# SUSTAINABLE DEVELOPMENT OF LAW AND MANAGEMENT IN THE CURRENT WORLD

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Scientific monograph

Vilnius, 2021

Dalia Perkumienė, Olegas Beriozovas (Editors)

**Authors:** Csongor Herke, Özgür Oğuz, Katarzyna Marcinkiewicz-Marszałek, Antonio Silva, Anıl Berk, Gümüş Emre Çiloğlu, Nisa Nur Altun, Büşra Çoban, Erika Farkas-Csamangó, Ferdi Yıldırım, Bohdan Diachenko, Anil Berk Gümüş, Büşra Çoban, Aistė Lukšaitė, Giedrius Nemeikšis, Oleksandr Matvieiev, Oleksandra Puzanova, Stanislav Kunts, Raimundas Kalesnykas, Andrzej Gołębiowski, Aneta Montano, Violeta Naujokienė, Manuel de Peralta Carrasco, Herke Csongor, Sigita Šimbelytė, Dovilė Bukauskaitė, Viktorija Tverijonienė, Laura Seržintienė, Angel Acedo Penco, Cristina Cintora Egea, Leonardo B. Pérez Gallardo, Anabel Puentes Gómez, Kristina Ratautaitė, Vaiva Žimontienė, Monika Razutytė, Regina Andriukaitienė, Nijolė Petkevičiūtė, Daiva Buksnienė, Rasa Pranskunienė, Biruta Švagždienė, Monika Česaitė, Bidemi Yemi Bakare, Airida Gotovtė, Tomas Butvilas, Deimantė Žilinskienė, Konstantinos Kalligiannis, Sergejus Neifachas, Aidas Vasilis Vasiliauskas, Olga Navickienė

Publishers
KSU-Kazimieras Simonavičius university
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Editing and proofreading: Authors
Press Kazimieras Simonavičius University publishing office
Copies 150

The monograph was considered at the meeting of the Council of the Institute of Law and Technology of Kazimieras Simonavičius University in 2021. September 16 (Protocol No. TTI-11) and recommended for printing.

ISBN 978-609-8308-03-7

# CONTENT

# ENVIRONMENTALLY FRIENDLY CAR IN HUNGARIAN LEGISLATION

Erika Farkas-Csamangó
*University of Szeged, Hungary*

**Annotation**

The EU considers it a strategic goal to propagate electric transport. This goal ties into (among others) the Europe 2020 Strategy, the Clean Transport Systems Initiative, and the Horizon 2020. In Hungary, the propagation of electric cars was accelerated by the adoption of the Jedlik Ányos Plan (Henceforth: Plan) in 2015.Electric vehicles reduce the sound pollution of traffic, they are significantly quieter than traditional motor vehicles.

**Key words:** environmentally friendly car, range extender, fast-charging, electric, charging station

## Introduction

Thanks to the EU's transport policy, recent decades saw the pollution caused by transport decline, while environmentally friendly transport technologies advanced. Reforms in this sector include methods which go beyond the usage of fossil fuels. The United Nations Climate Change World Report 2018, following the Paris climate summit in 2015, points the way to keeping warming below 1.5 ° C. This includes using alternative energy sources and switching to electric transport.

Today, we can find hybrid cars in every manufacturer's catalogue, but electromobility is not just simply about electric motor vehicles (Kovács, 2018). Its purpose is to reduce pollution at the place of operation during the full lifecycle of the vehicle.

The beginning of electromobility lies in the appearance of the world's first electric automobile, built by the Hungarian engineer Jedlik Ányos in 1828 (Wakefield, 1994). The electric motor vehicle was not invented by a single person but came into being through a series of revolutionary developments (Hawken, 2019).

One of their most important advantages is reducing CO2 emissions. Their environmental effect manifest globally (indirectly) and locally (direct-

ly). Their direct emissions consist of tailpipe emission, while their indirect emissions, well-to-wheel, are produced throughout their life cycle, from their manufacturing (and the manufacturing of their components) all the way to them becoming scrap. The electric car does not pollute its direct environment, and if electric power is generated through an environmentally friendly method (which can be covered through renewable energy), it does not pollute elsewhere as well.

These vehicles have the important advantage that they balance the strain on electric power system. When charging electric motor vehicles, energy is stored in the battery besides the energy gained from the electric power system.

**Legal Background**

The EU considers it a strategic goal to propagate electric transport. This goal ties into (among others) the Europe 2020 Strategy (Europe 2020 A strategy for smart..., 2020), the Clean Transport Systems Initiative, and the Horizon 2020 (Within Horizon 2020..., 2020). Car manufacturers are forced by ever more strict environmental rules and standards to develop hybrid, plug-in hybrid, and purely electric cars (Kovács, 2018). The EU's regulation regarding the reduction of CO2 emissions incentivizes manufacturers to market low-emission motor vehicles (According to the transport white paper, 1990). And in order to incentivize the propagation of alternative fuels (Parliament adopted Act CXVII of 2010), the European Parliament and Council adopted the 2014/94/EU Directive (Directive 2014/94/EU of the European Parliament) (AFI Directive). Based on this, the member states are obligated to create national rules based on which a European infrastructure could be built for alternative fuels (electric power, biofuels, CNG, LNG, LPG and hydrogen). It established uniform requirements on the EU level too for electric motor vehicle charging stations, technical specifications, and consumer information. Member states are obligated to ensure that public charging stations provide adequate coverage for the use of electric motor vehicles at least in the urban/suburban agglomerations and other densely populated areas.

From the perspective of e-mobility, electric power is the cleanest of alternative fuels (In November 2016, the European Commission proposed..., 2020). When it comes to Hungarian regulations, the 17/2017. (V.26) NFM

(Nemzeti Fejlesztési Minisztérium – National Development Ministry) statute on the quality requirements of engine fuel, which expanded the category of allowed fuels (gasoline, diesel, biodiesel, E85, CNG, liquid hydrocarbon gas) with electric power used in transport.

The first step of Hungarian legislature was the 6/1990. (IV. 12.) KÖHÉM (Közlekedési, Hírközlési és Építésügyi Minisztérium – Transportation, Communication and Construction Ministry) statute, (Section (6)-(7) of paragraph 2 of the 6/1990) which created the definition of environmentally friendly motor vehicle. This included the electric motor vehicle (Electric vehicle: (a) a purely electric vehicle..., 2021) and the zero-emission motor vehicle (A zero-emission car is one which, 2021).

The Hungarian legislature partially addressed its obligations under the AFI by introducing electromobility-related amendments to the 2007. LXXXVI. law on electric power (VET). The Ministry of National Development adopted The National Policy Framework Program set up by the Deployment of Alternative Fuels Infrastructure Directive in the fall of 2016, in which the development of electric vehicles and charging infrastructure by 2030 has set out.

It contains that the charging of electric motor vehicles requires licensing, which can be acquired through the licence produced by the MEKH (Magyar Energetikai és Közmű-szabályozási Hivatal – Hungarian Energy- and Utility-regulating Bureau), except if the charging is accomplished through the personal measured user equipment of the residential or non-residential consumer (and this cannot be for the purposes of generating revenue).

In Hungary, the propagation of electric cars was accelerated by the adoption of the Jedlik Ányos Plan (Henceforth: Plan) in 2015 (The primary legislative tasks are set out by the 1487/2015). As part of the Plan, public administration proceedings related to the establishment of a fundamental charging infrastructure were deemed high priority proceedings by the 369/2015. (XII. 2.) Government statute. In a similar fashion, the 10/2016. (II. 9.) Government statute – modifying the 253/1997. (XII. 20.) Government statute (OTÉK) on national urban design and construction requirements – ensured that the propagation of electromobility is considered in residential environments.

The 170/2017 (VI. 29.) Government statute on certain questions of electric motor vehicle charging services created the foundations for the regulation of the charging market. The statues reinforced and expanded the fundamental definitions, and established the basic requirements related to

electric motor vehicle charging service and its pricing. It also made it clear that charging is not energy-trading but a service and defined the concept of electromobility service. A new pack of legislation was promulgated on 09.07.2019 (No. 120 of the Magyar Közlöny (Hungarian Official Journal) 2019) that (among other things) expanded the 1998. I. law on public traffic, (Points (f) and (g) of Section (1) of paragraph 2..., 2019) providing electromobility with a framework in the process.

According to point g) of the second section of paragraph 60. in the 326/2011. (XII. 28.) Government statute (on the administrative tasks related to public road traffic, the issuing of documents related to public road traffic and their revocation), it is possible to request special light green numberplates (According to 326/2011 (XII. 28, 2021) for environmentally friendly vehicles (Environmentally friendly vehicles as defined in Chapter I..., 2021). This can be accompanied by special advantages and rights (Such discounts include free parking, tax..., 2020). According to 326/2011 (XII. 28.) Government statute on the issuance and withdrawal of road transport documents, the color of the license plate issued to the environmentally friendly car is light green, its characters and the color of the frame are black, consisting of three letters and three numbers. In the case of a uniquely authorized registration plate, it shall consist of at least four, and at most five, continuous letters, and at least one, and at most two, continuous numbers, and together, it shall consist of six characters.

The acceptance and propagation of electromobility is limited by the acquisition costs, the effective range, the established charging infrastructure, environmental protection, security, and reliability (These factors are also confirmed by a survey conducted..., 2013). On one hand, the propagation of electric cars is slowed by the issue of effective range.

On the other hand, that these vehicles are more expensive to purchase compared to traditional combustible engine-based vehicles. The prices of plug-in hybrids and purely electric motor vehicles are increased by the in-built batteries. Subsidies could assist with purchases. A supportive system for purchasing electric cars is thus a highlightable element of governmental priorities.

Furthermore, propagation is slowed by the situation of the charging infrastructure. The charging network is ever-expanding, public chargers, fast-charging stations and commercial chargers are getting more innova-

tive and advanced (Zsebik, 2018). The spread of home-charging will also be important.

A further critical element of electromobility's propagation is a security question related to the treatment of used up batteries. These are considered hazardous waste, and as such, manufacturers are working on solutions for repurposing and reuse.

The establishment of charging stations, supporting the purchase of electric cars through various systems and the support of technologies related to charging stations (from an industrial development perspective) are all important parts of the government's tasks in this regard. Many areas of the electromobility sector (which has shown extensive development and innovation in the past years) could be regulated not just on the governmental side, but also on the market side. Hungary also provides support for purchasing electric vehicles and developing the charging infrastructure.

The propagation of solutions integrating smart cities and smart energy is desirable for Hungary as well, and these solutions will also provide charging services. Smart measuring will be indispensable for supporting electric transport on the long term.

**Conclusions**

In conclusion, legislation related to e-mobility in Hungary started with the amendments to the VET and the VET Vhr., which established the basic framework for the establishment of electric charging stations. This process is still at its beginning, and thus it would be worthwhile to wait for further detailed rules related to e-mobility investments. An electromobility law has been planned for years, but the Hungarian Parliament has not yet received a concrete proposal in this regard. Certain public duties connected to the propagation of electromobility in Hungary are handled by the so-called e-Mobi Elektromobilitás Nonprofit LLC. Electromobility is a rapidly evolving area, and has become the symbol of environmental consciousness, climate protection and sustainable development. It can also assist with fulfilling the 2030 EU objectives regarding climate and energy.

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Hawken, Paul (ed.): Visszafordítható. HVG Könyvek, Budapest, 2019. 158. and Kampker, Achim: Elektromobilproduktion. Springer – Verlag Berlin Heidelberg, 2014.

Europe 2020 A strategy for smart, sustainable and inclusive growth, 2010, Brussels.

Within Horizon 2020, it provides funding specifically for electric vehicle developments.

Kovács, Péter: Az elektromobilitás kihívásai. *Elektronet.* 2018. Vol. 27. Issue 6, p. 3.

According to the transport white paper, the transport sector as a whole should reduce its CO2 emissions by 60% by 2050 compared to 1990 levels. In line with the „European strategy for low-emission mobility", the European Commission presented three sets of proposals to Member States under the title „Europe on the move". EU legislation has set the framework for the electromobility market by reducing CO2 emissions from new cars by 35 % by 2030 and from light commercial vehicles by 20 % by 2021. (European strategy for low-emission mobility) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Brussels, 20.7.2016 COM(2016) 501 final {SWD(2016) 244 final} https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016DC0501&from=HU (2020.01.17.) Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 set out emission performance standards for new passenger cars.

Parliament adopted Act CXVII of 2010 on the Promotion of the Use of Renewable Energy for Transport and the Reduction of Greenhouse Gas Emissions from Transport. This law defined the concept of alternative fuels, which could be at least partially substituting oil sources for transport energy: electricity, hydrogen, biofuels, synthetic fuels, Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG); and Liquid Petroleum Gas (LPG).

Directive 2014/94/EU of the European Parliament and of the Council on the deployment of alternative fuels infrastructure. OJ L 307., 2014.10.28. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0094 (2020.01.05.)

In November 2016, the European Commission proposed a „Clean Energy for all Europeans" package (IV or Winter Energy Package) to reform the energy market. The share of renewables in electricity generation is already over 10% at EU level (up to 50% by 2050). https://www.kormany.hu/download/f/a9/a1000/Hazai%20elektromobilit%C3%A1si%20strat%C3%A9gia.pdf 45. p. (2020. 01.18.)

Section (6)-(7) of paragraph 2 of the 6/1990. (IV. 12.) KÖHÉM statute on the technical conditions of registration and entry into service of road vehicles

Electric vehicle: (a) a purely electric vehicle, the power train of which comprises at least one electrical energy storage device, an electrical power conversion unit and an electrical machine which converts stored electrical energy to propel the vehicle into mechanical energy and has no other means of propelling the vehicle (i.e. BEV); (b) a plug-in hybrid electric vehicle, which is equipped with a connector and a converter, as factory design, to charge its electrical energy storage device from an external source of electrical power, with an electric range of at least 25 km (PHEV); (c) hybrid electric

vehicles with extended range, which comply with point (b) and have a pure electric drive range of at least 50 km (ie EREV).

A zero-emission car is one which, when used normally, does not emit air pollutants covered by the statute.

The primary legislative tasks are set out by the 1487/2015. (VII. 21.) Government statute by the adoption of the Jedlik Ányos Action Plan.

No. 120 of the Magyar Közlöny (Hungarian Official Journal) 2019. Act LXVII of 2019 on the Promotion of Long-Term Shareholder Participation and the Amendment of Certain Acts for Legal Harmonization. Effective October 1, 2019.

Points (f) and (g) of Section (1) of paragraph 2 have been added to the Act. Paragraph 32-34 of the Act LXVII of 2019

According to 326/2011 (XII. 28.) Government statute on the issuance and withdrawal of road transport documents, the color of the license plate issued to the environmentally friendly car is light green, its characters and the color of the frame are black, consisting of three letters and three numbers. In the case of a uniquely authorized registration plate, it shall consist of at least four, and at most five, continuous letters, and at least one, and at most two, continuous numbers, and together, it shall consist of six characters.

Environmentally friendly vehicles as defined in Chapter I, point 6 of paragraph 2 of the 6/1990. (IV.12.) KÖHÉM statute.

Such discounts include free parking, tax breaks, etc. See more financial incentives and benefits with regard to some countries: Polgári, Beáta – Farkas, Csaba: *Villamos autók rendszerszintű szabályozási szerepkörei*. https://www.mvmpartner.hu/huHU/Szolgaltatasok/Villamosenergia/Erdekessegek/Villamosautokrendszerszintuszabalyozasiszerepkorei (2020.01.28.) 1/1975. (II. 5.) KPM-BM joint decree prohibits the use of the bus lane by green license plates.

These factors are also confirmed by a survey conducted by Automotive World in 2013. (Automotive World: Technology Roadmap - Battery Electric Vehicles, 2013), which interviewed global automotive players. Among other things, they were asked what they thought was the only factor that would improve the sales of electric vehicles the most. Almost half of the respondents mentioned the lower price in their response.

Zsebik, A. – Novák, D.: Alternatív hajtású járművek – melyiket válasszam? *Energiagazdálkodás*. Vol. 59. 2018. Issue 3-4. pp. 48-55.