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Transition to «green» economy in Russia: Current and long-term challenges

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Abstract

Nowadays, many believe that there is no way to ecological stability other than transition to «environmentally oriented economy». In urban areas, the main sources of pollutants are industrial enterprises and automobile transport. To reduce the adverse environmental impacts one needs special methods of air quality control. Specifically, research in this field is aimed at developing of control systems for the city transport in order to predict the environmental response to changing traffic parameters and take appropriate measures to improve the situation. In this work it is demonstrated how the method of transport system control, based on simulation modeling, has been implemented. The optimization experiment has been performed on a simulation model adjusting the parameters of parts of a city road network for adequate decision making. Model experimenting has made it possible to establish the optimal traffic density and average current rates, without exceeding the pollution quotas, and calculate the consequences of changing in the number of vehicle car fleet on city roads. The experiment was carried out in the city of Naberezhnye Chelny, Russia.

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Keywords

Air, Intensity, Maximum allowable concentration, Motorway, Road transport