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# Electromobility In Poland in Terms of The Possibility of Managing the Energy Infrastructure Securing the Replenishment of Electricity in Vehicles*

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## Abstract

Electromobility is becoming a technology of the future and an attempt to meet the greatest communication problems of modern societies in terms of reducing noise, smog and the growing amount of greenhouse gases in the atmosphere. It is an alternative to other ecological power sources for motor vehicles and a necessity aimed at eliminating traditional combustion engines. Polish plans to dynamically implement a significant number of electric vehicles for general use are in line with global trends. The relationship between the number of vehicles and the capabilities of the infrastructure securing the charging of batteries of these vehicles becomes the basic determinant of the usefulness of this type of transport solutions. The core of the problem is illustrated by the presentation of potential needs in terms of accessibility, spatial distribution and a simulated number of charging points for electric cars in Poland. It is extremely important due to the existing limitations resulting from the technical parameters of charging devices, the time needed to replenish energy and vehicle congestion in urban agglomerations. The article consists of 5 parts. The main research problem is: How will the development of electromobility in Poland affect the management of the country's energy infrastructure? Individual detailed problems concern the following issues: What is electromobility in Poland characterized by? What are the problems with recharging energy in electric vehicles? What conditions must be met for electric vehicles to be an important element of electricity storage? The result of the analysis, which was developed on the basis of statistical data research, applicable legal regulations, literature on the subject and the simulation carried out, allows to propose an algorithm for the management of infrastructure for charging electric vehicles, which will be a recommendation for business entities dealing with logistic security in the field of energy replenishment in batteries electric cars. The result of the article is the presentation of conclusions regarding the possibilities of the existing energy logistics infrastructure for charging electric vehicle batteries and the needs in this area resulting from the dynamic development of electromobility in Poland.

**Keywords:** Electromobility, Energy Logistics Infrastructure, Energy Infrastructure Management, Electric Vehicle

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