УДК 629

PROSPECTS FOR THE COMPLETE REPLACEMENT OF GASOLINE-POWERED VEHICLES WITH ELECTROCARS

Tronin M.A., student
Aleinikau A.A, student
Scientific supervisor – Slesaryonok E.V. senior lecturer
English language department №1
Belarusian National University of Technology
Minsk, Republic of Belarus

Electric cars are turning into more mainstream nowadays, and you're likely not alone in wondering will electric cars be able to completely replace gas-powered vehicles. The technological advancements directed at reducing the downsides of electric vehicles are rapidly evolving. Such issues as high price not only for the vehicle itself but also for electricity to charge, limited electric vehicle driving range, prolongs charging time pose no risk to amateur drivers. To clear up the issues mentioned above, we are going to provide answers if will electric cars take over petrol and diesel vehicles.

Electric cars are better for the environment. One of the main advantages of electric vehicles might seem obvious, but it's far too important to overlook: the environmental benefits. Electric cars produce significantly fewer emissions than gas-powered cars – not just while in use, but also throughout the entire lifecycle of the vehicle. And as our electric grid becomes increasingly cleaner as more clean energy sources are added to the grid, the carbon footprint of electric cars will only continue to decline. This makes EVs a powerful tool in the fight against climate change, which is more important than ever. Plus, with no tailpipe emissions, electric cars can also help reduce air pollution, especially for the most vulnerable communities who are harmed by transportation emissions and air pollutants. Electric vehicles are becoming more and more affordable. Several analysts predict that the cost of manufacturing batteries will decrease, leading to a drop in electric vehicle prices.

"Lithium-ion batteries are essential for electric cars. These batteries contain Lithium, the lightest metal and the least dense solid element among other metals. A lithium battery gets charged faster, lasts longer than other batteries, and has a higher power density for a longer battery

life, which is why lithium batteries are considered the ideal power source for electric and hybrid electric vehicles" [1].

Countries are producing batteries in large numbers to cope with the cost and production of electric vehicles. That's why upfront cost getting more competitive with petrol and diesel cars. Also, EVs are cheaper and easier to maintain than gas-powered cars. It can be underlined that thy have very few parts, lack of internal combustion engine, no oil, minimum brake wear. It is worth mentioning that very little parts in electric vehicle require maintenance. Electric cars have lower repair and maintenance costs than their fuel-powered comparable competitors. In fact, Consumer Reports found that EV owners spend half as much money maintaining and repairing their vehicles as owners of gas-powered cars. Fewer maintenance costs and requirements can save EV drivers lots of time, money, and headaches. "With no gas to buy, or oil to change. To refuel, you can simply plug in at home or at work. As an added bonus to EV charging, the power going into your batteries is increasingly produced by renewable sources" [1].

Recently conducted surveys by different agencies of world-class can reveal findings that allow state that several already available EV features can undoubtedly improve safety. Of special importance is the data that EVs have a lower center of gravity that makes them less likely to roll over.

In conclusion it should be stated that nowadays EVs stands for a minute share of global fleet of vehicles. According to Bloomberg NEF, EV will occupy a lion's share among passenger and commercial light-duty trucks. We assume the more people will be ready to accept the idea of electric vehicle being their major transport, the more likely the petrol- and diesel-engined cars will be replaced by EV. Thus, consequently it might bring the world to a more sustainable and efficient driving.

References

1. Electrical Vehicle: Revolution in Transport Industry / Akash Bhagawan Pawar, Arati Ramesh Mane, Hitesh Shankar Patil, Sumpreet Singh, Takadir S. Pinjari. – Volume: 07 Issue: 06 | June 2020 // International Research Journal of Engineering and Technology (IRJET) – URL: https://www.irjet.net/archives/V7/i6/IRJET-V7I6525.pdf (date of access 15.03.2025).