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PROSPECTS FOR THE USAGE OF HYDROGEN CARS IN TRANSPORT LOGISTICS

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A promising direction in the decarbonization of transport may be the development of hydrogen-fueled cars. In particular, this is the same electric car, but the energy source for the electric motor is not a battery, but a hydrogen fuel cell, that converts hydrogen into electricity. That means, in both cases, electricity is involved, and carbon emissions are zero.

From the point of view of traditional operation, such as road freight transportation, a car is more familiar than an electric car: it is refueled not from an outlet, but almost in the same way as a gasoline or diesel analog – at a gas station.

However, a hydrogen car is very dependent on the ambient temperature: with a decrease of every 10 degrees, the speed of the chemical reaction drops by 2–4 times, which reduces the energy efficiency of the fuel. This option is not suitable for the Republic of Belarus yet, but engine heating technologies are nowadays still being developed. Despite the fact that hydrogen transport is promising, since it meets the demand for decarbonization, technological features do not allow the rapid development of this type of transport. The components of a hydrogen car are very expensive, and only large concerns can afford them, and this slows down both the development of technology and the demand on it.

In addition, now the fuel system of a hydrogen car takes up a lot of space. This leads to an increase in the volume of the vehicle, but at the same time the space for the driver is reduced. Therefore, the usage of hydrogen fuel in commercial or cargo transport will be the most optimal.

Thus, technologies will continue to improve, but so far, a hydrogen car is still not suitable for mass distribution.