«Green» Economy and «Green» Investments in Russia

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Abstract. The authors of this scientific paper examine the current situation in the Russian Federation associated with the pollution of water and the atmospheric resources, with the problem of production and consumption waste accumulation, and draw their attention to the imperfection of statistical information, which does not allow for an objective assessment of the environmental situation. The quality of natural resources is not improving despite the statistical decrease in emissions and discharges of pollutants. They concluded an inconsistency of the economic development in the Russian Federation with the principles of sustainability and the "green" economy. It is necessary to intensify investment activities to protect the natural environment, in order to change the situation. At present, the share of the environmental investments in all national economic capital investments is negligible - less than 1%. The sluggish dynamic of investment processes led to insufficient commissioning of the main environmental funds. Recently, the situation has worsened in connection with the sequestration of the national project "Ecology" due to the pandemic problems. The article is devoted to the analyses of the "green" investment processes in Russia. The author's definition of "green" investment is given.

The economic growth that every country in the world strives for is often accompanied by negative externalities. A consequence of the countries’ economic development is the natural environment destruction and environmental degradation. The researchers, who made the greatest contribution to the study of the Russian sustainable growth problems were S. Bobylev, I. Glazyrina, A. Golub, K. Hoffman, V. Gurman, A. Gusev, V. Danilov-Danilyan, I. Krasovskaya, M. Lemeshev, D. Lvov, A. Margolin, P. Oldak, G. Safonov, V. Parfenov, R. Flight, B. Porfiriev, E. Ryumina, E. Ushakov, N. Fedorenko, T. Khachaturov, E. Schwartz, A. Shevchuk and many others [1–5]. The authors of this research paper present their point of view on the problem of compliance of the Russian economy development with the sustainable development principles.

According to the Federal State Statistics Service, the annual emissions of air pollutants and the discharges of polluted wastewater into water bodies have decreased by more than 30% (figure 1) over the past twenty years. However, the information provided by Federal State Statistics Service instils some doubt. For example, in 2020 (taking into account the requirements of the Customs Union and OECD), the Russian statistics used a new method for calculating the emissions from the mobile sources. As a result, in 2019 the data on automobile emissions showed a 3-fold decrease compared to the previous year. There is no confidence in the data on the emissions from the stationary sources,
since this information is provided by the enterprises themselves, and it is impossible to verify its reliability due to the imperfect monitoring system.

The work of the stations for monitoring the atmosphere state covers the territory of the country unevenly. For example, there is the same number of stations – 18 in the huge Krasnoyarsk territory as it is in the Kemerovo Region, which area is 25 times smaller than the Krasnoyarsk territory, and there are 38 stations in the Irkutsk Region, which is comparable in its territory with the Yamalo-Nenets Autonomous District and is 3 times smaller than Krasnoyarsk territory [6].

There were many stations over 10 years ago, when the sources of emissions, the massive development and the road layouts were completely different. In the modern conditions, the posts for observing the atmosphere state often do not record the maximum salvo emissions or can’t track the enterprises responsible for them.

Unfortunately, the situation is not expected to improve in the near future: according to the experts, there is not enough funds to increase the number of monitoring stations even within the framework of the Federal Project "Clean Air": in 2019 and 2020. The funds that were allocated for the project have not reached the regions, due to the lack of rules for the provision of budget transfers in the Ministry of Natural Resources. And in 2020 the Project budget had to be cut because of the economic problems associated with the pandemic.

Figure 1. Emissions of air pollutants and discharge of contaminated wastewater (left scale), generation of production and consumption waste (right scale).

One can talk endlessly about the Russia’s overfulfillment of the Paris Agreement requirements, ratified in 2019, but Russia remains one of the most polluting countries in the world. The concentration of many pollutants in the cities’ atmosphere (solids, nitrogen oxide, sulfur dioxide, benzopyrene, etc.) has increased or has not decreased (since nature does not have time to neutralize the accumulated pollution earlier), and exceeds the level of the atmospheric pollution in many developed countries. Unfortunately, in those cities where the average annual concentration of pollutants is decreasing (measured according to the MPC), it is impossible to draw a conclusion about the improvement of the environmental situation, since recently the MPC of air pollutants has been legislatively increased. For example, in 2014 the average daily MPC for formaldehyde increased 3.3 times (from 0.003 to 0.01 mg m$^{-3}$), and the maximum one-time increased 1.4 times (from 0.035 to 0.05 mg m$^{-3}$). In 2015, the average daily MPC for phenol was doubled (from 0.003 to 0.006 mg m$^{-3}$), and in 2017 there was another increase in this standard – to 0.01 mg m$^{-3}$, which is 1.7 times compared to 2015. Over the past 20 years (from 1999 to 2017), the maximum single MPC for methyl mercaptan has been increased 660 times [7].

The Federal Service for Surveillance on Consumer Rights Protection and Human Welfare has not provided any reasonable justification for the need for such “improvement” of regulation. The pretext that was given by that the regulations were changed to comply with the EU and WHO regulations was
not true, as the regulations for other pollutants had not been lowered to the European and global levels. Thus, the statistics "underestimate" the level of actual pollution of the atmospheric resources.

A similar situation has developed with the water resources, for which the standards for maximum permissible content (MPC) of many pollutants in wastewater were also legislatively increased, which previously allowed for them to be classified as "polluted". Thus, the decrease in the discharge of the polluted wastewater is largely due to statistical innovations, presented in figure 1. The rivers Volga, Dnieper, Ural, Don, Terek, Northern Dvina, Yenisei, Amur, Ob and Kolyma are included in the ten dirtiest rivers in Russia.

And an especially “non-green” situation is progressing in the field of industrial and consumer waste management: no statistics can hide the avalanche-like accumulation of waste as a result of an increase in the annual volume of waste generation, i.e. by almost 5 times in 2019 compared to 2001 (see figure 1).

The conclusion is obvious that the Russian economy is still far from sustainable development and the principles of the "green" economy functioning, since the preservation of the natural environment is a primary task in the formation of conditions for sustainable development.

A prerequisite for the successful functioning of a green economy is green investment. There are different definitions of "green" investment in the economic literature resources. So in the article of S. Kodaneva "green" investments are defined as a set of financial instruments that allow the directing financial resources and capital flow to achieve environmental goals through various "green" financial products, as well as methods of state support aimed at optimizing production, making a profit and achieving balance between the environment and the economy [8]. Galaktionov I. defines "green" investments as portfolio investments in "green" bonds, in securities that are issued to finance environmental projects [9]. Many foreign researchers also associate "green" investment with the purchase of "green" securities [10–14]. A number of scientists consider the main direction of "green" investment in the investing in the production of renewable energy sources and the environmentally friendly modes of transport [15–18].

We should generalize the presented approaches and give our own definition of “green” investments. In our definition, "green" investments are long-term financial investments aimed in the following two directions: 1) the introduction of environmentally friendly, waste-free and energy-saving production technologies that have a minimum load on the environment, including the renewable carbon-free energy sources (RES); 2) putting into operation the nature protection and nature cleaning fixed production assets.

As an illustration of the first direction of "green" investment, one can cite examples of the new technologies introduction that have recently been carried out in metallurgy, agriculture and forestry, in the organization of recycling, as well as the production of "green" energy from the renewable energy sources.

As an example in our country, one can name the introduction of the best available technologies (BVT), such as a new design of the cast-iron taphole and a drill for opening it. This technology makes it possible to reduce the duration of iron and slag production by half, which accordingly reduces the amount of harmful gases and dust emitted into the atmosphere. A specific feature of this investment area is the impossibility of explicitly identifying the environmental protection costs as part of the total production costs for BVT implementation.

The second area of "green" investment includes the costs of putting into operation filters, gas trapping plants, water treatment plants, waste incineration and waste processing plants and landfills with no negative impact on the environment (NIE). These are the direct environmental costs in their pure form.

Unfortunately, Russia lags behind the developed countries in both areas of green investment. The use of RES in the total volume of electricity generating capacities in Russia is extremely small: their share is only 0.05%. Little funds are invested directly in the environmental wastewater treatment plants. The investment growth in the environmental sector of the economy is slow and insignificant - by only 50% over the 2000–2020 period (figure 2), while the national economic investments for the
same period increased by almost 3 times, all in all, in the entire economy. The pro-cyclical nature of

green investment is felt: the investment activity has declined sharply since the crises of 2009 and
2014. According to the Federal State Statistics Service, the share of the environmental investments in
all the national economic capital investments in 2000 was 1.9%, and it had almost halved to 0.9% by
2020.

The dynamic of investments determines the situation with the main environmental funds. It is

noteworthy that, in comparison with 2010, the volume of the fixed assets for the environmental

protection increased insignificantly – by only 20% in 2020, during the same period all the fixed assets

in the Russian Federation increased by 50%. The share of the fixed assets for the environmental

protection in the total value of the fixed assets of the National Economy has recently not exceeded 1%.

In order to change the situation in the Russian Federation, an institutional restructuring of the

conditions for interaction between society and nature is necessary. The existing administrative and

economic instruments for the formation and regulation of such behavior do not work.

![Figure 2. Dynamic of the investments’ total volume in the fixed assets aimed at the environmental protection and the rational use of natural resources in 2000–2020 (million rubles, in prices of 2020).](image)

The mechanism of payment for the negative impact on the environment does not fulfill the

necessary stimulating and compensatory functions, the maximum permissible concentrations and

content of substances polluting the water and atmospheric resources are regularly exceeded, and the

reforms in the field of waste management are "slowed down". It is necessary to improve both the

existing regulatory instruments for the environmental protection and introduce into practice new

mechanisms that work effectively in the developed countries such as emissions trading, banks and

exchanges of the rights to pollution and carbon tax.

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