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ROADS AS BATTERIES

Nowadays, people are increasingly taking care of the environment and developing technologies in such a way as to cause less harm to the environment. One of the eco-friendly inventions that have changed our world, our roads is electric cars.

The purpose of this paper is to analyze and explain the importance of creating a road infrastructure for charging electric cars in order to reduce carbon dioxide emissions and attract more electric vehicle users.

Electric vehicles have been gaining popularity in recent years, as people seek to reduce their carbon footprint and cut down on their reliance on fossil fuels. Due to the constant development of new technologies that make the production and operation of electric vehicles cheaper every year, as well as the constant increase in prices for organic fuels for conventional cars and the deterioration of the environmental situation caused by massive emissions of harmful substances from car engines electric cars are becoming more and more popular.

Our country is no exception. According to statistics from the Ministry of Natural Resources and Environmental Protection, 2112 passenger electric vehicles were registered in Belarus in 2021, 3420 cars in 2022 and 3635 in 2023.

Electric cars offer many advantages over gasoline cars or diesel cars. One of the main benefits of electric cars is that they produce zero emissions, meaning they do not contribute to air pollution or global warming. Another advantage of electric cars is that they are more efficient than gasoline-powered cars. Electric motors are more efficient at converting energy into motion. Electric cars are also quieter and smoother to drive than gasoline-powered cars. Finally, electric cars are becoming more affordable and accessible as battery technology improves and production scales up. Many governments offer incentives for buying electric cars, which can make them more affordable for consumers.

The advantages mentioned above are obvious, but there are still some challenges. One of the main challenges is the fear that the battery will run out of power before reaching the destination. Another one is the availability of charging infrastructure. While many cities and towns have public charging stations, they are not yet as ubiquitous as gas stations. Finally, electric cars are still more expensive than the gasoline cars.

The solution was offered to put into practice a highway that had the technology necessary for recharging the vehicles and later send drivers a bill. It was proposed by a Swedish company Elonroad. Therefore, Sweden was the first country to test the

innovation. The principle of work is easy: the electric power would be accessed from under the road safely, using a thin connector. The vehicle would detect when a section of the highway was set up for recharging and automatically connected without cutting speed.

This system would be an advantage, especially in terms of making electric cars more attractive to the public, because of creating many benefits for drivers. The main pros of using these roads are that drivers being able to charge their cars while driving, without having to stop the car to do so, which translates into a significant saving of time.

Many people may be concerned about the safety of such roads, but here is no type of risk of shock, since the electricity on the surface is only one volt, with which pedestrians can step on the ground with peace of mind. The concept is capable of scaling up for widespread adoption and could well lead to main highways across Europe being fitted with the technology.

There are many advantages to using such roads, but there are still some cons. Thus, manufacturers will need to meet the requirements by adding new features and functions to use these power source. But if they do show up it means that the batteries would be smaller, and it would lead to lighter and more environmentally friendly cars.

The main disadvantages of such roads include the fact that the car will not be able to fully charge or will take a long time to charge due to a small energy transfer.

Belarus is also interested in new technologies. Of course, it will be too expensive for our country to build such money-consuming long-distance roads, but building a segment of such a road, for example, near a traffic light could save electric cars in emergency situations and maintain their battery. I believe that the introduction of such a system would help our country in stimulating the use of electric cars in order to protect the environment.

It is very important to take care of the world around us, to think about our future. In conclusion, we can repeat the words of Abraham Lincoln who once said “You cannot escape the responsibility of tomorrow by evading it today”.

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