctoral students. According to the results of scientific and applied activities in the field of electric power industry in 2016, 115 applications for inventions were filed [18]. Ukraine has a significant scientific potential for the development of alternative energy. Currently, a number of microelectronics companies in the state can provide a complete cycle of manufacturing the necessary devices for generation of energy using renewable sources. The availability of practical tools would contribute to the further improvement of the devices and would allow the creation of a competitive energy sector in Ukraine at the global level, while providing an opportunity to realize the scientific potential of domestic scientists.

The use of traditional energy sources is considered ineffective from an economic point of view in Ukraine. This is due to the lack of own minerals (Fig. 3).

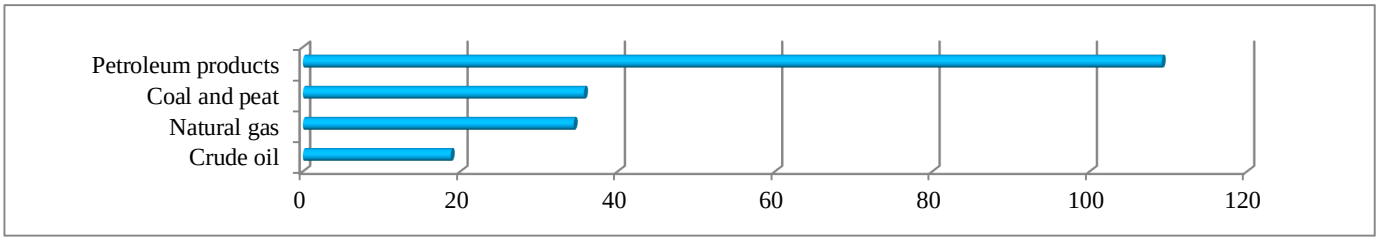

Fig.3. Share of imports of certain types of fuel in the structure of total supply of primary energy of this fuel in Ukraine in 2016, %

Source: compiled by the author based[6]

This situation leads to an increase in the geopolitical dependence of the state, which is confirmed by the downtime of the energy and, as a result, industrial enterprises in the period of exacerbation of relations with exporting countries. As a result of the production sector's downturn, there is a deepening of the economic and social (wage arrears, falling living standards) crises. The development of alternative energy can solve this urgent public problem.

In addition, renewable energy, unlike traditional, allows you to lose less energy during transportation (in particular, thermal).This will reduce the energy intensity indicators in Ukraine, which are now critical (Fig. 4).

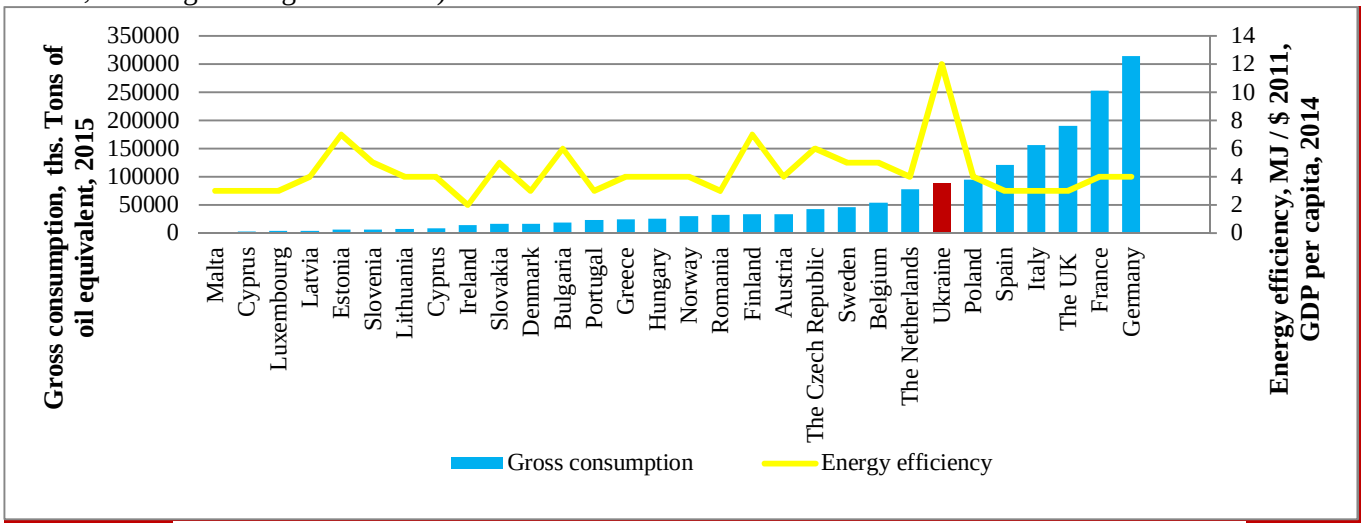

Fig. 4. Gross energy consumption and energy intensity in Ukraine, EU member states and Norway

Source: compiled by the author based[6, 20, 7]

Energy saved in this way can be used for the development of the national economy or exported, which is quite profitable. Expanding the supply of energy products will lower the prices for them [8].

The conducted analytical studies confirm the necessity and urgency of the development of social entrepreneurship in the alternative energy field of Ukraine. Unfortunately, at this stage in our country there are no examples of such a system formation. In order to create a project for its implementation in Ukraine, it is expedient to study the experience of leading EU member states (Fig. 5).

State	An example of the social entrepreneurship development in alternative energy
Denmark	Wind energy sources play a special role in the development of alternative energy. Social enterprises are formed of a general partnership / full liability company. The creation of such an enterprise is initiated by a local person, who is supported by other people, mainly farmers, on which territory, wind turbines are built. At the same time, the Danish Wind Guild Association, which is a nonprofit, independent organization that promotes such local partnerships, plays an important role in setting up a company. The country has a significant experience in stimulating social entrepreneurship in the field of supply of thermal energy. Local heating systems were established as social enterprises with the right to mandatory connection to them. The profit earned from their operation was reinvested.
Germany	Social enterprises in the alternative energy sector of the country are formed as energy cooperatives. Their formation is facilitated by a number of state incentives, the most common of which is a fixed guaranteed tax and the obligation of network owners to buy energy from such social enterprises
Scotland	The Scottish Government has created the Community and Renewable Energy Scheme (CARES), which aims to provide special lending conditions for citizens (such as not requiring collateral) who wish to set up social enterprises in the field of alternative energy.
Norway	Funded by the Northern Periphery Programme, the SECRE project is aiming to foster sustainable and effective energy production alternatives especially in sparsely populated areas and to expand social entrepreneurship into bioenergy sector. SECRE is developing services that allow communities to apply renewable energy solutions in local economic development. SECRE consists of a transnational network of expertise on bioenergy and social entrepreneurship and the project includes 12 partners from Finland, Sweden, Norway, Iceland, Great Britain and Ireland.

Fig. 5. Experience of some EU member states in the development of social entrepreneurship in alternative energy

Source: compiled by the author based[10]

It is important to determine the types of alternative energy sources for which this project will be directed. The most environmentally friendly is solar energy. Positive is the virtually unlimited period of solar cells operation. Obstacles to use may require a large area for panel placement and their high price.

For along time discussion shave been held on the use of hydro power, which at the initial stage soft he use of renewable sources was one of the ir most popular species. Of course, with the global problem of "greenhouse effect", hydropower, which does not actually affect the thermal balance of the planet, is an ideal option compared to thermal and nuclear power plants. However, the community of ecologists has proven its negative economic impact (flooded territories could be used more effectively from a financial point of view, losses from impossibility of navigation), ecological (destruction of ecosystems due to flooding of territories and vibration-noise effects) and social (these territories could be used as recreational, many settlements flooded for the construction of hydroelectric power stations).This led to a significant reduction in the share of hydropower

use in the structure of alternative energy sources by EU Member States (from 25% in 2004 to 14% in 2015).

It is controversial about the expediency of using biofuels, which requires the cultivation of certainty pes of plant crops, where as the seterritories could be used for food purposes or others – more profitable. However, its share remains rather significant, since emissions from the use of such fuel are almost half that of traditional fuel consumption (gasoline, gas).

The need to solve the problem of utilization of household and similar waste leads to the development of the use of such garbage as an alternative source of energy. Therefore, the amount of energy received as a result of its burning is constantly increasing, and the share remains in the EU for a decade in the level of 5%.

Wind energy is rapidly becoming one of the cleanest types of renewable sources. The only negative environmental aspect discovered relatively recently is the infrasonic noise that negatively affects the flora and fauna within the radius of the wind generator. Wind power is relevant for use in the Carpathian region, thus solving one of its biggest problems - unemployment of the local population.

Geothermal energy and the energy of ocean tides depend heavily on climatic and geographical conditions, and are therefore historically used only by a number of EU member states. Without violating the thermal balance of the planet, they cause a negative impact on the components of the biosphere. In addition, the introduction of such renewable energy requires significant capital investments, while the possibilities for transporting energy are limited. In fact, Ukraine has no prospects for using these types of energy.

Currently, the development of alternative energy in Ukraine in terms of optimality of the structure does not correspond to environmental priorities in Ukraine (Fig. 6).The most "clean" types of energy occupy the smallest share.

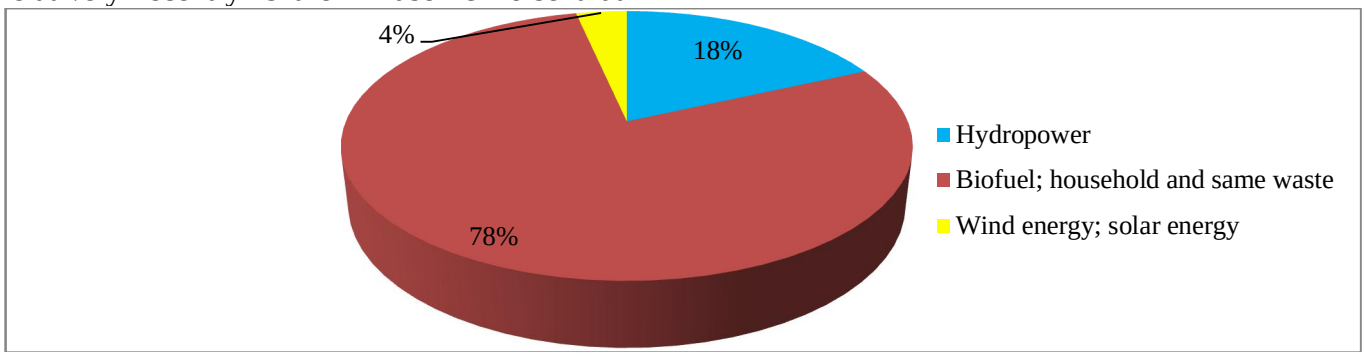

Fig.6. Structure of energy supply from renewable sources in Ukraine in 2016, %

Source: compiled by the author based[6]

Leading countries set the desired values for the supply of energy from renewable sources. It is expedient to determine the optimal target structure for Ukraine. An example is the improvement of the structure in the EU (Figure 7).

Based on our research, we propose the following alternative energy development project in Ukraine (Table 2).

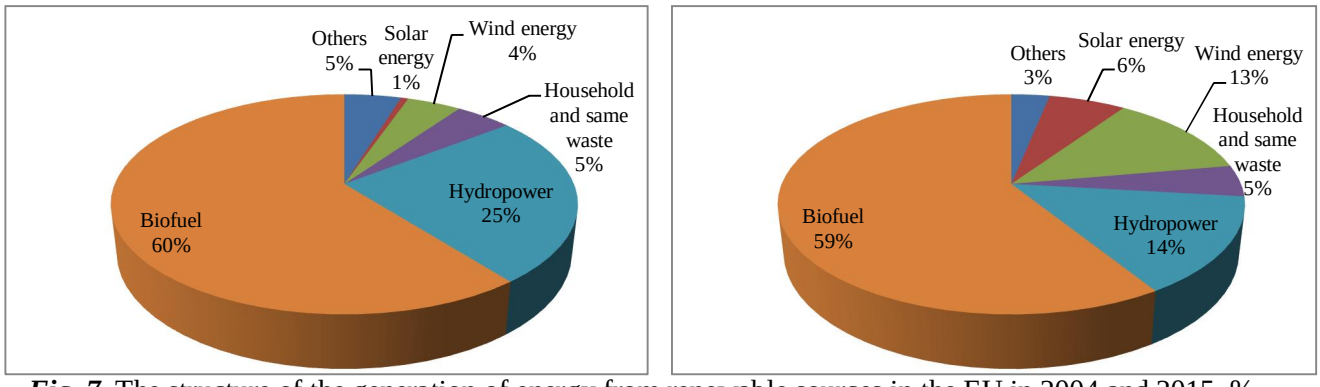

Fig. 7. The structure of the generation of energy from renewable sources in the EU in 2004 and 2015, %

Source: complied by the author based[15]

Table 2

Basic principles of introduction of social entrepreneurship in alternative energy of Ukraine

General purpose of the project	The development of alternative energy through the production of generating elements in the state (and not their export from abroad), their innovation improvement and the formation of an appropriate energy transportation network
Economic component of the project	Production of energy from alternative sources and its sale
The project's social tasks	- Reducing environmental pollution; - Development of scientific potential of the state; - Creation of new jobs, including for specific categories of population (inhabitants of mountain regions, people without a permanent place of residence, without education, etc.); - Strengthening of geopolitical independence of the state; - Implementation of energy saving technologies as an opportunity for future generations to exist; - Reduction of tariffs for products of the sphere
Mechanisms of stimulation	- Preferential taxation; - Special loan offers; - Legislative obligation of distributors to sell energy from alternative sources; - Public promotion of social enterprises
The basis for the development of social entrepreneurship	- Creation of a legislative framework that would clearly regulate the procedure for the establishment and operation of social enterprises in Ukraine; - Creation of a relevant state institution that would provide professional advice and support in the creation of such enterprises; - EstablishmentoftheInstituteofSocialEntrepreneurshipinthefieldofalternativeenergy; - Establishing interaction with a number of international organizations involved in supporting social entrepreneurship (FiBL, Argo Invest)
Requirements for the functioning of social enterprises of the sphere	- Permanent innovation activity through the involvement of specialists in the field of science; - Recruitment of vulnerable groups of the population or above mentioned categories of citizens; - Reinvestment of a fixed share of profits in order to continuously improve the industry
Organizational and legal form of creation of the enterprise	Arbitrary

Note: the author's development

Conclusions. Taking into account, the main revealed signs of social entrepreneurship (innovation and social orientation) the implementation of this system in the alternative energy sector of Ukraine is relevant.

The conducted studies indicate, that our state has a significant potential for the development of alternative energy. The introduction of social entrepreneurship in this area can solve a number of important social problems analyzed in the work: reducing the negative impact on the environment, creating new jobs (including for specific categories of the population), strengthening the state's energy independence, reducing energy prices, etc. In addition, the development of alternative energy will have a positive economic effect. A stable functioning energy sector is a guarantee of normal uninterrupted activity of the whole economy of the state. A profitable activity of the sphere is a source of significant income.

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Анотація

Юлія Краснянська

РОЗВИТОК СОЦІАЛЬНОГО ПІДПРИЄМНИЦТВА В СЕКТОРІ АЛЬТЕРНАТИВНОЇ ЕНЕРГЕТИКИ УКРАЇНИ

Висвітлено підходи різних науковців до трактування поняття "соціальне підприємництво". На прикладі держав-членів ЄС доведено, що актуальним є впровадження системи соціального підприємництва в сектор альтернативної енергетики України. Розроблено проект стимулювання розвитку альтернативної енергетики на основі принципів соціального підприємництва в Україні.

***Ключові слова**: соціальне підприємництво, енергетика, альтернативна енергетика*

Аннотация

Юлия Краснянская

РАЗВИТИЕ СОЦИАЛЬНОГО ПРЕДПРИНИМАТЕЛЬСТВА В АЛЬТЕРНАТИВНОЙ ЭНЕРГЕТИКЕ УКРАИНЫ

Освещены подходы различных ученых к трактовке понятия "социальное предпринимательство". На примере государств-членов ЕС доказано, что актуальным является внедрение системы социального предпринимательства в сектор альтернативной энергетики Украины. Разработан проект стимулирования развития альтернативной энергетики на основе принципов социального предпринимательства в Украине.

***Ключевые слова**: социальное предпринимательство, энергетика, альтернативная энергетика.*

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