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**GREEN ECONOMY AS THE NEW WAY  
OF SUSTAINABLE DEVELOPMENT**

**Abstract.** Sustainable development assumes complex coordination among themselves of three components – economic, social and ecological. The concept of “green economy” was appeared in the last two decades in order to provide more harmonious coordination between these components, which would be acceptable for all groups of the countries – civilized, developed, developing and the states with a transitional economy. The concept of “green economy” receives the increasing public response. It was actively discussed by experts, politicians, non-governmental organizations. The goal is to develop from “brown economy” to “green economy”. The concept of “green economy” includes the ideas of many other directions in the economic science and philosophy (feministic economy, postmodernism, ecological economy, environment economy, anti-global studies, the theory of the international relations, etc.), connected with the problems of sustainable development. Supporters of the concept of “green economy” consider that the economic system, prevailing now, is imperfect. Though the concept of “green economy” has yielded certain results in increase in living standards of people in general, and especially its separate groups, negative consequences of functioning of this system are considerable: these are environmental problems (climate change, desertification, loss of biodiversity), exhaustion of the natural capital, large-scale poverty, small amount of fresh water, food, energy, inequality of people and the countries. All this creates threat for present and future generations. The present model of economy is called “brown economy”.

**Keywords:** climate, principles of sustainable development, green economy, feministic economy, ecological economy, environment economy, anti-global studies, loss of a biodiversity, ecological taxation, natural capital.

In our opinion, in the conditions of climate change, for survival and development of humanity, transition to “green economy” is necessary, because this system of the types of economic activity, connected with production, distribution and consumption of goods and services, which lead to increase of the welfare of the person in the long term at the same time, without subjecting future generations to influence of considerable environmental risks or ecological deficiency.

For transition to “green economy” the wide range of tools is offered:

– the pricing corresponding to the principles of sustainable development, including refusal of inefficient subsidies, assessment of natural resources in terms of money and introduction of taxes on what harms the environment;

– policy of government procurement which encourages production of eco-friendly production and use of production methods, corresponding to the principles of sustainable development;

– reforming of the system of the “ecological” taxation, assuming accent shift from the tax on labor to taxes on pollution;

– growth of the state investments into the infrastructure, corresponding to the principles of sustainable development (including public transport, renewables, construction of energy efficient buildings) and the natural capital for restoration, maintenance and increases of volume of the natural capital;

– target state support of research and development, connected with the creation of environmentally friendly technologies;

– the social strategy, designed to provide coordination between the purposes in social area and the existing or offered economic strategy.

The big role in promotion of the concept of “green economy” play the Economic and Social Commissions for Asia and the Pacific Ocean (ESCAP), where are the following members from CIS countries: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tadzhikistan, Uzbekistan and Turkmenistan. In accordance with the initiative of ESCAP in 2005 the strategy of “green” growth was originally included four priority directions, such as: rational models of consumption and production; “gardening” of the enterprises and markets; steady infrastructure both “green” tax and budgetary reforms. Subsequently two more directions – investment into the natural capital and indicators of environmental efficiency have been added.

The Republic of Korea was the first country, which announced implementation of the concept of “green” growth as the national strategy. The main attention within this strategy was paid to three elements: industry, power and investments. Strategy is aimed at preservation of scales of productive economic activity at the minimum use of energy resources and other resources; minimizing of pressure upon the environment of all used types of energy and resources and taking measures for transformation of investments into nature protection activity and driving force of economic growth.

Many countries use various tools of “green economy” in the national policy and development strategies. At the same time many developing countries are afraid that use of model of “green economy” can slow down process of their development. This problem demands the additional analysis and discussions about the degree and level of the possible expenses.

The program of development of the UN for the environment (UNEP) in 2008 has taken the initiative of “green economy”, which has the purpose to use the historical opportunity in order to create the economy of tomorrow. The initiative of “green economy” is based on three main principles:

- assessment and promotion into the forefront of natural services at the national and international levels;
- employment of the population due to creation of “green” jobs and development of the corresponding policy;
- use of market mechanisms for achievement of sustainable development.

“The green economy” draws the increasing attention. In the Declaration on Green Growth, adopted at the Meeting of the Council at Ministerial Level on 25 June 2009, the foreign ministers have expressed determination to increase the efforts on further realization of the strategy of “green” growth and to encourage “green” investments and steady regulation of the natural resources. They have emphasized the determination to use “effective complexes of political measures in the field of climate” and to encourage “the reforms of domestic policy, aimed the prevention or elimination of ecologically harmful types of policy, which can interfere with “green” growth”. Besides, they have suggested the Organization “to develop strategy of “green” growth to achieve economic recovery and social effective steady growth” [1].

Economic recovery and environmentally and socially sustainable economic growth are key challenges that all countries are facing today. A number of well targeted policy instruments can be used to encourage green investment in order to simultaneously contribute to economic recovery in the short-term, and help to build the environmentally friendly infrastructure required for a green economy in the long-term, noting that public investment should be consistent with a long-term framework for generating sustainable growth. Green growth will be relevant going beyond the current crisis, addressing urgent challenges including the fight against climate change and environmental degradation, enhancement of energy security, and the creation of new engines for economic growth. The crisis should not be used as an excuse to postpone crucial decisions for the future of our planet [1].

In order for countries to advance the move towards sustainable low-carbon economies, international cooperation will be crucial in areas such as the development and diffusion of clean technologies, for example, carbon capture and storage, renewable energy technologies, and application of green ICT for raising energy efficiency, and the development of an international market for environmental goods and services.

Green investment and sustainable management of natural resources need further efforts to use efficient and effective climate policy mixes, including through market-based instruments, regulations and other policies, to change behaviour and foster appropriate private sector responses. Such areas may

include smart, safe and sustainable low-carbon infrastructure and technologies that can contribute to building a sustainable low-carbon society. Approaches to recognise the value of biodiversity should be encouraged through appropriate instruments and consistent with relevant international obligations.

Domestic policy reform, with the aim of avoiding or removing environmentally harmful policies that might thwart green growth, such as subsidies: to fossil fuel consumption or production that increase greenhouse gas emissions; that promote the unsustainable use of other scarce natural resources; or which contribute to negative environmental outcomes. Green Growth Strategy is very important in order to achieve economic recovery and environmentally and socially sustainable economic growth.

In June, 2016 the leaders of the states of “Group-20” in Toronto, Canada, in the Declaration have fixed: “Trying to obtain steady and balanced growth, we will also promote work on assessment methods, considering social and ecological consequences of successful economic development” [2]. They have confirmed the commitment to ensuring ecologically balanced restoration and steady global growth.

The participants of this conference noted: “Don’t suppress the economy of the future by investing in fracking and pipelines. Bitumen is a high risk investment. Exporting oil is not the solution. We should be accounting for cleanup and not extraction. We need more investment in R&D for green tech. We need to start burying carbon. Sequester it. We need to respect Indigenous peoples. We need to reexamine and repair the former Navigable Waters Protection Act. The Union-Pearson Express was not electrified, but should have been. We need to include community level projects. Develop green shipping and safe trucks. Pedestrianisation and cycling safety is important, as is more efficient buildings. This problem has multiple dimensions. Individual and community must both work together to transition to something more sustainable. Think of future generations. Connect with the earth. We are a part of the earth”[2].

“The green economy” becomes the central theme of discussion of other important international forums of high level. So, the questions of “green” growth as the strategy of sustainable development for Asia and Pacific region, in particular, rational use of resources, decrease in carbon emissions and sustainable city development were discussed at the 6-th Conference of Ministers of the Environment and Development of the Pacific region on September 27-October 2, 2010 in Astana, Kazakhstan.

At the Conference of the UN on sustainable development, which was held in Brazil in 2012 (“Rio+20”), one of two central themes of the conference was “green economy in the context of sustainable development and poverty eradication”.

We consider, that in the conditions of global climate changes is quite necessary the development, institutionalization and realization of the state policy, which suppose the effective management of water resources:

- the announcement of zones of formation of the major water outflows of the country, especially protected natural territories;
- introduction of the technologies of water conservation and improvement of irrigating systems;
- expansion of the forest territory, around the main arteries of the country;
- construction of irrigational systems for improvement water irrigation of the population, living in mountain territories.

Development of the hydroenergy sector of the country remains the priority direction of sustainable development of national economy. For successful development of hydropower of the Republic of Kazakhstan, the following is very necessary:

- Energy efficiency and energy saving.
- Use of renewables.
- Improvement of tariff policy.

Kazakhstan is rich in natural resources including coal, oil, natural gas and uranium and has significant renewable potential from wind, solar, hydro and biomass. In spite of this, the country is currently dependent upon fossil fuels for power generation. Coal-fired plants account for 75% of total power generation leading to concerns over greenhouse gas emissions and impacts on human health and the environment. Recent economic growth in Kazakhstan has driven increased demand for energy services making the construction of additional generating capacity increasing necessary for enabling sustained growth. In this context, renewable energy resources are becoming an increasingly attractive option to help bridge the demand-supply gap. In the Draft Law On Amending Certain Legislative Acts of the Republic of Kazakhstan for Transition to Green Economy was noted: “The problem of power

deficiency becomes more sharply, the habitat continues to degrade” [3]. Price of oil is sharply changed, it often depends from the global policy. In world practice there are the following sources of energy: solar, wind, geothermal energy, energy of sea and ocean, waves, inflows, etc. It is important also, that the set of renewable resources has reached a share of atomic energy and comes very close to the main types of fuel. In Kazakhstan today the share of renewable sources makes about 15% of fuel and energy balance and is presented practically only by hydropower. The share of other alternative sources makes 0,3-0,4%.

As we wrote before, the idea of a more sustainable economy has been talked about for decades. A key moment was the publication of the report Limits to Growth by the Club of Rome in 1972. In the last few years discussion around sustainability has become a key part of the global agenda. This is because the latest scientific studies and our direct experiences of environmental devastation and climate change are making it clear the economic model needs to change. The green economy was the central theme of the major United Nations conference on Sustainable Development (Rio+20) held in Rio in June 2012.

The green economy means different things to different people. Sometimes these perspectives overlap and sometimes they contradict each other. Some groups reject the concept of a green economy. The aim of Green Economy is to present these diverse viewpoints in one place. The examples below illustrate just two perspectives on the green economy. The key reference point for much of the work on the green economy comes from the United Nations Environment Programme (UNEP): “A green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive.

Meanwhile the view of civil society movements, who held an alternative summit during the UN Sustainable Development conference Rio+20 in June 2012 concluded: “The so-called “green economy” is just another facet of the current financial phase of capitalism, which also makes use of old and new mechanisms, such as the deepening of the public-private debt, the hyperstimulation of consumption, the concentration of ownership of new technologies, carbon and biodiversity markets, land grabbing, increased foreign ownership of land, and public-private partnerships, among others”[4]. Governments decided to establish an intergovernmental process under the General Assembly to prepare options on a strategy for sustainable development financing. They also agreed to establish a high-level political forum for sustainable development. Decisions on its detailed form are expected to be taken during the upcoming session of the General Assembly, with the aim of having the first session of the forum at the beginning of the 68th session of the Assembly[4].

The “green economy” brings together a vast area of policies and research. Many of the issues are inextricably linked together with likely domino effects. Below are some potential impacts on thematic areas: development model, environment, energy. Re-focusing of the development model in the global North and South with increasing weight of economic sectors based on energy and the environment (e.g. natural capital). Ideas about valuing nature could have a huge impact on how the environment is conserved. New economic sectors based on the environment could change our use of nature. The transition from fossil fuels to renewable energy is at the heart of a green economy. The energy sources that are scaled up globally (fossil fuels or renewables) will determine if we are able to avoid irreversible climate change.

Climate change is already having impacts on existing conflicts and creating new ones. This is particularly the case between local communities in the global south over access to resources. Potential future conflicts linked to the green economy within or between local communities could be due to: climate mitigation projects (increases conflicts over land use and ownership); climate adaptation projects (unequal distribution of aid); natural capital projects (conservation restricts livelihoods); control over and location of energy projects (large-scale dams).

Historically, of course, the trend has not been towards green growth. On the contrary, economic expansion has imposed ever greater demands on natural systems - both in terms of the amount of resources that we extract or harvest, and the volume of emissions and waste that we expect the environment to absorb and neutralise. As is increasingly understood, this cannot continue indefinitely: the environment has natural limits in terms of how much it can provide and absorb.

Just look the basic facts. If global GDP grows at 3 % annually then a century from now the world economy will be almost 20 times larger than today. Already, humans appropriate more than half the

available freshwater and exploit most good quality soil resources. We are emitting ever more pollutants, greenhouse gases and waste. And we risk crossing critical environmental thresholds, leading to dramatic and irreversible damage to ecosystems. When we reflect on the demands that we are already imposing on our ecosystems, it's apparent that green growth isn't just a preferable approach to economic development. On the contrary, in the long term it's the only way to sustain economic growth. 'Brown growth' that destroys our natural systems can't be justified by the apparent gains it offers. Ultimately, it will diminish our prosperity in every sense. In contrast, the objectives of a green economy are to meet our needs - for food, transport, energy and so on - in a sustainable and equitable way.

Of course, understanding the concept of the green economy and its importance is only a first step. Key questions remain. What does a green economy look like? And how can we create a green economy in Europe? As explained above, a "green" economy is one in which policies and innovations enable society to generate more of value each year, while maintaining the natural systems that sustain us. Essentially, it's a pretty simple concept. Unfortunately, translating the idea into reality is hugely more complicated. Clearly, it will require technological innovation. But it requires lots of other changes too - to the way we organise businesses; the way that we design cities; the way we move people and goods around; the way we live, essentially. Effecting changes of this sort requires the engagement of all sectors, including policymakers, businesses and individual citizens. And that in turn implies the need for a mass of information to guide and inform decision-making.

The European Environment Agency (EEA) was established in order to gather, interpret and communicate regarding the European environment in order to support informed decision-making. As such, the Agency has an important role to play in developing the knowledge base on the green economy. This area of the EEA website will be developed through 2011, 2012 and beyond to highlight work by EEA and other partners at the national and international levels, explaining its relevance to the green economy debate.

However, resource efficiency won't guarantee steady or declining resource use. After all, we could become more efficient, but still put excessive demands on the environment. For that reason, in order to achieve sustainability, we also need to focus ecosystem resilience: the status, trends and limits of natural systems.

According to the "Basic Provisions of the Energy Strategy of Kazakhstan" similar tendencies will be observed in power balance of the country till 2030. The escalating loadings rendered on the environment by traditional power, industry, transport anthropogenic activity of mankind as the result of integration power, environmental and social economic policy.

In 2010 in Japan (Aichi Prefecture) was adopted in 2011-2020 Strategic Plan for the conservation and sustainable use of biodiversity as a structure designed for 10 years, under which all countries and stakeholders will take measures to conserve the biodiversity and provide the benefits for the people. Under the Strategic Plan as many as 20 ambitious yet achievable global targets known as the targets on conservation and sustainable use of biodiversity were adopted. The Governments committed themselves to set national targets in support of the targets for the conservation and sustainable use of biodiversity as adopted in Aichi. The development of national targets and their incorporation in the updated national biodiversity strategies and action plans for biodiversity are key elements of the commitments set out in the Strategic Plan.

Development of power at the beginning of the XXI century goes under the influence of the aspiration of the countries to ensure the energy security and independence, to limit emissions of greenhouse gases, to prevent global warming of climate. The Republic of Kazakhstan as the participant of the UN framework convention on climate change has own obligations for decrease the influence of power.

Thus, the power "turns green" process to the possession of traditional resources, market technologies, competition of power producing companies. Reasons that power will become more "elastic, flexible", decentralized and autonomous.

Kazakhstan needs to develop green power, considering the high cost of an electricity transmission and low density on settlements in the huge territory. It is difficult for small objects to reach the centralized electric power. Actually, approach of power source to the consumer is the new vector of the development of power in the world, for example, absolutely autonomous houses.

The Decree of the President of the Republic of Kazakhstan on May 30, 2013 No. 577, named “The concept on transition of the Republic of Kazakhstan to “green economy”. One of the priority directions of development of “green economy” has determined the development of nonconventional alternative and renewable types of energy [5].

The Concept for the transition of Kazakhstan to green economy is the main program document prioritizing reformation of key sectors of Kazakhstan economy such as energy, agriculture, waste management, and water in order to ensure sustainable development of the country. The concept also raises issues concerning conservation and effective management of forest ecosystems, fishery and biodiversity in regard with the principals of sustainable development. Being scheduled until 2050, the concept serves as a basis for effective utilization of natural resources and improvement of well-being of Kazakhstani people through diversification of the economy, balanced development of the regions and creation of new jobs; and promotion of people’s health through improvement of environmental conditions.

In conditions of increasing pace of economic development and intensification in use of natural resources, the question of further improving the system of territorial protection of nature becomes more urgent. Those conditions determine the need for further development of protected areas as an effective system of conservation of state biodiversity.

In the conclusion we would like to note that the era of power, based on burning of fossil fuel resources, gradually comes to the end. Creation of the power stations on traditional types of fuel has to become the most important aspect of power policy. The purpose of stabilization of emissions of greenhouse gases, each nation (country) will be forced to make notable turn to expansion of use of renewable energy. Kazakhstan’s population of auls and villages remote from the power line for domestic and production needs. It is possible to our republic stage-by-stage reorientation of economy to use of renewable resources, diversification of power and technologies.

#### REFERENCES

- [1] Declaration on Green Growth. Adopted at the Meeting of the Council at Ministerial Level on 25 June 2009 <https://www.oecd.org/env/44077822> (in English).
- [2] Declaration of “Group-20”. Adopted at the Meeting in Toronto, Canada on June, 2016. <https://jdabrusin.liberal.ca/.../2016/.../Climate-Change-Townhall-Gr> (in English).
- [3] Draft Law On Amending Certain Legislative Acts of the Republic of Kazakhstan for Transition to Green Economy <https://www.export.gov/article?id=Kazakhstan-Electrical> (in English).
- [4] UN Sustainable Development Conference Rio+20 on June 2012 <https://sustainabledevelopment.un.org/rio20> (in English).
- [5] Decree of the President of the Republic of Kazakhstan of May 30, 2013. No. 577 “The concept on transition of the Republic of Kazakhstan to “green economy” <https://studylib.net/doc/10141895/4895.38kbg> (in Russ.).

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#### ЖАСЫЛ ЭКОНОМИКА ТҰРАҚТЫ ДАМУДЫҢ ЖАҢА БАҒЫТЫ РЕТІНДЕ

**Аннотация.** Тұрақты даму жиынтық үш бөлік – экономикалық, әлеуметтік және экологиялық бір-бірімен өзара байланысын анықтайды. Соңғы екі онжылдықта қалыптасқан «жасыл экономика» тұжырымдамасы осы бөліктер арасындағы үйлесімді неғұрлым үйлестірілуін қамтамасыз етуге арналған және барлық елдер топтары үшін, оның ішінде дамыған, дамушы және өтпелі экономикасы бар елдер үшін қолайлы болмақ. «Жасыл экономика» концепциясы аса үлкен көпшілік резонансына ұласуда. Сарапшылар, саясаткерлер, үкіметтік емес ұйымдар оны белсенді талқылауда. «Қоңыр экономикадан» «жасыл экономикаға» дейін. «Жасыл экономиканың» тұжырымдамасы тұрақты даму проблемаларына байланысты экономикалық ғылым мен философияның (феминистикалық экономика, постмодернизм, экологиялық экономика, қоршаған орта экономикасы, антиглобалистика, халықаралық қатынастар теориясы және т.б.) көптеген басқа бағыттарының идеяларын қамтиды. «Жасыл экономика» тұжырымдамасын қолдаушылар қазіргі экономикалық жүйенің жетілмегендігі туралы пікірде. Бұл жалпы халықтың, әсіресе оның жекелеген топтарының, өмір сүру деңгейін жақсартуда белгілі бір нәтижелерге қол жеткізгенімен, осы жүйенің жұмыс істеуінің теріс салдары маңызды болып табылады: экологиялық проблемалар (климаттың өзгеруі, шөлдену,

биоаудантүрліліктің жоғалуы), табиғи капиталдың азаюы, кең таралған кедейлік, тұщы судың болмауы, тамақ, энергетика, адамдар мен мемлекеттердің теңсіздігі. Мұның барлығы қазіргі және болашақ ұрпаққа қауіп төндіреді. Экономиканың қазіргі үлгісі «қоңыр экономика» деп аталады.

**Түйін сөздер:** климат, тұрақты даму принциптері, жасыл экономика, феминистік экономика, экологиялық экономика, қоршаған орта экономикасы, антиглобалистика, биоәртүрлілікті жоғалту, экологиялық салық салу, табиғи капитал.

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### **ЗЕЛЕНАЯ ЭКОНОМИКА КАК НОВЫЙ ПУТЬ УСТОЙЧИВОГО РАЗВИТИЯ**

**Аннотация.** Устойчивое развитие предполагает комплексную увязку между собой трех компонентов – экономического, социального и экологического. Сформировавшаяся в последние два десятилетия концепция «зеленой экономики» призвана обеспечить более гармоничное согласование между этими компонентами, которое было бы приемлемо для всех групп стран – развитых, развивающихся и государств с переходной экономикой. Концепция «зеленой экономики» получает все больший общественный резонанс. Она активно обсуждается экспертами, политиками, неправительственными организациями. Главной целью является развитие от «коричневой экономики» к «экономике зеленой». Концепция «зеленой экономики» включает в себя идеи многих других направлений в экономической науке и философии (феминистская экономика, постмодернизм, экологическая экономика, экономика окружающей среды, антиглобалистика, теория международных отношений и др.), связанных с проблемами устойчивого развития. Сторонники концепции «зеленой экономики» считают, что преобладающая сейчас экономическая система несовершенна. Хотя она дала определенные результаты в повышении жизненного уровня людей в целом, и особенно ее отдельных групп, негативные последствия функционирования этой системы значительны: это экологические проблемы (изменение климата, опустынивание, утрата биоразнообразия), истощение природного капитала, широко-масштабная бедность, нехватка пресной воды, продовольствия, энергии, неравенство людей и стран. Все это создает угрозу для нынешнего и будущего поколений. Нынешнюю модель экономики называют «коричневой экономикой».

**Ключевые слова:** климат, принципы устойчивого развития, зеленая экономика, феминистская экономика, экологическая экономика, экономика окружающей среды, антиглобалистика, утрата биоразнообразия, экологическое налогообложение, природный капитал.

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