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THEORETICAL ASPECTS OF THE COMMUNAL OBJECTS ENERGY SAVING CONCEPT

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Abstract. A theoretical and methodological study of the concept of energy saving of communal objects are conducted in this article. Generalized definition of communal property with their division into groups and author's vision of the concepts of resource saving and energy saving of utilities are proposed. The paper summarizes the historical stages of the energy saving process in Ukraine, describes their features, highlights the main legal acts and state institutions that regulate the implementation of energy efficiency policy. The negative economic and social consequences of unbalanced domestic consumption of fuel and energy resources are determined.

Key words: *communal objects, energy saving, resource saving, energy efficiency, energy intensity of GDP, innovative activity.*

Проведено Аннотация. теоретикометодическое исследование понятия энергосбережения коммунальных объектов. Предложено обобщенное определение объектов коммунальной собственности с разделением их на группы и авторское видение понятий ресурсосбережения и энергосбережения коммунальных объектов. Обобщены исторические этапы становления процесса энергосбережения в Украине, охарактеризованы их особенности, выделены основные правовые акты и государственные институты, регулирующие реализацию энергоэффективной политики. Определены негативные экономические и социальные последствия несбалансированного внутреннего потребления топливно-энергетических ресурсов.

Ключевые слова: коммунальные объекты, энергосбережение, ресурсосбережение, энергоэффективность, энергоемкость ВВП, инновационная деятельность.

The problem statement. The issue of energy efficiency and energy saving for Ukraine is first of all an issue of energy independence and security of the state. Today, energy efficiency is extremely important for reforming and developing the Ukrainian economy. Maximum attention is paid to this area by fifferent branches of government and society. This issue is especially relevant for communal property that meets the needs of local communities. However, public energy efficiency policy includes only some direct budget funding, which will not solve all the problems. At the same time, in the EU countries, the principle of encouraging consumers to implement energy efficiency measures is preferred.

At the same time, the scientific analysis of this issue showed the lack of a clear distinction between the issues of resource-, energy saving and energy efficiency. And if we consider these issues on the example of objects of communal property, it becomes obvious that the national legislation does not a single definition of this provide concept, which controversy causes between scientific numerous achievements.

Effective activity of communal property objects, which performs an important function to ensure the livelihood of territorial communities and socio-economic interests of the population of the relevant administrativeterritorial units, is a necessary condition for successful economic development of the country. However, national law does not provide a single definition of "communal property". Among scholars, this concept is also not clearly defined, which gives rise to numerous legal conflicts and disputes [1].

The realization of the articles goal is necessitated the solution of such tasks, as:

1. to define the essence of the concept of communal objects and features of their functioning;

2. on the basis of generalization of theoretical thesises and results of research of the energy efficiency, resource- and energy saving concepts, to substantiate theoretical approaches for definition of concept of energy saving of communal objects.

In order to achieve the formulated goal and solve these setted tasks, such research methods as theoretical generalization and systematization, comparison and system analysis were used.

Analysis of recent research and publications. Many scientists have studied the issues of energy conservation, resource conservation and the concept of communal property. Thus, Balashova R. I., Pogoidak O. B. consider resource conservation through the prism of improving the efficiency of resource usage. Reimers R. F. speaks of the use of a minimum amount of resources not only at the stage of production, but also in the process of its realization. Skokov S. A. sees energy saving in a complex system with such components as scientific, practical, organizational and information activities aimed at economical consumption of resources while reducing the load on the environment. However, the differences between resource and energy saving are not fully defined. At the same time, the concept of communal property is evolving together with the adopted legislative and regulatory documents. Thus, the concept of energy saving is the objects of communal property needs further clarification and elaboration.

The purpose of the article is to study and generalize the theoretical principles of the concept of communal objects energy saving.

Presentation of the main results. The concepts of communal and municipal property are synonymous. As noted by O. Kovaleva, the term "communal property" comes from the concept of "commune", which translated from French "commune" means "community", and from Latin - "communist" - common [2]. In France, Italy and other countries, the commune today is a settlement of people in rural and urban areas and forms an administrative - territorial unit [3].

In domestic law, the concept of "communal property" is first mentioned in the Law of the Ukrainian SSR "On Local Councils of People's Deputies and Local and Regional Self-Government", and is interpreted as the basis of local self-government on behalf of the population by relevant local Councils of People's Deputies. This included property that was transferred free of charge to the former USSR and the USSR to other entities, as well as property acquired by local councils of people's deputies at the expense of their funds [4].

Adopted in 1991, the Law of the Ukrainian SSR "On Property" defined the legal regime of communal property, namely - communal property, as the property of administrative-territorial units, together with national (republican) property, was attributed to state property [5].

Nowadays, the right of communal property is exercised in accordance with the Constitution of Ukraine and the Law of Ukraine "On Local Self-Government in Ukraine". Article 142 of the Constitution of Ukraine states that the material and financial basis of local self-

government is movable and immovable property, local budget revenues, other funds, land, natural resources owned by territorial communities of villages, settlements, cities, districts in cities, as well as objects of their common property, which are managed by district and regional councils [6].

The Law of Ukraine "On Local Self-Government in Ukraine" defines the right of communal property of territorial communities of villages, settlements, cities, districts in cities to movable and immovable property, revenues of local budgets, other funds, land, natural resources, enterprises, institutions and organizations, including banks, insurance companies, as well as pension funds, share in the property of enterprises, housing, non-residential premises, cultural, educational, sports, health care, science, social services and other property and property rights, movable and immovable property, which are defined in accordance with the law as objects of communal property rights, as well as funds received from their alienation [7, Art. 60].

The issues of communal property functioning were further developed after the adoption in 2003 of two important normative acts - the Civil and Economic Codes of Ukraine. Thus, the Civil Code of Ukraine states that territorial communities have equal rights with other participants in civil relations, and can create legal entities under public law (utilities, educational institutions, etc.) [8, Art. 169]. The Economic Code stipulates that the management of economic activity in the communal sector of the economy is carried out through the system of organizational and economic powers of territorial communities and local governments in relation to economic entities belonging to the communal sector. Also, local governments are responsible for the consequences of economic entities belonging to the communal sector of the economy [9, Art. 24].

Thus, it can be argued that the objects of communal property are movable and immovable property, budget revenues, other funds, natural resources, enterprises owned by territorial communities, managed by the relevant local governments and used to meet both material and spiritual needs of a person as a member of the territorial community, in particular in housing, education, health care, utilities, recreation, leisure, etc. Based on this definition, communal property can be divided into groups (Fig. 1).



Fig. 1. Objects of communal property

Source: developed by authors on the base [1,5-7]

According to Ukrainian law, communal objects cannot be confiscated from territorial communities and transferred to other subjects of ownership without the consent of the territorial community directly or the relevant decision of the council or its authorized body [7, Art. 60]. The volume of communal property is quite large and diverse. All of them need effective management, as their use and disposal provides the socio - economic needs of the population of the territorial community [1, p. 46].

Utility management policies cannot be considered effective without taking into account their energy saving issues. The issues of the energy saving processes intensification are not new for Ukraine, as the domestic economy remains extremely energy-intensive. At the same time, housing and communal services enterprises annually consume more than 8 billion kW of electricity and 10 billion cubic meters of natural gas, which is twice as much as in EU countries [10, p. 4].

Before highlighting the place of energy conservation in the system of utilities, it seems appropriate to clarify the essence of such concepts as "resource conservation/saving", "energy conservation/saving", "energy efficiency" and differences between them, as these concepts are close in content, they are often used in science and in practice and are mostly identified. Existing approaches to high-source saving can be summarized in lighting the essence of the concept of re-Table 1.

Table 1

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Existing approaches to	h understanding	the meaning	of "resource	e savinσ"
Existing approaches a) unuerstanding	the meaning	of resource	c saving

Author	Interpretation		
Balashova R.I.	economic category, which is constantly improving and is a process of improving resource efficiency [11, p. 117].		
Andrushkiv B. M., Vovk Yu. Ya., Po- haidak O. B.	 - "a condition that characterizes the presence of potential opportunities to improve the use of production resources"; - the result that can be interpreted by increasing the socio-ecological and economic efficiency of production while reducing its resource intensity; - a set of technical, economic, organizational and socio-psychological measures for the economical and efficient use of all types of resources (material, energy, financial, etc.) [12, p. 12]. 		
Melnyk N.O.	factor of production that changes the ratio between the used means of pro- duction and labor costs due to increased productivity [13].		
Veklych O. A.	saving of living and tangible labor [14, p. 9].		
Vovk I., Pohaidak O.	the process of reducing the material and energy consumption of a unit of production, reducing production costs, increasing the yield of final prod- ucts through the introduction of scientific and technical advances and the application of organizational and economic management mechanisms [15].		
I. M. Sotnyk	progressive direction of the natural resource potential usage, which provides savings of natural resources and growth of production with a constant amount of raw materials, fuel, basic and auxiliary materials [16, p. 31].		
Skokov S.A.	scientific, practical, organizational, commercial and information activities aimed at rational, integrated usage and economical consumption of all types of resources, based on the existing level of development of machin- ery and technology, while reducing the man-made load on the environment [17, p. 350].		
Reimers N.F.	resource-saving technologies that provide the minimum amount of re- sources usage at each stage of the production cycle of the product, as well as during its implementation [18].		
Volkova S.V.	one of the forms of the enterprise's reserves realization, connected with the maximum economy in the production of material resources [19].		

Source: developed by authors

The analysis of the above approaches for the resource saving essence understanding allows us to offer the author's vision of the concept as a process of reducing resource consumption, due to increased efficiency of their use and positive changes in the state economy. It also seems appropriate to reveal the essence of the concept through the prism of its basic principles, content and classification, which is presented in Fig. 2. As it can be seen from Fig. 2, resource saving is divided into types, depending on the type of resources. Thus, it can be argued that energy saving is a classification element of resource saving.

An active energy saving policy came to Ukraine in the mid-1990s, almost 20 years after it became an important element of the state policy of developed countries. The main document that defines the legal, economic, social and environmental foundations of energy saving for enterprises, institutions, organizations and citizens is the Law of Ukraine "On Energy Saving". According to this law, energy saving is an activity (organizational, scientific, practical, informational), which is aimed at the rational economical usage of primary and transformed energy and natural energy resources in the national economy and which is implemented with the using of technical, economic and legal methods [21].

RESOURCE SAVING – the process of reducing resource consumption, which is due to increased efficiency of their use and positive changes in the state economy.

BASIC PRINCIPLES:

- principles of minimization and maximization, which provides the achievement of positive results in terms of reducing the resources usage;
- the principle of cyclicity, which reflects the need to organize the reproduction process of resource substitution at each stage of the cycle of creating and promoting an innovative product by reducing costs and replacing one resource with a combination of others;
- the principle of singularity, which provides the priority of organizational and intellectual processes of resource substitution, which will contribute to the improvement of resource management mechanisms.

CONTENT OF THE PROCESS:

- rational use of mineral resources and fuel resources;
- introduction of resource-saving equipment and technologies;
- widespread use of man-made waste, especially in the processing industry of secondary raw materials;
- restoration and stabilization of the land fund: revival of land fertility, reclamation of spent industrial facilities (quarries, dumps, sludge storages), etc.;
- effective regulation of forest use, maintenance of forest productivity, active reforestation;
- preservation of recreational resources when placing new industrial facilities.

CLASSIFICATION depending on the type of resources:

material-, water-, energy-, labor-, capital savings, preservation of financial, information and other types of resources.

Fig. 2. Disclosure the essence of the resource saving concept

Source: developed by authors on the base [10, 15, 20]

According to Popovchenko O. M., energy saving is an economic category, in particular in terms of the relationship of economic, legal, technological, energy and environmental factors that affect the volume of industrial production, its energy intensity and dynamics of energy consumption [22]. However, according to the author, this definition is a little bit incomplete, as its scope is limited by the process of manufacturing industrial products, while energy saving is used in almost all spheres of social activity.

More completed and comprehensive is the interpretation of energy saving as an organizational, scientific, practical and informational activity of government agencies, individuals and legal entities, which aims to reduce costs and losses of fuel and energy resources in the process of extraction, processing, transportation, storage, production, use and disposal [23]. This interpretation reveals the concept in terms of its functional and institutional aspects.

Investigating the issue of energy saving, author emphasizes the need for its intensification, the essence of which is to use a set of effective measures aimed at reducing specific energy consumption for production (including marketable energy) and increase productivity. He also notes that energy saving is a complex activity that involves a powerful resource and, in case it is used effectively, will serve as an effective driver of the economy [24, p. 160].

Energy saving is also understood as an interconnected set of methodological, research, technological, engineering, organizational, economic, managerial, administrative and economic and educational activities aimed at the production of energy and products to solve problems of saving and rational use of all types of fuel and energy resources (FER), a sharp reduction in their losses, as well as a significant increase in the degree of extraction and depth of processing, which ensure the achievement of optimal energy efficiency and prevention of harmful effects of industrial and socio-economic systems on the environment [10, p. 39].

The analysis of the above interpretations of the concept of energy saving gives grounds to talk about the tendency of the authors to narrow this concept to a particular area of research. And this is true, because measures to save energy in the production process and services will be a little bit different. The common root in all these definitions is - the rational use of energy. Thus, if we talk about energy conservation of utilities, it is necessary to focus on methods and technologies, research, organizational, economic, managerial, administrative and economic and educational activities for the rational use of energy in the operation of movable and immovable property, enterprises, housing, non-residential premises, cultural, educational, sports, health, science, social services and other property owned by local communities.

The beginning of the 90s of the last century in our country can be described as a period of awareness of the urgency of energy saving at the public level. Prior to the adoption of the Law of Ukraine "On Energy Conservation" in 1994, it was often said that energy prices would rise in line with the market value and everything would fall into place in terms of efficiency of their consumption. The first part of this sentence came true very quickly: the cost of imported gas in a relatively short period increased tenfold. However, in practice everything turned out to be much more complicated: the result was exactly the opposite of what was expected. The low level of energy efficiency of national production in combination with the rising price of imported gas became one of the determining causes of the crisis in Ukraine's economy in the 1990s and, in turn, the further deterioration of energy intensity of GDP (EGDP). Only during the period 1990-1996, the EGDP of the national economy increased by 42% [25].

The high energy intensity of Ukraine's GDP at that time was explained by a certain technological backwardness, unsatisfactory structure of the national economy and the influence of the "shadow sector". It objectively limited the competitiveness of national production and placed a heavy burden on the economy, especially in the face of its external energy dependence.

The problem of unbalanced domestic consumption of fuel and energy resources of the period of Ukrainian statehood formation had sharp negative economic and social consequences:

- part of the urban population of Ukraine was provided with water supply only a few hours a day. The electricity switching off became a common phenomenon in the 1990s in the regions, and the quality of heat supply often did not meet the established requirements;

- competitiveness of domestic, rather energy-intensive, products was achieved only at the cost of a significant reduction in the component of labor costs;

- the infrastructure of the fuel and energy complex (FEC) and water and heat supply utilities was gradually destroyed [25].

Energy efficiency has become an element of official state policy in Ukraine since the establishment in 2006 of the National Agency of Ukraine for Efficient Use of Energy Resources, and since 2011 its successor has been the State Agency for Energy Efficiency and Energy Conservation of Ukraine. Its main tasks include the implementation of state policy in the field of efficient use of fuel and energy resources, energy conservation, renewable energy sources and alternative fuels, as well as ensuring an increase in the share of renewable energy sources and alternative fuels in Ukraine's energy balance [26].

In Ukraine, the legal, economic and organizational principles of formation and implementation of priority areas of innovation are determined by the Law "On priority areas of innovation in

Ukraine" [27]. This Law obliges the executive authorities of Ukraine at all levels to create a regime of the greatest assistance in the implementation of works aimed at the implementation of certain priority areas, the concentration of financial, economic and intellectual resources. According to this Law, the priority areas of innovation are divided into strategic and medium-term priorities. Strategic priority areas are approved by the Verkhovna Rada of Ukraine for a period of up to 10 years. Medium-term priorities are determined for a period of up to 5 years and are aimed at implementing strategic priorities.

Thus, among the strategic priority areas of innovation in Ukraine for 2011-2021, the Verkhovna Rada of Ukraine determines the development of new energy transportation technologies, the introduction of energy-efficient, resourcesaving technologies, the development of alternative energy sources [27].

Conclusions. Based on the above, we can conclude that the concept of energy conservation of utilities is not something far and remote from our daily lives, but only arose in response to the growing urgent need to reduce and optimize the irrational use of energy resources in one of the priorities of the state and the most relevant for the average citizen industry - in the industry, where there is satisfaction of both material and spiritual human needs, as a member of the territorial community - in the field of communal property.

As perspectives for the further research authors can determine the following: development of the energy saving infrastructure for communal objects as well as the proposals for the new investment sources searching to attract in this area.

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