

GREEN LOGISTICSKA-THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

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Abstract

The article is devoted to the issue of "green" logistics in the market of Uzbekistan. National enterprises are interested in "green" technologies in order to reduce costs, extract benefits and minimize the impact of logistics systems on the environment as a whole. The main focus is on technologies that are not mandatory for regulation, but benefit the environment and companies that are focused on doing business abroad, guided by the principles of "green" logistics.

Keywords: Green logistics, needs, environmental pollution, transport, emissionfriendly packaging, demand forecasting.

Green logistics is a program that is implemented in order not to harm the environment and living things. If you follow certain rules and regulations, you can save energy and emissions of harmful substances into the air. Green logistics allows each type of activity to provide the right amount of resources that are taken as raw materials. This leads to a sustainable economy. Green logistics is aimed at reducing the negative impact of transport on the environment. At the same time, its benefits and the need to use it for many companies are being promoted.

Today, increasing the carbon footprint is one of the most important environmental issues. In 2021, the amount of greenhouse gas emissions increased by 4.9% compared to 2020. They remain in the atmosphere for centuries, and their volumes have already led to the fact that the temperature on Earth has increased by 2°C. Therefore, logistics companies that control the supply and storage of tens of thousands of goods need to become as green as possible and find solutions that can reduce hazardous gas emissions.

The main idea of sustainable development is to meet current consumption needs in such a way that future generations will be able to meet their needs. The planet Earth can be considered a closed system. If something arrived in one place, it left in another. The only incoming flow from outside this system is solar energy. It is necessary to meet the needs by observing the basic principles of logistics for sustainable development:

efficient use of energy resources;

efficient use of raw and material resources;

minimization of losses of raw materials, materials, products and energy associated with the production, distribution and management of various flows after consumption of products;

efficient planning and creation of logistics system capacities; timely modernization of existing logistics system capacities;

minimization of environmental impact on the environment.

From the business point of view, green logistics methods mainly include: transportation system management (combined transportation, 3PL logistics), packaging process management (in order to

reduce the environmental impact of packaging materials), organization of "green" communications and production, warehouse management and waste management"

Transport is one of the main air pollutants, with mobile sources accounting for 96.9% of total emissions, while stationary sources accounted for 3.1%. Transport air pollution occurs as a result of burning fuel. The chemical composition of emissions depends on the type and quality of fuel, production technology, method of combustion in the engine and its technical condition. Internal combustion engine exhaust gases contain about 200 components. The period of their existence lasts from a few minutes to 4-5 years. Environmental pollution from stationary sources in transport occurs from industries that provide repair of vehicles, auxiliary industries, buildings and structures. Noise impact of transport. Noise refers to any unwanted sounds that interfere with work or recreation and create acoustic discomfort.

Factors affecting the level of transport impact on the environment. Transport is the main source of urban pollution and its impact is constantly increasing. The level of pollution is affected by a number of factors: the intensity of traffic flow; the speed of traffic flow; the composition of traffic flow; the type of engine; the type and quality of the road surface; planning decisions of territories; the presence of green spaces.

The requirements provide for limiting emissions of the main toxic components present in the exhaust gases of carburetor and diesel engines. Reducing the level of environmental danger from the impact of transport is possible through the implementation of a comprehensive city development program, including architectural and planning measures. These include: ensuring non-stop vehicle traffic through the construction of overpasses, interchanges at different levels, tunnels and pedestrian crossings; increasing the number of traffic lanes on highways, developing the street and road network, eliminating narrow entrances and exits from highways; regulating traffic flows using computer-controlled traffic lights, and introducing information technologies for road traffic management. use of the "green wave" principle to reduce rolling stock downtime; organization of one-way traffic in urban areas with a narrow roadway that have a well-established layout; allocation of territories in the central part of cities with a ban or restriction on the movement of heavy vehicles; construction of residential buildings at a distance from transport highways in compliance with sanitary protection measures. environmental regulations; construction of roads that bypass nature reserves and historical monuments; allocation of special lanes for urban transport and bicycle paths in order to encourage residents to abandon the use of personal cars; consideration in urban planning decisions of green spaces that help reduce air pollution.

Tools for regulating the impact of the logistics complex on the environment are divided into traditional and economic ones.

Traditional regulatory tools:

standards for the emission of pollutants into the atmosphere;

fuel standards;

the "top runner" method, which means setting the lower limit of efficiency at the level of the best result achieved by one of the organizations in the previous period.

introduction of restrictions on the access of various types of vehicles to certain territories;

low-emission zones;

speed limit for vehicles.

Economic instruments:

emission trading — trading of emission quotas between organizations that were able to reduce their environmental impact and organizations that failed to do so.

transport taxes;

carbon taxes;

road taxes.

Infrastructure tools:

construction of intercept parking lots;

creation of warehouse and terminal infrastructure on the outskirts of large cities so that heavy trucks do not enter the city territory;

construction of high-speed highways bypassing localities.

In general, the use of logistics approaches can reduce the impact on the environment, but there are also differences with environmental approaches. For example, paths should be as short as possible, but roads, overpasses, and pipelines may be laid in undesirable areas from the environmental point of view.

Here are some examples of how "green technologies" help save money and time:

use of recycled packaging and creation of voluntary associations of enterprises using this packaging;

thermal insulation of warehouses using solar panels; refusal of paper document management;

planning optimal routes and times for transportation and delivery;

consolidation of cargo flows by destination, партионностиbatch, and different carriers; use of multimodal transportation, which allows you to optimally combine the best properties of various modes of transport.

Optimization of transport logistics is possible by combining disparate processes for loading and delivering goods into a single system using logistics programs. Knowing in advance the number of products to be shipped and the points of contractors to visit, you can rationally plan the chain from delivery of goods in the warehouse to delivery to the recipient. The described solutions can be used in both b2b and b2c areas: for shipment from production to the distributor's warehouse, transportation of goods from the warehouse to retail stores, delivery of online orders to customers. Logistics programs accumulate data on the number of flights per day, the volume of products transported, and the end points of delivery, which can be used to plan the workload of cars and drivers. A significant part of the fuel is consumed not so much when driving along the route, but during waiting time in traffic jams and during loading and unloading. Fuel consumption at idle is approximately 1.5-3 liters per hour. Pre-created loading windows for each vehicle in the warehouse reduce the waiting time for drivers and idle traffic, thereby saving fuel and allowing you to send cars on flights more quickly. A more responsible approach to routing allows you to build a convenient delivery scheme, optimally loading cars and distributing the load between drivers. Convenient for the driver. Consecutive visits to counterparty points along a convenient route. Reduced downtime in traffic jams, reduced extra miles of mileage and fuel consumption. It is profitable for the logistician. Reduce the working time used for route planning. Timely delivery of goods in the city, monitoring the completion of tasks by drivers and reducing delivery costs. It is important for manufacturers to forecast deliveries in order to optimize the number of flights by point and avoid situations when they have to deliver goods or collect surpluses for several days in a row. The accumulated statistics in the programs allow you to analyze how many goods are purchased

by retail chains depending on the day of the week and seasonality, plan demand and bring as much to sell, rather than write off and take away what is not sold, thereby incurring additional costs.

What makes logistics "green"? 1. Eco-friendly packaging. Therefore, the packaging in which logistics companies deliver goods should not only be strong, but also "friendly" to nature. So, for example, all containers — cardboard boxes, film, containers-can be produced from recyclable materials or recyclable materials. 2. Demand forecasting. For retailers and distributors, inaccurate forecasts made manually often turn into situations of shortage and oversupply, when you have to deliver goods or pick up surplus items from the store — in both cases, you need to use additional time and money resources. In general, "green" logistics is any initiatives in the supply and storage of goods aimed at sustainable development. Its goal is to improve business processes and, most importantly, reduce the environmental footprint.

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