

**PROSPECTS OF DEVELOPMENT OF ELECTRIC CARS IN
LOGISTICS OF THE REPUBLIC OF BELARUS**

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The worsening global environmental crisis and the urgent need to mitigate the effects of climate change are forcing people to switch to environmentally friendly transportation solutions. Electric vehicles (EVs) representing a cornerstone of this transition are experiencing a surge in demand across various sectors including the crucial realm of logistics. The recent surge of interest in EVs in Belarus is due to several factors, including growing public awareness of environmental issues and the government's active pursuit of sustainable economic development. However, there are some challenges. One of the most serious obstacles is the limited number of charging stations, especially along major transportation routes and in strategically important logistics hubs, which significantly limits the practical application of EVs in long-distance freight transportation. While forecasts predict a significant increase in the number of charging stations by a factor of 3-5 over the next decade, this expansion needs to be accelerated and planned to match the expected growth in EV adoption. In addition, it is critical to establish a robust, interconnected national network of charging stations, possibly incorporating smart charging technologies to optimize grid load management and minimize environmental impacts[1].

There are other challenges as well. The problem of introducing electric vehicles (EVs) into Belarusian logistics requires a comprehensive solution. The key point is government funding and social programs to facilitate the mass transition of logistics companies to electric vehicles. It is important that these programs are developed taking into account the financial capabilities of different categories of companies. The issue of the energy balance of charging stations needs to be thoroughly worked out. The environmental benefits of electric cars

are completely negated if they are charged from coal-fired power plants. Therefore, in parallel with the introduction of electric cars, it is necessary to invest in the development of renewable energy sources (RES), such as solar and wind, and to create conditions for a gradual transition of the Belarusian energy system to 'green' generation. This is a strategically important aspect that will ensure that the transportation revolution is truly eco-efficient. The introduction of modern technologies also plays a huge role. Modern electric vehicles are equipped with sophisticated control and automation systems. Fleet management software can optimize routes, reduce energy consumption and increase overall productivity.

The integration of such systems can lead to significant cost reductions and increased productivity in logistics operations. The potential of autonomous driving deserves special attention. Autonomous electric vehicles can further improve the efficiency of logistics processes by reducing driver labor costs and minimizing human error risks. However, the deployment of autonomous technologies requires additional investments in the development of appropriate infrastructure and regulatory legislation [2].

Overall, the successful introduction of electric vehicles in Belarusian logistics requires a multifaceted approach. The key stages are: rapid and systematic expansion of charging infrastructure; development and implementation of effective government financing programs that take into account the specifics of different categories of logistics companies; investment in renewable energy sources to ensure 'green' charging of electric vehicles; integration of advanced technologies: autonomous driving and artificial intelligence; active interaction between the state, business and scientific organizations to solve emerging problems.

Only such an integrated approach guarantees a successful and sustainable transition of Belarusian logistics to environmentally friendly electric transportation.

References

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2. Reports on the electric vehicle market in Belarus. – URL: <https://thinktanks.pro/publication/2025/03/18/> (date of access: 31.03.2025).