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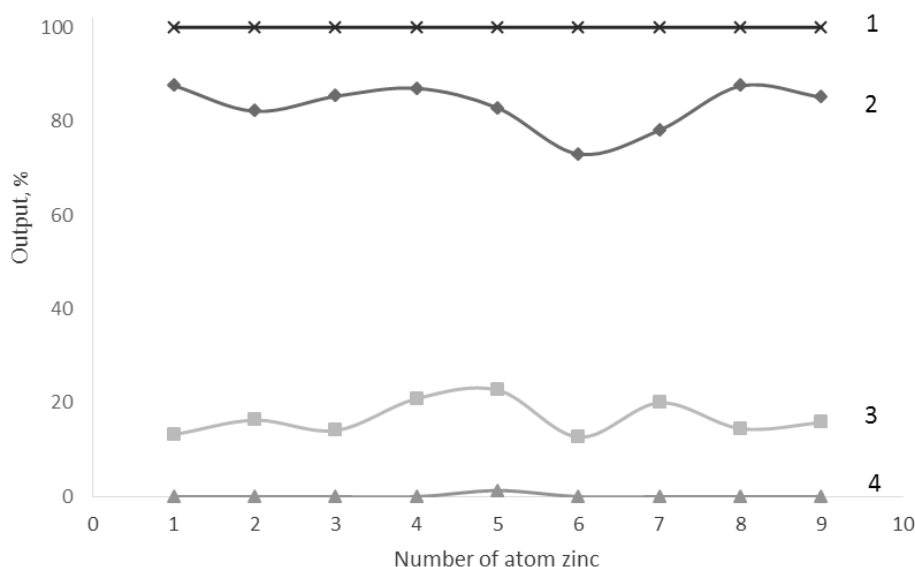


Figure 2. Effect of composition of zinc-nickel oxide catalysts on their activity in steam reforming reactions of glycerol into hydrogen. 1 — Conversion, 2 — Hydrogen, 3 — carbon monoxide, 4 — Methane.

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## Section 11. Economics and management

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### The concept of “green” economy in Kazakhstan

**Abstract:** This paper defines the concept of “green economy”, presents the main international organizations that deal the green economy. Are provided details of the most significant principles, objectives and actions of the concept of green economy.

**Keywords:** green economy, concept, economics, development, nature, resources, energy.

The transition to “a green” economy is gaining the increasing popularity and huge interest and first of all contributes to economic progress. “Green” economy — it's the economy aimed at preserving the well-being of society through the effective use of natural resources and also providing return of products of final use to a production cycle. The transition to “green” economy, reduces the risks of global threats such as climate change, exhaustion of mineral resources and deficiency of water resources. Steady development involves a complex linkage between a three components — economic, social and environmental. It concerns practically all spheres of our life activity.

The idea of a more sustainable economy exaggerated for decades before the key moment of the publication of the report of the Club of Rome “The limits to growth” in 1972. Other starting points on the timeline of the green economy are the Brundtland report “Our Common Future” (1987), the World summit of Earth the Agenda for the XXI century (1992), the UNEP report “Towards a Green Economy” (2011) and the Summit Rio + 20 (2012)<sup>1</sup>.

It is shown that the “green” economy is a new global course of innovative anti-crisis development for world economy. The new course suggests real improvements in the sphere of steady welfare of people. It aims to build a modern infrastructure and increase comfort of living, assumes mass reproduction of highly paid workplaces, promotes transition to the new principles of financing and the taxation, revolutionizes science and education.

Despite all progress and achievements, today still need a large quantity of resources that are beyond the ability of our planet. Obviously, the need for a fundamentally new steps, the transition to such concept of development that will address social, financial, fuel and climate issues in a complex and achieve not only quantitative growth, but also the essential quality and real improvements.

Many countries which experienced recession and mass loss of workplaces in the conditions of modern crisis take a more active search of new models of further development. The model of “green economy” has been proposed as a cardinal model, i. e. such an economic system, which aims to increase social welfare and social security and the simultaneous reduction of environmental risks and deficits.

According to M. Kenneth, only “green” economy is able to stabilize the economic system and to balance the interests of human, nature and the efficient use of resources.

The updated course of “green” development — is a universal course, but it can have specific features that take into account specific differences in natural, human and economic resources of the country. In general, the efforts of developed countries can be aimed primarily at land use and urban policy and the construction of eco-city, to improve the energy efficiency of buildings, investments in sustainable transport and renewable energy. Developing countries, in particular, need to invest in agricultural production, in strengthening of control system of water resources and in sanitation systems, as these investments have huge social value, in the distribution and application of autonomous

<sup>1</sup> Green Economy. Introduction to politicians, non-governmental organizations and scientists of Central Asia//Publication prepared with the support of the European Union. – 2014.

power plants. But there are also general trends of economic development without harming the environment: it is renovations of buildings, renewable energy, clean transport, addressing the needs for clean water, the construction of a new industrial and information infrastructure. As the successful transition to a model of “green” economy ultimately depends on technological innovation, private firms and corporations have a final technical decisions concerning “green” production, eco-efficiency and economic growth.

To finance the project the “green” economy will require state aid: tax incentives, the tightening of the technical regulations, credits for research and development, demonstration projects, as well as “greening” of public infrastructure. Understanding the close relationship between ecology, economy and social problems is gradually becoming general: there is no doubt that employment, wages, savings and investment should increase, but pollution, waste and unemployment — to be reduced <sup>1</sup>.

The main principles of the green economy include the following:

1. equality (principle of justice);
2. prosperity and well-being for all (principle of respect for dignity);
3. preservation and restoration of the nature (the precautionary principle);
4. inclusion and participation in decision-making (participation principle);
5. accountability (control principle);
6. economic, social and environmental stability (principle of stability);
7. sustainable production and consumption (principle of effectiveness);
8. investing into the future (principle of connection of different generations).

In order to make the transition to a “green economy”, it was offered a fairly wide range of tools:

- pricing corresponding to the criteria of sustainable development, including the abandonment of inefficient subsidies, assessment of natural resources in terms of money and the introduction of taxes that harm the environment;
- encouraging production of eco-friendly goods and services of public procurement policies;
- reform of the system of “ecological” tax, involving a shift from taxes on labor to taxes on pollution (“the painted taxes”);
- an increase in public investment in “green” infrastructure (including public transport, renewable energy, building energy-efficient buildings) and natural capital to restore, maintain and where it is possible, increases in its volume;
- state programs to support research and development on creation of environmentally friendly technologies;
- harmonization of social, environmental and economic strategies<sup>2</sup>.

The concept of the transition of the Republic of Kazakhstan to the “green economy” lays the foundation for deep systemic reforms in order to move the economy of the new formation by increasing welfare, quality of life of the population of Kazakhstan and entering the country among the 30 most developed countries of the world while minimizing the impact on the environment and degradation of natural resources. The accepted strategy “Kazakhstan-2050”: “a new policy established state “ sets clear guidelines for building sustainable and efficient economic model, based on the country’s transition to a” green “way of development.

“Green economy” is defined as an economy with a high level of quality of life, careful and rational use of natural resources for present and future generations and in accordance with their international environmental commitments, including Rio de Janeiro principles Agenda XXI century, the Johannesburg plan and the Millennium Declaration.

It is estimated that by 2050 transformations within the “green economy” will further increase the GDP by 3%, create more than 500 thousand new jobs, create new industries and services, to provide universally high quality of life for the general population.

Among the prerequisites for the transition to a “green economy” are the following:

1. In all main sectors there is an inefficient use of resources.
2. Imperfection of tarifo- system and pricing on energy does not create an incentive for technological improvement of the industry.
3. Now Kazakhstan faced a problem of serious deterioration in the state of natural resources and the environment on all the most important environmental indicators.
4. Today the economy of Kazakhstan depends on export of raw material resources and therefore is substantially subject to influence of external sharp fluctuation in prices in the raw markets.
5. Kazakhstan inherited a considerable territorial heterogeneity in economic indicators, in the standard of living and the environment. The development of new industries and “green clusters” will reduce the inequality in the development of regions and their potential in renewable energy, agriculture, water management, waste management and other sectors. Global experience has shown that the “green economy” promotes regional development, contributes to social stability, increase economic potential through the creation of new jobs in sectors of the “green economy”.
6. The international community expects from Kazakhstan the successful implementation of significant projects: the exhibition EXPO-2017, entitled “Energy of the Future” and the Partnership Programme “Green Bridge” to promote Sustainable Development in Central Asia and other regions of the world.

The update cycle of assets in the resource sectors of the economy takes a long time, and in countries where the economy is focused on the extraction of natural resources, the transition to a pure economy takes decades. Kazakhstan in this sense, is no exception. In this regard the realization of the Concept on transition of the Republic of Kazakhstan to the “green economy” will be implemented in three stages:

2013–2020 years — during this period the main priority of the state it will be an optimization of the the use of resources and improving the efficiency of nature protection activity and the creation of “green” infrastructure;

2020–2030 years — on the basis of the generated “green” infrastructure will start the transformation of the national economy-oriented on careful use of water, promote and encourage the development and widespread introduction of renewable energy technologies, as well as the construction of buildings on the basis of high energy efficiency standards;

2030–2050 years — the transition of the national economy on the principles of so-called “third industrial revolution”, requiring the use of natural resources subject to their renewability and sustainability<sup>3</sup>.

And though, at first glance, the task of a full-scale restructuring of the entire economic system seems to be very heavy, the transition to “green” economy is already taking place, sometimes on the scale of individual countries and regions. Besides studying of examples of success achieved in separate sectors there are three general conclusions:

<sup>1</sup> Zakharova T. V. “Green” economy as a new course of development: global and regional aspects//Bulletin of the Tomsk State University. – 2011. – № 4 (16).

<sup>2</sup> Onishchenko M. V. International experience in the development of “green economy”//Caspian region: politics, economy, culture. – 2013. – № 3 (36).

<sup>3</sup> Decree of the President of the Republic of Kazakhstan dated May 30, 2013 number 577. The concept of the transition of the Republic of Kazakhstan to the “green economy.” – 2013.

The first key conclusion — the prediction of transition to “green” economy made our macroeconomic model. In our model, it was shown that “greening” not only increases the wealth, and including are the common heritage of environmental resources, or natural capital, but also ensures (for the six-year period) higher GDP growth, and this growth is known to be — one of the main economic indicators of well-being.

Our second key conclusion — the inextricable link between poverty eradication and better maintenance and preservation of the ecological resources which are the general property caused by that poor segments of the population are benefited directly from increase in the natural capital.

The third key conclusion: upon transition to a “green” economy new workplaces are created in an amount that eventually exceed the number of jobs that have disappeared in the “brown” economy<sup>1</sup>.

Forecasts of the global “green” economy: despite the moderating influence of the crisis in the short- and medium-term (up to 2020) perspective, the value of “green” economy in general and clean energy in particular, could intensify. According to all forecasts in the next 20–25 years in the vast majority of countries “Big Twenty” we can expect a rapid growth and a marked increase in the proportion of “green” economy, especially clean energy sector. According to some estimates, by 2025 the world market only environmentally friendly equipment will reach 4.4 trillion euros (about \$ 6 trillion.), which means more than 30% average annual growth of “green” economy and an increase in its contribution to global GDP 6–7%. By 2020 we can expect almost a doubling of the world market of environmentally friendly technologies (including the tripling of low-carbon technologies of the market), growth in the number of employees in the respective sectors almost fourfold increase in the contribution of “green” economy in the world GDP to at least 5%<sup>2</sup>.

Economic development is necessary, but not enough to reduce poverty and improve living conditions. Economic growth and industrialization are often associated with an increase in consumption of natural resources, having a significant impact on the environment and climate. Global consumption of natural resources already advances now possibilities of the nature them to restore. The same applies to the effects of waste and emission of pollutants on the environment and ecosystems. Growth of consumption and model of production of industrially developed countries are copied by other countries around the world, endangering themselves natural resources, on which depends the life and development of society and in the present and in the next few generations. The poorest part of the population in developing countries has big restrictions in access to important resources.

The international community therefore faces enormous challenges. Our new needs should be the need to preserve the environment, create favorable ways of economic development. In social terms, this means that new forms of economic development will eventually provide community work and income that will help reduce poverty.

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