

**A REVIEW OF THE MONOGRAPH BY T. PIMONENKO, O. LYULYOV,
N. LETUNOVSKA “CIRCULAR AND CARBON-FREE ECONOMY: THE ROADMAP
FOR HARMONIZING NATIONAL AND EUROPEAN STANDARDS
FOR ENERGY MARKET”**

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Abstract. The monograph examines the essence of a circular and carbon-neutral economy and the mechanisms of their implementation to accelerate the development of the European society according to these approaches. The authors analysed the energy market of Ukraine and calculated the degree of convergence of national energy policy and the European climate strategy. The experience of the European Union member states in compliance with the standards of energy market regulation and the implementation of transformational changes in this area is studied. There have been examined the bottlenecks and attractors, which determine the dynamics of an increase or decrease of the country's energy efficiency in the forecast periods. The complex material will help to make rational management decisions in the field of energy production and energy saving. The works of the authors can be used in developing a roadmap for harmonization of Ukrainian and European standards of energy market regulation.

Keywords: energy demand, energy efficiency, Europe, reducing energy dependence

JEL Classification: Q40, Q41, Q43, Q48

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The transformational processes in the world today determine the importance of ensuring energy security, environmental security and tackling problems in the energy sector. It is the energy sector that has become a key factor influencing the sustainability of countries and regions. Every sector of the economy depends on energy supply while the energy demand is constantly growing. Implementation of changes and innovations in strategic energy planning is an essential aspect of tackling the problems of economic energy supply through the development of tactical and long-term actions in the field of energy-saving, energy efficiency, reducing energy dependence and the predominant use of renewable energy sources. In their work, the authors emphasize that the goals of energy strategies implemented by national economies in the world are a combination of plans to achieve energy independence and ensure a reliable energy supply. This makes it possible to avoid a wide range of problems: economic, environmental and social.

Mindless energy consumption can cause significant economic damage to each country, regardless of which category, which union of countries it belongs to, where it is geographically located, and so on. In the monograph, the authors repeatedly maintain that the energy efficiency of the economy and the focus of state policy in this direction are an essential driver of positive global change in improving the environment, human health, turning regions into centres for safe living and recreation. Researchers analyse the factors that influence the intensification of changes in this direction. The list of these factors includes the scarcity of non-renewable energy resources. Therefore, a significant part of the book's content is devoted to the analysis of the European and Ukrainian market of renewable energy sources. The monograph is rich in statistics on using alternative energy sources in the European region. The authors provide numerous ratings from various analytical agencies on the countries' positions regarding energy efficiency, the introduction of "green" technologies, economic sustainability, etc. Calculations and trends in energy consumption and energy production in the European region are also presented. The importance of collective action and cooperation in investing and implementing the European Green Deal policy is substantiated. The authors' forecasts of changes in Ukraine's energy intensity, correlation-regression models based on three types of scenarios (optimistic, pessimistic and most realistic) and testing them for adequacy and reliability are of interest.

The sections of the monograph are devoted to the issue of decarbonization of the economy and activities to implement this process in various sectors of the European countries. The authors do not ignore the issue of environmental pollution and its natural impact on public health. It is emphasized that polluted air is the cause of many deaths from coronary heart disease, pneumonia, strokes and others. It should be noted that the authors' developments on these issues are based on several surveys of respondents' opinions and are based on both calculated data and reported data of such analyses. Much of the material is devoted to the analysis of the energy market of Ukraine. The authors conclude that the country has significant potential for the active use of renewable energy. This direction could improve the state's position, enhance the trade balance, increase the number of new jobs for the population, and stimulate economic activity. In addition, according to the authors, this will achieve the goals of the policy to reduce dependence on imported natural gas and will significantly contribute

to the diversification of energy supply. The authors convincingly argue that today many countries, including the European region, have changed their priorities for developing the energy sector. The direction of this development is correct, as it is based on the implementation of environmentally friendly reforms. The European Green Deal itself is aimed at the ecological transformation of the economy with the sustainable technological development of industry, simultaneous introduction of innovations to reduce harmful emissions, replacement of the traditional energy sources with the renewable ones, etc. The authors point out that the COVID-19 pandemic and the economic recovery following the crisis require a sustainable ecological transformation. Researchers note that given the heterogeneous economic development of the European Union, one of today's challenges to successful implementation of the European Green Deal is the countries' confidence in the feasibility of energy change with permanent sustainability of energy supply, which will not hinder economic recovery and further economic growth. The authors draw an important conclusion that the European countries in the comprehensive analysis have differences in the principles of implementing measures to improve energy efficiency, mainly due to their socio-economic development.

In general, the work performed testifies to the profound elaboration of theoretical and factual material. The subject chosen by the authors for their research is undoubtedly relevant. They are informed by a significant number of different relevant sources of data. In summary, we can conclude about the scrupulous work done by the researchers and the considerable theoretical and practical significance of the material presented in the monograph. This scientific development might contribute to the solution of many debatable issues arising in the convergence of national and European policies for the transition to carbon-neutral principles of economic growth. The monograph contains some innovative ideas and provisions that are important in environmental protection and energy transition and approximation to the European practice of energy market development. The manuscript of the monograph meets the requirements for such scientific works and deserves a recommendation for publication.