Czech Republic
Supreme Audit Office

REPORT
ON THE COORDINATED AUDIT

Tax and subsidy support for climate and energy policy in the Czech and Slovak Republics

June 2020

Supreme Audit Office of the Czech Republic, www.nku.cz
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Content

1. Introductory word

The submitted joint report informs on the course and outcome of the international cooperation in coordinated audits carried out by the Supreme Audit Office of the Slovak Republic (hereinafter also "SAO SR") and the Supreme Audit Office of the Czech Republic, (hereinafter also "SAO CR") aimed at supporting in selected areas of climate and energy policy with an emphasis on maintaining the long-term sustainability of public revenue between 2015 and 2018. The cooperation between the supreme audit institutions of both countries was realized on the basis of the Cooperation Agreement between the SAO SR and the SAO CR.

The theme of coordinated audits has been selected on the basis of the fact that both Member States, based on common European legislation, apply different support systems at national level in selected areas of climate and energy policy, aiming to meet the basic climate and energy objectives of the European Union (hereinafter also "EU") by 2020.

The EU has set ambitious climate-energy policy objectives, the successful enforcement of which includes a set of measures, including various financial instruments. Each EU Member State can choose its own procedures and tools to achieve the objectives. This gives space for comparing the effectiveness and efficiency of the instruments chosen between the individual countries.

Based on the achieved indicator values, the Supreme Audit Institutions (hereinafter also "SAIs") compared the quality parameters of the support and evaluated their impacts on the achievement of the EU and national targets.

The coordinated audit of the SAO CR and the SAO SR again proves that both institutions attach great importance to international comparisons.

2. Information on the audit

The audit was carried out in the Czech Republic (hereinafter also the "CR") under number 18/22 and in the Slovak Republic (hereinafter also the "SR") under number KA-014/2018.

The aim of the audits was to verify whether the support in the Czech and Slovak Republics is set up to contribute effectively to the fulfilment of objectives in selected areas of climate-energy policy while maintaining the long-term sustainability of public revenues. Selected areas were the transport sector and photovoltaic support.

The audit covered the period from 1 January 2015 to 31 December 2018.

Both SAIs presented their audit findings in their national reports and on the basis of which they have drawn up this joint report.

For comparison purposes, financial values and indicators were compared in euros. Amounts in Czech crowns were converted into euros at the exchange rate of the CNB as at 17 September 2019, i.e., according to the CNB € 1 = CZK 25.88.

3. Summary of the results of the coordinated audit

The UN and EU countries that are committed to climate protection can choose different ways and instruments to pursue objectives, including financial instruments. Both the Czech Republic and the Slovak Republic are countries with high greenhouse gas emissions, which is negatively reflected in the overall assessment of the development of these countries and the costs of the environment and health. Binding targets for individual EU countries are defined by EU legislation. The governments of both countries have adopted many strategic materials and measures to contribute to meeting the climate targets.

The financial instruments may be subsidies or tax measures, e.g., adjustments to tax rates depending on emissions or fuel consumption (hereinafter referred to as "fuel"), or support for the construction of photovoltaics. The purpose of the measures is to create an incentive for the general public to reduce energy consumption and to switch to environmentally cleaner energy sources.

The SAO CR and the SAO SR found that in both countries different instruments were used to meet the objectives, but neither contributed significantly to the fulfilment of the set objectives. The percentage of total environmental tax revenues to total tax revenues in both countries is one of the lowest among the EU countries.

Achieving the goals of climate-energy policy while maintaining the long-term sustainability of public finances requires a systematic, coordinated approach of competent state authorities to the process of adopting and implementing state measures to support the use of renewable energy sources (hereinafter referred to as "RES").

Both Supreme Audit Institutions state that for individual measures to be effective they must be implemented comprehensively, with financial and fiscal measures being of crucial importance. Therefore, the responsible state authorities should prepare a complex of measures that will significantly increase the greening of transport and the share of photovoltaics in the energy mix. This will be achieved provided that long-term comparable comfort of using new energy sources for consumers is guaranteed, i.e., their availability and comparable price when confronted with conventional energy sources. In both countries such long-term measures and conditions have not been set yet, the measures implemented so far were only short-term and their impact on the fulfilment of the objectives was insignificant.

3.1. Biofuels in transport

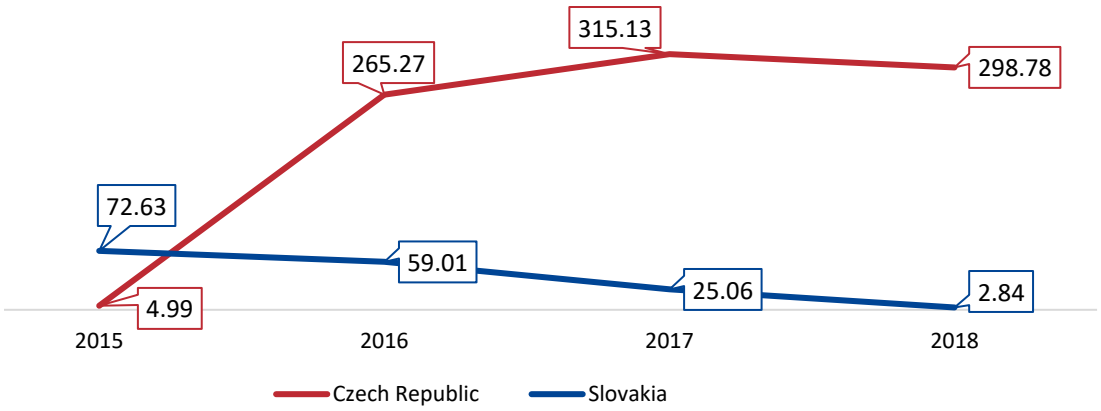
The system of support in the field of biofuels, applied in the Slovak Republic and the Czech Republic, is in accordance with European law. Both countries are approaching the maximum allowable 7% of the addition of first generation biofuels to fuels, thus exhausting the possibility of meeting the set 10% share of RES in transport via biofuels.

Both the Czech Republic and the Slovak Republic stipulate the obligation to mix biofuels into petrol and diesel. The difference, however, is the tax advantage of petrol and diesel with a minimum share of biofuels in Slovakia. Since 2016, the Czech Republic has been offering tax advantage only for high-percentage biofuels (i.e., with more than 30% of the bio-component), it has not provided tax relief for fuels with a low share of biofuels.

Both states achieve a similar level of introduction of biofuels into free tax circulation per capita, but for the Slovak Republic this system of support is more expensive, i.e., the system is significantly more efficient in the Czech Republic. Expenditures for support of biofuels in the Czech Republic in 2018 amounted to less than €2 million, in the Slovak Republic this support cost more than €80 million.

The different mechanism of support for biofuels was positively reflected in the revenues of the state budget of the Czech Republic. The Czech Republic reduces the collection of excise duty to a significantly lesser extent, yet it achieves similar results in the share of biofuels in fuel as in the Slovak Republic. This means that the Czech Republic achieves significantly higher support effectiveness (see Graph 1).

Graph 1 – Effectiveness of excise duty support in the Czech Republic and Slovakia, i.e., litres of biofuel for €1 of excise duty support



Source: *SAI*

From a comparison of the purchasing power of the population, it is clear that the purchase of petrol is less taxed in the Czech Republic than in the Slovak Republic. On the contrary, diesel at the time of purchase is less taxed in the Slovak Republic. In the Czech Republic, road tax exemptions for E85 bio-alcohol vehicles are provided, but their number is still negligible. There was no similar support introduced in the Slovak Republic. Despite the fact that tax support for biofuels mixed with petrol and diesel (i.e., fuel with a low biofuel content) is applied in the Slovak Republic, the price of fuel is similar in both countries.

3.2. Natural and oil gas (CNG, LNG and LPG) in transport

In both countries, the share of CNG, LPG and LNG powered vehicles in the total vehicle fleet is not significant.

The system of support and use of these alternative fuels in transport in Slovakia was not sufficiently motivating and effective. No subsidies were provided by the state, no model of support for the sale of CNG, LNG and LPG powered vehicles was drawn up, and there was no advantageous rate of excise duty on these commodities. The only incentives were tax relief; in particular, a reduced rate of motor vehicle tax was introduced and the registration fee for registration of the vehicle was reduced. This has led to an increase in the number of vehicles with this power, but without an increase in the consumption of these alternative fuels.

In the Czech Republic, on the other hand, significant support is applied in the form of a reduced rate of excise duty on natural gas, which is approximately half of the rates for conventional fuels. In addition, CNG powered vehicles are exempt from road tax and subsidies are provided to local authorities, state organizations and legal entities established by them.

While in the Czech Republic the price of CNG is close to the price of LPG, in the Slovak Republic it is close to the price of diesel and petrol. With this setting – without other supports, no significant increase in the number of vehicles for this power can be expected in Slovakia. The difference in the way of support of CNG powered vehicles resulted in the fact that in the Czech Republic there are ten times more vehicles with this power than in the Slovak Republic.

In both countries, the excise duty rates for LPG are about half of those set for conventional fuels, which is positively reflected in the resulting gas price for consumers. In the Czech Republic, LPG is also supported by the exemption of vehicles with this power from the road tax, unlike the Slovak Republic, which applies a 50% reduction in the motor vehicle tax rate.

The development of the LNG vehicle market in the Czech Republic was negligible in the period under review. The tax system of the Slovak Republic in the area of excise duty administration has not defined LNG as the subject of excise duty. LNG is not commercially used in Slovakia.

The prices of natural gas and the price of petroleum gas are higher in the Slovak Republic than in the Czech Republic. The provision of tax support for CNG and LPG has an impact on the number of vehicles and consumption of these fuels in the Czech Republic and Slovakia, which are significantly higher in the Czech Republic than in the Slovak Republic. The different methods of support in the Czech Republic and Slovakia are also reflected in the related infrastructure, i.e., to the number of CNG and LPG fuel stations.

3.3. Electric vehicles, hybrid electric vehicles and hydrogen vehicles

It can be stated that in the period under review the number of these vehicles was not significant in any country in relation to the total number of vehicles. In 2017, the share of electric vehicles in new vehicle registrations in the Czech Republic accounted for approximately 1.15%, in the Slovak Republic approximately 2.01%.

In the Slovak Republic, the system of support in the field of electric vehicles was implemented mainly through direct financial incentives, a lower fee when registering a battery electric vehicle in the vehicle register of the Slovak Republic, as well as a tax advantage. In the Slovak Republic, support is provided to all applicants; i.e., entrepreneurs, local government and non-entrepreneurs. The volume of subsidies for the support of electric vehicles and hybrids in the years 2015 to 2018 in the Slovak Republic amounted to €4.4 million. In Slovakia, the interest in drawing these subsidies was great, although some subsidies were not fully used due to the lack of electric vehicles on the market. Electric vehicles in the Slovak Republic have a zero tax rate on motor vehicles and have a fixed registration fee for registration of vehicles in the amount of € 33 regardless of engine power.

In comparison, support in the Czech Republic was focused on entrepreneurs and the public sector. The volume of subsidies for the support of electric vehicles and hybrid electric vehicles in the Czech Republic between 2015 and 2018 amounted to €25.5 million. In the Czech Republic, unlike the Slovak Republic, the construction of infrastructure in the form of charging stations was also supported. In the Czech Republic, during the period under review, the registration fee did not take into account the type of power, i.e., neither electric power. In the Slovak Republic and the Czech Republic, electric vehicles used in business activities are exempt from road tax.

The representation of electric vehicles is largely due to the form of support provided. The difference in the way of support of electric vehicles led to almost double the number of vehicles with this power in terms of population in Slovakia at the end of 2018. In addition to increasing the number of vehicles in the Slovak Republic, this form of sales promotion also contributed to the visibility and awareness of electric vehicles among the general public.

Although the economy in the Czech Republic is more than twice as large and the total number of vehicles in the Czech Republic is significantly higher than in the Slovak Republic, the number of electric vehicles and hybrid electric vehicles is almost comparable. This means that the Czech Republic has a smaller number of electrically powered vehicles per capita.

No national support measure was taken to encourage the use of hydrogen as an alternative fuel and to build hydrogen infrastructure in the form of publicly accessible filling stations, and no state support was granted. In the period under review, the power of hydrogen vehicles was not specifically regulated by legislation in the Czech Republic or Slovakia.

3.4. Photovoltaics

In both states the system of support for the production and use of electricity from RES was implemented in several forms in the Slovak Republic and the Czech Republic, in particular by the guaranteed feed-in tariff, subsidies and exemption from excise duty on electricity for own consumption. While in the Slovak Republic priority was given to the construction of photovoltaic power plants (hereinafter also “PvPP”) by households, in the Czech Republic it was also supported by entrepreneurs with limited installed capacity and on the condition that they themselves consume this electricity.

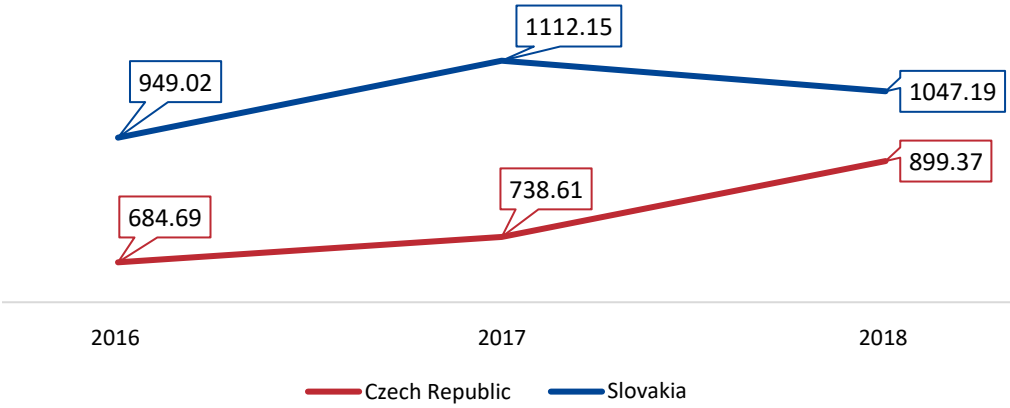
There were differences in the provision of PvPP support between the Czech Republic and Slovakia, but in both countries the development in the promotion of PvPP for the production of electricity from RES is similar. In the Czech and Slovak Republics, the share of PvPP in total electricity production is only in percentage points and does not increase significantly any further. The growth rate of electricity production from PvPP is slower than the development of production from other sources.

The Czech Republic fulfils its target of 13% share of renewable energy by 2020 in total energy consumption; the Slovak Republic is at risk of not meeting it. While the measures put in place by both countries in this area are functional, they are not sufficient for the further significant development of PvPP.

Households

In the Czech Republic and Slovakia, a subsidy is provided for the construction of small PvPP with an installed capacity of up to 10 kW. The comparison showed that in the Czech Republic a lower subsidy per unit of installed capacity is spent, i.e., in the Czech Republic the efficiency of the provided subsidy is higher than in the Slovak Republic (see Graph No 2). The reason may be, among other things, the setting of the mechanism of granting a subsidy, when a significantly higher subsidy (bonus) for accumulation is provided in the Czech Republic.

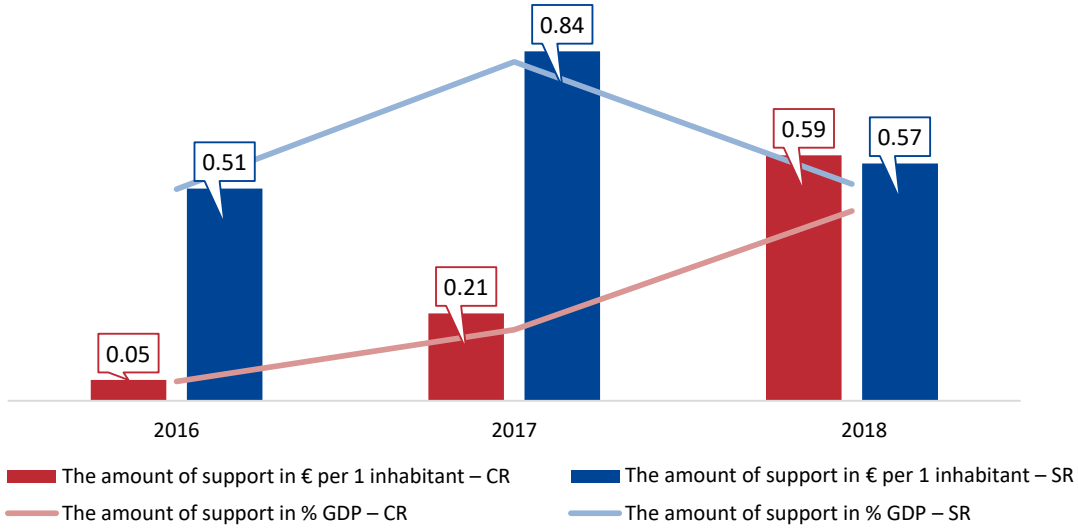
Graph 2 – Effectiveness of the subsidy to support small PvPPs – i.e., average amount of support per 1 kW of installed capacity in euros



Source: *SAIs*
Note: *Support for 2015 was not provided*

Expenditure related to the provision of subsidies for PvPP per capita was similar in both countries in 2018; this is also shown in the following graph. In previous years, the differences in data are caused by the time shift and support conditions in the Czech Republic and are justified. However, the Slovak Republic provided higher subsidy support in relation to GDP than the Czech Republic.

Graph 3 – Amount of subsidy support in the CR and in the SR per capita and GDP



Source: *SAIs*

Unused electricity produced from RES, for which a subsidy (the so-called surpluses) was provided, has been supplied in the Slovak Republic to the grid free of charge for installations commissioned since 2014. In comparison, it is supplied in the Czech Republic at the price negotiated by the producer and the distributor. This difference may be another reason for higher efficiency of subsidies in the Czech Republic.

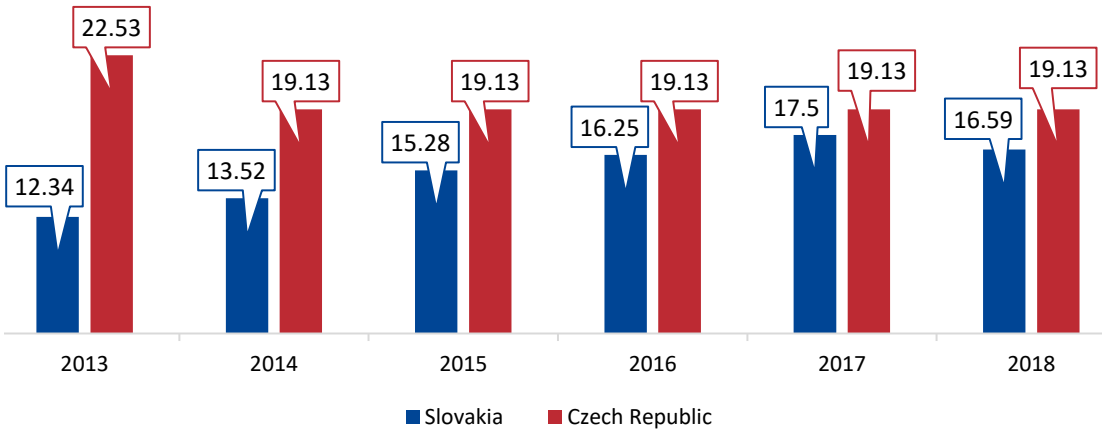
Support in the form of the guaranteed feed-in tariff for electricity is provided in the Slovak Republic for a period of 15 years and in the Czech Republic for 20 years. In the Czech Republic, the so-called green bonus for higher performance installations is also provided. In the Slovak Republic, after 31 December 2013, the electricity producer can choose between the guaranteed feed-in tariff for electricity from PvPP or support in the form of a subsidy for the installation

of PvPP. In the Czech Republic, however, the support in the form of feed-in tariffs and green bonus is provided for installations launched until 31 December 2013; new installations no longer have support.

In the Czech Republic, during the period of the right to support electricity in the facility put into operation in the period from 1 January 2010 to 31 December 2010, the producers pay 10% or 11%, respectively, solar tax. There was no such tax introduced in the Slovak Republic.

Since 2014, a lower value of the fee for the support of electricity production from RES (see Graph 4) in the Czech Republic has been achieved by introducing a solar tax.

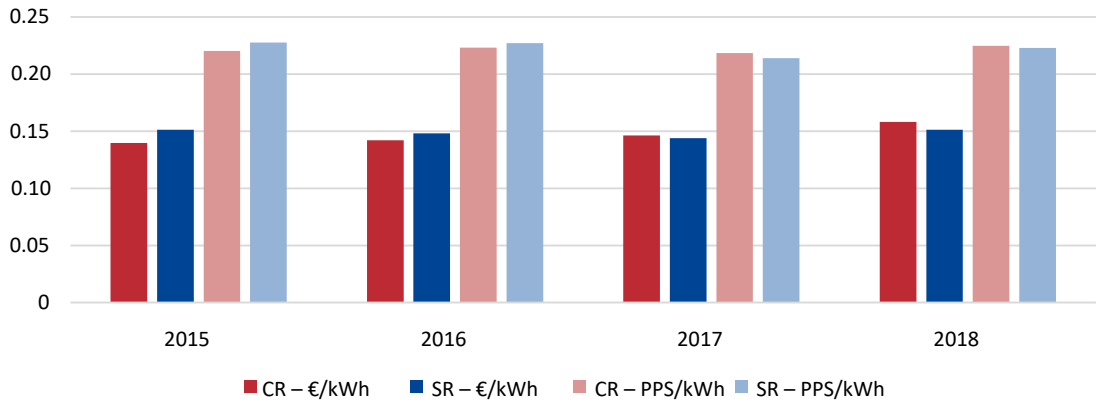
Graph 4 – The value of the fee to support the production of electricity from RES in €/MWh



Source: *SAIs*

In the Czech Republic excise duty exemption is provided only for installations up to 30 kW, in the Slovak Republic without power limitation. The Slovak Republic also provides exemption from excise duty for electricity produced from RES for households. There is no such tax support in the Czech Republic. Moreover, in the Slovak Republic, electricity produced from any source is exempted from excise duty as long as the consumer is a household.

Graph 5 – Overview of electricity prices for households (including all taxes and fees) at consumption of 2,500 kWh – 5,000 kWh



Source: *Eurostat*
Note: *PPS – purchasing power standard*

Although different forms of support are applied in both countries, the total price of electricity for households is similar.

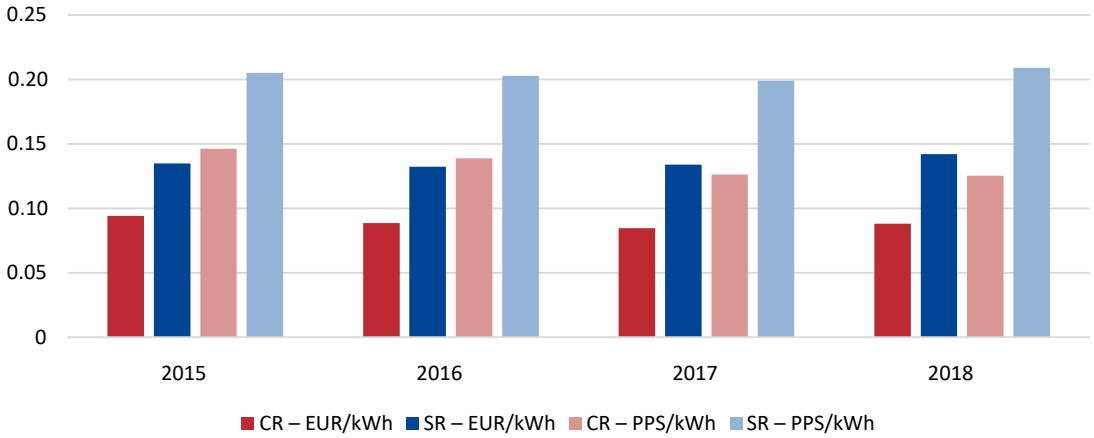
Entrepreneurs

Subsidy support for entrepreneurs is provided only in the Czech Republic, however, if many conditions are met, for example. maximum supported installed power, self-consumption, installation of additional measures. In the Slovak Republic, no such support is provided to entrepreneurs.

In the Slovak Republic, electricity produced from RES is exempt from excise duty on electricity, which is reflected in the total electricity bill per year for a consumer who is an entrepreneur, provided that the electricity producer transfers the guarantee of origin of electricity from RES to the final electricity consumer. There is no such exemption mechanism introduced in the Czech Republic, i.e., if the final consumer is an entrepreneur, he will also pay excise duty on electricity produced from RES. The production of electricity up to 30 kW produced by the entrepreneur for his own consumption is exempt from excise duty.

Unlike the Czech Republic, data on the amount of electricity produced exempted from excise duty are available in the Slovak Republic, as there is a reporting obligation in the Slovak Republic introduced for all entities that are connected to the distribution grid (i.e., including households).

Graph 6 – Overview of electricity prices for small enterprises[1] (including taxes and fees) at consumption of 500 MWh – 2 000 Mwh



Source: *Eurostat*
Note: *PPS – purchasing power standard*

1 Small enterprises – approximation of prices for the non-household sector with consumption of 500 MWh – 2,000 MWh.

4. Legislation and objectives in support of climate and energy policy

4.1. UN Sustainable Development Goals

At the UN Summit on 25 September 2015, the document Transforming Our World: The 2030 Sustainable Development Agenda, also endorsed, among other things, the Sustainable Development Goals. One of the goals is also to combat climate change and manage its consequences. The results of meeting the Sustainable Development Goals (SDGs) according to the European Report on Sustainable Development 2019 in the Czech Republic and Slovakia are shown in Pictures No 1 and No 2.

Picture No 1 – Climate measures in the Czech Republic

13 CLIMATE ACTION				
Score: 89.1	→	**Climate action** 89.1		
		CO_2 emissions from energy (tCO_2/inhabitant)	9.5	→
		Imported CO_2 emissions, technologically modified (tCO_2/inhabitant)	-3	..
		People affected by climate-related disasters (per 100,000 inhabitants)	0	..
		CO_2 emissions from fossil fuel exports (kg/inhabitant)	1588.4	..
		Effective carbon rate (EUR/tCO_2)	7.6	..

Rating:

- SDG was achieved
- Challenges remain
- Significant challenges remain
- The main challenges remain
- Information not available

Trend:

- ↑ Towards the 2030 target
- ↗ Scores slightly growing, insufficient to achieve the goal
- → The score stagnates or does not reach even 50% of the growth needed to meet the target
- ↓ The score is falling
- .. Trend information is not available

Source: *Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. (2019): Sustainable Development Report 2019 New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN)*

Picture No 2 – Climate measures in the SR

13 CLIMATE ACTION				
Score: 77.2	↗ **Climate action** 77.2			
	CO_2 emissions from energy (tCO_2/inhabitant)	5.5	●	↗
	Imported CO_2 emissions, technologically modified (tCO_2 /inhabitant)	2.1	●	..
	People affected by climate-related disasters (per 100,000 inhabitants)	0	●	..
	CO_2 emissions from fossil fuel exports (kg/inhabitant)	1656.5	●	..
	Effective carbon rate (EUR/tCO_2)	18.1	●	..

Rating:

- SDG was achieved
- Challenges remain
- Significant challenges remain
- The main challenges remain
- Information not available

Trend:

- ↑ Towards the 2030 target
- ↗ Scores slightly growing, insufficient to achieve the goal
- → The score stagnates or does not reach even 50% of the growth needed to meet the target
- ↓ The score is falling
- .. Trend information is not available

Source: *Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. (2019): Sustainable Development Report 2019 New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN)*

4.2. EU climate and energy policy objectives

Directive 2009/28/EC, which establishes a common framework for the promotion of energy from renewable sources, is the basic piece of legislation for the achievement of the common objectives of CEP by 2020, within the EU. In Art. 3 (1), this Directive defines the share of RES in EU gross final energy consumption of 20%. Given the different possibilities of the energy mix, the overall target is further subdivided to the individual countries:

- for the Czech Republic, a target has been set to reach a share of 13% in 2020
- for the Slovak Republic, a target has been set to reach a share of 14% in 2020

Further, in Art. 3 (4), this Directive provides the share of RES in transport of 10%, which is set at the same level for all countries. In order to facilitate the achievement of the objectives set out in this Article, each Member State shall push through and promote energy efficiency and energy savings. With a view to supporting the alternative fuels market and thus achieving the EU's transport target of 10% share of energy from renewable energy sources in transport fuels, the European Parliament and the Council adopted Directive 2014/94/EU.

The European Council meeting held on 23 and 24 October 2014 set a binding target for reducing greenhouse gas emissions in the EU by at least 40% by 2030 compared to 1990.

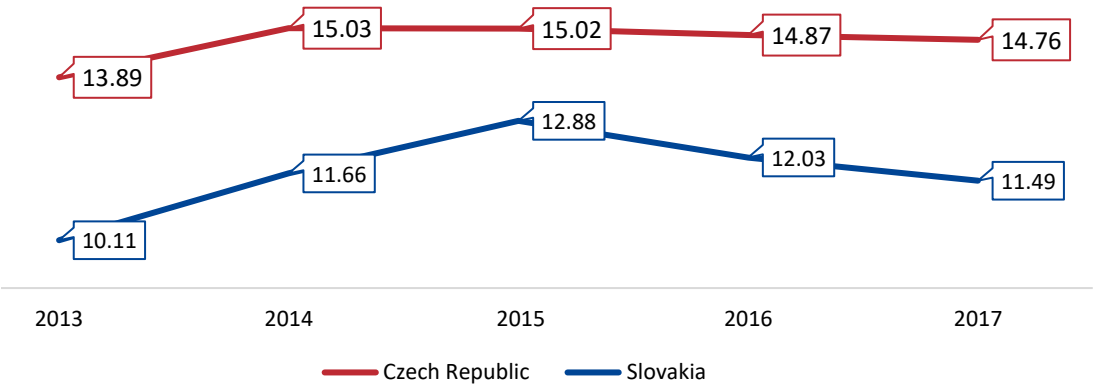
In 2018, the EU set up the follow-up objectives of CEP by 2030 with Directive (EU) 2018/2001, where, according to Art. 3 and Art. 25 there is an increased common EU-level target for the share of RES in gross final energy consumption to 32% and the share of RES in transport to 14%. This Directive foresees an ongoing review of these targets, with the possibility of increasing the share of RES.

For sectors not covered by the EU Emissions Trading Scheme, the target is to reduce emissions by 30% by 2030 compared to 2005.[2] This will require stronger support for the introduction of RES and other alternative fuels.

2 Source: http://data.consilium.europa.eu/doc/document/ST-169-2014-INIT/cs/pdf.

Real fulfilment of the binding national target for the share of energy from RES in the gross final consumption in the Czech Republic and Slovakia, which is to reach the value of 13% or 14%, respectively, by 2020, is documented in Graph No 7. While the Czech Republic is meeting the EU 2020 target, the Slovak Republic is at risk of not meeting it. **Both countries do not meet the 10% share of RES in transport according to Eurostat data. In 2017, the Czech Republic achieved a share of RES in transport of 6.6% and the Slovak Republic 7%.**[3]

Graph 7 – Share of energy from RES in gross final energy consumption (in %)



Source: *Eurostat – Share of energy from renewable sources, last update on 28 August 2019, available from: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_ren&lang=en*

Both countries have implemented the above-mentioned EU directives on audited areas into the national legal framework. Key European and national regulations are listed in Annex No 1 and 3.

Climate-energy policy measures in both countries were the responsibility of several ministries. Monitoring reports were submitted to the EU bodies by the Ministry of Economy of the Slovak Republic and by the Ministry of Industry and Trade of the Czech Republic.

3 https://ec.europa.eu/eurostat/statistics-explained/images/d/d1/Share_of_renewable_energy_sources_in_transport%2C_2004-2017_%28%25%29.png

5. Evaluation of audit

The SAO CR and SAO SR fulfilled the stated purpose of this coordinated audit. Both SAOs gained deeper knowledge of ways and tools supporting the fulfilment of EU objectives applied in the Czech Republic and Slovakia. Among these countries, they identified differences in the instruments used, which have an impact on the effectiveness and efficiency of support. Coordinated audit showed strengths and weaknesses in both countries.

The SAIs have found that the current climate and energy policy support instruments in the transport and photovoltaics sectors have not yet significantly helped meet these countries' commitments to reduce emissions and increase the share of renewables in transport. Both countries have been meeting their transport commitments to date, mainly due to the use of first-generation biofuels, which, due to some of their negatives, can be expected to decline in importance. Therefore, both countries will have to make greater efforts to promoteRES.

An obstacle to the introduction of alternative vehicle power could be the different approach of EU countries to the type of alternative fuel supported. Nevertheless, countries such as the Czech Republic and Slovakia, where cross-border traffic is very important, support different types of alternative fuels. In the Slovak Republic, this is reflected in the lower density of the territory by publicly accessible CNG filling stations, which may be a limiting factor in the use of vehicles with this power. In comparison, the development of electromobility in Slovakia is more significantly supported than in the Czech Republic.

The system implemented so far and the applied forms of support directed to selected CEP areas did not have a significant impact on public finances in both countries. With the development of support for RES and alternative sources, increased demands on state budget revenues and expenditures can be expected.

6. Details of audit

6.1. Biofuels in transport

The development of the EU target of a mandatory 10% share of RES in transport to date does not indicate its fulfilment in 2020. Both countries achieve this goal mainly by using biofuels. The Czech Republic and the Slovak Republic introduced a mandatory share of the minimum volume of biofuels blended in petrol and diesel.

Table No 1 – Statutory minimum volume of biofuel in diesel and petrol per calendar year in the Czech Republic

Volume of biofuel	2015	2016	2017	2018
in diesel	6.0%	6.0%	6.0%	6.0%
in petrol	4.1%	4.1%	4.1%	4.1%

Source: *Act No 201/2012 Coll., on air protection, § 19 (1) letters a) and b).*

Table No 2 – Statutory minimum volume of biofuel in diesel and petrol per calendar year in the Slovak Republic

Minimum biofuel volume	2015	2016	2017	2018
in diesel	6.8%	6.9%	5.8%	5.8%
in petrol	4.5%	4.6%	5.8%	5.8%

Source: *Act No 309/2009 Coll., on the promotion of renewable energy sources and high-efficiency cogeneration and on the amendment of certain acts, § 14a (1)*

By Directive 2015/1513[4] the EU set a target of 0.5% for blending advanced biofuel[5] in fuel. The Czech Republic has not introduced a limit for blending advanced biofuels into fuels. Advanced biofuels in the Czech Republic are counted twice as much in the share of RES in transport, thus demonstrating the Czech Republic's efforts in supporting advanced biofuels to meet EU requirements. Slovakia does not meet the minimum volume of advanced biofuels.

4 Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC on the quality of petrol and diesel fuels and Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

5 Advanced biofuel is a biofuel that has a low effect in terms of indirect land use change.

In the Czech Republic, both first and second generation biofuels are produced, but only first generation biofuels have been blended into fuels. The second generation of biofuels is intended for export abroad and for pilot projects. In the Slovak Republic, second-generation biofuels are neither produced nor used.

Table No 3 – Total amount of biofuels applied for transport purposes in the years 2015 to 2018 in the Czech Republic

	2015	2016	2017	2018
Amount of biofuels put into tax free circulation in litres*	386,341,754	394,680,909	442,513,374	476,269,755
Amount of biofuels put into tax free circulation in litres/inhabitant*	36.61	37.31	41.71	44.72

Source: *Customs Administration of the Czech Republic, EU energy statistical pocketbook and country datasheets.*
** does not include the proportion of the bio-component in high-percentage blended fuels (30% RME, 30% FAME, E85, E95). A share of the bio-component itself is not available.*

Table No 4 – Total amount of biofuels applied for transport purposes in the years 2015 to 2018 in the Slovak Republic

	2015	2016	2017	2018
Amount of biofuels put into tax free circulation in litres	214,256,000	211,256,000	231,050,000	232,127,000
Amount of biofuels put into tax free circulation in litres/inhabitant	39.49	38.87	42.45	42.59

Source: *SAO SR; Ministry of Economy of the Slovak Republic; population data available from: http://statdat.statistics.sk/*

6.1.1. Support of biofuels in the Czech Republic

In the Czech Republic, the production and use of biofuels in transport was tax-supported by:

- excise duty relieves
- exemption from road tax.

Promotion of biofuels through excise duty relief

Tax support for biofuels in the Czech Republic was provided on the basis of state aid SA.39654 (2015/NN) approved by the European Commission "Multiannual support for biofuels in transport" dated 12 August 2015. This support was preceded by multi-annual support SA.25985. Multiannual aid for biofuels in transport was reflected in Act No 353/2003 Coll., on excise duties[6] and is effective until 31 December 2020.

The objective of the aid scheme was to reduce greenhouse gas emissions in transport by increasing the use of high-percentage blends of biofuels and pure biofuels. From Tables No 7 to 9, it is clear that this objective has not been achieved as the consumption of these fuels and the use of aid are negligible. The achieved consumption of high-percentage biofuels blend in transport cannot be significantly reflected in the reduction of emissions.

Since 2016, tax support for biofuels in the Czech Republic has been focused on excise duty relief for high-percentage biofuels and clean biofuels over conventional biofuels (i.e., petrol and diesel). High-percentage biofuels are fuels in which the bio-component is at least 30%. According to the approved state aid, the supported biofuels are: FAME (fatty acid methyl ester)[7] B100, vegetable

6 Act No 353/2003 Coll., § 48 (5) and (10), § 49 (10), (13), (15), § 54 (3) and (4) in the version in effect as of 1 January 2018.

7 Fatty acid methyl esters (including rapeseed oil – RME).

oil (especially pure rapeseed oil), SMN B30[8], ethanol E85, ethanol E95 and biogas. Advanced biofuels[9] (second generation fuels only in pilot projects, i.e., in limited quantities and for closed fleets) are also eligible for support, i.e., in limited quantities and for closed vehicle fleets). The tax support was implemented as follows in the period under review:

a. **By reducing the rate of excise duty** compared to conventional fuels for high-percentage blends with mineral oils and biofuels depending on the biofuel content (see Table No 5).

Table No 5 – Excise duty rates for conventional fuel and biofuels in €/1,000 litres

	Tax rate in		
Conventional fuels	**2015**	**2016**	**2017–2020**
Petrol	496.14	496.14	496.14
Diesel	423.11	423.11	423.11
High percentage biofuels			
Mixture of diesel with a minimum share of 30% rape seed methyl ester	296.17	358.00	329.02
Vegetable oils falling within CN codes 1507 to 1518	Same rate as the conventional fuel closest to the properties and purpose of use.*	177.36	62.21
Fatty acid methyl esters of CN 3824 90 99		177.36	84.62

Note: *CN – Combined Nomenclature.*
** tax support was applied in the form of tax exemptions.*

b. **Refund of excise duty paid** on high-percentage mixtures with mineral oils and biofuels meeting the sustainability criteria of biofuels.

Table No 6 – Amount of tax refund in €/1,000 litres

	Amount of tax refund		
	2015	**2016**	**2017-2020**
Alcohol contained in petrol with a proportion of alcohol in the mixture between 70% – 85%.	496.14	395.29	423.88
Mixtures of medium oils (diesel) and heavy gas oils with hydrogenated vegetable oils with a biofuel content in the mixture of at least 30%.	Not applicable	125.89	

Source: *SAO CR*

c. **Excise duty exemption for biofuels** under pilot projects approved by the Ministry of the Environment and the Ministry of Finance, i.e., technological development of a more environmentally friendly fuel mixture based on alcohol, hydrogenated vegetable oils or fuels produced from non-food biomass or bio-waste, while maintaining the sustainability criterion of biofuels. In 2015, the exemption was also applied to vegetable oils falling within the Combined Nomenclature ('CN') 1507 to 1518 and methyl or ethyl esters of fatty acids of CN 3824 90 99.

The impact of the support on public budgets is provided in Table No 7. The granting authority is the Ministry of Finance.

8 Blended diesel with at least 30% FAMR/RME content.

9 They are defined as biofuels produced from non-food biomass or bio-waste, the production being based on the technological development of a fuel mix that is more environmentally sound.

Table No 7 – Tax support for biofuels from 2015 to 2018 **(€)**

	Tax support in			
	2015	2016	2017	2018
Alcohol	5,827,212	1,433,526	1,397,380	1,214,627
FAME in SMN 30	20,090,463	6,560	3,646	0
Clean FAME (fatty acid methyl ester)	51,461,569	47,766	3,232	379,440
Total per year	**77,379,244***	**1,487,852**	**1,404,258**	**1,594,067**

Source: *Customs Administration of the Czech Republic*
** this amount includes unauthorized support within the meaning of EU legislation.*

The significant reduction in the amount of tax support between 2015 and 2016 was due to a change in the biofuel support system, consisting in the impossibility of including high-percentage and clean biofuels in the compulsory blending of biofuels into diesel and petrol. Furthermore, as of 1 January 2016, the tax burden on high-percentage and clean biofuels increased[10].

These changes did not have a negative impact on the total amount of biofuels used for transport purposes and, on the contrary, increased the collection of excise duty. The Czech Republic's biofuel targets for the introduction of RES in transport since 2016 have been achieved with a negligible expenditure of public budgets. Targets for the introduction of high-percentage and clean biofuels are not met and their consumption is minimal compared to conventional fuels.

The impact of fiscal policy and other measures can be demonstrated on the relation between the amount of tax support and selected macroeconomic indicators (see Table No 8).

Table No 8 – The amount of state aid granted in relation to biofuels for selected macroeconomic indicators

	2015	2016	2017	2018
Indicator of aid amount in % of GDP	0.04357	0.00081	0.00072	0.00077
Indicator of the aid amount per capita (in €)	7.33	0.14	0.13	0.15

Source: *SAO CR, CSO*

The effect of tax/fiscal policy and other measures can also be demonstrated on the relation between the tax rate and the purchasing power of the population (see Table No 9).

Table No 9 – The indicator of[11] excise duty support to GDP per capita in purchasing power standard (CPA)

	Tax rate (in €/1,000 litres)		
Conventional fuels	**2015**	**2016**	**2017-2020**
Petrol	551.27	551.27	551.27
Diesel	470.12	470.12	470.12
High-percentage biofuels	**Reduced tax rate (in €/1,000 litres)**		
Mixture of diesel with a minimum share of 30% rape seed methyl ester	329.08	397.78	365.58
Vegetable oils falling within CN codes 1507 to 1518	0	197.07	69.12
Fatty acid methyl esters of CN 3824 90 99		197.07	94.02
	Refund of the tax (in €/1,000 litres)		
Alcohol contained in petrol with an alcohol content of between 70% – 85%.	551.27	439.21	470.98

Source: *Eurostat – GDP per capita in purchasing power standard, available from:* https://ec.europa.eu/eurostat/databrowser/view/tec00114/default/table?lang=en

10 State aid SA.39654 (2015/NN) approved by the European Commission "Multiannual promotion of biofuels in transport" of 12 August 2015.

11 Amounts are, in order to better compare the significance of the tax between countries, in relation to GDP per capita in purchasing power standard, when 100% = EU-28, as of 2018: CR: 90% of EU-28 countries, Slovakia: 78% of EU-28 countries, created split coefficients: CR: 0.90 and SR: 0.78.

Promoting biofuels on road duty

Road tax is applied in the Czech Republic, which applies to vehicles operated by entrepreneurs and all trucks. The CEP and biofuels targets are covered by the Road Tax Act in the tax exemption clause. According to § 3 (f) of Act No 16/1993 Coll., on road tax, passenger vehicles or freight vehicles with a maximum permitted weight of less than 12 tonnes, which are equipped with an engine designated by its manufacturer for combustion of car petrol and ethanol 85, are exempt from tax. Such vehicles shall be exempt from road tax in the range of:

- €46.37 – €162.29 per year for passenger cars, depending on the vehicle's engine capacity
- €69.56 – €417.31 per year for trucks up to 12 tonnes.

Impacts of biofuel promotion

The impact of fiscal policy and other measures can be demonstrated on the relation between consumption and selected macroeconomic indicators (see Table No 10).

Table No 10 – Indicator of conventional fuel consumption per capita and €1 million of GDP

Consumption indicator per year	litres per capita		litres per €1 million of GDP	
	2015	2018	2015	2018
Petrol without BIO	0.60	0.18	37.89	9.31
Petrol with BIO	186.01	181.07	11,654.34	9,279.88
Diesel without BIO	247.34	45.43	15,496.62	2,328.17
Diesel with BIO	217.29	470.46	13,614.03	24,111.24

Source: *Calculations of the SAO CR, Customs Administration of the CR, CSO*

Table No 11 – Indicator of average fuel price in the years 2015 to 2018 in the Czech Republic

	2015	2016	2017	2018
Petrol Natural 95 octane (€/l)	1.212	1.028	1.171	1.241
Petrol Natural 98 octane (€/l)	1.319	1.214	1.275	1.379
Diesel (€/l)	1.206	1.058	1.139	1.221

Source: *http://www.cng4you.cz, https://www.czso.cz/csu/czso/statistiky*

6.1.2. Support of biofuels in the Slovak Republic

Biofuel support system

The support of biofuels was implemented in the Slovak Republic by EC state aid instruments, namely N 360/2006 and in 2018 SA 49509. State support was granted in the form

- of a reduction in the rate of excise duty on mineral oil and
- exemption from excise duty on a biogenic substance.

The tax advantage applies to the introduction of biofuel (biogenic substance), petrol and gas oil (diesel) in the tax free circulation. It is provided by the Ministry of Finance of the Slovak Republic through the Financial Directorate of the Slovak Republic.

The basic legal regulations in national legislation are Act No 309/2009 Coll., and Act No 98/2004 Coll. These laws define the provisions on biofuels, as well as the conditions under which biofuels or petrol and gas oil containing biofuels can be subject to tax advantage. A biogenic substance is defined as a liquid or gaseous biogenic substance produced from biomass, which since 2018 is also considered as advanced biofuel.

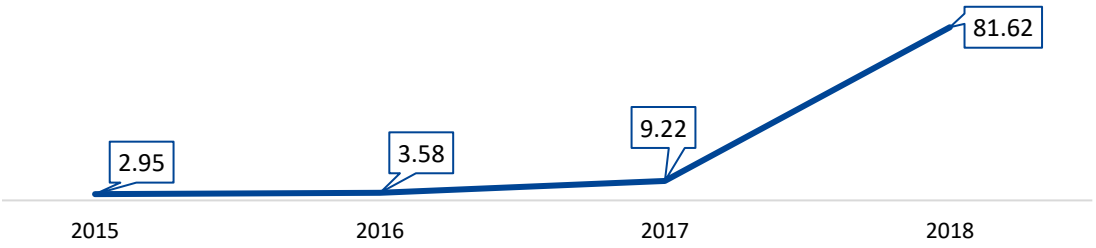
Bio-component (biogenic substance), which is a substance referred to in § 4 (7) of Act No 98/2004 Coll., is exempt from excise duty on mineral oil. For petrol and gas oil (diesel) containing the bio-component referred to in § 4 (7) of Act No 98/2004 Coll., a reduced rate of excise duty is applied in the volume intended for use as a fuel.

Supporting measures of the Government of the Slovak Republic aimed at achieving the energy target also included a direct incentive in the form of a subsidy provided by the Ministry of Education, Science, Research and Sport of the Slovak Republic for the applied research of the production of ethanol fuel of the first and second generation, totalling €1,993,540, about €0.5 million were drawn.

Financing support for biofuels

The total amount of state aid granted to support the research, production, and use of biofuels in 2015-2018 amounted to approx. €97.9 million. Of this, support in the form of excise duty relief amounted to approx. €97.4 million – see Graph No 8. Subsidies from the state budget for research of the production of ethanol fuel of the first and second generations were provided in the amount of €0.5 million.

Graph 8 – State aid to promote biofuels in the form of tax advantages in million euros



Source: *Financial Directorate of the SR (FD SR)*

Overview of selected measurable biofuel indicators

Overview of the amount of biofuels put into tax free circulation broken down by type of biogenic component for the given year in litres and per capita and €1 million of GDP is documented in the following table.

Table No 12 – Consumption of biofuels per capita and €1 million of GDP

Indicator of biofuel consumption for the year in litres	per capita		per € 1 million of GDP	
	2015	2018	2015	2018
Ethanol fuel	3.69	5.11	251.21	310.27
Biodiesel	28.06	29.65	1,908.72	1,801.50
Ethyl tert-butyl ether (ETBE)	7.74	7.83	526.39	475.44

Source: *SAO SR; Ministry of Economy of the SR; population data available, as well as in the amount of GDP available from: http://statdat.statistics.sk/*

The indicator of excise duty support relative to GDP and per capita in purchasing power parity (PPP) is documented in Table No 13.

Table No 13 – Excise duty support **(in €/1,000 l)**

		2015	2016	2017	01/2018	from 02/2018
Petrol containing biogenic substance (from 1 January 2018 ethanol fuel component)	to the volume stipulated in a special regulation	677.10	677.10	677.10	632.84	681.42
	in the volume stipulated in a special regulation or more	634.06	634.06	634.06	634.06	632.22
Gas oil containing biodiesel (from 1 January 2018 and biogenic substance)	to the volume stipulated in a special regulation	475.27	475.27	475.27	452.64	484.62
	in the volume stipulated in a special regulation or more	452.64	452.64	452.64	452.64	452.64

Source: *Eurostat – GDP per capita in relation to purchasing power parity, available from: https://ec.europa.eu/eurostat/databrowser/view/tec00114/default/table?lang=en*

Indicator of petrol and diesel consumption in the given year in litres per capita and €1 million of GDP is documented in Table No 14.

Table No 14 – Petrol and diesel consumption

Indicator of petrol and diesel consumption	in litres per capita		in litres per €1 million of GDP	
	2015	2018	2015	2018
Petrol with the content of biogenic substance up to the volume according to special regulation*	0.44	0.57	30.16	34.79
Petrol with the content of biogenic substance in the volume and more according to a special regulation*	128.21	135.06	8,722.77	8,204.88
Gas oil with the content of biodiesel up to the volume according to special regulation*	5.46	7.72	371.52	469.22
Gas oil with the content of biodiesel in the volume and more according to a special regulation*	379.99	430.65	25,852.11	26,161.35

Source: *the SAO SR; FD of the SR; population data and GDP figures available from: http://statdat.statistics.sk/*

** Technical standard STN EN ISO 4259 Petroleum products. Determination and use of accuracy data in relation to test methods.*

The overview of the development of average fuel prices for 2015 to 2018 is provided in the following table.

Table No 15 – Development of average fuel prices **(in €/l)**

	2015	2016	2017	2018
Petrol Natural 95 octane (€/l)	1.285	1.209	1.285	1.359
Petrol Natural 98 octane (€/l)	1.465	1.413	1.492	1.564
Diesel (€/l)	1.134	1.040	1.132	1.244

Source: *SAO SR*

6.2. Natural and oil gas (CNG, LNG and LPG) in transport

6.2.1. Support of natural and oil gas in the Czech Republic

In the Czech Republic, vehicles powered by natural and oil gas (CNG, LNG and LPG) were supported through:

- excise duty relief,
- road tax exemption,
- subsidies for the acquisition of vehicles,
- permission to enter low-emission zones.

Excise duty/carbon fuel tax

Pursuant to Directive No 2003/96/EC Member States may apply, under fiscal supervision, total or partial tax exemptions or reductions for natural gas (CNG, LNG) and liquefied petroleum gas (LPG) used as fuels. The Czech Republic has used this option and, in the case of natural gas, the excise duty rate will reach the minimum rate according to the Directive in 2020. The development of CNG and LPG rates is provided in Table No 16.

Table No 16 – Development of the rates of taxes on natural gas and liquefied petroleum gas intended for the power of engines

	2015	2016	2017	2018
CNG and LNG tax rate in €/MWh	2.64	2.64	2.64	5.28
LPG tax rate in €/tonne	151.97	151.97	151.97	151.97

Source: *Act No 261/2007 Coll., Act No 353/2003 Coll.*

On the basis of the "Memorandum on long-term cooperation in the field of development of natural gas vehicles for the period up to 2025", the Government of the Czech Republic also undertook, if the given conditions are met, not to raise the tax on natural gas above €11.21/MWh. This commitment applies to gas consumption of max. 10% of total fuel consumption.

Table No 17 – Share of excise duty on CNG/LPG in total excise duty on natural gas/mineral oils in 2015 to 2018 (in € million)

	2015	2016	2017	2018
CNG				
Excise duty levied on natural gas	44.01	46.31	49.72	49.99
Excise duty levied on CNG	1.09	1.60	1.88	3.94
Share in %	2.47	3.44	3.78	7.89
LPG				
Excise duty levied on mineral oils	3,283.44	3,446.00	3,516.87	3,567.99
Excise duty levied on LPG	15.04	15.09	14.49	13.89
Share in %	0.46	0.44	0.41	0.39

Source: *Customs Administration of the CR*

Note: *Calculation of the excise duty levied on mineral oils: total tax on selected mineral oils (fuels) + tax on liquefied petroleum gases (LPG only).*

The decreasing consumption of LPG is also reflected in the lower amounts of the excise duty levied on LPG. The greater increase in the share of excise duty on CNG in excise duty on natural gas in 2018 (see Table No 17) is due mainly to a doubling of the CNG/LNG tax rate and an increase in consumption. The amount of tax support is provided in Table No 18.

Table No 18 – Amount of aid – excise duty reduction between 2015 and 2018 (in € million)

	2015	2016	2017	2018
Reduced natural gas tax rate compared to the Directive	2.79	4.08	4.81	3.07

Source: *Customs Administration of the CR, Ministry of Finance, Ministry of the Environment*

Note: *Support for natural gas = the difference between the excise duty at the minimum rate under the Directive and the excise duty levied in each year.*

Road tax

Vehicles operated by entrepreneurs for the transport of persons or vehicles for the transport of goods and having a maximum permitted weight of less than 12 tonnes are subject to road tax. Such vehicles are exempt from road tax if they use LPG or CNG as fuel. The tax exemption shall be:

- €46.37 – €162.29 per year for passenger cars, depending on the vehicle's engine capacity
- €69.56 – €417.31 per year for trucks up to 12 tonnes.

The total amount of road tax support is given in Table No 19, but it is also the amount of support for other supported alternative powers[12]. The amount of support only for vehicles with CNG and LPG cannot be quantified, as the tax return does not distinguish the type of power. Given that the number of vehicles with other alternative power is negligible, it can be stated that the aid granted concerns CNG and LPG powered vehicles.

Table No 19 – Amount of aid granted in connection with the exemption from road tax in 2015 to 2018

	2015	2016	2017	2018
Number of vehicles with exemption	45,976	57,697	82,604	*
Exemption from road tax in euros	3,427,821	4,339,297	5,982,303	*

Source: *Ministry of Finance of CR*
Note: ** For 2018, values were not available during the audit.*

Subsidy support

Subsidy support in the transport sector in the Czech Republic was related to fleet renewal and CNG powered vehicles were supported. LPG was not subsidized. The subsidy support was focused on the public sector and entrepreneurs. No subsidy was provided to non-entrepreneurs. The subsidy support was implemented from the National Programme Environment (hereinafter referred to as "NPE"). Eligible subsidy beneficiaries were municipalities, regions, voluntary associations of municipalities, companies owned by more than 50% of their property by municipalities and regions, or some associations.

Table No 20 – Amount of allocated subsidy from the NPE for the purchase of CNG powered vehicles **(in €)**

	2015	2016	2017	2018
Amount of support for the public sector from the NPE	-	772,798	772,798	386,399

Source: *Ministry of the Environment*

Permission to enter low emission zones

Low-emission zones can be introduced in the Czech Republic on the basis of an amendment to Act No 86/2002 Coll.[13], from 2011. The aim of this measure is to reduce air pollution in the municipality from traffic, both in its entirety or only part of it. According to section 14 subsection 3, the introduction of such "a low-emission zone may be established in a transit section of a motorway or road only if there is another motorway in the municipality outside the low-emission zone or outside the built-up area of the same or neighboring municipality; roads of the same or

12 Pursuant to § 3 f) of Act No 16/1993 Coll., on road tax, exempt from tax are "passenger vehicles or freight vehicles with a maximum permitted weight of less than 12 tonnes, which
1. have an electric power;
2. have a hybrid power combining combustion engine and electric motor;
3. use liquefied petroleum gas or compressed natural gas as fuel; or
4. fitted with an engine designed by its manufacturer for the combustion of petrol and ethanol 85."

13 Act No 86/2002 Coll., on Air Protection and on Amendments to Certain Other Acts (Air Protection Act).

higher class, along which it is possible to provide similar transport connections." Until the end of the audit, the possibility of introducing a low-emission zone has not been used by any municipality in the Czech Republic. This measure also applies to electric vehicles and hybrid electric vehicles.

Impact of support for CNG, LNG and LPG powered vehicles

The aim of the support is to increase the number of vehicles with the supported power and improve the related infrastructure. The overall impact of the subsidies can be defined with the development of the actual condition of vehicles, the development of filling stations and fuel consumption (see Table No 21-25).

Table No 21 – Comparison of forecast and actual state of the number of CNG vehicles

	2015	2016	2017	2018	2020	2025	2030	2040
CNG prognosis	13,000				50,000	130,000	200,000	300,000
Actual CNG status	12,000	15,500	18,900	22,600	-	-	-	-

Source: *Forecast of 2015 from the Vision of Road Transport in 2030, NAP CM. Actual status according to http://www.cng4you.cz/cng-info/statistiky.html; Table NGV Statistics in the Czech Republic: 2004-2018*

In the vehicle register, CNG, LPG and LNG powered vehicles are registered separately, provided they are equipped only with such power. Vehicles combining these powers with conventional power are included in the items petrol or diesel. This status fundamentally affects the data obtained, since in particular LPG is almost always combined with petrol power. The Ministry of Transport provided only stock data as at 25 February 2019; see Table No 22.

Table No 22 – Structure of registered CNG, LPG and LNG powered vehicles according to the vehicle register

Number of vehicles as of 25 February 2019 in the status „operated"			Total
Total number of vehicles in CR[1]		9,090,328	-
Total number of motor vehicles in 2018[2]		7,915,701	
of which powered by:	CNG	15,689	127,206
	LPG	111,470	
	LNG	47	

Source: *Ministry of Transport*

Note: *1) It includes all vehicles registered in the vehicle register, i.e., also caravans and other trailers.*
2) Includes: light commercial vehicles, trucks, tractors, cars, motorcycles, buses.

An appropriate indication of the impact of the measures is the development of the number and share of vehicles with supported power in the new vehicle registrations in each year of the period under review (see Table No 23). The table shows that the share of CNG and LPG powered vehicles is small and has not increased in the period under review.

Table No 23 – Registration of new vehicles between 2015 and 2018

	2015		2016		2017		2018		
Type of power	CNG	LPG	CNG	LPG	CNG	LPG	CNG	Petrol + CNG	Petrol + LPG
Total	2,751	1,279	2,843	498	2,890	1,200	408	1,528	816
Share in registrations	1.19%	0.55%	1.09%	0.19%	1.06%	0.44%	0.16%	0.58%	0.31%

Source: *Car Importers Association*

From Tables No 21 to No 23 it is clear that the expected target for CNG power in 2020 will not be achieved. With this in mind, and the government-approved maximum of 10% share of CNG power in total fuel consumption, the Ministry of Finance does not expect to jeopardize the sustainability of the state budget. The number of vehicles and the consumption of vehicles on the LNG is completely negligible and is therefore no longer commented.

Table No 24 – Development of the number of public CNG filling stations and the number of CNG and LPG powered motor vehicles per station

	2015	2016	2017	2018
Number of public CNG filling stations	108	143	164	185
Indicator of the number of CNG powered vehicles per CNG filling station	111.11	108.39	115.24	122.16
Number of LPG public filling stations	895	917	918	955
Indicator of the number of LPG powered vehicles per LPG filling station	-	-	-	117

Source: *http://www.cng4you.cz/cng-info/statistiky.html; table NGV statistics in the Czech Republic: 2004-2018*

According to the NAP CM, the number of public CNG filling stations should approach approximately 200 in 2020, which is due to the development of the number of filling stations listed in the Table No 24 real.

In the period under review, LPG consumption decreased slightly and CNG consumption increased by 74%. From Table No 25, however, it is clear that consumers still preferred conventional fuels over alternative fuels, with diesel consumption increasing by 10%. CNG and LPG consumption are low compared to conventional fuels.

Table No 25 – Development of total fuel consumption in transport in the Czech Republic in 2015 to 2018 (in tonnes)

Type of fuel	2015	2016	2017	2018
Fuel consumption in the Czech Republic				
Petrol	1,563,000	1,595,000	1,588,000	1,592,000
Diesel	4,145,000	4,337,000	4,512,000	4,563,000
LPG	99,000	99,000	96,000	92,000
CNG	31,135	42,390	48,288	54,166
Indicator of fuel consumption in the Czech Republic per 1,000 inhabitants				
Petrol	148	151	150	150
Diesel	393	410	425	429
LPG	9	9	9	9
CNG	3	4	5	5

Source: *https://www.sydos.cz/cs/rocenka-2018/rocenka/htm_cz/cz18_420700.html; http://www.cng4you.cz/cng-info/statistiky.html, https://www.czso.cz/csu/czso/obyvatelstvo_hu; Conversion of 1 kg CNG = 1.4 m^3 CNG according to https://www.eurocng.cz/o-cng/ekonomika-provozu-na-cng/.*

The price of fuel in the Czech Republic for the consumer consists of the price of fuel (price excluding tax), excise duty, VAT and margin for business entities that sell fuel. The final price of fuel for the consumer is influenced by many factors, such as the change in oil prices on the global market, the change in tax rates. From Table No 26 it is clear that the increase in excise duty in relation to CNG was not significantly reflected in the sales price in 2018.

Table No 26 – Overview of the development of average fuel prices between 2015 and 2018

Development of fuel prices in years	2015	2016	2017	2018
Petrol Natural 95 octane (€/l)	1.212	1.028	1.171	1.241
Petrol Natural 98 octane (€/l)	1.319	1.214	1.275	1.379
LPG (€/l)	0.567	0.480	0.537	0.568
Diesel (€/l)	1.206	1.058	1.139	1.221
CNG (€/l)	0.711	0.684	0.667	0.682

Source: *http://www.cng4you.cz; https://www.czso.cz/csu/czso/statistiky*

6.2.2. Support of natural and oil gas in the Slovak Republic

CNG, LNG and LPG support system

The instrument for the development of the alternative fuels market in the transport sector and the development of the relevant infrastructure are **the support measures** that were elaborated by the Ministry of Economy of the Slovak Republic in cooperation with the Ministry of Transport and Construction of the Slovak Republic in the document National Policy Framework for the Development of the Alternative Fuels Market approved by the Slovak Government in November 2014. They relate to

- stimulating the promotion of the sale of low-emission vehicles for all types of use
- support for alternative fuel infrastructure
- encouraging the introduction of alternative fuels in water transport
- support for the introduction of LNG filling stations in inland ports
- maintaining a 50% reduction in the annual tax rate on CNG powered motor vehicles
- no increase in the rate of excise duty on natural gas, which is delivered for the production of compressed natural gas intended for use as a fuel above the current level of €0.141/kg until at least 2025
- 50% reduction of the registration fee for vehicles in the Slovak Republic for motor vehicles using alternative fuels (CNG, LNG, hydrogen, hybrid vehicles)
- introduction of low-emission zones
- introduction of information for road users about the location of charging and filling stations through IDS systems
- education and awareness at schools.

The measures are both financial and non-financial in nature, with deadlines set between 2016 and 2030. Implementation of the measures and responsibility for their implementation is the responsibility of several ministries, in particular the Ministry of Transport and Construction of the Slovak Republic, the Ministry of Economy of the Slovak Republic, the Ministry of Finance of the Slovak Republic, the Ministry of Environment of the Slovak Republic, which elaborated them into their strategic departmental materials and action plans.

State financial incentives include tax and fee relief for the purchase of an alternative-power vehicle, namely:

- **reduced annual tax rate on CNG, LNG and hydrogen powered motor vehicles by 50%**

Since 1 January 2015, when the amendment to Act No 361/2014 Coll., on motor vehicle tax, came into effect, the annual tax rate for CNG, LNG and hydrogen powered motor vehicles of categories L, M and N has been reduced by 50%. The reduction also applies to hybrid electric vehicles. The aim is to maintain the status quo until 2025.

The subject of motor vehicle tax is a vehicle registered in the Slovak Republic, used for business or other self-employment. The overview of the application of the 50% motor vehicle tax rate (MVTR) in the period under review 2015 to 2018 is provided in Table No 27.

Table No 27 – Number of vehicles to which the reduced rate of motor vehicle tax has been applied

Vehicles to which the annual tax rate reduction can be applied pursuant to § 7 (4) of Act No 361/2014 Coll from the tax return, row 15	Indicator	Taxing period			
		2015	2016	2017	2018
Hybrid motor vehicle or hybrid electric vehicle	number of taxpayers[1)]	876	1,227	1,892	2,810
	number of vehicles[2)]	1,085	1,487	2,365	3,756
A vehicle of category L, M, N with CNG or LNG power	number of taxpayers[1)]	862	955	1,026	1,144
	number of vehicles[2)]	1,334	1,456	1,512	1,704
Category L, M, N hydrogen-powered vehicle	number of taxpayers[1)]	42	67	78	106
	number of vehicles[2)]	44	75	98	178
Total number of vehicles of categories L, M, N with application of 50% tax rate		**2,463**	**3,018**	**3,975**	**5,638**
Total number of vehicles of categories L, M, N listed in the tax return to MVTR		722,288	746,241	737,204	751,340
Share of vehicles with application of 50% tax rate in the total number of L, M, N category vehicles listed in the tax return to MVTR		0.34%	0.40%	0.54%	0.75%

Source: *own processing based on data from Financial Directorate of the SR (FD SR)*

Explanations: *1) the number of taxpayers who have applied an annual rate reduction of 50% in their tax returns; 2) the number of vehicles for which the taxpayers applied the annual rate reduction by 50% in their submitted tax returns.*

According to data from FD SR, the number of vehicles to which the reduced rate of motor vehicle tax was applied, increased year-on-year. While in 2015 there were 2,463, in 2018 their number increased to 5,638, i.e., by 128.9%. However, their share in the total number of vehicles remains negligible; in 2018 it was 0.75%.

- **Maintaining the rate of excise duty on compressed natural gas (CNG)**

Since 2011, the rate of excise duty on compressed natural gas (CNG) has been set by Act No 609/2007 Coll., on excise duty on electricity, coal and natural gas of €0.141/kg. The aim is to maintain the status quo until 2025. The excise duty rate on LPG at €0.182/kg has been the same since 2015.

- **Reduced registration fee for registration in vehicles register in SR for motor vehicles with alternative power**

By the amendment to Act No 145/1995 Coll., on administrative fees, effective from 1 February 2017, the registration fee for registration of vehicles in the Slovak Republic for motor vehicles with alternative power with CNG, LNG and hydrogen, as well as for hybrids was reduced by 50%, but not more than to €33.

The necessary support measures also include:

- **Support for alternative fuel infrastructure, in particular the construction of publicly available filling stations.**

The aim of the Slovak Republic, by the year 2025, is to build at least 50, optimally 80 new, publicly available CNG filling stations. There are currently 11 CNG filling stations available to motorists (see Table No 28).

Table No 28 – Overview of the number of publicly available CNG stations

	2015	2016	2017	2018
Number of CNG filling stations	10	11	11	11
Number of motor vehicles per station	148.20	158.18	186.73	221.18

Source: *http://www.eafo.eu/content/slovakia*

The comparison of the forecast and the actual state of the number of CNG powered vehicles is documented in Table No 29.

Table No 29 – Forecast and actual state of the number of CNG powered vehicles

	2016	2017	2018	2019	2020	2025	2030
Forecast	2,000	2,400	2,900	3,500	5,000	15,000	30,000
Actual status	1,740	2,054	2,433	-	-	-	-

Source: *National Policy Framework for the Development of the Alternative Fuels Market, Presidium of the Police Force of the SR*

In support of the infrastructure necessary for the use of alternative fuels, the Ministry of Transport and Construction of the Slovak Republic on 9 May 2017 – in the framework of the Operational Programme Integrated Infrastructure – approved a non-repayable financial contribution to the project of LNG terminal construction in the public port of Bratislava in the total amount of €686,856.80. Of this, EU funds were to be €583,828.28 (85%), further co-financing from the state budget €34,342.84 (5%) and own private funds of €68,685.68 (10%). No funds were provided for the project until the end of the audit.

The special form of support, focused on the development of infrastructure for alternative fuels, is implemented by the Ministry of Transport and Construction of the Slovak Republic through supported projects within the calls of the "Connecting Europe Facility (CEF)". In this area, it provides synergies to relevant partners in the drafting of a CEF grant application with a view to supporting CNG/LNG filling stations and related infrastructure, as well as technologies for the efficient use of hydrogen as an alternative fuel.

- **Support through the introduction of low-emission zones**

Low-emission zones can be established in Slovakia on the basis of an amendment to the Air Act of 2017. The establishment of a low-emission zone is only possible on the basis of a favourable opinion of the district authority as a road administrative body. However, it must be preceded by adequate training and expert discussion, since such a solution requires, in particular, a technical study on the feasibility of a low-emission zone. However, it is not yet known that this option would be used by any city in the Slovak Republic.

- **Support by informing road users about the location of filling stations**

At the end of 2016, the Ministry of Transport and Construction of the Slovak Republic launched the portal "National Traffic Information System" (www.odoprave.info), which in addition to the current traffic situation within the Slovak Republic also provides information on the location and type of charging and filling stations. This form of support also provides consumers with the necessary information in a timely manner.

Financing support for CNG, LNG and LPG

In the period under review 2015 – 2018, **no funds were drawn from the state budget in the form of a subsidy** to support a more intensive use of alternative fuel based on CNG, LNG and LPG, nor to support the development of infrastructure for alternative fuels. Nor have specific models of sales support for means of transport using alternative CNG, LNG, LPG and hydrogen power been developed.

The impact of financial incentives on public finances in the form of a reduction in the rate of motor vehicle tax (with alternative power of CNG, LNG, hydrogen) and a reduction in the motor vehicle registration fee was negligible, given the total number of these vehicles.

Overview of selected measurable indicators related to CNG, LNG and LPG

The percentage increase of CNG and LPG motor vehicles in categories M and N in combination with other fuel is provided in the following table.

Table No 30 – Development of the number of CNG and LPG alternative fuel vehicles in combination with other fuel

	2015	2018	difference	% increase over the period under review
Total number of motor vehicles, of which:	2,182,898	2,618,593	435,695	19.96
CNG*	1,482	2,228	746	50.34
LPG*	46,139	51,515	5,376	11.65
∑ alternative CNG, LPG power	**47,621**	**53,743**	**6,122**	**12.86**
Share in total number in %	**2.18**	**2.05**	**x**	**x**

Source: *Presidium of the Police Force of the Slovak Republic*
*** CNG and other fuel combination; LPG and other fuel combination.*

The overview of the registration of new vehicles by fuel between 2015 and 2018 is provided in the following table.

Table No 31 – Overview of registration of new vehicles from 2015 to 2018

Type of fuel	2015	2016	2017	2018
CNG	11	49	29	18
petrol + CNG	115	88	96	61
petrol + LPG	864	390	667	364
TOTAL	**990**	**527**	**792**	**443**

Source: *Automotive Industry Association*

The development of total fuel consumption in road transport in the SR (in tonnes) is documented in Table No 32.

Table No 32 – Development of total fuel consumption in road transport in the SR (in tonnes)

Type of fuel	2015	2016	2017
Petrol	558,018	608,332	603,252
Diesel oil	1,211,484	1,393,032	1,423,443
LPG	34,127	32,512	30,522
CNG	6,511	6,110	6,067
Indicator of fuel consumption in tonnes per 1,000 inhabitants			
Petrol	102.84	111.92	110.83
Diesel oil	223.26	256.29	261.51
LPG	6.29	5.98	5.61
CNG	1.20	1.12	1.11

Source: *VÚD (Transport Research Institute), a.s.; population data available from: http://statdat.statistics.sk/; 2018 data not available.*

Consumption of alternative LPG and CNG fuels decreased year on year in the period under review. In 2016, LPG consumption decreased by 4.7% and CNG consumption by 6.15%. Also in 2017, both commodities recorded a year-on-year decline of 6.12% for LPG and 0.71% for CNG. Conversely, diesel consumption grew year-on-year, in 2016 by 14.99% and in 2017 by 2.18%. In 2016, there was a year-on-year increase of 9.02% in the consumption of petrol. In 2017, this type of fuel showed a slight year-on-year decrease – by 0.83%.

Excise duty on mineral oils is **the most significant excise duty** in terms of yield. According to the Tax Report of the Slovak Republic 2018 prepared by the Institute of Financial Policy of the Ministry of Finance of the Slovak Republic, approximately 70% of the tax revenue consists of diesel tax and 30% petrol tax. The remainder, up to 1%, is a tax on kerosene and LPG. The development of the tax rate on alternative fuel CNG and LPG is documented in Table No 33.

Table No 33 – Development of the tax rate on alternative fuel CNG and LPG

	2015	2016	2017	2018
CNG	€0.141/kg	€0.141/kg	€0.141/kg	€0.141/kg
LPG	€182/1,000 kg	€182/1,000 kg	€182/1,000 kg	€182/1,000 kg

Source: *SAO SR*

The tax system of the Slovak Republic in the area of excise duty administration has not defined LNG as the subject of excise duty. LNG is not commercially used in Slovakia.

The overview of the development of average fuel prices for 2015 to 2018 is provided in table No 34.

Table No 34 – Development of average fuel prices

	2015	2016	2017	2018
Petrol Natural 95 octane (€/l)	1.285	1.209	1.285	1.359
Petrol Natural 98 octane (€/l)	1.465	1.413	1.492	1.564
LPG (€/l)	0.621	0.562	0.578	0.599
Diesel (€/l)	1.134	1.040	1.132	1.244
CNG (€/kg)	-	0.993	1.080	1.160

Source: *SAO SR*

6.3. Electric vehicles, hybrid electric vehicles, and hydrogen vehicles

6.3.1. Electromobility support in the Czech Republic

In the Czech Republic, the acquisition and operation of electric vehicles and their hybrids with other power was realized through:

- excise duty relieves
- exemption from road tax
- subsidies for the procurement of vehicles and related infrastructure.

In the period under review, the power of hydrogen vehicles was not specifically regulated by legislation in the Czech Republic.

Excise/energy tax

In the Czech Republic, the basic rate of electricity tax is applied to electricity used as driving energy in transport, i.e., €1.09/MWh, which remained unchanged between 2015 and 2018. Electricity **produced and consumed** by means of transport, e.g., hybrid electric vehicles are exempt from tax. Electricity used as driving energy is also exempt if it is produced in an environmentally friendly way at the offtake point, e.g., photovoltaic power plants with a maximum installed capacity 30 kW. The basic rate of tax and exemption shall apply to all consumers.

Electricity intended for use or used in the operation of rail and rail transport for the transport of persons and the transport of goods on rail, tram and trolleybus is also exempt from energy tax if other conditions for the acquisition of such electricity are met. The total amount of tax exemption cannot be calculated.

Road tax

The objectives in the area of CEP, within the framework of the Road Tax Act, are mainly related to the provision of § 3 f) points 1 and 2 according to which vehicles that have electric power or have hybrid power combining combustion engine and electric motor are exempt from road tax. This exemption shall apply to vehicles for the transport of persons used by entrepreneurs or to vehicles for the transport of goods and having a maximum permitted weight of less than 12 tonnes. The amount of road tax exemption is:

- €46.37 – €162.29 per year for passenger cars depending on the vehicle's engine capacity
- €69.56 – €417.31 per year for trucks up to 12 tonnes.

The amount of tax support for electric vehicles and hybrids cannot be precisely quantified, but it can be inferred from the related information that in 2018 it amounted to approx. €380,000.

Table No 35 – Road tax support for electric vehicles and hybrids

Number of vehicles as at 25 February 2019 in the status „operated"	
Total number of vehicles for business in the Czech Republic	**2,101,331**
of which electric vehicles and hybrids	5,385
average amount of support (exemption) on road tax per vehicle in 2017	€72.41

Source: *Register of road vehicles, MF CR, SAO CR*

Electromobility subsidies

Subsidy support in the transport sector in the Czech Republic was related to electric vehicles and hybrid electric vehicles. The subsidy support was targeted at the public sector and entrepreneurs. No subsidy support was provided to non-entrepreneurs.

The subsidy support was implemented from the National Programme Environment (NPE) and the Operational Programme Enterprise and Innovation for Competitiveness (OPEIC).

Subsidies from the NPE were aimed at supporting the renewal of vehicle fleet. Eligible subsidy beneficiaries were municipalities, regions, voluntary associations of municipalities, companies owned by more than 50% of their property by municipalities and regions, or some associations.

Subsidies from OPEIC were aimed at supporting companies that can use subsidies for the purchase of electric vehicles and charging stations. The conditions for granting the OPEIC subsidy were as follows: introduction of innovative technologies in the area of low carbon transport – electromobility of road vehicles:

- electric vehicle procurement – supported road vehicle categories: L6e and L7e (quad bikes); M1 (passenger); M2 and M3 up to 7.5 t (minibus); N1 and N2 up to 12 t (freight);
- procurement of non-public[14] (fast)charging stations with the possibility of adding a battery for electric vehicles within the business premises for own use.

Table No 36 – Amount of allocated subsidy support for the purchase of electricity vehicles in euros

	2015	2016	2017	2018
Amount of support for the public sector from the NPE	-	3,091,190	3,091,190	3,477,589
Amount of support for entrepreneurs from OPEIC	-	3,091,190	5,023,184	7,727,975

Source: *Ministry of the Environment, MS 2014+*

14 The non-public gas station is intended only for fuel dispensing for own consumption.

Impacts of electromobility support

Table No 37 – Structure of registered vehicles by operator

Number of vehicles as of 25 February 2019 in the status „operated"	
Total number of vehicles in CR[1]	9,090,328
Total number of motor vehicles in 2018[2]	7,915,701
of which electric vehicles and hybrids	7,816

Source: *Register of vehicles*

Note: *1) It includes all vehicles registered in the vehicle register, i.e., and caravans and other trailers.*
2) It includes light commercial vehicles, trucks, tractors, cars, motorcycles, buses.

It is clear from Table 37 that the share of electric vehicles and hybrid electric vehicles in the total number of motor vehicles is negligible.

Table No 38 – Registration of new vehicles in the Czech Republic in 2015-2018

Type of power	2015	2016	2017	2018
The total number of registered new vehicles in the Czech Republic	230,857	259,693	271,595	261,437
Electro	268	200	307	618
Hybrid	1,024	1,541	2,826	278
Electro + hybrid share in total registrations	**0.56%**	**0.67%**	**1.15%**	**0.35%**

Source: *Car Importers Association*

Table No 38 shows that the share of registered electric vehicles and hybrid electric vehicles between 2015 and 2018 in the total number of newly registered vehicles is negligible. Strategic materials of the Czech Republic assumed that in 2020 the market share of pure electric vehicles will be at the level of 2,200 electric vehicles.

The charging point statistics show that the number of these charging points in the Czech Republic was significantly below the EU average (see Table No. 39).

Table No 39 – Charging point statistics in 2018

	Number of charging points (2018)	Area (km²)	Number of km² per charging point
Czech Republic	684	78,867	115.30
Total EU	116,842	4,479,961	38.34

Source: *ACEA, Making the transition to zero-emission mobility, 2018, CIA, The World Factbook, SAO calculations.*

6.3.2. Electromobility support in the Slovak Republic

Support system for electric vehicles and their financing

Sales of electric vehicles and their hybrids with other power were supported in Slovakia by:

- subsidies granted for the purchase of electric vehicles and hybrid electric vehicles
- lower registration fee when registering in the Slovak vehicle register
- a reduced annual rate of motor vehicle tax.

- **Subsidies for the purchase of electric vehicles and hybrid electric vehicles**

From the funds of the cancelled Recycling Fund in the amount of €5 million and funds of the Association of Automotive Industry of the Slovak Republic in the amount of €200,000, from 11 November 2016 to 30 June 2018, a project of nationwide support of the sale of battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV) was implemented. The project was based on the payment of a financial contribution (subsidy) of €5,000 for the purchase of BEV or €3,000 for the purchase of PHEV. The support only covered the purchase of a new electric vehicle

and was granted to citizens and businesses and municipalities. Specific conditions of the subsidy programme are given in Table No 40.

Table No 40 – Grant aid scheme for the purchase of electric vehicles

Budget	€5.2 million
Provider	Ministry of Economy of the SR; Automotive Industry Association of the Slovak Republic
Authorized persons	natural person, municipality, legal entity (registered as owner in the vehicle registration certificate Part II – technical license)
Supported cars	battery electric vehicles (BEV) and hybrids rechargeable from the mains (with socket, PHEV), passenger cars (M1) and small trucks up to 3.5 t (N1)
Amount of contribution for electric vehicles (BEV)	max. €5,000 = €2,000 after registration, €1,500 after the first year, €1,500 after the second year
Contribution amount for hybrids (PHEV)	max. €3,000 = €1,000 after registration, €1,000 after the first year, €1,000 after the second year
Condition	registration/entering of a new vehicle in Slovakia imported by an authorized representative of the manufacturer (importer) and sold by an authorized dealer
Date of declaration	11 November 2016
End date	30 June 2018

Source: *Ministry of Economy of the SR*

The subsidy scheme applied encountered constraints, in particular the high price of the electric car, the lack of infrastructure in terms of the number of charging stations and the low stock of electric vehicles on the European market. This caused that out of the allocated amount of €5.2 million, the amount of €3.5 million was spent, with which the purchase of 831 electric vehicles was supported; see Table No 41.

Table No 41 – Drawing subsidies for electric vehicles for citizens and entrepreneurs under the first subsidy scheme

Years	BEV		PHEV		Total	
	Number	Amount in €	Number	Amount in €	Number	Amount in €
2016	64	320,000	14	42,000	78	362,000
2017	231	1,155,000	185	555,000	416	1,710,000
2018	219	1,095,000	118	354,000	337	1,449,000
Total	**514**	**2,570,000**	**317**	**951,000**	**831**	**3,521,000**

Source: *Ministry of Economy of the SR*

The unused funds were transferred to the MoE of the Slovak Republic. This launched in the second half of 2018 through the Environmental Fund a second subsidy scheme to support electromobility, intended for municipalities and self-governing regions with an allocated amount of €1 million. The maximum subsidy amount was €30,000, while the contribution amounted to 95% of the purchase price of the vehicle. The support was used by 36 municipalities and was almost fully utilized; see the Table No 42.

Table No 42 – Drawing subsidies for electric vehicles for municipalities and self-governing regions under the second subsidy scheme:

Number of subsidy beneficiaries	Approved subsidy in €	Subsidy drawn in €
36	997,380	917,200

Source: *Ministry of the Environment of the SR – Environmental Fund*

Between 2016 and 2018, the purchase of 867 new electric vehicles was supported through subsidies. The amount of subsidies for electric vehicles drawn in euros is provided in the following table.

Table No 43 – Drawing of subsidies for electric vehicles from 2016 to 2018

Type of vehicle	2016	2017	2018	Total
BEV	320,000	1,155,000	2,012,200	**3,487,200**
PHEV	42,000	555,000	354,000	**951,000**
TOTAL	**362,000**	**1,710,000**	**2,366,200**	**4,438,200**

Source: *SAO SR*

The overview of support for electromobility per capita and in % of GDP is documented in Table No 44.

Table No 44 – Support for electromobility in the SR

	2015	2016	2017	2018
Amount of state aid granted, expressed as % of GDP	0.00000	0.00044	0.00202	0.00264
The amount of state aid granted, calculated per capita in euros	0.00	0.07	0.31	0.43

Source: *SAO SR; population data and GDP figures available from: http://statdat.statistics.sk/*

In particular, the subsidy programmes can be regarded as successful by stimulating the development of the market for electric vehicles and public awareness of the environment. This is also evidenced by the fact that while 188 new electric vehicles were registered in 2015, it was 434 in 2016 and 2,178 in 2017; see Table No 45.

Table No 45 – Overview of registration of new electric vehicles from 2015 to 2018

Type of fuel	2015	2016	2017	1st half-year 2018
PHEV+HEV	131	363	1,936	1,203
ELECTRIC	57	71	242	224
PETROL+LPG+ELECTRIC	0	0	0	1
TOTAL	**188**	**434**	**2,178**	**1,428**

Source: *Automotive Industry Association*

For comparison, we also provide the total overview of the registration of new vehicles by fuel.

Table No 46 – Overview of registration of new vehicles by fuel between 2015 and 2018

Type of fuel	2015	2016	2017	1st half-year 2018
CNG	11	49	29	18
DIESEL	47,243	49,255	47,992	22,842
DIESEL+BIO	0	15	28	26
PHEV+HEV	131	363	1,936	1,203
ELECTRIC	57	71	242	224
PETROL+LPG+ELECTRIC	0	0	0	1
PETROL	41,559	50,366	57,289	34,104
PETROL+CNG	115	88	96	61
PETROL+LPG	864	390	667	364
TOTAL	**90,080**	**100,597**	**108,279**	**58,843**

Source: *Automotive Industry Association*

The share of electric vehicles and hybrid electric vehicles in the total number of registered motor vehicles is negligible, despite the annual increase in their number, as documented in the following table.

Table No 47 – Share of electric vehicles in the total number of motor vehicles

Indicator	2015	2016	2017	2018	Difference (2018-2015)	Index 2018/2015
Total number of motor vehicles of categories M and N	2,182,898	2,345,306	2,522,547	2,651,049	468,151	1.21
of which electric vehicles (incl. hybrids)	636	1,078	3,535	6,643	6,007	10.44
Share of electric vehicles in the total number of motor vehicles in %	0.03	0.05	0.14	0.25	0.22	8.60

Source: *Presidium of the Police Force of the SR*

At the end of 2019, a new subsidy scheme was introduced in the Slovak Republic concerning not only the purchase of electric vehicles with support amounting to €6 million, but also the construction of new charging stations for €1 million. Support for charging infrastructure for electric vehicles was implemented in the Slovak legislation by the obligation of owners of new and significantly restored apartment buildings with more than 10 parking spaces, respectively, commercial buildings with more than 20 parking spaces to build charging stations for electric vehicles. This obligation will apply from 2021.

In order to increase the motivation of entrepreneurs to purchase electric and hybrid vehicles, a new depreciation group for these types of vehicles was introduced into the tax system of the Slovak Republic from 1 January 2020, allowing their shortened depreciation from four to two years.

- **Fee for electric vehicle registration in vehicle registration**

The amount of the registration fee for the registration of a motor vehicle whose only energy source is electricity (electric vehicle) is **€33**, irrespective of the engine power, which is the minimum fee for vehicle registration. The reduced 50% fee is also paid by the holder of the hybrid motor vehicle.

- **Reduced annual rate of motor vehicle tax**

By the Act No 361/2014 Coll., on motor vehicle tax and on amendments to certain acts, as amended, which came into effect on 1 January 2015, ecological vehicles were favoured. For electric vehicles (categories L, M and N, whose only energy source is electricity), a **zero tax rate for motor vehicles** was introduced and 50% discount for hybrids.

6.4. Photovoltaics

6.4.1. Support of photovoltaics in the Czech Republic

In terms of public budgets, support for photovoltaic power plants (hereinafter referred to as "PvPPs") differed in the period before and after 2014. This difference lay in the system of price guarantees for producers of electricity from PvPP, which significantly affects the economic advantage of this electricity source. In the period under review 2015 to 2018, the support system was mainly based on subsidies and exemptions from the excise duty on electricity, but the price of electricity for the final consumer was still influenced by the running price guarantee for electricity producers from PvPP.

Legislation of PvPP in the Czech Republic is regulated by Act No 165/2012 Coll., on supported energy sources and on amendment to certain acts, which regulates, inter alia, support for electricity and heat from RES, the financing of that support and the levy on solar electricity (hereinafter referred to as "solar tax").

The final consumer always purchases electricity in the Czech Republic at the basic rate of excise duty, although Council Directive 2003/96/EC[15] allows for full or partial exemption or reduced levels of taxation on electricity used by households or organizations that the Member State considers charitable.

Electricity in the Czech Republic is taxed at the basic rate of VAT, although Council Directive 2006/112/EC[16] allows Member States to apply a reduced rate to the supply of electricity.

Photovoltaics for non-entrepreneurs

Pursuant to the amendment to the Energy Act (Act No 131/2015 Coll.), from 1 January 2016, electricity generating equipment connected to the electricity system up to an installed capacity of 10 kW without a license (non-entrepreneur) can be operated under given conditions.

Support in the form of the guaranteed feed-in tariff and green bonus

Until the end of 2013, non-entrepreneurs benefited from support in the form of the guaranteed feed-in tariff and green bonus under the same conditions as entrepreneurs.

Support in the form of subsidies

Photovoltaic operators can apply for an investment subsidy under the New Green Savings programme, both for houses and apartment buildings. These are programmes C.3.3 to C.3.6, with the amount of support up to CZK 150,000 (€5,795.98) for 50% of the documented eligible expenditure. The New Green Savings programme is funded through the sale of EUA (European Union Allowance) and EUAA (European Union Aviation Allowance).

Table No 48: Overview of the amount of support (subsidies) in each year and the amount of the energy storage bonus (in €)

	Up to 1,700 kWh	Up to 3,000 kWh	Up to 4,000 kWh	Accumulation Bonus	Max. amount without accumulation	Max. amount with accumulation
2015	2,704.79	3,863.99	-		2,125.19	3,863.99
2016	2,704.79	3,863.99	-		2,125.19	3,863.99
2017	2,704.79	3,863.99	5,795.98*		2,125.19	5,795.98*
2018	2,704.79	3,863.99	5,795.98		2,125.19	5,795.98
Benefit for applicants from the Ústí, Karlovy Vary and Moravian-Silesian regions and owners of listed buildings.						
2018	3,168.47	4,443.59	6,568.78		2,530.91	6,568.78

Source: *https://www.novazelenausporam.cz/nabidka-dotaci/rodinne-domy-zdroje-energie/.*
Note: ** from 4 September 2017.*

Table No 49: Household Photovoltaic Support Statistics

Year	2015	2016	2017	2018
Number of PvPPs supported	0	254	855	1,770
Total installed capacity in kW	0	825.76	3,018.75	6,952.53
Amount of support (in €)	0	565,387.67	2,229,685.97	6,252,918.66
Average amount of installation support (in €)	0	174.77	192.66	242.68
Average amount of support per kW (in €)	0	684.69	738.61	899.37

Source: *Ministry of the Environment of the CR*

15 Art. 15 of Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework regulations on the taxation of energy products and electricity.

16 Art. 102 of Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax.

Support in the form of exemption from excise duty on electricity

Pursuant to Article 15 (1) letter b) of Council Directive 2003/96/EC[17] Member States may apply, under fiscal supervision, full or partial exemption or reduced level of taxation, inter alia, to electricity coming from solar radiation. This Directive was transposed into Czech legislation by Act No 261/2007 Coll.[18] Electricity produced by a non-entrepreneur in a PvPP is exempt from excise duty on electricity if it is consumed at the production site.

Impacts of PvPP support measures

Table No 50 – Overview of electricity prices for households (including taxes and fees) for the period 2015 to 2018

Price of electricity for households	2015	2016	2017	2018
in €/kWh	0.1397	0.1421	0.1463	0.1580
in PPS/kW	0.2203	0.2231	0.2185	0.2248

Source: *Eurostat – https://ec.europa.eu/eurostat/web/energy/data/database (Electricity prices for household consumers – bi-annual data from 2007, currency €, all taxes and levies included, consumption 2,500 kW – 5,000 kW, average for S1+S2 of the year).*

Note: *PPS – purchasing power standard.*

Photovoltaics for the business sector

Doing business in the energy sector in the Czech Republic is possible only on the basis of a license issued by the Energy Regulatory Office (ERO), while the conditions for doing business are defined by Act No 458/2000 Coll.[19].

Support in the form of a guaranteed purchase price and a green bonus

The support in the form of feed-in tariffs and green bonuses is paid to the electricity producer for the life of the PvPP, which is stipulated by Decree No 364/2007 Coll. for 20 years. This means that the feed-in tariffs and the green bonus will be reimbursed at the PvPP until about 2033. The operating support for PvPPs put into operation from 1 January 2014 was not defined by the ERO price decision No 4/2013[20], i.e., new devices are no longer eligible for support. The system of feed-in tariffs and green bonuses was functional also in the period under review, but not for PvPP.

Feed-in tariff

Only producers of electricity from photovoltaic power plants (PvPPS) with an installed capacity of up to and including 100 kW can choose the support in the form of feed-in tariffs. The obligated buyer[21] is obliged to purchase all electricity generated from the PvPP and delivered to the grid at the price set by the current price decision of the ERO. The feed-in tariffs are paid directly to the electricity producer by the obligated buyer and are charged including VAT (from 1 February 2016 under the reverse charge regime when the tax is payable by the obligated buyer). This form of

17 COUNCIL DIRECTIVE 2003/96/EC of 27 October 2003 restructuring the Community framework regulations on the taxation of energy products and electricity.

18 Act No 261/2007 Coll., on stabilization of public budgets.

19 Act No 458/2000 Coll., on business conditions and state administration in the energy sectors and on amendments to certain acts (Energy Act).

20 In accordance with Act No 310/2013 Coll., amending Act No 165/2012 Coll., on supported energy sources and on amendments to certain acts, as amended by Act No 407/2012 Coll., and other related laws.

21 The obligated buyer is the electricity trader designated by Act No 165/2012 Coll., or selected by the Ministry of Industry and Trade, which buys electricity from a producer from a renewable source produced in the facility of an electricity producer in the defined area (since 2013 it is according to regional jurisdiction – E.ON Energie, a.s., ČEZ Prodej, s.r.o. , Pražská energetika, a.s.).

support is then passed on to the consumer in the form of a fee for the promotion of electricity from supported energy sources, which is paid as part of the annual electricity billing.

Green bonus

Support in the form of a green bonus for PvPPs with installed capacity up to and including 100 kW is provided in the annual green bonus mode[22], for PvPPs with installed capacity above 100 kW it is provided in the hourly green bonus mode[23]. The green bonus is paid for all electricity produced from PvPP, including electricity consumed at the production site, except for technological self-consumption. The producer must agree on a price for the supply of unused surpluses to the grid with the electricity trader. The green bonus is paid by OTE, a. s., and is paid without VAT. This form of support is then passed on to the consumer in the form of a fee for the promotion of electricity from supported energy sources, which is paid as part of the annual electricity billing.

It is not legally possible to combine support in the form of feed-in tariffs and green bonuses in one electricity generating facility. The form of support can be changed once a year.

Table No 51 – Overview of developments in feed-in tariffs and green electricity PvPP bonuses

Date of commissioning	Installed device power [kW]		Single rate tariff operation	
	from	to (including)	Feed-in tariffs [€/MWh]	Green bonuses [€/MWh]
until 2005	-	-	316.42	276.62
2006 - 2007	-	-	664.03	624.23
2008	-	-	647.64	607.84
2009	0	30	607.61	561.63
	30	-	603.17	563.37
2010	0	30	565.92	519.94
	30	-	561.44	521.64
2011	0	30	339.53	293.55
	30	100	267.23	227.43
	100	-	249.00	209.20
2012	0	30	273.45	227.47
01/2013 – 06/2013	0	5	148.38	102.40
	5	30	123.18	77.20
07/2013 – 12/2013	0	5	130.10	84.12
	5	30	105.83	59.85

Source: *Energy Regulatory Office Price Decision No 3/2018 of 25 September 2018 establishing support for supported energy sources.*

The total amount of support in the form of the feed-in tariff and the green bonus passed on to the consumer in the period under review (**€19.13/MWh**). In relation to the purchasing power of the population[24] for the purpose of better comparing the significance of the aid, this is €21.25/MWh.

22 The annual green bonus is published annually in the current price decision of the ERO.

23 The hourly green bonus changes every hour according to the prices of power electricity on the market and its amount is stated on the OTE website (https://www.ote-cr.cz/cs/statistika/statistika-poze/rozdil-vykupni-a-trzni-ceny?date=2019-01-01).

24 To better compare their significance between countries, the amounts are compared to GDP per capita in purchasing power standard, where 100% = EU-28, as of 2018: CR: 90% of EU-28 countries, Slovakia: 78% of EU-28 countries, created split coefficients: CR: 0.90 and SR: 0.78.

Solar tax

A solar tax has been introduced as a legislative measure to compensate for excessive support for electricity production from solar radiation and as an additional revenue for the state budget. From these funds, subsidies are paid to market operators to cover the costs associated with the support of electricity from supported sources, so that it is not necessary to fully translate the support into electricity prices for final consumers.[25] The subject of a solar tax is electricity produced from solar radiation in the period from 1 January 2014 for the duration of the right to support electricity in a plant put into operation between 1 January 2010 and 31 December 2010. The amount of solar tax is 10% for producers using feed-in tariffs and 11% for producers using green bonus. Power plants with an installed capacity of up to 30 kW are exempt from solar tax.

Support in the form of subsidies

In the years 2015 to 2018, PvPP operators in the business environment, which operate photovoltaic power plants for the purpose of reducing energy intensity, had the opportunity to draw subsidies from the OPEIC operational programme in the subsidy programme "Energy savings". Within individual calls, the subsidy was limited by the maximum supported installed capacity of photovoltaic panels. There is one more condition for obtaining a subsidy for the installation of photovoltaic panels – photovoltaics must be part of a comprehensive solution consisting of several measures. Examples of support are given in Tables Nos 52 and 53.

Table No 52 – Support from the Operational Programme OPEIC – Energy Savings

	Support was granted in the form of subsidies in the amount of approx. €19,000 – approx. €10 million
Small enterprise (up to 49 employees) with turnover up to €10 million	50% of proven eligible expenditure
Medium-sized enterprise (50 to 249 employees) with turnover up to €50 million and assets according to the balance sheet up to €43 million	40% of proven eligible expenditure
Large enterprise (from 250 employees) with turnover over €50 million	30% of proven eligible expenditure

Source: *OPEIC*

In 2017 and 2018, entrepreneurs had the opportunity to draw subsidies from the OPEIC programme in the subsidy programme "Energy savings – Photovoltaic systems with/without accumulation for self-consumption".

Table No 53 – Support from OPEIC – Energy savings – Photovoltaic systems with/without accumulation for self-consumption

	Support was granted in the form of subsidies at the amount of approx. €12,000 – approx. €4 million
Small enterprise (up to 49 employees)	80% of proven eligible expenditure
Medium-sized enterprise (50 to 249 employees)	70% of proven eligible expenditure
Large enterprise (from 250 employees)	60% of proven eligible expenditure

Source: *OPEIC*

25 Explanatory Memorandum to Act No 165/2012 Coll., on supported energy sources and amending certain acts.

Support in the form of exemption from excise duty on electricity

Until 31 December 2015, all environmentally friendly electricity was exempt from electricity tax without further restrictions. Since 1 January 2016, ecologically friendly electricity produced in consumption points pursuant to the Energy Act has been exempt from excise duty in the Czech Republic, provided it has been also consumed in these consumption points and the installed capacity of the electricity installation pursuant to the Energy Act has not exceed 30 kW at the same time. Installations with an installed capacity exceeding 30 kW are obliged to pay a tax of CZK 28.30/MWh (€1.09/MWh) on their own electricity consumption.

Table No 54 – Exemption from excise duty on electricity for equipment from 0 kWh to 30 kWh at consumption at the production site = production 0-30 kWh times the rate of excise duty

Indicator	2015	2016	2017	2018
Net electricity produced from PvPP with installed capacity of 0 – 30 kWh in MWh*	88,810.4	84,707.4	85,919.9	90,400.1
Population per 1 MWh of electricity produced (net from PvPP with installed capacity 0 – 30 kWh)	118.84	124.89	123.49	117.81
Amount of exemption from excise duty on electricity in €	96,803.34	92,331.07	93,652.69	98,536.11
Millions of euros of GDP per €1 exemption from excise duty on electricity	1.83	2.00	2.08	2.09

Source: *Annual reports on EC operation in the Czech Republic for 2015-2018 (ERO).*

** Net electricity produced from the PvPP reduced by the electricity supplied to the electricity grid. Calculations of the SAO, CSO*

Impacts of PvPP support measures in the Czech Republic

Table No 55 – Overview of electricity prices for small enterprises for the period 2015 to 2018

Price of electricity for small enterprises in	2015	2016	2017	2018
Excluding taxes and fees in €/kWh	0.0778	0.0731	0.0699	0.0727
Including taxes and fees in €/kWh	0.0941	0.0885	0.0846	0.0880
Including taxes and fees in PPS/kWh	0.1463	0.1390	0.1263	0.1252

Source: *https://ec.europa.eu/eurostat/web/energy/data/database (Electricity prices for non-household consumers – bi-annual data from 2007, currency €, consumption 500 MWh – 2,000 MWh).*

Note: *PPS – purchasing power standard.*

6.4.2. Support of photovoltaics in the Slovak Republic

The legislative framework for the support of energy production from RES is given by the Act No 309/2009 Coll., on the promotion of renewable energy sources and high-efficiency cogeneration and on amendments to certain acts, as amended. The Act defines the method and conditions of support for the production of electricity from RES, as well as the rights and obligations of electricity producers. The main stimulus for the development of RES, after the adoption of this law, was the **guarantee of feed-in tariffs for 15 years.**

By the Amendment to the Act, effective **from 1 January 2014,** the conditions of support for a **small energy source** were defined, i.e., equipment with an installation capacity of **up to 10 kW,** intended primarily for **houses and apartment buildings, for their own consumption.** The aim was to increase the share of RES utilization in households. The support system consisted in the fact that the producers of electricity from small RES, for which they received a subsidy, were not entitled to guarantee feed-in tariffs for electricity. Any surplus of electricity is supplied to the distribution grid free of charge.

Between 2015 and 2018, support schemes for RES production were focused mainly on the private sector and households.

Photovoltaics for households

The system of support for electricity production from RES for households was implemented in Slovakia by:

- subsidies
- exemption from excise duty on electricity for producers of electricity from RES for own consumption.

- **Support of electricity production from RES in the form of subsidies for households**

Between 2015 and 2018, support for the installation of small renewable energy installations, in particular for photovoltaic panels, was supported by the national project Green households. The project was financed from the Operational Programme Quality of the Environment, managed by the Ministry of the Environment of the Slovak Republic. The total allocated amount was €45 million. Support was provided to houses and apartment buildings in the form of vouchers which could cover a maximum of 50% of the eligible expenditure for the supply of equipment, including installation. The support also included a € 180 bonus for electricity storage.

Between 2015 and 2018, **3,675** photovoltaic panel **installations were supported** under this project. Support continues also in 2019 to 2023 through the Green Households II project with an allocated amount of approx. €48 million. The overview of the amount of support for households in individual years is given in the Table No 56.

Table No 56 – Overview of households support for the installation of small equipment for the production of electricity from RES **(in €)**

	For power up to and including 1 kW	For power from 1 kW for each additional kW	Accumulation bonus for each kW up to 5 kW at maximum	Maximum support without accumulator	Maximum support with accumulator
2015	1,200.00	900.00	180.00	2,550.00	3,450.00
2016	1,200.00	900.00	180.00	2,550.00	3,450.00
2017	1,100.00	900.00	180.00	2,450.00	3,350.00
2018	1,000.00	900.00	180.00	2,350.00	3,250.00

Source: *Slovak Innovation and Energy Agency (SIEA)*

Note: *Production of electricity from renewable energy sources (RES) for households and apartment buildings, for which the equipment was put into operation after 1 January 2014.*

The amount of support for the installation of small facilities for the production of electricity from RES is fixed annually. It depends on the selling price of the photovoltaic panels in the respective calendar year. The number of supported installations with the average amount of household support in euros over the period under review is documented in the following table.

Table No 57 – Number of supported installations of small facilities for the production of electricity from RES and the amount of support (in kW)

	Number of photovoltaic panel installations	Total installed capacity (in kW)	State budget funds (in €)	Average amount of aid per household (in €)	Average amount of support per installed capacity (€/kW)
2015	-	-	-	-	-
2016	1,069	2,898.43	2,750,668.00	2,573.12	949.02
2017	1,519	4,127.72	4,590,657.00	3,022.16	1,112.15
2018	1,087	2,973.90	3,114,238.00	2,864.98	1,047.19
Total	**3,675**	**10,000.05**	**10,455,563.00**	**x**	**x**

Source: *Slovak Innovation and Energy Agency (SIEA)*

The overview of electricity prices in €/kWh in the period under review is provided in Table No 58.

Table No 58 – Overview of electricity prices for households (including taxes and fees) for the period 2015 to 2018

Price of electricity for households	2015	2016	2017	2018
in €/kWh	0.1512	0.1480	0.1439	0.1514
in PPS/kW	0.2277	0.2271	0.2140	0.2229

Source: *Eurostat – https://ec.europa.eu/eurostat/web/energy/data/database (Electricity prices for household consumers – bi-annual data from 2007, currency €, all taxes and levies included, consumption 2,500 kWh – 5,000 kWh, average for S1+S2 of the given year, rounded to four decimal places).*

- **Support of electricity production from RES in the form of exemption from excise duties for households**

Within the meaning of Article 15 of Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity, Member States may, under fiscal supervision, apply **total or partial exemptions from tax** or tax relief **for electricity of solar origin** if such electricity **is used by households.** This Directive was transposed by Act No 609/2007 Coll., on excise duty on electricity, coal and natural gas.

Electricity produced from small RES is exempt from excise duty on electricity. The manufacturer is not even obliged to register. Households producing electricity from RES over 10 kW have a registration duty, but they do not have to pay excise duty. The condition for exemption from the payment of excise duty is to prove the origin of electricity from RES by means of a guarantee of origin, which must be requested annually by the Regulatory Office for Network Industries.

Between 2015 and 2018, **the amount of support to households** affecting the state budget of the SR amounted to approx. **€12 million,** of which approx. €10.5 million was co-financing of projects for the construction of small RES from the state budget, which were implemented under the Operational Programme Environment Quality and approx. €1.5 million exemption from excise duty of producers of electricity from RES.

The overview of the amount of household support provided and of the exemption from excise duty on electricity is provided in Table No 59.

Table No 59 – Amount of support for equipment for electricity production from RES (in €)

Form of support	2015	2016	2017	2018	Total
Subsidies	0	2,750,668	4,590,657	3,114,238	10,455,563
Exemption from excise duty on electricity	366,504	457,960	303,863	416,934	1,545,261
TOTAL	**366,504**	**3,208,628**	**4,894,520**	**3,531,172**	**12,000,824**

Source: *Slovak Innovation and Energy Agency (SIEA)*

The introduction of the above-mentioned forms of support for the production and use of electricity from RES was important in relation to the funds spent from the state budget of the Slovak Republic.

Photovoltaics for the business sector

The system of support for electricity production from RES for entrepreneurs was implemented in Slovakia by:

- guaranteed feed-in tariff
- exemption from excise duty on electricity for producers of electricity from RES for its own consumption.

- **Support of electricity production from RES in the form of the guaranteed feed-in tariffs**

Support for electricity production from RES in the SR is based on guaranteeing the feed-in tariff of electricity for a period of 15 years, with the exception of producers from small RES put into operation after 1 January 2014. The feed-in tariff for electricity from RES is reflected in the electricity price through the system operation tariff (TPS), which is one of the components of the electricity price.

The feed-in tariff for electricity from RES is a fixed price for the amount of electricity produced from RES. It is established by the regulatory authority, the Regulatory Office for Network Industries (ÚRSO), and consists of 2 components. The first is **the price of electricity** for losses, which reflects the market price of electricity and represents the average of electricity prices to cover the losses of all regional distribution system operators. The second component is **the surcharge,** which represents the difference between the price of electricity and the price of electricity for losses, which is paid to the electricity producer from RES by the operator of the regional distribution system to which the equipment is connected.

According to the law, the producer of electricity from RES is entitled to preferential connection of the electricity production equipment to the distribution system, priority access to the distribution system, priority transmission, distribution and supply of electricity regardless of the output of the equipment. **For electricity supply, it has the right to the price of electricity for losses and for an additional payment.**

These costs are reflected in TPS, which is a component of the electricity price. In practice, this means that these costs are counted and invoiced to each final consumer of electricity. The above-mentioned system of support for RES, financed from fees for electricity for customers, has no impact on the state budget. However, it leads to higher electricity prices for consumers (businesses and households).

The overview of the development of guaranteed feed-in tariffs of electricity produced from photovoltaic power plants in €/MWh since 2010 is documented in the following table.

Table No 60 – Overview of guaranteed feed-in tariffs for electricity in 2010 to 2018 in euros

	2010	2011		2012		2013	2014	2015	2016	2017	2018
Feed-in tariff for electricity in €/MWh	430.72	387.65	259.17	194.54	119.11	119.11	98.94	88.89	88.89	84.98	84.98

Source: *ÚRSO (Regulatory Office for Network Industries)*

The overview of the development of TPS in €/MWh broken down for individual years 2010 to 2018 is documented in the Table No 61.

Table No 61 – Overview of TPS development for RES

TPS components in €/MWh	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total TPS (in €/MWh)	6.3000	14.8500	15.7000	16.0200	18.0400	21.8200	22.9000	26.2030	26.9880
Share of TPS from RES	0.3100	6.5700	10.5600	12.3400	13.5200	15.2753	16.2543	17.4991	16.5857

Source: *ÚRSO (Regulatory Office for Network Industries)*

The overview of electricity prices in €/kWh in the period under review is provided in the following table.

Table No 62 – Overview of electricity prices for small enterprises[26] (including taxes and fees) for the period from 2015 to 2018

Price of electricity for small enterprises in	2015	2016	2017	2018
in €/kWh	0.1349	0.1322	0.1339	0.1420
in PPS/kW	0.2050	0.2028	0.1990	0.2090

Source: *https://ec.europa.eu/eurostat/web/energy/data/database (Electricity prices for non-household consumers – bi-annual data from 2007, € currency, consumption 500 MWh – 2,000 MWh, average for S1+S2 of the given year, rounded to four decimal places)*

- **Support of electricity production from RES in the form of exemption from excise duties**

In 2009, the European Commission approved the State aid scheme NN 63/2009 (ex N 83/2208), which came into effect on 1 July 2008. State aid authorities are customs offices. The aid granting concerns **small and medium-sized enterprises, as well as large companies** (beneficiaries) in the electricity, gas and water supply sectors. The aid granting is automatic if beneficiaries – **enterprises supplying electricity** comply with the conditions laid down in Act No 609/2007 Coll., and if they are registered as "eligible consumers". The aid is granted in the form of tax relief – exemption from excise duty on electricity produced from renewable energy sources if it is supplied directly to the final consumer or if it is consumed by the taxing entity that produced it. Operating aid shall be granted to cover the difference between the cost of producing energy from renewable sources and the market price of the energy form concerned. That measure consists of a total exemption from excise duty on electricity, namely:

– In the amount of €0.66/MWh for the period from 1 July 2008 to 31 December 2009
– In the amount of €1.32/MWh for the period from 1 January 2010.

According to § 7 (1), letter e) of Act No 609/2007 Coll., on excise duty on electricity, coal and natural gas and on the amendment of Act No 98/2004 Coll., on excise duty on mineral oil, as amended – **electricity produced from renewable sources is exempt from excise duty** if its production is **proven by the guarantee of the origin of electricity** from renewable energy sources.

26 Small enterprises – approximation of prices for the non-household sector with consumption of 500 MWh – 2,000 MWh.

ÚRSO issued a guarantee of the origin of electricity pursuant to § 7a of Act No 309/2009 Coll., on the promotion of renewable energy sources and high efficiency cogeneration and on amendments to certain acts on the basis of the submitted application for a guarantee of electricity origin by the applicant – producer. The guarantee of the electricity origin was issued for total electricity produced from renewable sources, irrespective of whether or not the electricity producer uses the electricity so produced from the photovoltaic power plant for its own consumption.

The overview of the amount of electricity produced (exempt from excise duty on electricity) for which the ÚRSO has issued guarantees on the basis of applications and the number of guarantees issued to electricity producers from PvPPs, broken down by years, is documented in Table 63.

Table No 63 – Electricity from RES, exempt from excise duty

Indicator	2015	2016	2017	2018
Amount of electricity produced in photovoltaic power plants and exempt from excise duty (in MWh)	277,654.37	346,939.11	230,199.40	315,858.83
Number of guarantees issued	1,317	3,816	3,962	4,322

Source: *ÚRSO (Regulatory Office for Network Industries)*

As neither the law nor the regulator has set a deadline by which the applicant – electricity producer from RES is obliged to apply for a guarantee, in practice it happens that the producer of electricity from the PvPP will apply for a guarantee retrospectively for previous years.

The national legislation of the Slovak Republic also allowed electricity from RES to be exempted from excise duty also for entrepreneurs who are not directly producers but who are the final consumers of electricity, where the electricity producer transfers the guarantee of origin of electricity from renewable energy sources. Due to the administrative burden, this system of application of the exemption from excise duty has been less used in practice.

Annex No 1
EU regulations, directives and other acts

- Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EC,
- Directive 2003/96/EC of the Council of 27 October 2003 restructuring the Community legal framework on the taxation of energy products and electricity,
- Directive 2008/118/EC of the Council of 16 December 2008 concerning the general arrangements for excise duties and repealing Directive 92/12/EEC,
- Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable energy sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC,
- Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles,
- Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency and amending Directives No. 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC,
- Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure,
- EU Council Directive 2015/652 of 20 April 2015 laying down calculation methodologies and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels,
- White Paper – European transport policy for 2010: Time to Decide (2001),
- Green Paper: Towards a new culture for urban mobility (2007),
- Green Paper: TEN-T: A policy review – Towards a better integrated transeuropean transport network at the service of the common transport policy (2009),
- White paper: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (2011),
- Strategy Europe 2020 – Roadmap: Resource Efficient Europe (2011),
- Union's Seventh Environmental Action Programme by 2020 (2013).

Annex No 2
Selected national legislation of the Czech Republic

- Act No 16/1993 Coll., on road tax,
- Act No 13/1997 Coll., on roads,
- Act No 185/2001 Coll., on waste and amending some other acts,
- Act No 86/2002 Coll., on air protection and amending certain other acts (Air Protection Act),
- Act No 353/2003 Coll., on excise duties,
- Act No 634/2004 Coll., on administrative fees,
- Act No 201/2012 Coll., on air protection.

Annex No 3
Selected national legislation of the Slovak Republic

- Act No 309/2009 Coll., on the promotion of renewable energy sources and high-efficiency cogeneration and on amendments to certain acts, as amended,
- Act No 609/2007 Coll., on excise duty on electricity, coal and natural gas and on the amendment of Act No. 98/2004 Coll., on excise duty on mineral oil, as amended,
- Act No 251/2012 Coll., on energy and on amendments to certain acts, as amended,
- Act No 98/2004 Coll., on excise duty on mineral oil, as amended,
- Act No 361/2014 Coll., on Motor Vehicle Tax and on Amendments to Certain Acts, as amended,
- Act No 145/1995 Coll., on Administrative Fees, as amended.

Annex No 4

List of abbreviations used

ACEA	European Automobile Manufacturers Association
BEV	Battery Electric Vehicle
CEF	Connecting Europe Facility
CEP	climate-energy policy
CN	Combinated Nomenclature
CNB	Czech National Bank
CNG	Compressed Natural Gas
Community	Member States of the European Union
CR	Czech Republic
CSO	Czech Statistical Office
Directive 2009/28/EC	Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.
Directive 2014/94/EU	Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment alternative fuels infrastructure,
E85	fuel with 85% ethanol
E95	fuel with 95% ethanol
EU	European Union
FD SR	Financial Directorate of the SR
GDP	gross domestic product
HEV	Hybrid Electric Vehicle
IDS	integrated transport system

LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
ME SR	Ministry of Economy of the SR
MF SR	Ministry of Finance of the SR
MoE SR	Ministry of the Environment of the SR
MS2014+	Monitoring system of European subsidies
MTC SR	Ministry of Transport and Construction of the SR
NAP CM	National Action Plan for Clean Mobility
NPE	National Programme Environment
OPEIC	Operational Programme Enterprise and Innovation for Competitiveness
OTE, a.s.	electricity market operator (joint stock company)
PHEV	Plug-in Hybrid Electric Vehicle
PpKN	subheading of the combined nomenclature
PPS	purchasing power standard
PvPP	photovoltaic power plants
RES	Renewable energy sources
RME	Rape seed methyl ester
SAI	Supreme Audit Institutions
SAO CR	Supreme Audit Office of the CR
SAO SR	Supreme Audit Office of the SR
SDG	Sustainable Development Goals

SIEA	Slovak Innovation and Energy Agency
SMN	blended diesel
SR	Slovak Republic
TPS	tariff for operating the system
UN	United Nations Organisation
ÚRSO	Regulatory Office for Network Industries
VAT	value added tax
VTR	vehicle tax rate
VÚD	Transport Research Institute
ZAP	Association of the Automotive Industry

REPORT ON THE COORDINATED AUDIT

on Tax and subsidy support for climate and energy policy in the Czech and Slovak Republics

June 2020