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# Global trends of «Green» economy development as a factor for improvement of economical and social prosperity

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## Abstract

The article covers main reasons of emerging a new type of economy, the “green” economy. The aims and objectives of developing green economy were analyzed. The significance of an economy reform carried out on both national and global levels was evaluated. We analyzed both speed and level of the green economy development in the world and in the most developed countries of the world. An influence of institutional and investment factors on the process of greening economy was studied. The authors evaluated an influence of scientific and technical researches on transition of economy to its new model. An influence of leading countries, economical global leaders, on greening interstate and global economy was reviewed and analyzed. Possible perspectives of the global green economy development and consequences of greening process are given. The article determines factors that influence on the level of economic and social prosperity and welfare of society. The authors show negative consequences of the existing economic model that influence the society level of living, poverty, prosperity and welfare. It is proved by Japan experience that contributions into development of “green” economy sectors and R&D works promote greening food, influence welfare of society and life expectancy. A conclusion was made that transition to green economy will favorably influence health level of any nation and increase factors that promote development of social and economic prosperity and welfare of society in general.

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**Keywords:** «Green» economy; technologies; global trends; energy efficiency; use of natural resources; gross domestic product (GDP); renewable energy sources (RES); society welfare; poverty level; employment level.

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## 1. Introduction

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Progressive development of technologies, fuel and energy complexes lead to a number of secondary processes that are to be solved by every country separately and by the world in general. Economic policy of the majority of countries is aimed to increase economic indicators values, these indicators help us to estimate development levels of such economy segments as: light and heavy industry, scientific and technical complex, agricultural production etc. However, none of the indicators allows evaluating and showing the real level of living, prosperity and welfare of citizens in a proper way (Richard, 1998).

A lot of developed and developing countries within severe reality conditions are coming to a consensus that a conventional scheme of state economy, that had been formed for years, fails now and this effects a lot of spheres. Surely, the most tremendous impact is brought onto national ecology, it is important to deal with issues on the effective use of energy sources, poverty eradication, solution of social and economic problems in developing countries and other issues that refer to prosperity and welfare of both whole nation and particular citizens.

There is no doubt that an exclusively new approach to the economic policy can solve a formed complex of problems. A modernization of a classic economy into the “green” economy has become such quality transition (Runciman, 2012).

It should be mentioned that any novelty is treated in different ways. This transition is not an exception, and some countries (such as Bolivia and Venezuela) treated the suggestion on transition to the new system of management and distribution of national resources with caution. In addition, there are countries that decided to live in the shadow (such as countries of Latin America and the Caribbean region), and not to give their own opinion regarding this case. The aim of such kind of countries is to use a real experience of other countries upon which (no matter successful or not) they can elaborate their own system of economic policy (Joe, 2011).

## **2. Main part**

Nowadays, all the countries in the world, their technologies, education and other scopes of activities are characterized with an absolutely new approach to conducting business which is modernization. Whatever is produced, studied or introduced has to meet certain requirements. These requirements differ in the majority of countries. A lot depends on the level of economic development of a country, its manufacturing base, scientific and technical development and so on.

In terms of such requirements it is necessary to note that aims of a state in the economic planning will slightly differ (Egorova, 2013). In terms of the above said it is necessary to note that all the countries all over the world treated the transition of the economic policy from their own point of view.

Thus, initially developed countries determined a transition to the “green” economy as an increase of workplaces and marketability development. Developing countries concentrated on solution of issues regarding poverty and stable development planning. BRICS country group (Brazil, Russia, India, China, and South Africa) chose a strategy for effective use of natural resources (Cato, 2009).

There is no doubt that a trigger for development and formation of the “green” economy in the world is overall global crisis of 2008, when every country in the world faced financial, fuel, and food problems, moreover, a lot of countries faced the said problems altogether. Because of the difficult situation, UNEP (United Nations Environment Program) is developing a plan of transition to the “green” economy for global economic leaders: China, the USA, Russia, Japan, Germany, and the United Kingdom. Projects for different countries are individual and they reflect both solutions for general interstate problems and problems within a country. It is so-called a detached and outward glance.

The main reason of the crisis of 2008, as the UNEP Executive Director and Under-Secretary-General of the United Nations Achim Steiner notes, was the fact that a lot of countries whose economies specified the world economy, simply stopped to realize the ongoing market situation and failed to re-orientate them in time. Therefore, the governments were not ready for possible consequences of fuel and energy boom that led rather to

negative results in all scopes of national activities than to positive results in energy provision of countries (Goulet, 1992).

A common aim for countries during the transition to the “green” economy is environmentally friendly production that is focused on “clean” technologies, i.e. technologies related to woods and soils, as these natural resources are highly reproducible and renewable. This refocusing in technologies could allow taking into account an impact of the technologies on the climate and increasing growth of working places (Golub, 2003).

According to the results of 2008 – 2012 it can be noted that there is some kind of problem understanding, building-up and development of projects on complex transition to the economy of a new model. This period, in general, may be called a stagnant period, as drastic and radical changes were not done in this sphere.

We could see a rapid development of “green” economic sector at the end of 2011-2012, when two factors of the focus became the whole.

These factors are institutional and investment ones. It is obvious that a development of a separate factor will not lead to a positive result, as, at first, investment are required to be done into projects, which realization will lead not only to investments refunding but also to productive capital increasing in the focused area within short and middle terms. (Davies, 2011).

By the middle of 2011, 89 countries had a distinctly formed position regarding realization of a new economic sector, which was absolutely new, to be more precise, totally forgotten, and gone in the deep past. All 89 countries developed projects, set main goals and desired results alongside with the ways of approaching them. Thus, 73 countries of 89 chose a transition of energy industry to controlling system of eco-fuel which allows to develop oil and gas fields more rationally, as well as to have a complex use of other types of carbon fuels (coal, blacks, turfs etc) (Max-Neef Manfred, 1995).

This direction was called a decarbonization of economy - a priority for the transition to a "green" economy model. (World Bank: Social Indicators of Development, 1995)

Talking about investments, we can say that the results here are even much more amazing than in the legislative sector. Investments started to arrive promptly and in a sufficiently large scale at the first mention of the integration into the economies of the countries of the "green" sector. The special effect is made through investments of the "Big Twenty" countries. Actually, this is of no surprise, as these countries have concentrated the world's major resources that ensure a high level of financial capital of the "Big Twenty".

A process of investment in RES (renewable energy sources) is observable, i.e. the process of decarbonizing global technologies and national economies in particular is going on effectively. Thus, over a period from 2004 (the year, characterized by relative economic stability of most of the world) to 2011 (the year of the rapid implementation of projects for the comprehensive greening of the economy) an annual investment increased from 52 billion to 260 billion USD. Therefore, the significance of renewable resources for the seven-year period (taking almost five times increased inflation into account) is one of the most favorable trends in the world economy over the past decade (Egorova, 2013). It is necessary to take into account that the use of oil and gas in the world market remains a priority for quite a limited period of time. At the same time, renewable resources can be used in the future and after the depletion of world reserves of major carbon energy supplies.

The plans of the "Big Ten" on forest resources (Russia, Brazil, Canada, the USA, China, Australia, Congo, Indonesia, Peru, India), as countries where two-thirds of the world's reserves of renewable energy are concentrated (Kotlyakov, 2012), are to provide an annual growth of forests above the annual deforestation by 2020 year. It is not realized now due to natural regeneration and reforestation, without proper human participation in the process.

An important role is given to the field of alternative energy, it is this sphere where huge investments are done to develop and implement projects. The basis of alternative energy is environmentally aware technologies.

A lot of countries give a lot of attention on food issues in their projects on economy greening, too. These include issues related to water contamination, food production, and quality requirement. A special attention is paid to issues of increasing populations of animals and valuable fish species, to agricultural technologies, and

others. Japan, China, Canada, the United Kingdom and Russia were the most sensitive to these issues. (Egorova, 2014) It is due to the fact that these countries not only consume, but also export their products, therefore it shows not only the process of preservation and enhancement of food sources and conservation of animal species as a whole, but also economic benefits of such conservation.

For example, the market of fish products with the eco-label increased by almost 50% in 2009, it is satisfying, because this, in its turn, leads to a decrease of the possibility of various diseases in countries with different level of economy development, which consumes these products.

Great contribution to greening economy is brought by the development of R&D (research and development activities). That is why governments have made large-scale investments in this sector. At the same time not all the sectors of R&D have had the same amount of investments, nuclear power industry was put aside and investments into fossil fuels decline. Most attention is paid to the sphere of energy efficiency.

All the above-mentioned developments, implementations, and investments are concerned as favorable trends for comprehensive integrated greening economies of all countries. Development of powerful and most dynamic countries allows modernizing smaller states but they are not less significant. It should be noted that this process is characterized by gravity, and it is almost impossible to implement it in a short time, however it is real if greening questions are solved consecutively.

Japan has acquired the best results in this direction. It is a country of high technologies, with one of the highest levels and quality of life in the world. This is confirmed by the highest life expectancy of the Japanese (83.1 years), a high GDP per capita (\$ 46,730) - second place after the Americans. During the process of economy greening up to 90% of the investments were made into R&D, development of renewable energy, greening of food and improvement of energy efficiency level (Max-Neef Manfred, 1995).

Japan was the first country to set preferential tariffs for the use of renewable energy sources, which were fully implemented in July 2012.

Japan is one of the most effectively developing countries in this regard. With a relatively limited area (compared to Canada, the USA, Russia, Brazil, Australia and others), Japan has 1.5 million people engaged in the sector of "green" economy, the share of GDP in the development of this sector equals about 3.5% , which is rather high compared to other countries (Egorova, 2014).

In general, the most important role in the development of the focused area of the global economy greening is played only by the "Big Twenty". Their share in the investments, development and implementations is about 82%.

There should be noted some out of the most capital-intensive and advanced countries:

- the USA outputs products in the field of "green" economy for more than 650 billion dollars USD (4.5% of GDP), while employment in the field is about 3 million;
- Germany - about 4.8% of GDP and employment in this sector is about 12% of the total population, at the same time Germany is the world leader (followed by Japan) for the use of environment friendly technologies, which are characterized by indicators of the country climate conservation;
- the United Kingdom - the world leader in terms of market share, engaged in the "green" sector (8.8% of GDP by the beginning of 2010).

As for Russia, a country with one of the highest levels of carbon resources (exhaustible energy sources); most of the problems are based on investment into "green" projects, as well as the process of implementing such projects. The country has the largest territory in the world, while the country's population size and density in certain regions are poor, therefore this creates difficulties for proper organization of a process of projects realization. In general, a greening project that strategically considers the transition of the country's energy use to renewable energy sources was developed in Russia; however, there were no negotiations on reducing the proportion of carbon resources involvement in the sense of energy.

The whole problem of Russian in the sphere of effective resource management is due to the fact that the country economy is largely dependent on oil and gas export to a sufficiently broad range of countries.

Such features as territorial, institutional, political, and economic ones influence the process of ecologization of the economy that is why its greening in all countries will be held in the proper direction with a slight resemblance. Similarity will be ensured by various problems that can be solved within the framework of the transition to a "green" economy.

The general approach of all countries in solving existing problems (climate, energy, and other social type etc.) is based on a reorientation of capital and investment in natural infrastructure that will allow harmonious co-existence for man and nature. In this case, restoration of natural resources will allow multiple use of the opportunities of the same territory. Non-renewable natural resources do not allow doing this, and alongside with it their use (production, processing, and storage) is not so much economically costly (oil payoff is one of the highest), as environmentally disadvantageous. In the long term, effects of petroleum processing are not reassuring.

### 3. Conclusion

The world map contains about 200 states, only 89 countries (from 2011 to 2014 the number hasn't changed) take part and make direct transition to the "green" economy. As the majority of the countries that do not participate in the UNEP project are either countries with insufficient territory or poorly developed African countries, the overall transition to the "green" economy is performed at high rates, in general. The important thing is that 89 member countries account for about 70% of the world's territory and about 87% of global capital and natural resources, which are at the top of the issues.

An issue upon realization of complete and complex transition of all the "Big Twenty" countries to green energy is negotiated as an outlook for the years of 2020-25 in regard to transition to the "green" economy. According to some independent economists from different countries, the annual growth of environmental technology in these countries will be about 30% from 2014 to 2025, which will be 5.5 - 6% of the global GDP by 2025. This trend will certainly lead to the improvement of environmental and climatic conditions in some regions. Therefore, the process of transition to the "green" economy will favorably influence both health level of any nation and increase of factors that promote development of social and economic prosperity and welfare of society in general.

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