

CHALLENGES OF A MARKET OF ELECTRIC CARS IN UKRAINE

Electric vehicles (EVs) have emerged as a pivotal component of the EU Green Deal, signalling a broader shift towards sustainability across the continent. Encouragingly, Ukrainian consumers are showing an ever-increasing interest in adopting electric cars. Bolstered by fiscal incentives, the electric vehicle market in Ukraine has experienced rapid growth over the past three years. However, this burgeoning industry faces a set of unique challenges and opportunities within the Ukrainian context.

As of September 1, 2021, Ukraine boasted a fleet of 30,062 electric cars, signifying a remarkable 20 % surge over the preceding six months. Beyond environmental considerations, the allure of tax benefits has undoubtedly propelled this trend, including exemptions from customs duties and VAT. Importantly, purchasers are subject to a nominal excise tax of just EUR 1 per 1KW*h of battery capacity. Moreover, companies exclusively dedicated to the production of electric engines, batteries, chargers, as well as electric and gas vehicles, are exempt from profits tax. A compelling economic case is also being made for EVs, with the cost of traveling 100 kilometres in an electric car amounting to approximately UAH 33, a considerable saving compared to conventional internal combustion engine (ICE) vehicles [1].

Despite this growth, electric cars remain a minority presence, especially when contrasted with the 14 million ICE cars currently on Ukrainian roads. It's worth noting that all electric cars in Ukraine are imported, with brands like Audi, BMW, Hyundai, JAC, Jaguar, Mercedes-Benz, Nissan, Porsche, and Renault leading the charge. Notably, Tesla has yet to establish an official presence in Ukraine due to the absence of a dedicated sales outlet. Over time, Ukrainian drivers have exhibited a growing preference for cars with higher battery capacities. For instance, the market share of Nissan Leaf has dwindled from 85% to 60% in the last three years [5].

Electric car ownership in Ukraine faces challenges such as limited mileage per charge and long charging durations, highlighting the need for a more robust charging infrastructure. While major cities have a decent network of charging stations, rural areas struggle with limited options. Despite progress, with 11,500 charging points as of August 2021, including

high-power chargers, there is still a need for more fast and super-fast charging stations along key highways for long-distance travel.

The growth of Ukraine's charging infrastructure is characterized by sporadic development and a lack of standardization, with stations often installed by individuals and varying in quality and protocols. Charging stations are found in unconventional locations like restaurants, hotels, and supermarkets, leading to a diverse landscape of installations.

Additionally, electric car maintenance can be costly, with insurance premiums and repair costs higher than for traditional vehicles. Expensive batteries and wiring systems contribute to these costs, and the complexity of battery disassembly poses recycling challenges, with only a small percentage currently being recycled globally.

Manufacturers like Nissan and Volkswagen are addressing battery sustainability by repurposing old batteries for other uses and investing in recycling plants. In Ukraine, the rising proportion of new car purchases includes a significant number of used electric vehicles, raising concerns about battery recycling. Globally, by 2030, an estimated 12 million tons of lithium-ion batteries will need disposal, prompting the European Union to propose stricter regulations for battery recycling. However, compliance costs may lead some sellers to operate outside the EU, contributing to battery waste in countries with lax regulations.

In light of these challenges, the Ukrainian government finds itself at a crossroads, needing to both encourage the transition to environmentally friendly electric vehicles and formulate plans for the proper disposal of retired lithium-ion batteries. Furthermore, aligning regulatory frameworks with EU standards is not only beneficial for Ukraine but also facilitates international cooperation in addressing these emerging concerns.

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