

THEORETICAL AND APPLIED ASPECTS OF ECONOMIC PROCESSES IN UKRAINE AND IN THE WORLD ECONOMY

UDC 338.2: 620.9(477)

<https://doi.org/10.26661/2414-0287-2020-4-48-12>

ANALYSIS OF ENERGY POLICY OF UKRAINE

Koloberdianko I. I., Kirichenko Ya. V.

*Zaporizhzhia National University
Ukraine, 69600, Zaporizhzhia, Zhukovsky str., 66*

koloberdjanko@ukr.net, kiri4enkoyayroslava@gmail.com

ORCID 0000-0002-9339-3450, ORCID 0000-0003-4882-1361

Key words:

public administration, energy efficiency, energy saving, formation of state policy in the field of energy efficiency, normative legal acts.

The article considers the trends of public administration in ensuring the energy efficiency of Ukraine's economy. The relevance of scientific research of state energy policy in the field of energy efficiency is due to current trends in integration development of the country, as well as recognition at the state level of the fact that modern energy saving legislation does not meet the current level of public relations. Today, in the field of efficient use of energy resources, there are about one hundred and fifty regulations, a system of standards, and a number of other normative and methodological documents. These acts and documents through direct or indirect legal influence on relations in the field of efficient use of energy resources allowed to create a structure of public administration and control in the field of energy resources, to introduce a system of standardization of fuel and energy resources and more. Energy efficiency monitoring should be based on a clearly defined system of indicators, which, in turn, should consist of: integrated generalized macroeconomic indicator (energy intensity of GDP), indicators that characterize the energy intensity of economic sectors (gross value added energy), individual production efficiency as well as indicators that characterize the energy efficiency of certain technologies, types of equipment, materials. In the context of Ukraine's European integration aspirations, issues of energy policy and energy efficiency in particular are becoming particularly relevant, given the problems that arise during its implementation. The authors analyze the mechanism of formation and implementation of the state energy policy of Ukraine in the field of energy efficiency in general, the dynamics of energy consumption, as well as the reasons for non-implementation of energy efficiency programs in Ukraine. In turn, the conducted SWOT-analysis of Ukraine's energy policy demonstrates special areas that should be given priority in order to achieve optimal performance in the implementation of national energy policy.

АНАЛІЗ ЕНЕРГЕТИЧНОЇ ПОЛІТИКИ УКРАЇНИ

Колобердянко І. І., Кириченко Я. В.

*Запорізький національний університет
Україна, 69600, м. Запоріжжя, вул. Жуковського, 66*

Ключові слова:

державне управління, енергоефективність, енергозбереження, формування державної політики у сфері енергоефективності, нормативно-правові акти.

У статті розглянуто тенденції державного управління щодо забезпечення енергоефективності економіки України. Актуальність наукових досліджень державної енергетичної політики у галузі енергоефективності зумовлена сучасними тенденціями інтеграційного розвитку країни, а також визнанням на державному рівні того факту, що сучасне законодавство про енергозбереження не відповідає сучасному рівню зв'язків з громадськістю. На сьогодні в галузі ефективного використання енергетичних ресурсів існує близько ста п'ятдесяти нормативних актів, система стандартів, низка інших нормативно-методичних документів. Ці акти та документи шляхом прямого чи опосередкованого правового впливу на відносини у сфері ефективного використання енергетичних ресурсів дозволили створити структуру державного управління та контролю у сфері енергетичних ресурсів, запровадити систему стандартизації паливно-енергетичних ресурсів тощо. Моніторинг енергоефективності має базуватися на чітко визначеній системі показників, яка, у свою чергу, повинна складатися з: інтегрованого узагальненого макроекономічного показника (енергоемність ВВП),

показників, що характеризують енергоємність економічних секторів (енергоємність валової доданої вартості) та індивідуальна ефективність виробництва (послуг), а також показники, що характеризують енергоефективність певних технологій, видів обладнання, матеріалів. В контексті євроінтеграційних прагнень України, питання енергетичної політики та енергоефективності зокрема стають особливо актуальними, з огляду на проблеми, що виникають під час її реалізації. Автори аналізують механізм формування та реалізації державної енергетичної політики України в галузі енергоефективності загалом, динаміку споживання енергоносіїв, а також причини невиконання програм забезпечення енергоефективності економіки України. В свою чергу, проведений SWOT-аналіз енергетичної політики України демонструє особливі сфери, на які варто звернути першочергову увагу, для досягнення оптимальних показників у реалізації національної енергетичної політики.

Formulation of the problem

Ensuring a successful energy policy by increasing the energy efficiency of the national economy is an extremely important task for modern Ukraine. The formation and implementation of Ukraine's state policy in the field of energy efficiency is due to the recognition of the relevance of this area as an important component of society. The function of state policy formation involves understanding the problem by the authorities, finding options for its solution, decision-making, providing conditions for its practical implementation, which is reflected in the legal framework of strategic goals, objectives, principles and activities in the field of energy efficiency in the form of concepts, development programs and legislation [1].

Analysis of recent research and publications

Many domestic and foreign scientists, in particular, pay considerable attention to research in the field of energy policy of Ukraine (and in particular energy efficiency) of regions and enterprises among them Bondarenko G., Barannik V., Zemlyany M., Merkho O., Sukhodolya O., Shevtsov A., Shidlovsky A and others. For the most part, researchers provide diverse methodological and conceptual approaches to the construction and analysis of energy policy evaluation system, and the proposed research tools may differ significantly, depending on the object of study, purpose, objectives, system of criteria and indicators, information and analytical base of research. The system of energy security indicators in accordance with the goals and objectives of the study deserves criticism, which makes the results of the analysis uninformative and unsuitable for systematic analysis of multiplicative effects and multifactorial impacts at hierarchical levels of energy security. The tools known today for assessing the level of threats and the state of energy security differ in approaches and research methods, which eliminates the possibility of a clear delineation of the scope of its practical application.

Objectives of the article

Assess the state of energy policy of the national economy, threats and opportunities to improve it to choose the best solutions. Develop a methodological approach based on the proposed system of indicators of energy reliability, energy security, energy independence, energy efficiency and economic sustainability. Substantiate the scientific principles of building an integrated system of criteria and components and prove the informativeness of the results of their study to assess the energy policy of the national economy.

The main material of the research

The current mechanism of formation and implementation of Ukraine's state policy in the field of energy efficiency is generally determined by the main provisions formulated in the Constitution of Ukraine, Laws of Ukraine "On Energy Conservation", "On Alternative Energy Sources" and other laws and regulations. At the same time, current trends in the country's integration development, as well as recognition at the state level of the fact that modern legislation on energy conservation does not meet the current level of public relations necessitate further institutional modernization of Ukraine's energy efficiency policy. The urgency of this problem is emphasized in a number of strategic guidelines for reforms in Ukraine, set out in the annual messages of the President of Ukraine to the Verkhovna Rada of Ukraine. Thus, the document of 2018 "On the internal and external situation of Ukraine in 2017" states that the growth of investment and innovation activity of business, the introduction of energy-saving technologies is the only possible way to improve the quality of economic growth [4]. The Annual Report of 2018 "On the internal and external situation of Ukraine in 2018" improving the energy efficiency of the national economy is recognized as one of the priorities for further economic development of the country [5].

State policy in the field of energy efficiency is a purposeful activity of public administration in order to ensure a certain socially necessary level of production or services to the population while minimizing the use of energy and other energy resources for their production, effective investment in energy development, management and technological innovation. in the field of energy and housing and communal services, optimization of fuel and energy balance and demand management based on the development of regional and local energy efficiency programs. This energy policy is determined by the adoption of a number of regulations, regulatory measures and actions with priority use of energy efficient technologies in all sectors of the national economy and society [13].

Today, in the field of efficient use of energy resources there are about one hundred and fifty regulations, a system of standards, a number of other regulations. These acts and documents through direct or indirect legal influence on relations in the field of efficient use of energy resources allowed to create a structure of public administration and control in the field of energy resources, introduce a system of standardization of fuel and energy resources, energy audit, state energy saving expertise and national energy saving standards. sanctions for violations of legislation in this area, etc. [3].

However, it should be noted that despite this legal diversity, today the main law governing energy efficiency in Ukraine is the Law of Ukraine "On Energy Conservation", which defines the legal, economic, social and environmental foundations of energy saving for all enterprises, associations and organizations located on the territory of Ukraine, as well as for citizens of the country [7]. Among other things, the document provides a system of institutional, regulatory and incentive measures for the introduction of a regime of economical use of fuel and energy resources. Note that the law was adopted in the midst of the economic crisis in 1994, so, like most laws passed at that time, it is not an act of direct action, almost all its provisions are declarative. Therefore, ensuring legal regulation of relations in the field of energy efficiency and implementation of mechanisms of state regulation in this area for many years was carried out mainly by adopting bylaws: decrees of the President of Ukraine, resolutions and orders of the Cabinet of Ministers of Ukraine, acts of specially authorized central executive body. - State Agency for Energy Efficiency and Energy Saving of Ukraine.

Analysis of the experience of the European Union indicates the need to comply with the principle of compliance between the impact of management and the established energy efficiency indicator, which will clearly define the objectives, assess the effectiveness and efficiency of management actions [2]. Adherence to this principle requires the development of a certain system of energy efficiency indicators, which would reflect the entire field of energy efficiency regulation in the country. All this can be ensured through a system of continuous monitoring of energy efficiency indicators.

The implementation of state policy on energy efficiency is considered annually at a meeting of the National Security and Defense Council of Ukraine. In 2008, by its decision adopted by the Decree of the President of Ukraine of July 28, 2008 № 679/2008, the Cabinet of Ministers of Ukraine set a task to create a state system for monitoring energy efficiency indicators and approve an energy balance work plan (taking into account the experience of International Energy Agencies) [12]. In particular, the decision provides for monitoring of energy balance indicators, creation of information databases of energy statistics and budget financing of these works [11].

Energy efficiency monitoring should be based on a clearly defined system of indicators, which, in turn, should consist of:

- integrated generalized macroeconomic indicator (energy intensity of GDP);
- indicators that characterize the energy intensity of economic sectors (energy intensity of gross value added) and individual efficiency of production (services);
- indicators that characterize the energy efficiency of certain technologies, types of equipment, materials.

Depending on the level of technological and economic development, the system of indicators will require periodic clarification and monitoring of target indicators by areas and levels of government.

By the Decree of the President of Ukraine of April 13, 2011 № 462/2011 "On the State Agency for Energy Efficiency and Energy Saving of Ukraine" the State Agency for Energy Efficiency and Energy Saving of Ukraine is instructed to perform the following tasks:

- creation of a state system for monitoring energy efficiency indicators of the economy;
- development of methodical bases of carrying out their calculations according to the state statistical supervision, administrative data and special researches and calculations;
- monitoring the energy balance and energy efficiency indicators of the economy, maintaining information databases in this area, etc. [6].

As a result of the analysis of the monitoring of energy efficiency indicators of the economy, it should be noted that due to changes in the markets of relevant products, production volumes, work performed and services provided have decreased significantly. Energy savings have also decreased compared to previous years. Funding for energy efficiency measures has fallen by almost half, primarily due to a lack of investment. It is worth noting that most energy efficiency measures were funded by companies' own funds or other sources of funding. This was a consequence of the financial and economic crisis, which negatively affected the development of all sectors of the economy.

In addition, the mechanism of impact on the economic activity of enterprises of all forms of ownership in terms of energy consumption per unit of output and services is imperfect due to the lack of the vast majority of energy standards and technical regulations in the field of energy efficiency, their inconsistency with European directives. This approach to solving problems does not allow to determine the real state of energy efficiency both in the regions and in the spheres of economic activity.

All this does not make it possible to reduce the energy intensity of production and, accordingly, its cost and increase competitiveness, but only negatively affects the development of domestic production.

In order to implement the Energy Strategy of Ukraine for the period up to 2030 [9] and beyond, approved by the Cabinet of Ministers of Ukraine dated July 27, 2006 № 436-r, achieving energy security of the state in the direction of rational and efficient consumption of fuel and energy resources, energy efficiency and increasing the share of renewable energy sources in the energy balance of Ukraine, developed, implemented state, regional and sectoral programs.

In general, the results of the SWOT-analysis of Ukraine's energy policy are given in table. 1.

Table 1 - SWOT-analysis of Ukraine's energy policy

<p>Strengths:</p> <ul style="list-style-type: none"> - availability of deposits of own organic and renewable energy resources; - powerful production potential of electricity generation from different energy sources; - qualified human resources potential of the energy sector; - scientific developments to improve the technical and economic characteristics of energy technologies; - favorable geographical location at the intersection of international energy flows; - developed energy transport infrastructure of energy transit; - joining the goals of sustainable development of the international community 	<p>Weak sides:</p> <ul style="list-style-type: none"> - moral and physical deterioration of fixed assets energy; - shortage of investment resources for modernization energy; - insufficient institutional support for the competitive development of energy markets; - low competitiveness of industry and solvency of the population; - non-transparency of pricing and regulation of energy markets; - dominance of informal institutions during energy reforms and setting goals of the country's energy strategy
<p>Features:</p> <ul style="list-style-type: none"> - accession to the European structure of collective energy security; - investments and technological transfer of energy efficient technologies; - increasing economically profitable production of own resource base; - realization of export potential of excess generating capacities of electricity; - joining European technology platforms in the field of energy and energy efficiency 	<p>Threats:</p> <ul style="list-style-type: none"> - inconsistency of the structure of energy generating capacities with the available energy resource potential of the state; - discrimination and limited diversification of external energy supplies of critical imports; - change of directions of international transit energy corridors; - lack of investment for energy modernization; - environmental restrictions on traditional energy; - low effective consumer demand

The objectives of the State Targeted Economic Program for Energy Efficiency and Development of Energy Production from Renewable Energy Sources and Alternative Fuels for 2015-2020 are:

- creating conditions for bringing the energy intensity of Ukraine's GDP closer to the level of standards of developed countries;
- reduction of energy intensity of GDP for the period of the Program by 20% compared to 2015 (annually by 3.3%);
- increasing the efficiency of fuel and energy resources and strengthening the competitiveness of the national economy;

- optimization of Ukraine's energy balance by reducing the share of imported fossil fuels, including natural gas, and replacing them with other types of energy, including energy from alternative energy sources, and secondary energy resources [8]. The dynamics of gas consumption for the main consumption sectors in 2010-2030 (taking into account energy efficiency) is shown in Fig. 1. For optimal gas consumption and energy efficiency, targeted reforms should be carried out to bring these indicators closer to European standards.

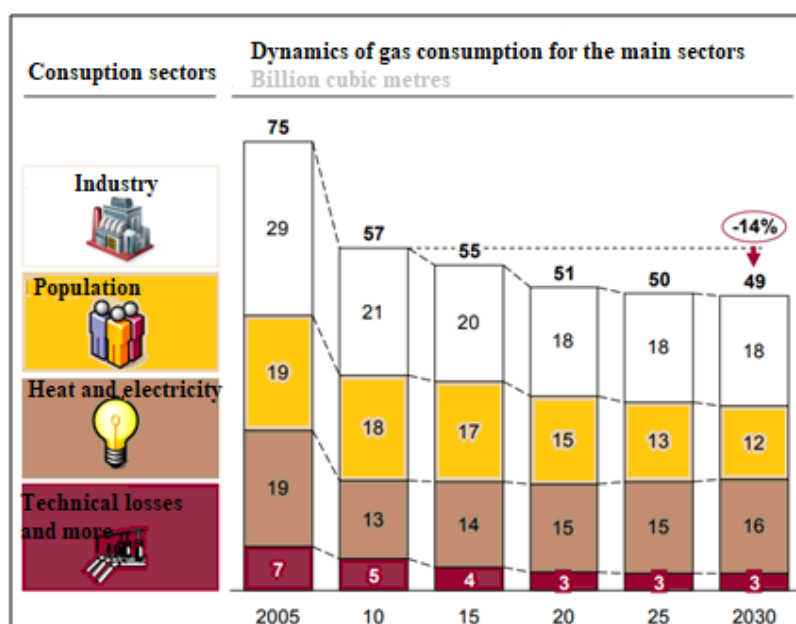


Fig. 1 . Dynamics of gas consumption for the main sectors consumption in 2010-2030 [9]

The implementation of energy efficiency measures envisaged by this program is, among other things, aimed at reducing the specific costs of fuel and energy resources for the production, transportation, storage and distribution of gas and oil by 20%.

In accordance with the order of the Cabinet of Ministers of Ukraine dated September 8, 2018 № 1794-r "On approval of the action plan for 2019 for the implementation of the State Strategy for Regional Development until 2020" [10] State Agency for Energy Efficiency and Energy Conservation of Ukraine submitted by the oblast, Kyiv City State Administration, which apply for budget funding under the State Targeted Economic Program for Energy Efficiency and Development of Renewable Energy Sources "Energy and Alternative Fuels" for 2015-2020 [8].

Unfortunately, insufficient funding and investment, non-fulfillment of certain obligations by Ukraine do not allow to fully implement the planned measures in the field of energy efficiency. Comprehensive implementation of all approved programs will allow in the future as a whole:

- reduce the energy intensity of GDP;
- optimize the structure of the country's energy balance;
- to ensure the reduction of the share of natural gas and oil products and their replacement by other types of energy resources obtained from alternative energy sources, as well as secondary energy resources;
- to ensure the reduction of harmful emissions into the environment and, accordingly, the improvement of the state of the environment;

- to reduce heat losses in residential buildings and buildings of budgetary institutions by rehabilitating them.

Conclusions

The above material allows us to formulate the following conclusions:

- high energy intensity of GDP in Ukraine is a consequence of significant technological lag in most sectors of the economy and housing and communal services, unsatisfactory sectoral structure of the national economy and the impact of the "shadow" sector of the economy;
- there is a need for further development and improvement of national standards to determine the energy intensity of technological processes in various sectors of the economy (metallurgical, chemical, food, etc.);
- creation of the state system of monitoring of energy efficiency indicators became the first step to constant monitoring by the Cabinet of Ministers of Ukraine of results of realization of all state, branch, regional programs in the field of maintenance of energy efficiency and energy saving;
- the need to implement local energy efficiency programs has become more urgent;
- The State Agency for Energy Efficiency and Energy Saving of Ukraine as a public authority in accordance with its functions should ensure coordination and coordination of actions of executive authorities, local governments, participation in the implementation of state policy on energy efficiency of businesses, NGOs and the public.

References

1. Nizhnik, N. R., Goncharuk N. T. (2015). Administratyvna reforma v Ukraini: suchasnyi stan, problemy ta perspektyvy: monohrafiia. [Administrative reform in Ukraine: current status, problems and prospects: a monograph]. Kyiv [in Ukrainian].
2. Davidova, Yu.V., Struk, V.A. (2013). Dosvid Yevropeiskoho soiuzu v sferi pidvyshchennia enerhoefektyvnosti. Efektyvnist derzhavnoho upravlinnia: Zbirnyk naukovykh prats. [Experience of the European Union in the field of energy efficiency. Efficiency of public administration: Collection of scientific works]. Lviv [in Ukrainian].
3. Malaya M. (2018). Pravove rehuliuвання u sferi enerhozberezhennia: suchasnyi stan ta perspektyvy: yurhazeta. [Legal regulation in the field of energy saving: current status and prospects]. Retrieved from: <https://ua.energy/wp-content/uploads/2017/05/1.Zakonodavche-stymulyuvannya-energoefektyvnosti.pdf> [in Ukrainian].
4. Pro vnutrishnie i zovnishnie stanovyshche Ukrainy u 2017 rotsi: Shchorichne Poslannia Prezydenta Ukrainy do Verkhovnoi Rady Ukrainy. (2017). [On the internal and external situation of Ukraine in 2017: Annual Address of the President of Ukraine to the Verkhovna Rada of Ukraine] Kyiv [in Ukrainian].
5. Pro vnutrishnie i zovnishnie stanovyshche Ukrainy u 2018 rotsi: Shchorichne Poslannia Prezydenta Ukrainy do Verkhovnoi Rady Ukrainy. (2018). [On the internal and external situation of Ukraine in 2018: Annual Address of the President of Ukraine to the Verkhovna Rada of Ukraine]. Kyiv [in Ukrainian].
6. Pro Derzhavne ahentstvo z enerhoefektyvnosti ta enerhozberezhennia Ukrainy: Ukaz Prezydenta Ukrainy vid 13 kvit. 2011 roku. № 462/2011. [About the State Agency for Energy Efficiency and Energy Saving of Ukraine: Decree of the President of Ukraine of April 13. 2011 № 462/2011]. Retrieved from: <http://zakon2.rada.gov.ua/laws/show/462/2011> [in Ukrainian].
7. Pro enerhozberezhennia: Zakon Ukrainy vid 01 lyp. 1994 r. № 74/94-VR. Vidom. Verkhovnoi Rady Ukrainy (VVR). 1994. № 30. St. 283. [On energy saving: Law of Ukraine of July 1. 1994 № 74/94-VR. Known. The Verkhovna Rada of Ukraine (VVR). 1994. № 30. Art. 283] [in Ukrainian].
8. Pro zatverdzhennia Derzhavnoi tsilovoi ekonomichnoi prohramy enerhoefektyvnosti i rozvytku sfery vyrobnytstva enerhonosiiv z vidnovliuvanykh dzherel enerhii ta alternatyvnykh vydiv palyva na 2015-2020 roky: postanova Kabinetu Ministriv Ukrainy vid 01 ber. 2015 r. № 243. [On approval of the State Targeted Economic Program for Energy Efficiency and Development of Energy Production from Renewable Energy Sources and Alternative Fuels for 2015-2020: Resolution of the Cabinet of Ministers of Ukraine of March 1. 2015 № 243]. Retrieved from: <http://zakon2.rada.gov.ua/laws/show/243-2010-p> [in Ukrainian].

9. Pro zatverdzhennia Enerhetychnoi stratehii Ukrainy na period do 2030 roku: rozporiadzhennia Kabinetu Ministriv Ukrainy vid 27 lypnia 2006 № 436 r [in Ukrainian].
10. Pro zatverdzhennia planu zakhodiv na 2015 rik shchodo realizatsii Derzhavnoi stratehii rehionalnoho rozvytku na period do 2020 roku: rozporiadzhennia Kabinetu Ministriv Ukrainy vid 08 veresnia 2014 № 1794-r [in Ukrainian].
11. Pro stan realizatsii derzhavnoi polityky shchodo zabezpechennia efektyvnoho vykorystannia palyvno-enerhetychnykh resursiv: rishennia Rady natsionalnoi bezpeky i oborony Ukrainy vid 30 trav. 2008 r. [On the state of implementation of state policy to ensure the efficient use of fuel and energy resources: the decision of the National Security and Defense Council of Ukraine of 30 May. 2008 URL:] Retrieved from: <http://zakon2.rada.gov.ua/laws/show/n0023525-08> [in Ukrainian].
12. Rekomendatsii z pytan polityky enerhoefektyvnosti. Mizhnarodne enerhetychne ahentstvo, OECD/ IEA. (2009). [Recommendations on energy efficiency policy. International Energy Agency. OECD / IEA [in Ukrainian].
13. Struk, V. A. (2012). Polityka enerhoefektyvnosti na rehionalnomu rivni: analiz katehorialno-poniatiinoho aparatu dlia haluzi nauky. [Energy efficiency policy at the regional level: analysis of the categorical-conceptual apparatus for the field of science] [in Ukrainian]