The impact of international sanctions on the development of the concept of sustainable transport

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Abstract

The article deals with the impact of the current socio-economic situation caused by the introduction of international sanctions and the cessation of transnational cooperation in many areas, including transport and logistics ecosystems. At the same time, the task of ecologization of the transport industry and its sustainable development is urgent for each state. Within the framework of existing strategies for the development of national transport complexes, a set of measures aimed at implementing the concept of sustainable transport is being implemented.

Key words: digital transformation, sustainable development, transport, logistics, sustainable transport, ESG

1 Introduction

In 2022 and at the beginning of 2023, the main trends in the development of the transport and logistics industry, both at the global and national level, remain the processes of digitalization and greening of the industry. Despite the events of last year, when almost all the risks for the development of the international logistics ecosystem were realized, such as the rupture of logistics routes, rising insurance prices, international sanctions, including the departure of some foreign logistics companies from Russia, legal and financial instability, a high level of economic volatility, rising energy prices.

Rail transport is recognized as one of the most environmentally efficient modes of transport in the world. In Russia, environmental advantages of rail transport over other modes of transportation are primarily provided by extensive use of electric traction, which eliminates atmospheric air pollution of areas adjacent to railroads. JSCo "Russian Railways" transports more than 85% of cargo and 80% of passengers by electric traction. The low emission component of pollutant emissions from rail transport is directly related to energy efficiency. Specific consumption of fuel and energy resources by rail transport is much lower than by automobile and air transport. With the same consumption of energy resources, rail transport performs a significantly higher volume of transportation work. The energy...
The efficiency of rail transport is several times higher than that of road transportation in both freight and passenger transportation.

The global environmental agenda has been one of the leading trends in the development of all sectors of the economy since the beginning of the 21st century. The main document in the field of greening of the transport industry at the international level are the UN Sustainable Development Goals for 2016-2030, which provide for the formation of sustainable development policies in the field of transport infrastructure, establishing the need to reduce the negative impact of the industry on the environment [4]. The document includes 17 goals and the transformation of transport infrastructure, which is part of the objectives of Goal 9, is a prerequisite for achieving sustainable development.

One of the first international documents establishing the importance of the transport sphere for implementation of the concept of sustainable development was the final document of the UN in 1992 “Planet Earth”. The UN Framework Convention on Climate Change in 1994, the Paris Agreement to this Convention in 1996 became fundamental documents in the formation of the international legal framework for sustainable environmental development. Their provisions are aimed at creating cooperation between states and making commitments to reduce CO₂ emissions.

The UN Sustainable Development Goals for 2016-2030, adopted in 2016, provide for the formation of sustainable development policies in the field of transport, reinforcing the need to reduce the negative impact of the industry on the environment.

2 Materials and Methods

During the study, we used open-source materials, the official website of the United Nations, statistical data on the results of achieving the UN Sustainable Development Goals, the data of JSC “Russian Railways”. The authors used methods of analysis, synthesis, systematization and comparison [1,2,4-6]. The study of data on the impact of international sanctions on the implementation of the paradigm of sustainable transport opens up a new perspective for improving the development policy of both the transport and logistics industry as a whole, and the sphere of railway transport, taking into account the current geopolitical agenda.

3 Results and Discussion

At present, the activities implemented by Russian Railways are linked to the environmental agenda of international regional organizations such as the EAEC and the SCO. The main ways of developing green technology on the railroad are:

- electrification of railroads;
- transition to electric locomotive traction;
- migration to less harmful fossil fuels.

At the same time, when talking about the reduction of harmful effects on the environment, the problems of noise radiation background and electromagnetic radiation are often overlooked. However, exactly noise pollution at the present stage of science and technology development is the most harmful type of pollution. The main way to neutralize it on the railroad is to install noise shields, as well as to switch to gas-motor fuel.

The main obstacle to the development of green technology in transport is:

- insufficient infrastructure development;
- large length of railroads;
- insufficient level of electrification;
An important step toward achieving global environmental goals is the implementation of the sustainable development agenda, we note that in the WIPO Global Agenda 2030, the achievement of the sustainable development goals (SDGs) is a priority. In Belarus, the Strategic Development Plan until 2025, focused on the development of the EEC statistics for 2023. One of the most important tasks of the document was the harmonization and unification in the provision of EEC statistics for 2023. The program of harmonization and unification in the provision of EEC statistics for 2021 was the roadmap adopted in 2021 for the implementation of a unified approach to the reporting of ESG for the sustainable development of the companies, i.e., its hydrocarbon footprint, lack of sufficient renewable energy sources, and insufficient support for the development of significant practical guidelines. Considering the geopolitical environment, it seems promising to develop regional cooperation on sustainable development as part of modernization. For example, Kazakhstan has a Strategic Development Plan until 2025, focused on the development of interstate transport, given that the sanctions imposed against Russia in 2022 and the virtual cessation of international cooperation have changed the situation in the area. An important step toward achieving global environmental goals is the increasing attention to the reduction of emissions and the transition to alternative energy sources; the involvement of international organizations, allowing the transport and logistics industry to reduce its economic and environmental impact. Within the framework of the implementation of the task of greening the industry, we note that in the EEA for 2021 one of the largest tenders was the adoption of the roadmaps for the harmonization of railway and digital services, the integrated development of legislation in the transport and logistics industry, the integration of document accounting, and the development of regional cooperation on sustainable development. The sanctions imposed against Russia in 2022 and the virtual cessation of international cooperation have changed the situation in the area.

For example, the EEA has been harmonized since 2017. It was the result of the largest EEA tenders for 2021. One of the most important tasks of the document was the harmonization and unification in the provision of EEC statistics for 2023. One of the most important tasks of the document was the harmonization and unification in the provision of EEC statistics for 2023. The program of harmonization and unification in the provision of EEC statistics for 2021 was the roadmap adopted in 2021 for the implementation of a unified approach to the reporting of ESG for the sustainable development of the companies, i.e., its hydrocarbon footprint, lack of sufficient renewable energy sources, and insufficient support for the development of significant practical guidelines. Considering the geopolitical environment, it seems promising to develop regional cooperation on sustainable development as part of modernization. For example, Kazakhstan has a Strategic Development Plan until 2025, focused on the development of interstate transport, given that the sanctions imposed against Russia in 2022 and the virtual cessation of international cooperation have changed the situation in the area. An important step toward achieving global environmental goals is the increasing attention to the reduction of emissions and the transition to alternative energy sources; the involvement of international organizations, allowing the transport and logistics industry to reduce its economic and environmental impact. Within the framework of the implementation of the task of greening the industry, we note that in the EEA for 2021 one of the largest tenders was the adoption of the roadmaps for the harmonization of railway and digital services, the integrated development of legislation in the transport and logistics industry, the integration of document accounting, and the development of regional cooperation on sustainable development. The sanctions imposed against Russia in 2022 and the virtual cessation of international cooperation have changed the situation in the area.
Innovation Index in Russia ranked 47th, it seems that the development potential of the mentioned sphere has not yet reached its maximum indicators. However, taking into account external factors, it seems that it is within the regional context that the region's innovation potential can gain significant growth in the medium term.

Sustainable development is impossible without strong environmental support. Thus, the development of "green logistics," aimed at minimizing environmental damage during logistics operations, is becoming a trend in modern transport. Of course, the economic crisis has somewhat changed the measures to support the environment, but the "green" agenda is still an important component of sustainable transport business. And the current reorientation of trade and economic partnerships from the European to the Asian market only strengthens the focus on energy efficiency and reducing the carbon footprint when organizing the exchange of goods.

According to the results of NielsenIQ marketing research, more than half of consumers support environmental projects and initiatives, and almost 60% show high loyalty to brands with an environment "green" agenda in their strategy. In other words, the "greener" the processes organized in transport, the more efficiently supply chains can be built, despite rapidly changing geopolitical conditions.

One of the first in green logistics was the express delivery company DHL, which is implementing environmental initiatives to reduce its carbon footprint by transforming its logistics processes, both external and internal. Thanks to the introduction of innovative solutions, some 86% of electricity is already produced from renewable energy resources and DHL electric trucks have already driven more than 100 million kilometers on the "last mile" of shipments around the world.

The experience of the Baltic food distribution company Reaton is also interesting. In order to organize rational purchase of products from producers, subsequent distribution, and selection of optimal delivery schedule, Reaton fully automated the forecasting process using predictive analytics tools and methods. The accuracy of logistics forecasts was almost 85%, which made it possible to determine the rational volume of deliveries and deploy the optimal number of rolling stock. Thus, the company has demonstrated a whole pool of benefits, both environmental and pragmatic in the implementation of sustainable development [2].

Let us consider the experience of the Russian Federation in terms of the environmental agenda of sustainable transport. JSC "Russian Railways" is one of the first transport and logistics companies in Russia to pay attention to the decarbonization agenda. Beginning in 2007, JSC "Russian Railways" joined the UN Global Compact. Since 2020 the "Russian Railways" holding company has joined the declaration of the International Union of Railways on sustainable development, according to which the company commits itself to achieve "carbon neutrality" by 2050 and ensure the 100th decarbonization of its logistic chains. In this case, it should be noted that the values of "zero" emission of hydrocarbons in the largest transport companies of the world are different. So, the Austrian carrier "Österreichische Bundesbahnen," and also the Indian company "Indian Railways" declare achievement of own carbon neutrality not earlier than by 2030, the French carrier "SNCF" specifies 2035, and German "Deutsche Bahn" - 2050 [1,7].
According to the ESG-ranking values presented by RAEX-Europe for March 2022, Russian Railways is among the TOP-20 Russian companies in terms of sustainable development. In particular, the "Environmental Strategy of JSC "Russian Railways" for the period up to 2030", the company realizes the following goals:

- Preservation and restoration of natural systems,
- Ensuring the quality of the environment in the area of influence of infrastructure facilities,
- Balanced development of the company on the basis of the rational use of resources,
- Prevention and elimination of environmental damage.

Further development of the tracks of the global environmental agenda, as noted by experts, creates a whole pool of competitive advantages for transport companies in terms of increasing the profitability of core activities, as well as increasing income and credit ratings in general. The transparency of Russian Railway's non-financial reporting on sustainable development (e.g., on energy consumption outside organizations, negative environmental impact through supply chains, use of child labor, assessment of the impact of products and services on health and safety, etc.) is and will probably significantly determine the company's high business reputation and its strategic positions on the global market of transport and logistics services.

In the future, the company will implement "green" renovations and optimize the operation of infrastructure facilities. In an unstable economic situation, Russian Railways continues to support the introduction of high-tech solutions to manage the sustainable development of the railway transport. In particular, the company is developing such tracks as automatic train driving, developing and implementing alternative engines, reducing the carbon footprint of transport in Industry 4.0, and fully supporting innovations to create alternative energy sources for transport railway infrastructure facilities located in the Arctic zone of the Russian Federation.

Thus, the ESG-transformation of the Russian Railways holding company observed today defines an innovative paradigm of sustainable development management of the company along the tracks of environmental improvement, optimization of transport technologies, increasing the level of human capital development and optimization of the corporate business ecosystem.
4 Conclusion

Thus, the carbon footprint of today's world is under increasing scrutiny by regulators, investors and end users. Given the global metamorphosis of the climate, applying the concept of greening the transport industry to ensure its sustainable development is relevant for every state. The energy efficiency of supply chains, risk reduction in the organization of transportation and "green logistics" in the modern world, as shown by the study, is determined by the application of ESG-principles in the construction of alternative transport systems.

References


