

## CONCEPTUAL APPROACHES TO GREEN ECONOMY OF BELARUSIAN REGIONS

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In the scientific article it is developed a methodical approach for evaluating the competitiveness of regions of the Republic of Belarus taking into account economic, environmental and social components, including two main directions. The first one is the construction of the system of indicators: economic, environmental, social. The second area involves the calculation of group indices of economic, environmental and social components with following determination of the integral index, which gives an indication of the level of sustainability of socio-economic development of the region. It is used chain indices as the tempo characteristics of three components of competitiveness for the period from 2010 till 2015. It is developed the final integrated rate of competitiveness of regions of the Republic of Belarus for the period from 2010 till 2015. It is offered the measures, the implementation of which involves the use of innovative technologies and sustainable approach to the use of its own resources for the transition to the principles of green economy. It allow consider the environmental factor in the production of clean food products, improve the quality of life of the population of the Republic of Belarus.

**Key words:** the competitiveness of the region; economic, environmental and social indices of the development of the region; sustainable socio-economic development of the region; stimulation of economic development of the region; the effectiveness of the strategy of economic policy of the region.

## КОНЦЕПТУАЛЬНЫЕ ПОДХОДЫ К ЗЕЛЕННОЙ ЭКОНОМИКЕ РЕГИОНОВ БЕЛАРУСИ

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Разработан методический подход к оценке конкурентоспособности регионов Республики Беларусь по двум основным направлениям. Под первым направлением подразумевается построение системы показателей: экономических, экологических, социальных, под вторым – расчет групповых индексов экономической, экологической и социальной составляющих с последующим определением интегрального индекса, который дает представление об уровне устойчивости социально-экономического развития региона. Используются цепные индексы как темповые характеристики трех компонентов конкурентоспособности за 2010–2015 гг. Разработан окончательный интегральный уровень конкурентоспособности регионов Республики Беларусь на 2010–2015 гг. Предлагаются меры, предусматривающие использование инновационных технологий и устойчивый подход к использованию

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собственных ресурсов для перехода к принципам зеленой экономики. Это позволяет учитывать экологический фактор в производстве экологически чистых продуктов питания и таким образом улучшить качество жизни населения Республики Беларусь.

**Ключевые слова:** конкурентоспособность региона; экономические, экологические и социальные индексы развития региона; устойчивое социально-экономическое развитие региона; стимулирование экономического развития региона; эффективность стратегии экономической политики региона.

Modern ecological situation in the world shows the necessity to move from the man-made type of economic development to a new way that is focused on environmental issues.

The concept of green economy is becoming the “new” direction, which is able to overcome the crisis. It solves the problem of stability consisting of two indissolubly united parts: high level of human development and low environmental impact.

Green growth aims to ensure competitiveness by means of three components:

- economic;
- ecological;
- social.

The competitiveness of a region is an economic, environmental and social category, which characterizes the region’s economy under the conditions of market economy and international competition, and reflecting the ability to use the resources effectively in order to provide a high standard of living and protect the environment [1].

The main components of the region’s competitiveness are:

The economic component of the region’s competitiveness is central to the choice of directions of economic development of the regions and should be efficient, competitive and socially oriented at the same time, resource- and energy-efficient, and protecting the environment. The basic requirements for the economic component are expressed by the criteria of optimality, efficiency and sustainability.

The ecological component of the region’s competitiveness is a fundamental constituent of sustainable development within the triad “man – environment – economy”. It includes three aspects: the environment, the natural resource potential, the process of human and environmental interaction, environmental policy, implementing environmental imperative to create environmentally safe living conditions [2].

The social component of the region’s competitiveness is based on the principles of unity and relationship of the social sphere, the economy and the environment, and comes from the fact that the basis of economic growth is a person with qualifications and employment opportunities, social activity and mobility, the ability to adapt legally to the established conditions and to implement effectively the opportunities of his or her activity [3]. This mutually conditioned process of economic growth and the increase in population welfare, based on the participation of all citizens in the development and fair distribution of its results, overcoming alienation, exploitation, inequality and injustice in the economy and society.

Factors of region’s competitiveness are the following:

- 1) economic – economic development, effective use of resources, innovative activities, provision with infrastructure;
- 2) environmental – creation of environmentally safe living conditions;
- 3) social – level of life (income, consumption, housing, transportation, and utilities and other services), provision with social services (education, health), social security.

Main assessment areas are the following:

- *the first direction* is the creation of a system of parameters (indicators): economic, ecological, social;
- *the second direction* provides for calculation of group indices of economic, ecological and social components, followed by determination of the integrated index giving an indication of the sustainability of socio-economic development of the region.

The initial indicators for calculating the aggregate indices of competitiveness are the following:

1) *indices of economic development*: GDP per capita, %; productivity of labour, %; investments in the fixed capital, %; volume of industrial production, %; volume of agricultural production, %; retail trade turnover, %; export of goods, %; export of services, %; released innovative products (works, services), %;

2) *indices of ecological development*: index of current expenditures on environmental protection, %; index of investments in the fixed assets aimed at environmental protection and rational use of natural resources, %; index of emissions into the air from stationary sources, %; wastewater disposal index, %; index of collecting and neutralization of air pollutants coming from stationary sources, %; production waste generation index of organizations, %; reforestation and afforestation index, %;

3) *indices of social development*: index of real money income of population, %; index of the number of economically active population, %; index of the volume of paid services to population, %; index of the number of the unemployed, %; index of housing provision, %; morbidity index for the main groups of diseases per 100 thousand people, %; proportion of the population with the rate of available resources below the living wage budget, %; index of life expectancy at birth, %.

Competitiveness assessment stages are the following:

- *during the first stage* the composition of indicators is justified. Region's competitiveness indicators are not fixed, they're not once and for all established. They are determined on the basis of internal factors that characterize economic, environmental and social development of the regions;

- *during the second stage* the level of development of region is assessed according to each indicator in the context of components, regardless of their importance and the extent of differences on the regional level, and the index method is used for the calculation of a single integrated indicator and the influencing factors;

- *during the third stage* mathematical conversions are carried out, i. e., the relative values of the index indicators for components are converted into the total integrated indicator for the rating of the analysed region.

The total integrated indicator for the rating of competitiveness of regions of the Republic of Belarus in terms of economic, ecological and social components for the period of 2010–2015 is given in tables 1 and 2 [4].

Table 1

**Total integrated indices of competitiveness rating of the regions of the Republic of Belarus for the years 2010–2015**

Aggregate index according to the components	Brest region	Vitebsk region	Gomel region	Grodno region	Minsk region	Mogilev region	Minsk	Republic of Belarus
Economic	85.7	93.7	88.6	91.2	90.2	86.2	86.1	89.0
Ecological	81.3	81.9	82.7	86.0	76.4	98.6	79.1	83.9
Social	94.6	94.4	93.8	95.2	95.1	94.2	97.6	95.0
<i>Integrated index</i>	<i>87.2</i>	<i>89.9</i>	<i>88.3</i>	<i>90.7</i>	<i>86.8</i>	<i>93.0</i>	<i>87.6</i>	<i>89.2</i>

Note. Developed by the authors.

Table 2

**Classes of competitiveness level of regions according to the rating scores and their interpretation**

Class	Rating score	Value of competitiveness level
<i>Area A – high level</i>		
A+	From 100.0 and higher	Very high level
A	From 95.0 to 100.0	High level
<i>Area B – middle level</i>		
B+	From 90.0 to 95.0	Above the middle level
B	From 85.0 to 90.0	Middle level
<i>Area C – low level</i>		
C+	From 80.0 to 85.0	Satisfactory level
C	From 70.0 to 80.0	Low level
<i>Area D – unsatisfactory level</i>		
D	From 0.0 to 70.0	Unsatisfactory level

Note. Developed by the authors.

The rating of regions of the Republic of Belarus in terms of the integrated index of competitiveness for the period of 2010–2014 is given in table 3.

Table 3

Rating of regions of the Republic of Belarus for the years 2010–2014

Regions	Years				
	2010–2011	2011–2012	2012–2013	2013–2014	2010–2014
Brest region	B	B	B	B	B
Vitebsk region	B	B+	B	B+	B
Gomel region	B+	B+	B	C+	B
Grodno region	B	C+	A+	B+	B+
Minsk region	B	C+	B	B	B
Mogilev region	B	A+	B	C+	B+
Minsk	B+	B	C+	B	B
Belarus	B	B+	B	B	B

Note. Developed by the authors.

The implementation of the priority directions for the years 2016–2020 to ensure the environmental safety of the Republic of Belarus will enhance the competitiveness of agricultural products on the world markets. This will give an opportunity to increase the sales volume of food products up to 9 billion US dollars annually.

Despite the problems and taking into account the conditions and the experience of the transition of a number of foreign countries to the principles of green economy, we can say that Belarus is progressively moving to the “greening” of the economy, providing for the use of innovative technologies and efficient approach to the use of available resources, it can be suggested to:

- develop the concept to transfer the country to a green economy;
- develop national standards and a common system of certification of environmentally friendly agricultural products, harmonized in accordance with the international standard and based on the certification of the entire production process, not just finished products;
- improve the tax and credit system for the development of the market of environmentally friendly agricultural products and stimulation of the market participants; adopt the law on organic farming and to introduce the system of preferential crediting and taxation of environmental projects;
- extend the works on acquiring the right of marking products with the sign “natural product” by companies, which promotes appearance on the market of a fundamentally new class of food products, expansion of distribution markets and improvement of the company’s image;
- restructure the economy towards the increase of investments in clean technologies and “natural” infrastructure, promoting the green economy;
- eliminate macroeconomic risks in order to protect the economy from external market fluctuations, to ensure the long-term stability of the budget system, and to maintain the prices stability in local currency;
- reform the system of budgetary relations through the introduction of environmental taxes, allowing to transfer the tax burden from the traditional activities to the enterprises, polluting the environment, and through the reallocation of budget funds to increase investment in the development of environmentally friendly competitive and safe activities;
- develop the direction of environmentally friendly public procurement, assessment of life cycle of goods, their competitiveness, based on the demand and taking into account the trend of sustainable consumption, promotion of the use of resources and increased interest in green production through re-use and recycling;
- strengthen market mechanisms and incentives for entrepreneurial activity to develop “green” business by improving the property security, removing administrative barriers to entry of new agricultural enterprises on the market and withdrawal from the market, strengthen the incentive for improvement of the production efficiency, transfer of economic resources from enterprises with low productivity to efficient enterprises for the production of competitive environmentally friendly, low-waste and resource-saving products;
- increase human potential/capital. In addition to improvement of the education quality at all levels it’s necessary to develop a system of training and retraining of skilled workers and professionals of “green” professions in demand, and to carry out systematic work to retain the most valuable specialists in the country and to return national professionals working abroad;

- compensate for the expenses aimed at the reproduction of soil fertility, compliance with environmental and health standards of agriculture, as well as the transition to the production of environmentally friendly products;

- develop to the utmost farm tourism through the provision of tax exemptions and loans for the development of which it's necessary to build agro-tourist complexes, farmsteads, develop specialized scientific and educational tours and environmentally orientated tours.

Practical application of the proposed measures in Belarus would allow to take into account to a greater extent the environmental factor during the production of environmentally friendly agricultural products and management decision-making to increase well-being and improve the life quality of the country's population taking into account the requirements of green economy, which will increase the efficiency of state regulation of the economy and the activities of economic entities.

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