FINANCIAL AND LEGAL IMPLICATIONS OF THE DEVELOPMENT OF ELECTROMOBILITY FOR THE NATIONAL STATE BUDGET

MARIE KARFÍKOVÁ*, TOMÁŠ ŠIPOŠ**

Abstract: This article focuses on the analysis of the impacts of the development of electromobility on national state budget revenues. In the first part, it provides a brief overview of alternative fuels and the current stage of electromobility development. The next part elaborates the legal framework of electricity taxation from the perspective of European legislation and national legislation of the Slovak Republic. In order to provide a comprehensive view of the impact of the development of electromobility on the state budget, part of this thesis is also devoted to a comparison of the Slovak national legislation and the Czech national legislation on the taxation of electricity consumption. The final part will assess the identified financial and legal impacts of the development of electromobility on public finances and makes a proposal of *de lege ferenda*.

Keywords: financial law; state budget; tax; electricity duty; elektromobility

DOI: 10.14712/23366478.2025.7

1. INTRODUCTION

The dependence of developed countries on a regular and continuous supply of oil and petroleum products has historically been a prerequisite for the continued functioning and development of society. However, events such as the Suez Crisis of 1956[1]

* Prof. JUDr. Marie Karfíková, CSc., worked for one year after graduating from the Faculty of Law of Charles University at the Ministry of Finance and was employed at the Faculty of Law of Charles University from 1 September 1975 to 30 October 2023. Since 2007, she has been a professor of financial law and financial science. Until February 2022 she was the Head of the Department of Financial Law and Financial Science. Since 2024, she has been Professor Emeritus at Charles University. In addition to her regular publishing activities, she regularly participates in domestic and international scientific conferences.

** JUDr. Ing. Tomáš Šipoš, PhD. et Ph.D., has been working in the energy sector since 2007, he is professionally engaged in regulatory management and legal framework of the energy sector with a focus on the electricity sector, he also works as an assistant professor at the Department of Administrative Law and Environmental Law at Comenius University in Bratislava.

1 In 1954, Egypt nationalised the Suez Canal (which until then had been largely in the hands of French and British investors – The Suez Canal Company), which was perceived as a threat to strategic oil supplies. The subsequent escalation of the historically bad relations between Egypt and Israel eventually reached the point of military intervention, which, in the end, was stopped, also under pressure from the international community, the Soviet Union, and the US.

and the oil crisis of 1973 to 1974[2] highlighted the many pitfalls of dependence on fossil fuel supplies, while confirming the marked impact of this dependence on society as a whole, from economic, geopolitical, and security perspectives. Lessons learnt from the oil crises and the recognition of the intensity of the impact of dependence on fossil fuels has, among other things, prompted the establishment of cooperation between European countries in the field of energy. Strengthening this cooperation has become an important element of cooperation between the countries of the European Union (the EU). The EU Member States are currently developing joint action in a number of areas, such as respect for human rights, environmental protection, a single internal market without borders and so on. The energy sector and efforts to reduce dependence on fossil fuels continue to be among the priority areas of interest for cooperation between the member states. Current trends in energy at the EU level include, in particular, the promotion of sustainability, the promotion of the use of renewable energy sources, the use of alternative fuels,[3] the reduction of greenhouse gas emissions in transport, the promotion of electromobility, and the building of the infrastructure needed for the use of alternative fuels (especially electricity).

The transformation of the energy sector linked to the reduction of a dependence on fossil fuels also has implications in terms of financial and legal relations. The revenue from the excise duty on mineral oils[4] represents a significant revenue item for the national state budget. It can therefore be assumed that the growth in electricity consumption in transport, at the expense of fossil fuels, will have an impact on the state budget revenue from mineral oils. At the same time, in the case of electricity consumption, as opposed to fossil fuels, the possibility of "refuelling" electric vehicles will also be extended directly to households, whose electricity consumption is exempt from electricity duty[5] in most countries, and this will further reduce the state budget excise revenue.

With the emerging trend in the development of electromobility, including in freight transport, the question of the financial impact of the development of electromobility on the national state budget is becoming more and more relevant. In this paper, the authors will focus on this very specific area of the impact of the development of electromobility, namely the financial-legal impacts of the development of electromobility on the state budget, which they examine primarily through the revenues from electricity duty. Their intention is to examine the relevant area of the financial law standards that govern the taxation of electricity consumption for the purpose of charging electric vehicles. The authors use the basic methods of scientific inquiry, namely analysis, deduction, induction, comparison, and synthesis, in their scientific research. The subject of their research will be the legally binding EU standards and national regulations of the Czech Republic and Slovakia.

[2] During this period, oil became an instrument of political pressure by the Arab oil-exporting countries, which boycotted oil production and exports in order to achieve their interests (the withdrawal of the Israeli army from the occupied Arab territories). The Arab States have reduced oil production and at the same time increased the price of oil. At the end of 1973, the price of a barrel of oil (159 litres – 70%) was increased in October, and in December the Arab States (with the exception of Iraq) proceeded to increase prices again, this time by more than double. This oil shock has had its consequences, which have given further impetus to the search for alternatives and the search for ways to gradually wean ourselves off dependence on oil and its products.

[3] Alternative fuels include electricity, hydrogen, synthetic, and paraffinic fuels, CNG, LNG, LPG, and biofuel.

[4] Excise duties on mineral oils include excise duties on petrol, diesel, LPG, and other oils. (author's note).

[5] Electricity duty is also applied to households, for example in Germany (author's note).

2. THE IMPACT OF ELECTROMOBILITY ON THE ENERGY SECTOR

The use of alternative fuels in Europe in passenger, freight, and mass transport (air or sea) would not be feasible without some coordination, regulatory cooperation, and financial support. At the EU level, this mainly involves harmonising legislation, adopting the necessary measures and regulatory acts, and providing subsidies or specifically targeted incentives. The basic framework for the deployment of alternative fuels infrastructure was already put in place in the EU in 2014.[6] Since then, renewable fuel targets[7] have been progressively shaped, CO_2 emission standards[8] have been set, and in 2023 the regulation related to the deployment of alternative fuels infrastructure [9] was updated.

At the level of individual member states, these common objectives for the development of electromobility are implemented, for example, by introducing various direct or indirect advantages for users of alternatively powered vehicles, or, on the contrary, by progressively disadvantaging and restricting users of conventionally powered vehicles. Directly, users can be favoured, for example, through relief from motorway tolls,[10] cheaper parking in cities,[11] various forms of fee or even tax reductions, discounts or bonuses related to both the purchase of an electric vehicle or its operation. An example of indirect support for the development of electromobility could be the introduction of low-emission urban zones,[12] which are primarily aimed at reducing emissions but secondarily favour the users of electric vehicles.[13]

---

6 Directive 2014/94/EU of the European Parliament and of the Council on the deployment of alternative fuels infrastructure.

7 For example, the Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

8 For example, in Regulation (EU) 2019/631 (6) and (EU) 2019/1242 of the European Parliament and of the Council.

9 Regulation (EU) 2023/1804 of the European Parliament and of the Council of 13 September 2023 on the deployment of alternative fuels infrastructure and repealing Directive 2014/94/EU.

10 In the Czech Republic, motorways for electric vehicles (after registering the vehicle via the website) are free of charge (pursuant to Section 20a(1)(o) of Act No. 13/1997 Sb., on Roads, as amended).

11 Slovak cities such as Bratislava, Trnava, Trenčín, or Prešov allow their residents a discount for electric cars when buying a parking card (for more information see: VERMEIREN, M. Výhody pre elektromobil na slovensku: 5 miest kde zaparkuješ lacnejšie [Benefits for an electric car in Slovakia: 5 places where you can park cheaper]. In: *huntinspeed* [online]. 12. 1. 2024 [cit. 2024-08-20]. Available at: https://huntinspeed.sk/2024/01/12/vyhody-pre-elektromobil-na-slovensku-5-miest-kde-zaparkujes-lacnejsie/).

12 Low emission zones are urban areas/parts where only vehicles that meet certain emission standards are allowed to enter, so these are mainly electric, hybrid, or low emission vehicles. They were first introduced in Sweden, then in Germany, Austria, France (for more information see: Ekologické zóny v Paríži [Ecological zones in Paris]. In: *EKOLGICKAZNAMKA.SK* [online]. [cit. 2024-08-20]. Available at: https://www.ekologickaznamka.sk/ekologicke-zony-v-parizi/); or Italy (for more information see: REGELY, R. Nízkoemisné zóny v európskych mestách – prehľad [Low Emission Zones in European cities – an overview]. In: *peniaze.sk* [online]. 29. 10. 2019 [cit. 2024-08-20]. Available at: https://www.peniaze.sk/ekonomika/5712-nizkoemisne-zony-v-europskych-mestach-prehlad).

13 Slovakia has not introduced a low-carbon zone yet, the Czech Republic has the possibility of introducing such a zone in legislation (Act No. 201/2012 Sb., on air protection), but this option has not yet been used. See e.g., FILER, V. Nízkoemisní zóny v Evropě a v ČR: ucelený přehled [Low Emission Zones in European cities: An overview]. In: *Městem na kole* [A city on a bike] [online]. 15. 6. 2019 [cit. 2024-8-17]. Available at: https://mestemnakole.cz/2023/07/nizkoemisni-zony-v-evrope-a-v-cr-uceleny-prehled/.

For the sake of completeness, it should be mentioned in the context of the promotion of alternative fuels that, in addition to electricity, there is also an intensive debate on hydrogen as an alternative fuel. In this area, basic acts and strategies have been adopted which set out a vision for the creation of the European hydrogen ecosystem, from research and innovation to production and infrastructure and the development of international standards and markets. Hydrogen is also mentioned in the "Fit for 55" package and is also a key pillar of REPowerEU Plan to eliminate dependence on fossil fuels.[14] So-called green hydrogen is also addressed by *The International Renewable Energy Agency* – IRENA/ (of which the Slovak Republic is a member), which in July 2024 adopted a Green Hydrogen Strategy, according to which *"the global consensus now is that hydrogen and its derivatives – produced in ways that yield low life-cycle greenhouse gas emissions (i.e., 'clean hydrogen') – are part of the overall decarbonisation puzzle"*.[15] In 2024, more than 50 countries adopted national hydrogen strategies (Slovakia adopted the document "National Hydrogen Strategy Ready for the Future" in 2021), through which targets were set for a projected electrolyser capacity of 113.5 gigawatts (GW) by 2030 and 287 GW by 2050. Currently, however, despite the development of hydrogen technology, electricity is the most widely used alternative fuel.[16]

Transport accounts for around 30% of global energy consumption, according to the International Renewable Energy Agency, making renewable transport key to a sustainable energy future, and electric vehicles key to unlocking synergies between clean transport and low-carbon electricity. Just as future transport must be increasingly electrified, future energy systems should make maximum use of variable renewable energy sources.[17]

The transformation of transport and the promotion of the development of electromobility has a number of primary and secondary effects at European and national level in the member states. As with any such fundamental change, we can identify several positive and negative impacts. The main positive effects, as has already been outlined, include, for example, reducing dependence on fossil fuels, increasing sustainability by promoting the use of renewable energy, and having a positive impact on the environment by reducing emissions. Among the less positive effects, we can mention the financial burden associated with the relatively high upfront costs of purchasing new vehicles as well as building the necessary infrastructure. Another area that has to cope with the development of electromobility is the energy network, which is subject to increased demands on electricity consumption and the overall grid balancing. It is the capacity requirements of building charging infrastructure that pose a significant challenge to the development and management of the electricity system. A secondary negative impact of electromobility is the increasing dependence on components and minerals that are

---

[14] HANDRLICA, J. Vrabko, Marián et al.: Právo v energetike [Law in Energy Sectors]: Wolters Kluwer, 2023. *Bratislava Law Review* [online]. 2024, Vol. 8, No. 1, pp. 251–254 [cit. 2024-08-19]. Available at: https://doi.org/10.46282/blr.2024.8.1.827.

[15] Green hydrogen strategy: A guide to design. In: *IRENA* [online]. July 2024 [cit. 2024-08-17]. Available at: https://www.irena.org/Publications/2024/Jul/Green-hydrogen-strategy-A-guide-to-design.

[16] Slovak Government Resolution No. 356/2021.

[17] Transport. In: *IRENA* [online]. 2021 [cit. 2024-08-13]. Available at: https://www.irena.org/Energy-Transition/Technology/Transport.

essential for the EV battery market.[18] In addition to the impacts mentioned above, the development of electromobility also has an impact on public finances, which have to cope both with the application of the incentives introduced to support the transformation of transport and with the reduction in public budget revenues, which have so far been provided by taxes on conventional fuels, which are being replaced by alternative fuels. Given the number and complexity of the various effects of electromobility, it is not possible to elaborate on each of them in detail. In this case, we therefore selectively focus on the impact of the development of electromobility on state budget revenues. In this context, it is the setting of the indirect tax on electricity that is crucial, and to provide a more detailed insight, we mention a comparison of the setting of the Slovak legislation with the legislation of the Czech Republic, whose legal system is undoubtedly the closest to the Slovak legislation.

In the next part of this chapter, we will briefly discuss the basic attributes of electromobility development, specifically defining the terms: electric vehicles and charging infrastructure.

ELECTRIC VEHICLES

Electric vehicles, or vehicles that use all or part of their propulsion by electricity, can be distinguished on the basis of technical assumptions into:

- BEV (*battery electric vehicle*) an all-electric vehicle that runs solely on power;
- FCEV (*fuel cell electric vehicles*) a vehicle with a fuel cell electric motor powered by hydrogen;[19]
- PHEV (*plug-in hybrid vehicle*) a vehicle that has a full electric motor that is rechargeable from the electrical grid, as well as an additional combustion engine;
- HEV or MHEV (*full hybrid* or *mild hybrid*) a vehicle combining an internal combustion engine with an additional electric motor. This additional electric motor cannot be charged with grid power, as it uses, for example, the transformation of kinetic energy during braking of the car or high engine speeds to recharge the battery.

According to a study by the German Centre for Solar Energy and Hydrogen Research, *"there were 5.6 million electric vehicles on the world's roads at the beginning of 2019. The largest markets, according to this study, were China (2.6 million electric vehicles) and the United States (1.1 million electric vehicles). If the majority of passenger vehicles sold from 2040 onwards were electric, there could be more than 1 billion EVs on the road by 2050".*[20]

---

[18] However, EV battery research and development is moving towards technology that will be able to operate without, for example, cobalt, one of the critical materials currently used to make the batteries. However, further work is required on this technology. (For more information see: EV batteries. In: *IRENA* [online]. [cit. 2024-08-13]. Available at: https://www.irena.org/Innovation-landscape-for-smart-electrification/Power-to-mobility/2-EV-batteries).

[19] For more information see: Fuel Cell Electric Vehicles. In: *U.S. DEPARTEMENT OF ENERGY: Alternative Fuels Data Center* [online]. [cit. 2024-08-13]. Available at: https://afdc.energy.gov/vehicles/fuel-cell.

[20] Global E-car Count Up from 3.4 to 5.6 Million. Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW). In: *zsw* [online]. 12. 2. 2019 [cit. 2024-08-19]. Available at: https://www.zsw-bw.de/en/newsroom/news/news-detail/news/detail/News/global-e-car-count-up-from-34-to-56-million.html.

The development of electromobility and the transformation of transport, which is gradually moving away from conventional propulsion systems and towards the use of electric vehicles (or alternative fuel vehicles in general), is demonstrated in a significant way by the current largest market for electric vehicles, which is China. In order to better understand the functioning of this market, it is necessary to mention certain specificities, which are the interconnection of public and private ownership, the wide-ranging state subsidies, as well as the extensive network of available mineral resources necessary for the EV battery industry.

In July 2024, 1.35 million vehicles in the electric and hybrid vehicle category were sold in the global market. The largest demand was in the Chinese market. In Europe, by contrast, sales for July 2024 fell by 7.8%, returning to the level of the same month in 2023. In Germany, the largest electric vehicle market in the EU, sales fell by 12% during January-July. In the United States and Canada, sales increased by 7.1% in July.[21]

CHARGING INFRASTRUCTURE

Despite the relatively ambitious transport transformation targets, it should be noted that a comprehensive charging infrastructure network that is geographically equitable is essential for the successful deployment of renewable and low-carbon fuels. This will enable the widespread use of low and zero-emission vehicles in all modes of transport. In passenger car markets in particular, consumers will only switch to zero-emission vehicles when they are confident that they can charge or refuel their vehicles anywhere in the EU as easily as conventionally powered vehicles. It is important that no region or territory of the EU is left behind and that national policy frameworks take account of regional differences in the deployment of alternative fuels infrastructure.[22]

The number of charging stations in Slovakia is steadily increasing in connection with the development of the necessary and fully interoperable electric vehicle charging infrastructure. According to the Slovak Electric Vehicle Association, by the end of June 2024 there were a total of 2,158 public charging points in 861 locations, with the total installed capacity increasing by more than 30% to 107,536 kW.[23] The Slovak Electric Vehicle Association also stresses that these numbers only reflect the number and capacity of public charging points, and that approximately 80% of the charging capacity of EVs or hybrid cars is charged in private garages or companies, office buildings, or depots.

---

[21] Predaj elektrických vozidiel v júli stúpol o 21 percent. Dopyt hlási najmä Čína [Electric vehicle sales rose by 21 percent in July, driven by China's rising demand]. In: *Forbes* [online]. 13. 8. 2024 [cit. 2024-08-20]. Available at: https://www.forbes.sk/predaj-elektrickych-vozidiel-v-juli-stupol-o-21-percent-dopyt-hlasi-najma-cina/.

[22] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the deployment of infrastructure for alternative fuels and repealing Directive 2014/94/EU of the European Parliament and of the Council. In: *EUR-Lex: Access to European Union* [online]. 14. 7. 2021 [cit. 2024-08-13]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0559.

[23] Motoristi môžu mať menej obáv: nabíjačiek pre elektromobily za ostatný štvrťrok opäť o niečo pribudlo [Motorists can worry less: the number of EV chargers has increased again in the last quarter]. In: *SEVA: Slovak Electric Vehicle Association* [online]. 30. 7. 2024 [cit. 2024-08-13]. Available at: https://seva.sk/infrastruktura-24-q2/.

The countries with the highest number of public charging stations in the EU are the Netherlands (114,453), Germany (120,625), France (119,225), Belgium (44,363), and Italy (41,114), while Malta (101), Cyprus (329), Latvia (535), Estonia (683), and Croatia (1,074), have the fewest public charging stations. It should be noted, however, that in countries with smaller areas, the usability and availability of public charging stations is logically more positive than in countries with larger areas, even with lower numbers.

As regards the charging infrastructure, it should be further noted that, unlike "conventional refuelling", charging of electric vehicles is also possible directly in homes or businesses, in addition to public charging points. In the case of home charging or charging directly in companies, the electricity consumption for charging does not have to be separately measured or reported in any way, even for the purposes of the electricity duty. Last but not least, renewable electricity generation is already commonplace, so an electric vehicle can be "refuelled" (partly) without direct consumption from the grid.

The development and widespread use of electric vehicles has the potential to play a strategic role in the transformation of transport towards alternative fuels and, under smart charging conditions, may also present an opportunity to introduce much higher shares of renewables into the overall energy mix. It is true that EV charging can create significant additional demand for electricity. However, even this increased demand for electricity does not necessarily impede the further smooth development of electromobility. A practical and cost-effective solution may be, among other things, the use of renewable energy sources as well as smart charging technology. Such developments offer a number of positive prospects – especially for cities – for decarbonising transport while reducing air and noise pollution, reducing dependence on fuel imports and adopting new approaches to urban mobility.[24]

By *smart charging* we mean intelligent charging that allows a certain level of control over the charging process. It includes different pricing and technical charging options. The simplest form of incentive – time-of-use pricing – encourages consumers to delay charging from peak to off-peak periods. More advanced approaches to smart charging, such as direct control mechanisms, will be needed as a long-term solution at higher penetration levels and to provide near real-time balancing and ancillary services.

3. TAXATION OF ELECTRICITY CONSUMPTION IN THE CZECH AND SLOVAK LEGISLATION

The choice of instruments that will generate the necessary revenue for the state budget and at the same time meet the least possible resistance from taxpayers is crucial for the public finances setting and the way of taxation.[25]

---

[24] Transport. In: *IRENA* [online]. 2021 [cit. 2024-08-13]. Available at: https://www.irena.org/Energy-Transition/Technology/Transport.demand

[25] KARFÍKOVÁ, M. Daně jako nástroj fungování státu [Taxes as an instrument of state functioning]. *Acta Universitatis Carolinae Iuridica* [online]. 2018, Vol. LXIV, No. 1, p. 9 [cit. 2024-08-17]. Available at: https://karolinum.cz/casopis/auc-iuridica/rocnik-64/cislo-1/clanek-5438.

Taxation of energy products and electricity is one of the EU key tools for achieving its climate goals and decarbonising the economy. Taxing the consumption of fossil fuels and electricity is intended to encourage their efficient use while, at the same time, motivating consumers to switch from fossil fuels to alternative energy carriers. The current system of taxation of energy products and electricity in the EU consists of an excise duty on selected fossil fuels and electricity and a carbon tax. Energy taxes are a key instrument for achieving the EU environmental objectives of moving towards a decarbonised economy, stimulating consumers to use alternative energy sources to fossil fuels and raising revenue.[26] Energy taxes in the EU take the form of indirect taxes, with the consequence that they raise the prices of environmentally harmful goods relative to other goods, while at the same time energy taxes encourage consumers to shift their consumption patterns in a more sustainable direction.

SETTING THE ELECTRICITY DUTY IN THE CZECH REPUBLIC

The Constitution of the Czech Republic, like the Constitution of the Slovak Republic, entrusts the legislative initiative in the area of setting taxes to the Parliament of the Czech Republic.[27] The difference with the Slovak Republic is that this is an exclusive competence and the Parliament of the Czech Republic is not entitled to delegate this competence to another branch of the state power.[28] In view of the similarity of the legal arrangements, I will focus on the individual differences.

The electricity duty was introduced in the Czech Republic on 1 January 2008,[29] and within the tax system it is an indirect tax that falls under the so-called ecological taxes together with natural gas and solid fuels. [30]

The definition of green taxes is not entirely uniform in professional practice, but in general they can be considered as payments to public budgets, the introduction or increase of which has a positive impact on the environment. The inclusion of these excise duties therefore reflects in a certain way the purpose of collecting these taxes, which is linked to specific objectives in the context of environmental protection in the Czech Republic. However, the primary purpose of collecting taxes remains the raising of state budget revenue necessary to ensure the functioning of the state.

---

[26] Energy taxation is the largest part of environmental taxes (the others being transport and pollution and resource taxes), accounting for 2.4% of GDP and 6.0% of total collected tax revenue in the EU in 2018 (author's note).

[27] GERLOCH, A. – MARŠÁLEK, P. *Zákon v kontinentálním právu* [Law in continental law]. Prague: Eurolex Bohemia, 2005, p. 153–170; or KYSELA, J. *Zákonodárství bez parlamentů: delegace a substituce zákonodárné pravomoci* [Legislation without parliaments: Delegation and substitution of legislative power]. Prague: Charles University in Prague, Faculty of Law in the publishing house IFEC, Beroun, 2006.

[28] KARFÍKOVÁ, *c. d.*, p. 9.

[29] According to Art. 18a(3) of Council Directive 2004/74/EC of 29 April 2004 amending Directive 2003/96/EC as regards the possibility for certain member s1tates to apply, in respect of energy products and electricity, temporary exemptions or reductions in the rate of taxation, the Czech Republic was allowed to apply full or partial exemptions or reductions in the taxation of electricity, solid fuels, and natural gas only until 1 January 2008.

[30] Ekologické daně [Environmental taxes]. In: *Celní správa České republiky* [Customs Administration of the Czech Republic] [online]. [cit. 2024-08-18]. Available at: https://www.celnisprava.cz/cz/dane/ekologicke-dane/Stranky/default.aspx.

As in Slovakia, there are several tax credits and incentives relating to electricity consumption in the Czech Republic as part of the national promotion of the use of alternative fuels, renewable energy sources, reducing emissions and reducing dependence on fossil fuels in transport.

One of the most recent ones is the amendment to Act No. 261/2007 Sb., on the stabilisation of public budgets, on the basis of which the so-called environmentally friendly electricity is exempt from tax in the Czech Republic as of 1 January 2024. In order for electricity to be considered environmentally friendly and exempt from tax, the following conditions must be cumulatively fulfilled: (1) the electricity is simultaneously consumed or shared with an electricity producer, who does not hold a licence for electricity production, to another consumption point according to the Energy Act, and (2) the installed capacity of the electricity production plant according to the Energy Act does not exceed 50 kW.[31] However, we do not find in this regulation a specific regulation dedicated to electricity consumed in charging stations. Legislation in the Czech Republic, including tax regulations, uses terms such as low-emission or zero-emission vehicle.

SETTING THE ELECTRICITY DUTY IN THE SLOVAK REPUBLIC

Excise duties, in the context of the above-mentioned basic division of the tax system of the Slovak Republic, are considered to be indirect taxes of a selective nature, which apply to a selected specific type of consumer goods. Goods subject to an excise duty include: alcoholic beverages (which are alcohol, wine, intermediate and beer), electricity, coal and natural gas, mineral oil (e.g., diesel fuel, motor gasoline, lubricating oil, fuel oil, LPG, and others), tobacco products (cigarette, cigar, cigarillo, and tobacco), and tobacco raw material (tobacco leaf of the Nicotiana tabacum plant, tobacco residue, tobacco foil).

The revenue from taxes on goods and services constitutes a significant part of the state budget revenue[32] and depends on the final consumption of these selected types of goods. The legislation in force determines who is considered to be a person liable to tax, which specific goods are subject to the excise duty, provides for possible exemptions from tax liability in specific cases and, last but not least, the level of the tax rate for specific excise goods.

Excise goods are taxed in the country of use. The way excise duties are applied in our conditions is set up in such a way that the tax liability arises when the selected type of goods is removed from the manufacturer, transported, or imported into the territory of the Slovak Republic.

---

[31] Informace_24_14245. Osvobození ekologicky šetrné elektřiny [Information_24_14245. Exemption from environmentally friendly electricity] [online]. 2024 [cit. 2024-08-21]. Available at: https://www.celnisprava.cz/cz/dane/ekologicke-dane/Obecn%20EKO%20informace/Informace_24_14245.pdf.

[32] Finančný tok príjmov a výdavkov štátneho rozpočtu 2024 [Financial flow of state budget revenue and expenditure] [online]. 2018 [cit. 2024-08-17]. Available at: https://rozpocet.sk/web/vendor/sankey/index.html?side=income&lang=SK&cb=changeSankeySide&home=1&endpoint=/rest/api/sankey/data/SK/VS/0/2024&title=Finan%C4%8Dn%C3%BD%20tok%20pr%C3%ADjmov%20a%20v%C3%BDdavkov%20%C5%A1t%C3%A1tneho%20rozpo%C4%8Dtu%202024.

The specificity of indirect taxes is that it is necessary to distinguish between the taxpayer and the person liable to tax, since excise duties as such do not directly affect natural persons or legal persons, or consumers of these goods. The excise duty is included in the selling price of the consumer goods in question and thus has an indirect impact on the final consumers of the various types of goods taxed. The taxpayer is therefore the person who pays the tax in the price of the product (consumer goods) purchased, whereas the person liable to tax is the person (designated by the state through legislation) who has to pay the tax to the state budget.

With regard to the topic of the impacts of the development of electromobility on the state budget, the main national legislation in the setting of electricity taxation can be considered to be Act No. 609/2007 Sb. On the excise duty on electricity, coal, and natural gas, as amended (Act No. 609/2007 Sb.), which specifies what we consider to be electricity subject to an excise tax and how we tax it. Pursuant to Article 4 of this Act, the subject-matter of an excise duty is electricity coded 2716 in the combined nomenclature,[33] the unit of which is a megawatt-hour (MWh). The tax is calculated by multiplying the tax base (the amount of electricity consumed in MWh) by the relevant rate (which, according to the current legislation, is EUR 1.32).[34]

The regulation of Act No. 609/2007 Sb., among other things, also shows who is considered to be the payer of the electricity tax (Section 10 of this Act) [35] and the legislation in question also contains a special regulation (Section 15b of this Act)

---

[33] Combined nomenclature means the goods nomenclature (designation) which classifies and distinguishes different goods according to the legislation of the European Union.

[34] Pursuant to Section 6 of Act No. 609/2007 Sb., on excise duty on electricity, coal, and natural gas, as amended.

[35] Pursuant to Section 10(1), a person liable to pay electricity duty (person liable to electricity duty) for the purposes of this Act is a person who
a) has supplied electricity in the tax territory to the final consumer of electricity;
b) has consumed electricity in the tax territory and is an electricity undertaking.
Pursuant to Section 10(2), the person liable to electricity duty is also
a) the final consumer of electricity to whom a legal person who does not have its registered office or an organisational unit registered in the commercial register in the tax territory, nor does it have the personnel and material equipment to carry out the business activity from which it derives income in the tax territory, or to whom a natural person, who neither has a permanent residence in the tax territory nor has the personnel and material equipment for the pursuit of a business activity from which the person derives income in the tax territory (foreign person), supplies electricity in the tax territory, except to an electricity end-user who is a final consumer of electricity in the household;
b) a foreign person who has supplied electricity in the tax territory to a final consumer of electricity in the household;
c) a person who produces electricity from a renewable energy source,*[14])* unless the person is already liable to tax according to paragraph 1;
d) a person who produces electricity in a combined heat and power plant if the person is no longer liable to tax under paragraph 1(a) or (b);
e) a person who purchases electricity solely for the purpose of resale unless the person is already liable to tax according to paragraph 1(a);
f) a person who supplies electricity exempt from tax, unless the person is already liable to tax according to paragraph 1(a);
g) a person who has unlawfully consumed electricity;
h) a person who has consumed exempt electricity for a purpose other than that referred to in *Section 7*;
i) a person who supplies electricity to a charging station, unless the person is already liable to tax according to paragraph 1(a) or (b).

relating to charging stations. This regulation defines what is considered a charging station, charging point, or electric vehicle for the purposes of this Act. According to Section 15b(5) of Act No. 609/2007 Sb., the payer of the tax on electricity used for charging an electric vehicle is a person pursuant to Section 10(1)(b) of this Act (a person who has consumed electricity in the tax territory and who is an electricity undertaking) who consumes electricity at the charging station or a person pursuant to Section 10(2)(i) of this Act (a person who supplies electricity to the charging station unless the person is already liable to tax pursuant to paragraph 1(a) or (b)).

It follows from the provisions of Section 15b(4) of Act No. 609/2007 Sb. That the tax liability of the person liable to the tax arises on the date of delivery of electricity to the charging station or on the date of consumption of electricity (in the case of a person who is a consumer of electricity who is an electricity undertaking).

The current legislation on the taxation of electricity consumption also provides for exemptions, or certain cases of exemption from tax, depending on where and how the electricity is produced, who the consumer is, or how it is used. According to Section 7 of Act No. 609/2007 Sb., household end-users of electricity are exempted from this tax obligation.[36] Furthermore, electricity produced from a renewable source is exempt from excise duty, [37] if the electricity is produced by a wind or hydroelectric power plant; by a solar installation; by an installation using geothermal energy; by an installation for the use of biomass or a product produced from biomass. Electricity produced by a combined heat and power plant; [38] electricity used for the combined production of electricity and heat or for the transport of persons or goods by train, metro, tram, trolleybus, electric bus or cable car, or electricity produced on board a ship used for the transport of persons or goods (where such transport is carried out as a business) is also exempt from the tax.

IMPACTS OF THE DEVELOPMENT OF ELECTROMOBILITY AND POSSIBLE IMPACTS ON PUBLIC FINANCES

The EU support for the EU transport transformation and the pursuit of other key geopolitical and environmental objectives is clear and quite strong. However, as already indicated in the introduction, any such large-scale and fundamental change of the system brings with it, in addition to the positive results, some negative effects and risks. Some of these risk factors and possible negative impacts will be discussed in this section.

---

[36] With the exception of the consumption of electricity for the production of heat and water heating to the common heat source of the apartment building.

[37] If its production is proven by a guarantee of origin of electricity from renewable energy sources.

[38] If the electricity so produced is supplied directly to the final consumer of electricity or consumed by the person who produced it, and if its production is evidenced by a certificate of origin for electricity produced by high-efficiency combined heat and power plant, and if the combined heat and power plant is not written off pursuant to a special regulation, but for a maximum period of 12 years from the date of commissioning of the combined heat and power plant.

The development of electromobility on a global scale may, under certain conditions, be accompanied by the risk of destabilising the industry, the manufacturing market and, not least, have impacts on the economic system as a whole.[39]

Another area where some legal, technological, and other challenges can be identified in the context of electromobility is the provision of infrastructure, correct and fair charging, and measurement of electricity consumption for the purpose of charging electric vehicles. Reliable measurement of electricity consumption and the correct classification and charging of electricity used for electric vehicle charging is a prerequisite both for the fair collection of taxes in this area and for the fair setting and application of tax incentives aimed at promoting the development of electromobility and motivating individuals in connection with transport transformation.

In the early days of the deployment of alternative fuels infrastructure in the EU, it was assumed that electric vehicle owners would make extensive use of charging points in their own premises or in shared parking spaces in residential and commercial buildings.[40] Nevertheless, it is highly likely that, in practice, combining different forms of charging will be quite common.

The appropriate set-up and differentiation of charging modes for electric vehicles, whether at the employer, at home, or at a publicly accessible charging station, is not a new topic and has been discussed in the Czech Republic, for example. The Confederation of Industry of the Czech Republic has already addressed certain tax issues of electromobility in 2021[41] (in particular, focusing on the determination of the amount of the employee's non-cash income from their employer). Although the above-mentioned discussion looked at the matter from a different perspective, it can be taken as a generally applicable conclusion that in discussions on the tax burden of electricity consumption used to charge electric vehicles, it is necessary to take into account the variety of types and forms of charging of electric vehicles (namely charging at home, charging at the employer's premises, and charging at third parties, for example, at public charging stations or charging points).[42] It can also be argued that a consistent record of the extent and manner in which an electric vehicle is charged, which can be ensured by the integration of smart metering technologies, is essential for a fair determination of the charging of the electricity consumed to charge an electric vehicle.

Pursuant to Section 15a of Act No. 609/2007 Sb., electricity produced from a renewable source by a device with a total installed capacity of up to 10 kW is exempt

---

[39] See Electric Vehicle (BEV/PHV/FCV) Sales Monthly Report (June 2024). In: *Marklines: Information Platform* [online]. 26. 7. 2024. [cit. 2024-08-20]. Available at: https://www.marklines.com/en/report/statistics_evsales_202406#report_area_1.

[40] Clause 26 of the preamble to Regulation (EU) 2023/1804 of the European Parliament and of the Council of 13 September 2023 on the deployment of alternative fuels infrastructure and repealing Directive 2014/94/EU.

[41] The material is intended to clarify in particular the tax aspects in relation to electromobility, offering recommended practices that have been discussed and agreed by the Ministry of Finance of the Czech Republic and the General Directorate of Finance and the Ministry of Labour and Social Affairs.

[42] *Daňové otázky eletromobility* [Tax issues of electromobility] [online]. Updated ed. Confederation of Industry of the Czech Republic, 2021 [cit. 2024-08-21]. Available at: https://www.mfcr.cz/assets/attachments/2021-12_Danove-otazky-elektromobility-SPCR.pdf.

from tax, and a person who produces electricity in this way is exempt from the excise duty on electricity in this respect.

According to the Tax Administration of the Slovak Republic, in the case of an electric car, the taxpayer may prove the consumption of electricity in the following ways:

> *"– by own measurement (where the taxpayer must keep a logbook) – consumption demonstrated on the basis of his own internal directive, which demonstrates the actual consumption and the procedure by which this consumption was determined. In this method of determining electricity consumption, it is necessary to keep track of actual electricity consumption and to keep separate records of electricity consumption per 100 km of driving in order to correctly determine the amount of tax expenditure. When measuring electricity consumption itself, the procedure laid down in the Notice No. 8029/2000-72 of the Ministry of Finance on the method of determining the amount of the tax expenditure on fuel consumption of a motor vehicle intended for freight transport and special use (published in the Financial Bulletin No. 12/2000) may also be used, in which case the taxpayer may claim the tax expenditure pursuant to Article 19(2)(l) of Act No. 595/2003 Sb., as amended,[43] or*
> *– by a meter (installed directly in the vehicle) through which the exact kWh of electricity consumption could be determined".*[44]

As it follows from the above, in the case of developing more detailed debates in the subject area, it is crucial to set the appropriate technological and legal aspects of measuring electricity consumption for charging electric vehicles, the registration of charging, a more detailed definition of the different types of charging, as well as their payment and taxation.

---

[43] Pursuant to Section 19(2)(l) of Act No. 595/2003 Sb., as amended, tax expenditures that may be claimed only to the extent and under the conditions set out in this Act are expenditures (costs) for fuel consumed:
1. according to the prices valid at the time of their purchase, recalculated according to:
1a. the consumption indicated in the registration certificate or in the technical certificate or, if the consumption is not indicated in these documents, it is based on the supplementary data of the manufacturer or seller, whereby such consumption is increased by 20%; if the consumption indicated in the registration certificate or in the technical certificate does not coincide with the actual consumption of fuels or the consumption is not indicated in these documents, it may also be based on the consumption proven by a document issued by a person who has been granted authorisation under a special regulation, 88a);
1b. the proven consumption, including the consumption indicated in the internal management act which establishes and justifies in a demonstrable manner for the taxpayer the method of calculation of fuel consumption, if the trucks or work machinery for which the consumption in the registration certificate or in the technical certificate does not coincide with the actual fuel consumption or the consumption is not indicated in these documents and if the procedure under point 1a is not applied.
2. on the basis of receipts for the purchase of fuel up to a maximum of the amount reported by the satellite-based vehicle tracking system instruments, or
3. in the form of flat-rate expenditure of up to 80% of the total demonstrable purchase of fuel for the relevant tax period, proportionate to the number of kilometres travelled according to the odometer reading at the beginning and end of the relevant tax period for each motor vehicle separately.

[44] Spotreba PHL elektromobilov [Energy consumption of electric vehicles]. In: *Finančí správa: Slovenská republika* [Financial Administration: Slovak Republic] [online]. [cit. 2024-08-22]. Available at: https://podpora.financnasprava.sk/582570-Spotreba-PHL-elektromobilov.

From the point of view of the state budget revenue from excise duties, there is a clear correlation between the revenue from the electricity tax and the revenue from mineral oil.

The duty on mineral oil, like the electricity duty, is an excise duty regulated by a special legal regulation, Act No. 98/2004 Sb. On the excise duty on mineral oil, as amended. Mineral oil[45] can generally be defined as motor gasoline, middle oil, gas oil, gas oil (diesel fuel), fuel oil, liquefied gaseous hydrocarbons, lubricating oils, and other oils (specified types, e.g., motor oils, gear oils, electrical insulating oils, etc.) according to kinematic viscosity.

The correlation between these two items is quite clear, since the undeniable effect of the transformation of transport in the context of the transition to alternative fuels is to reduce the consumption of conventional fuels and therefore, logically, also to reduce the revenue of the state budget from the excise duty on mineral oils.

On the basis of the interpretation of the taxation of electricity consumption provided above, we present an illustrative quantitative calculation of the impact of electromobility on the state budgets of the Czech Republic and Slovakia. In both countries, an increase in the number of electric vehicles can be expected.[46] For the purposes of our quantification, conservatively we will assume the existence of only one hundred thousand electric vehicles and the hypothesis of charging of electric vehicles exclusively from charging stations whose consumption is metered and subject to the electricity excise tax.

Table – Is an illustrative impact of the development of electromobility on the state budget revenues in the Czech Republic and Slovakia for a number of 100,000 electric vehicles.[47]

	Revenue from excise duty tax on fossil fuel	**Revenue from excise duty on electricity**	**Impact on the state budget**
Czech Republic	60,949,367 €	335,839 €	60,613,528 €
Slovakia	61,740,000 €	396,000 €	61,344,000 €

Source: Autor's calculation

[45] The specifics of the goods considered as mineral oil under Act No. 98/2004 Sb. are regulated by Section 2 of this Act.

[46] See further: ZACHOVÁ, A. Na českých silnicích by se v roce 2030 mohlo prohánět více než 200 tisíc elektromobilů [More than 200,000 electric cars could be on Czech roads in 2030]. In: *Euractiv* [online]. 29. 6. 2021 [cit. 2024-10-29]. Available at: https://euractiv.cz/section/doprava/news/na-ceskych-silnicich-by-se-v-roce-2030-mohlo-prohanet-vice-nez-200-tisic-elektromobilu/; MUDROŇ, M. Prognóza pre rok 2030: Takto bude vyzerať elektromobilita na Slovensku [Forecast for 2030: This is what electromobility will look like in Slovakia]. In: *MojElektromobil.sk* [online]. 15. 11. 2022 [cit. 2024-10-29]. Available at: https://www.mojelektromobil.sk/slovenska-elektromobilita-prognoza-2030/.

[47] The illustrative calculation is based on the excise duty rate applicable in 2024 and also assumes an annual mileage of 20,000 km. Applied exchange rate 25.28 CZK/EUR. (author's note).

Based on an illustrative calculation, it can be stated, at the current fossil fuel excise tax rate and electricity excise tax rate in the Czech Republic and in Slovakia, that if 100,000 cars run on electricity in the Czech Republic and Slovakia, the shortfall in fossil fuel excise tax revenue could amount to approximately EUR 60.95 million per year in the Czech Republic and EUR 61.34 million per year in Slovakia. This shortfall is partly compensated by the revenues from the electricity tax, but these represent only a small part of the original fossil fuel tax revenues, which represents a significant decrease in transport tax revenues.

4. TAXATION OF ELECTRICITY CONSUMPTION FOR THE PURPOSE OF CHARGING ELECTRIC VEHICLES – *DE LEGE FERENDA* CONSIDERATIONS

The growth in the number of electric vehicles in passenger and freight transport will inevitably be reflected in the volume of fossil fuels consumed. Although the current legislation of the Czech Republic and Slovakia regulates the method of collection and the amount of excise duty on electricity, I would like to express the opinion that this regulation does not adequately and fully reflect the use of electricity in transport. We justify this assertion by the fact that, as we have pointed out above, charging electric vehicles outside public charging points is commonly available (and we assume this will not change), and such "non-public" charging is not specifically metered. It follows that, unlike the current system of mineral oil taxation, the taxation of electricity for the purpose of charging electric vehicles cannot simply be tied to the point of charging (charging post), but the legislature must establish a different methodology. This is further reinforced by the fact that it is now common practice to use renewable energy sources for charging electric vehicles, the consumption of which is not necessarily linked to the withdrawal from the electricity grid.

In practice, there are already a number of alternative ways of taxing electricity used for the purpose of charging electric vehicles. Examples are a vehicle use tax, a differentiated tariff for vehicle charging or a specific taxation of "electric vehicle components". In the realities of the Czech Republic and Slovakia, the simplest alternative seems to us to be the introduction of a special form of excise duty on electricity used for charging electric vehicles – an electric vehicle use tax – which would be calculated on the number of kilometres driven. The amount of the excise duty should take due account of the difference between the average "tax" per kilometre travelled by a fossil fuel vehicle and an EV.

5. CONCLUSION

The transformation of transport and the development of alternative fuels has implications for the development of state budget revenues resulting from the reduction of fossil fuel consumption. In the present article, the authors focus on the financial

and legal implications of the development of electromobility, examining this issue in the context of the *de lege lata* legislation of the Czech Republic and Slovakia. With the current low level of penetration of electric vehicles in the Czech Republic and Slovakia, the impact of the development of electromobility on public finances in terms of revenue from the excise duty on mineral oil is of little significance; however, with the expected massive increase in the use of electric vehicles in, for example, freight transport, the level of electricity consumption used to charge an electric truck could already increase rapidly, which would subsequently be reflected in the state budget revenues from mineral oil. As the number of electric vehicles on the road increases, the consumption of fossil fuels (substitution of electricity for fossil fuels) decreases, which directly affects the state budget revenue from the excise duty from mineral oil. States will naturally have to adapt to the new realities that electromobility brings and find sustainable solutions for financing public expenditure. Some EU countries have already started to look for alternative sources of revenue, such as a vehicle use tax, a differentiated tariff on vehicle charging or specific taxation of EV components or the introduction of green levies that could compensate for the decline in fossil fuel revenues. For the *de lege ferenda* area of the Czech Republic and Slovakia, the authors propose to consider the introduction of a special form of excise duty on electricity used for charging EVs – an EV use tax –which would be calculated on the number of kilometres driven. The amount of the excise duty should take due account of the difference between the average "tax" per kilometre travelled by a fossil fuel vehicle and an electric vehicle.

Prof. JUDr. Marie Karfíková, CSc.
Charles University, Faculty of Law (Emeritus Professor)
Arbitration Court attached to the Economic Chamber of the Czech Republic
and Agricultural Chamber of the Czech Republic (Emeritus President and Arbitrator)
mariekarfikova@seznam.cz
ORCID-0000-0002-5655-7858

JUDr. Ing. Tomáš Šipoš, PhD. et Ph.D.
Comenius University in Bratislava, Faculty of Law
tomas.sipos@uniba.sk
ORCID-0000-0003-4217-5418