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ON THE ISSUE OF ENVIRONMENTAL ASSESSMENT OF ROAD TRANSPORT

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The priorities for air pollution control by road have recently changed in developed countries.

Previously, the main task was to suppress emissions of toxic substances to sources of origin (automobile engines). Now preference is given to other methods. These methods influence all stages of energy and mass changes. Changes in the mass of toxic substances occur first in the sources of their release, then they fly through the air, and change their mass and composition. This phenomenon is called dispersion (transformation).

The reason is the exhaustion of relatively simple and effective organizational and engineering solutions. For example, the use of neutralizers, high-quality motor fuel, improved mixing due to electronic fuel injection, etc.).

Three methods are used to estimate the amount of harmful emissions from road transport, usually.

One of them is based on the definition of combustion products, based on the amount of fuel that the car consumes. This method does not take into account the structure of the vehicle fleet, performance indicators and measures to reduce the toxicity of emitted substances.

This method is the basis for the calculation of emissions of harmful substances from road transport and is used by the Ministry of statistics of Ukraine today.

This method of calculating emissions of harmful substances from road transport is not accurate, although it provides an overall picture of the dynamics of emissions of harmful substances from road transport in weight units.

The basis for the calculation of harmful emissions is the mass of fuel consumed by cars, the value of which takes into account the impact of operational factors. Yes, operational factors affect fuel consumption, but in order to reduce fuel consumption it is necessary to know exactly what factors and how they affect the economic characteristics of the engine. There is also a difficulty in determining the total fuel consumption of vehicles.

Information on the import of fuel into the region and its sale through gas stations is not accurate. Even less accurate is the method of determining the weight

release of toxic substances based on the transport work expressed by the total volume of ton-kilometers.

The basis of the third method includes the specific emissions of toxic substances to the conditional kilometres in the European test cycle. Later, this technique was used by researchers to determine mileage emissions during tests on different driving cycles. Similar driving cycles are developed in most countries of Europe, Japan, the USA and in several cities of Ukraine, Russia, Armenia, Uzbekistan.

This technique is not enough to objectively assess the actual emission of harmful substances, because it does not take into account: the structure of traffic flows, modes of movement of cars, the degree of their loading, design features and technical condition of roads. Each of the techniques has its advantages and disadvantages. Taking into account the understanding of this issue, it is necessary to look for more accurate calculation methods.

Therefore, in order to influence the environmental situation in the region on the part of road transport, it is necessary to develop a mathematical apparatus describing the ecological essence of the state and changes in the environment under the influence of road transport and stationary enterprises that are a source of harmful emissions. The author of this publication works in this direction.

The transition to environmentally preferable transport technologies requires, first of all, a change in public stereotypes regarding the assessment of harmful emissions from road transport. The solution of these problems is carried out both at the level of individual States and within the framework of interstate agreements, in particular the program of European scientific and technical cooperation (COST).