

## **SOCIO-ECONOMIC TRANSFORMATIONS OF STANDARDS AS A KEY FACTOR TO ENVIRONMENTAL MODERNIZATION OF THE REGIONAL LEVEL**

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Стаття отримана редакцією 14.11.2016 р.

**Introduction.** Famous researcher N. Moiseyev said: «Today one thing is really clear: standards of XX century cannot be accepted in XXI. Mankind simply will not survive with it». As in the case of the leading world countries, it is time to think about the environmental modernization in Ukraine: to resume reasonable restrictions, to develop rules of life with nature, and develop standards which will allow to reverse of the negative economic processes. Today there are actual questions of developing a new strategy of standardization, the problems of sustainable development of regional level, the problems connected with the quality of life and regulation of attitudes in the system «the person – the nature – the society».

The feature of the present stage of socio-economic development is the high technical and technological diversity and variability of fast technological development in combination with permanent factors of influence (market of goods, capital, and labour market) on the background of economic competitiveness and limited resources. With such conditions of market economy, how can be achieved conceptual combination of social, economic and ecological forces, a triad of sustainable development which at first glance seems incompatible? New standards should adequately address the fundamental qualities of stable territorial life-support, the reliability and safety of objects needing environmental management, and other norms and values of living.

**Literature review.** The issues of socio-economic modernization, technological and sustainable development were raised by H. Daly [2], H. Odum [8], L. Melnyk [4 – 6], etc. In Ukraine issues of economic aspects of sustainable development and the greening the economy are actively researched by scientists. It is worth to note the scientific works by B. Burkinskyi, L. Melnyk, A. Harichkov, E. Khlobystov, M. Hvesyk and etc. It should be mentioned that there are many works devoted to greening the economy through innovations in the national economic literature. Besides, the aspects of socio-economic transformation for environmental modernization for green growth are not enough depicted. In general scientists have made important contribution to the economic theory and methodology of ecological modernization, defining it as a social and ecological concept that interprets the relationship of environment and the institutional changes in modern society. But these problems are less researched according to the Ukrainian experience.

**Problem statement.** The aim of this article is to study the main principles of socio-economic transformation of standardization for environmental modernization and greening the economy. The methodological basis of the research is represented by the system of categories of economic theory and basics of economics of development. Especially there exists the importance to act on regional level searching for socio-economic transformations of varieties of standards.

Current economic, social and environmental problems cannot be solved without socio-economic transformations. Reflecting on the way how societies and businesses change their modes of action in a digital world is urgent especially nowadays when the world is looking for transition to sustainable development. Especially there exists the necessity to act on regional level searching for socio-economic transformations.

**Research results.** Environmental modernization is closely linked to greening. The formation of the efficient regional system according to rules of environmental modernization is dynamic transformation of the economy through innovative vector – by ecopolis approach. Ecopolis is the research-production-education cluster for creation and selling of sustainable goods [6]. The type of goods are: administrative technologies, know-how, designs, monitoring system, capacities for waste disposal, standards, methods for ecosystems control, economic instruments, measures for greening society, etc.

Successful implementation of Ecopolis enables solving a complex of important economic tasks due to innovative greening strategies of environmental modernization that are: reduction in goods need, production greening, consumption greening.

The implementation of innovative greening strategies is extremely important to identify the objects and subjects of greening towards sustainability. Integrated assessment of green production confirms the green capacity of products in Ukraine. The most important results were achieved in the areas of attracting consumers to use environmentally friendly products, attracting investors to implement green oriented

projects, attractive image area for the development of green tourism, etc. It allows using instruments of greening as motives to achieve sustainability, which conclude system of standards.

Based on the analysis of a number of publications, the author formulated necessary transformations for environmental modernization. It is the following:

<i>from:</i> resources-oriented economy	→	<i>to:</i> ecological control of material flows
<i>from:</i> waste intensive material use	→	<i>to:</i> recycling material use
<i>from:</i> waste energy intensive technologies	→	<i>to:</i> energy saving technologies
<i>from:</i> orientation on products	→	<i>to:</i> orientation on functions
<i>from:</i> reaction on consequences (in nature use)	→	<i>to:</i> courses elimination (in nature protection)
<i>from:</i> over limit nature use	→	<i>to:</i> balanced nature use
<i>from:</i> managing the natural processes	→	<i>to:</i> harmonic integration into nature
<i>from:</i> “waste-oriented” mentality	→	<i>to:</i> “saving” mentality

**Fig.1. Transformations for environmental modernization**

Solving the problem of the transformations for environmental modernization on regional level it is necessary to define criteria of sustainable goods (articles and services), that cause new socio-economic standards:

- greener initial resources;
- greener production technologies;
- save materials and energy;
- promote dematerialization of production and consumption;
- greener consumption;
- greener waste disposal;
- promote resources recycling;
- promote sustainable life-style.

If the region government does not have a unified strategy of «green» economic growth, then it is possible that different areas are developing a variety of development plans, which are often, contradict each other and are ineffective in social development.

In this regard, current understanding is not only final goal but also the criteria of sustainable development of systems, which function and are designed to comply with standards.

The socio-economic transformation of standards for environmental modernization (environmental standards) means forming a set of regulated characteristics of the conditions of natural and socio-economic systems that ensure the preservation of human health, the maintenance of ecological functions of nature and social development in accordance with the principles of sustainable development.

Management of any open stationary system demands the constant control and maintenance of a narrow interval of its parameters. Finally the problem is reduced to constantly recurring processes, comparison of the characteristics of a system, and an environment with values of a certain interval of parameters.

This is only possible using feedback mechanisms to monitor the condition of the system, adapting to the changing conditions of the environment. In this context (parameters of a homeostasis of the system), it is possible to consider these as original standards – standards which we do not have the right to break, and therefore are compelled to supervise and monitor constantly.

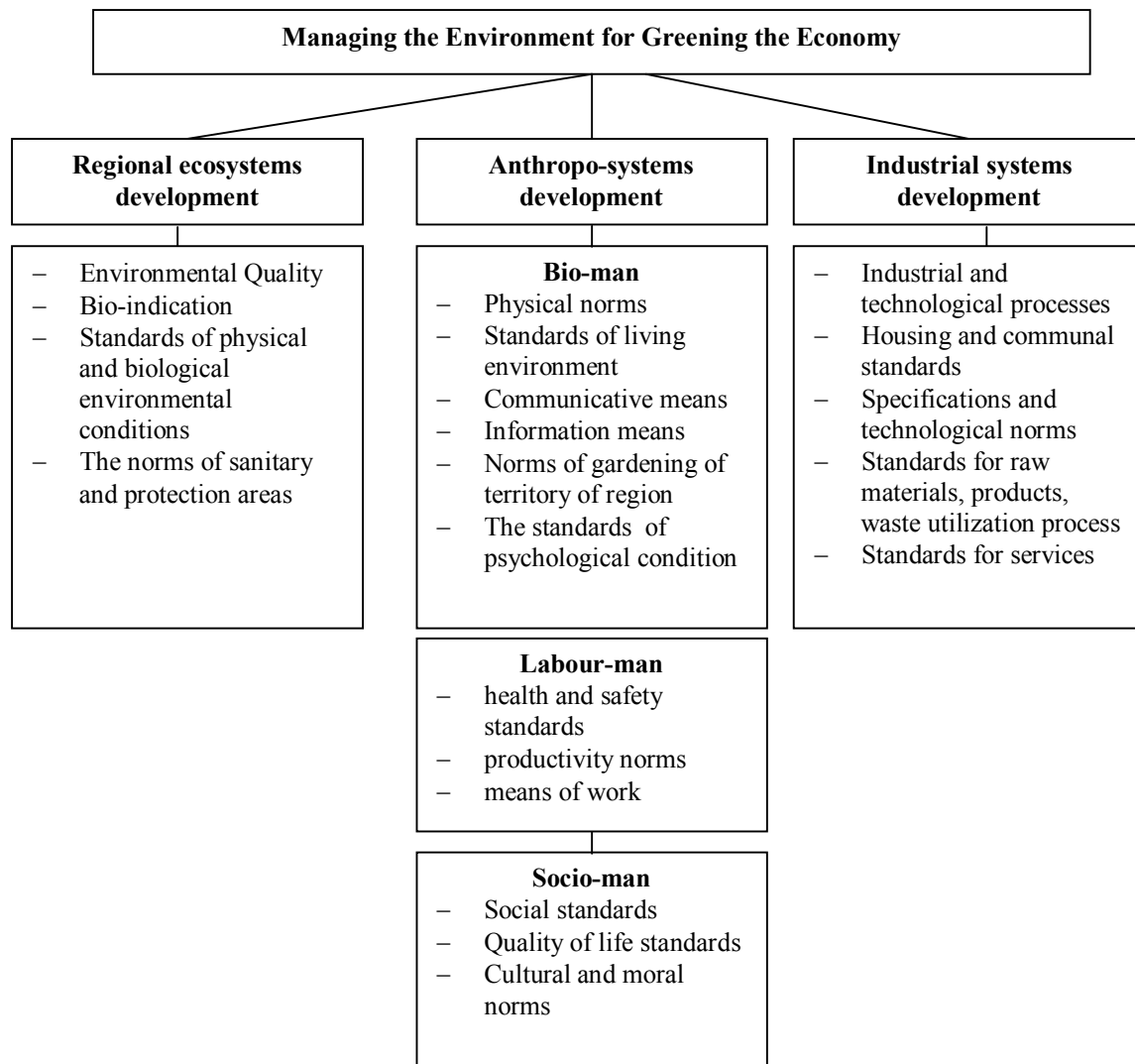
It is necessary to understand the regulated characteristics as environmental standards (standards, norms) and conditions of the natural systems. To state it another way, these are requirements that result in recognizing the activities of the person, providing preservation of health, high-grade social development, and the maintenance of ecological functions of nature.

Environmental standards aim to maintain this quality in such a way that human health, social development and the environment (services of nature) are not harmed. Environmental standards relate to this inter-dependent triad: human health, the quality of the biosphere (natural objects and processes), and the technosphere (the objects that produced by man and processes).

Also, following the logic of standardization of processes for environmental modernization, according to regulated standards areas and tasks, standards can be divided into types: standard of condition, the standards of the environment, standards of employment conditions, social standards and standards of identity formation, technosphere standards, standards of work performance, consumption standards, management standards, "standards for standards" (they include standards governing the standardization of procedures and documents related to the formation of the system of standards).

Focusing on the improvement of standards systems will have an important strategic function: to contribute to the development of environmental modernization strategy for "green" economic growth, which would be acceptable to all participants in the regional development.

The issues of transformation of the system of standards at the regional level are responsible step in the development of society and depend on decisions aimed at environmental modernization and improving the quality of life. It is advisable to take into account the approach of sustainable development as a complex combination of economic, social and environmental aspects, taking into account the interests of future generations.



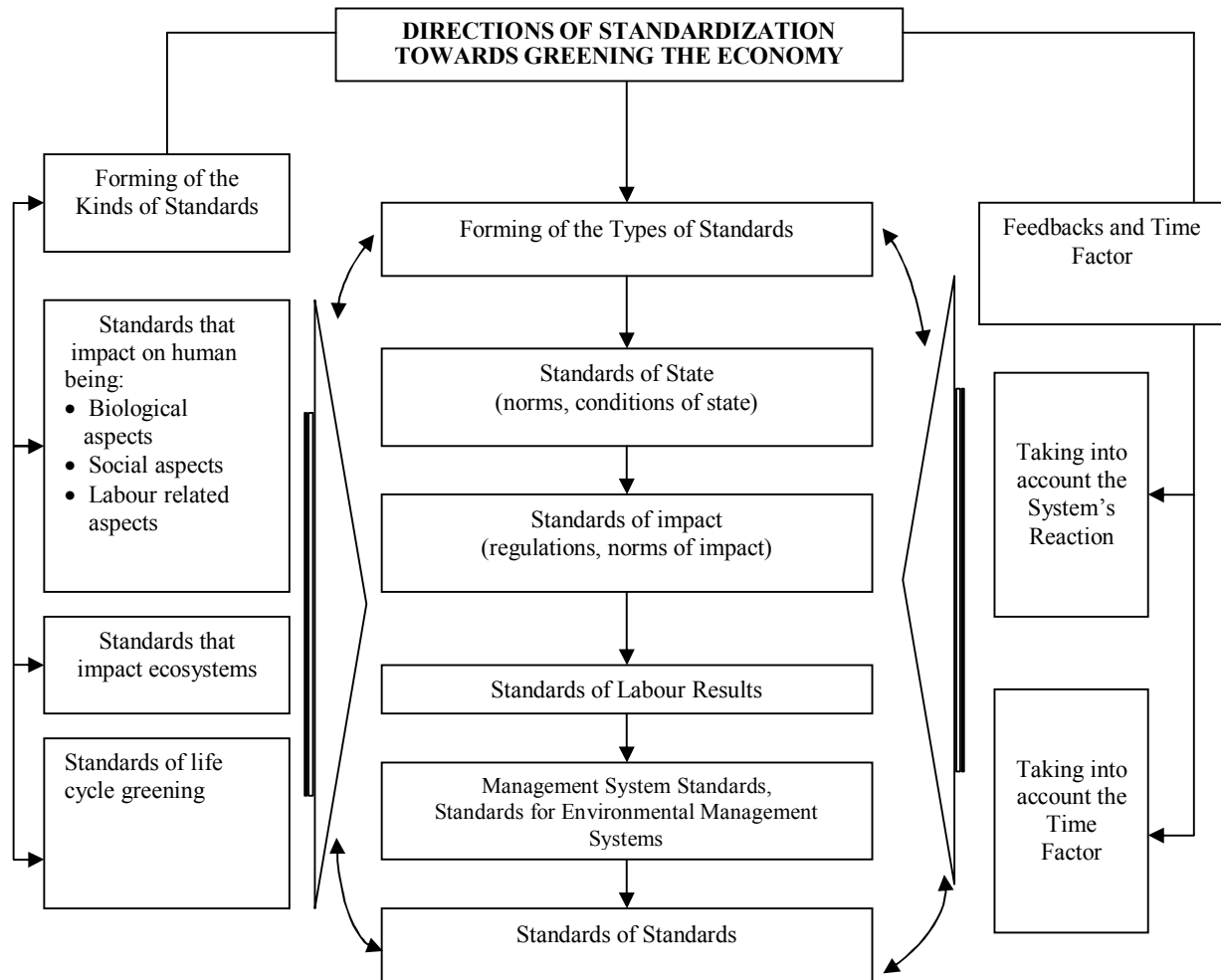
**Fig. 2. Directions of standardization for greening the economy**

Types of transformations of standards are the following (figure 3).

Depending on the standards of regulated areas and tasks criteria basis of ecological and economic assessment should cover the following levels:

- the state of the organism (rarity and uniqueness of biodiversity);
- environmental conditions (the probability of «necessary» natural-anthropogenic load, productivity areas, recoverability, environmental sustainability of the territory);
- conditions of employment (the attractiveness of work, labour productivity, diversity, development);
- conditions for the formation of the individual (demographic potential, the availability of conditions for the formation of personality, psychological and cultural values of the area, the attractiveness of education, mental stability, motivation for sustainable development);
- the state of the technosphere (recoverability, compliance with the environmental capacity of the biosphere, innovative potential);
- the quality of the results of labour (labour productivity, availability of labour results in the direction of sustainable development);

- the quality of intake system (representativity and naturalness, availability of quality goods and services);
- the quality management system (reaction on the subject of management, the impact on the subjects of influence);
- quality system standards (compulsory «normalization» of standards of preventive standards).



**Fig. 3. Directions of socio-economic transformations of standardization for sustainable development and greening the economy**

Action time factor should be considered in two directions. Firstly, the effect of external factors which tend to affect the value of impact effects on the system that should be considered in standardization.

Secondly, many of the circumstances are changed over time that may affect the systems of standards: new opportunities, changing knowledge and skills, improved equipment and technology, changes the status of natural and human systems, transformed the socio-economic development conditions.

Overall, standards modernization directions for sustainable development involve some key sectors: management of the organization, human rights, the environment, international practice, consumer needs (market), the contribution to local development. All these areas have a combined contribution of the modernization of the standards system in the country's sustainable development.

Environmental standardization deals not with static objects, but with dynamic and, as a rule, self-organizing systems. Therefore it is extremely important to consider the reactions of systems (feedback mechanisms which operate in response to processes, eco-destructive influences, and the introduction of standards). It is a question of the system influencing standards, and standards influencing the system, which can be observed by instruments for standards of greening.

The above mentioned transformations should stimulate the economic relationships that bring the modernization directions to regional communities.

**Table 1**

**Instruments for standards of greening**

<b>Groups of goods</b>	<b>Resources production</b>	<b>Production of goods</b>	<b>Exploitation</b>	<b>Waste utilization</b>
Plant growing	Ecological standardization Norms of ecological safety	Ecological programs Ecological investment Guarantee of an ecological loan The tax concessions	Ecological certification and labelling Ecological advertising and the control Ecological pricing	The ecological information Ecological education
Foodstuff Clothiers	Ecological certification Environmental audit Ecological grants	Ecological standardization Ecological control	Ecological labelling Ecological control	Ecological education and training Pricing on secondary raw
Chemical goods	Trade of permissions to extraction The obligation of harm compensation	The ecological tax Penalties, sanctions	Ecological control Penalties, sanctions	The ecological information Public pressure

At the formation of an environmental standards' system it is extremely important to consider possible reactions of the system on which there is an influence (an organism or ecosystem). It is usually realized by means of the following methods:

- establishments of different values of standards;
- an establishment of correction factors for updating values of standards depending on the condition of the system which is influenced;
- connection of the ecological standards to the speed of change of the influencing system.

The results of socio-economic transformations of standardization for sustainable development and greening the economy can be:

- increase of competitiveness of products;
- export potential growth;
- high-tech products creation;
- high-tech sectors share increase;
- reducing the demand for primary resources;
- creation of new job places;
- improving the environment state;
- improving the region image;
- creation of preconditions for sustainable development.

**Conclusions.** The analysis of the character of procedures for ecological management forces us to pay attention to their one important feature. All of them represent consecutive and natural steps to the unification of managerial processes by the transformation of social and economic systems. If previously a person standardized conditions, today they are compelled to pass to standardization of processes, i.e. change of conditions. However, there is also one more important feature of these procedures: that they do not simply standardize managerial process by transformation, but that they transform them into processes of perfection of systems. This means that even from a background of anthropogenic destruction and degradation of natural systems of the Earth, there have arisen moments of ecological creation.

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UDC 338.2

**Shkarupa Olena V.**, PhD (Economics), Associate Professor, Doctoral Student. Sumy State University. **Socio-economic transformations of standards as a key factor to environmental modernization of the regional level.** The article deals with methodological basis of socio-economic transformation of standards' system for the realization of ecological modernization, namely: the standards' system improving in accordance with time-factors, standards' accepting which regulate the interaction between them in the sphere of regional development, the standards' system formation for the development regulating of socio-economic systems in the context of economics greening, ecological socio-economic development of the region. The author distinguished that the ways of socio-economic standards' transformation are the main components for the «greening» of the regional economics managing on the basis of innovation policy. There are the criteria, principles and tools of ecological modernisation in the region, which requires changes in the standards' system: transformation of the standards' types, their types setting, into consideration time-factors and reaction of socio-economic systems to influence of standards. It is evidenced the connection between these ways.

**Keywords:** environmental standards, modernization, socio-economic development, socio-economic innovations.

УДК 338.2

**Шкарупа Олена Василівна**, кандидат економічних наук, доцент. Сумський державний університет. **Соціально-економічні трансформації стандартів як ключовий фактор екологічної модернізації на регіональному рівні.** Розглянуто методологічні засади соціально-економічної трансформації системи стандартів для здійснення екологічної модернізації, а саме: удосконалення системи стандартів за факторами часу, сприйняття стандартів у системі, які регулюють взаємодію між ними у сфері регіонального розвитку, формування системи стандартів для регулювання розвитку соціально-економічних систем у контексті «озеленення» економіки, екологізації соціально-економічного розвитку регіону. Визначено напрями соціально-економічної трансформації стандартів як основну передумову «озеленення» економіки регіону, яким потрібно управляти на основі інноваційної політики. Визначено критерії, принципи та інструменти екологічної модернізації регіону, у складі котрих потребує змін система стандартів: трансформація видів стандартів, установлення їх типів, врахування фактору часу й реакції соціально-економічних систем на дію стандартів. Установлено взаємозв'язок між напрямками.

**Ключові слова:** екологічні стандарти, модернізація, соціально-економічний розвиток, соціально-економічні інновації.

УДК 338.2

**Шкарупа Елена Васильевна**, кандидат экономических наук, доцент. Сумской государственной университет. **Социально-экономические трансформации стандартов как ключевой фактор экологической модернизации на региональном уровне.** Рассмотрено методологические принципы социально-экономической трансформации системы стандартов для осуществления экологической модернизации: усовершенствование системы стандартов по факторам времени, принятие стандартов в системе, которые регулируют взаимодействие между ними в сфере регионального развития, формирование системы стандартов для регулирования развития социально-экономических систем в контексте «озеленения» экономики, экологизации социально-экономического развития региона. Направления социально-экономической трансформации стандартов определены как основную предпосылку «озеленения» экономики региона, которым следует управлять на основе инновационной политики. Изложены критерии, принципы и инструменты экологической модернизации региона, в составе которых требует изменений система стандартов: трансформация видов стандартов, установление их типов, учет фактора времени и реакции социально-экономических систем на действие стандартов. Доказано взаимосвязь между направлениями.

**Ключевые слова:** экологические стандарты, модернизация, социально-экономическое развитие, социально-экономические инновации.