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Green Logistic

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In the early 90s, the concept of "green" logistics appeared in the foreign scientific literature, which became one of the components of the concept of sustainable development. The term «green logistics» is also synonymous to "environmental logistics" or «ecologistics». Despite the fact that the concept itself appeared more than twenty-five years ago, there is no single definition of this concept. The term and various approaches to understanding the environmental component of logistics are common.

Particular attention in the practice of business structures is paid to correct behavior in relation to the environment, including logistics functions the implementation of which should be carried out with the use of resource-saving technologies and environmental assessment of the impact of resource processing on the environment. This is also due to the fact that logistics is responsible for the movement of material flows along the supply chain through the operations of transportation, warehousing, consolidation of goods and, thus, has close contacts with the environment

The main characteristic of our time is rapid development, but recently we have begun to realize the destructive power of our actions: the consumer attitude has led to a number of serious problems that must be solved at the international level. In this regard, ecology has become not just a buzzword, its influence extends to many areas of our life.

Since the transport industry has been recognized as one of the main sources of environmental problems, it has led to the emergence of the first legislative acts, which consider such aspects as emission of pollutants, noise control and efficient use of resources. Coverage of these issues showed, that the development of green logistics strategies provides an opportunity for the transport industry to become more environmentally friendly.

Green logistics is a supply chain management strategy that aims to reduce the negative impact on the environment. Considerable attention is paid to the processes such as eco-friendly packaging, transportation, and waste management. In a broader sense, the concept implies several aspects: production planning, management and distribution of material flows.

The main objectives of sustainable logistics include: measure the carbon footprint of logistics operations, this is due to the fact that transport industry provokes the emergence of the greenhouse effect; reduction of soil, air, water pollution; lowering the noise level, rational use of resources, etc.

The fight against the detrimental influence on the planet is progressing slowly, but the logistics is making progress. For example, European countries are encouraging transport companies to use electric vehicles instead of diesel.

Raben (Dutch logistics company group) shows a good example of the introduction of green technologies. The company has developed a calculator that can be used to calculate the amount of carbon dioxide emissions from their operations. In 2019, the company also tested liquefied natural gas (LPG) in tractor vehicles. These vehicles emit much less CO₂ and minimal particulate matter into the atmosphere.

Warehouse logistics is also involved in green technologies. In 2020, European developer Panattoni built a logistics distribution center for the German online store Real Digital. The warehouse is located in the Czech Republic, its

area is more than 27 thousand. The distribution center is considered the most environmentally friendly in the world. To build a new warehouse, the developers demolished an old building. More than 90% of the construction waste was recycled and used to build the distribution center.

The warehouse uses rainwater which is picked from the roof of the building for utility purposes. Due to this, the company was able to reduce its water use by 84%. Savings are also achieved through electricity - blinds are installed on the windows of the distribution center, which prevent the building from overheating, and the use of air conditioners is minimized. Smart LED light bulbs, energy optimization systems are installed throughout the distribution center. Thanks to these innovations, Real Digital has reduced its carbon footprint by 58%. Electricity costs decreased by 56%.

In our country, the ecologist has not yet found wide application either in the logistics sphere or in the production field. This is due to certain problems with the introduction of "green" technologies that manufacturers face: lack of interest from the manufacturer; lack of skills to use the principles of "green" logistics in the activity; lack of professionals in this field; uncertainty of the result; maintenance costs of environmental technologies and innovations.

Anyway, environmental logistics becomes more and more popular in the developed countries with new perspectives emerging regularly: construction of new logistics and multimodal centers to improve the efficiency of logistics enterprises and freight transport in the country as a whole; introduction of specialized technologies in warehousing for more efficient organization of space and, as a result, reduction of warehouse area and energy consumption; development of the transport system, transport interchanges, construction of new roads; reducing the share of road transportation, replacing it with sea and water transportation; informing consumers

about the environmental politics of the company by marking the packaging with special signs; development and promotion of waste recycling, reduction of tariffs for recycling (many entrepreneurs do not deliver waste to the recycling areas and leave it at the gates of recycling enterprises due to high rates of waste delivery).

The government needs to develop a number of measures to prompt companies to socially responsible activities through various benefits. That will definitely serve as motivation to switch to "green" supply chains, which will increase the supply of necessary equipment and personnel in the field of "green" logistics.

The world's leading companies consider the logistics concept based on "green" technologies to be the highest priority focusing on reducing the resources used, creating the most complete cycle of waste disposal and use, and reducing the anthropogenic burden on the environment. The transition of foreign companies to eco-friendly safe production improves significantly their reputation and social status.

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