ÚRAD
PRE REGULÁCIU
SIEŤOVÝCH
ODVETVÍ

National Report
for 2021

Regulatory Office for Network Industries
Slovakia

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List of most used abbreviations

ACER ..... Agency of the European Union for the Cooperation of Energy Regulators

PXE ..... energy exchange specialising in the energy markets of Central and South East Europe (POWER EXCHANGE CENTRAL EUROPE)

CEER ..... Council of European Energy Regulators

SoLS ..... supplier of last resort

VAT ..... value added tax

TYNDP ..... Ten-Year Network Development Plan

EC ..... European Commission

EMO ..... Mochovce Power Plant

ERRA ..... Energy Regulators Regional Association

EU ..... European Union

PV power plant ..... photovoltaic power plant

HHI ..... Herfindahl-Hirschman Index

ICP ..... Interim Coupling Project

CHP..... combined heat and power

LNG ..... liquefied natural gas

NPP …… nuclear power plant

NTC.....net transmission capacity

RES ..... renewable energy sources

REMIT ..... Regulation (EU) No 1227/2011 on integrity and transparency of the wholesale energy market

SEPS ..... Slovenská elektrizačná a prenosová sústava, a.s. (electricity TSO)

The Office/URSO ..... Regulatory Office for Network Industries (Slovak NRA)

OKTE ……. Slovakia's electricity short-term market operator (and NEMO)

National legislation references

Act No. 250/2012 Coll.	Act No. 250/2012 Coll. on Regulation in Network Industries as amended (Regulatory Act)
Act No. 251/2012 Coll.	Act No 251/2012 Coll. on Energy as amended (Energy Act)
Act No. 309/2009 Coll.	Act No 309/2009 Coll. on the Promotion of Renewable Energy Sources and High-Efficiency Cogeneration as amended

Management

Andrej Juris

Chairman

Szabolcs Hodosy

Vice-Chairman

Martin Horváth

Vice-Chairman

Message from the Chairman

The year 2021 cannot be judged otherwise than in terms of the impact of the second year of the COVID-19 pandemic, both on the citizens and the economy of the Slovak Republic, while in the energy sector we can fortunately characterise 2021 as a year of slow recovery.

World commodity exchanges saw growth, especially in the second half of the year, which was caused by higher demand for energy due to the recovery of the economy after the previous downturns caused by the pandemic.

However, because of the coronavirus, many people in the country were still experiencing difficult economic times, and it was our duty as the national regulator to respond appropriately.

There were a number of relevant interventions by the Office in the course of 2021. Let me mention a targeted assistance to selected heating companies in finding more favourable tariffs at the beginning of the year, the establishment of the Consumer Protection Platform, or the coordination of the provision of electricity and gas in a supply of last resort regime following an unprecedented bankruptcy of a major energy supplier in the autumn.

Among the major systemic measures of the Office, I would mention, in addition to the amendment of several decrees, the successful completion of the process of preparation and application of the banded tariff for system operation, introduction of the prolongation of support for generation from renewable energy sources, preparation of a sandbox regulatory scheme, as well as a significant reduction of the historical deficit in the system of support of generation from renewable energy sources and combined heat and power, and thus retiring a substantial part of the historical debt. A key topic in the electricity sector was also the ongoing process of transposition of European legislation (Clean Energy Package) into national legislation.

In 2021, the Office also published several expert analyses that resonated strongly in the Slovak professional and media space.

It can be assumed that if 2021 was a challenging year for the Office, the following year will be even more challenging. The most important challenge for the Office in 2022 will be the extremely high levels of market prices on world energy exchanges following Russia's invasion in Ukraine and the related mitigation of the impact of rising costs on Slovakia's households and industry.

To conclude, I would like to acknowledge the work of all the Office's staff who, despite the complications caused by the pandemic, managed to ensure that the Office's regulatory processes

and procedures ran smoothly in 2021. I would also like to thank all the institutions, entities and partners with whom we come into working contact in the performance of our regulatory activities.

Andrej Juris
Chairman

Main trends and changes in market and regulatory developments

Assessment of market and regulatory developments in 2021

Impact of significant energy price increases

The first half of 2021 was not so marked by high market prices for electricity and gas. The situation began to change dramatically only towards the end of 2021, when we saw a surge of market prices, with high price levels and a high level of volatility persisting in 2022.

The evolution of electricity and gas commodity prices in Europe can never be accurately predicted, as it depends primarily on the interplay of supply and demand, but also on a number of other factors, as well as on the economic, energy and political conditions in a given geographic area and, in recent years, on the global COVID-19 pandemic, which affects the course of economic development in the euro area. Energy commodities are often traded on common energy exchanges and thus they influence each other, e.g. the evolution of electricity market prices has also been influenced by the increase in the cost of operation of gas-fired power plants, reflecting the huge gas price spikes, and also by the increase of the price of emission allowances on the market.

The final electricity and gas prices for households and small businesses subject to tariff regulation consist of several price components, with their regulation methodology defined separately. Regulated electricity and gas tariffs are intended for so-called vulnerable customers, as defined by the legislation. In setting regulated energy tariffs for 2022, the Office's objective was to use the available regulatory frameworks and methodologies to the maximum extent possible in order to minimise the impact of energy commodity price spikes on consumers, as well as to audit the regulated entities' volumes of eligible costs and reasonable profit.

The Office already adopted key regulatory measures in 2021 which have contributed to mitigating the impacts of electricity and gas commodity market prices on households and small businesses for 2022 and has reviewed:

- the reference period for calculating the maximum average electricity and gas price for the regulated electricity and gas supply tariff,

- amount of reasonable profit for electricity and gas network operators,
- inclusion of part of the revenues from penalties for reactive power supply to the system and non-compliance with the required power factor value, in the regulated revenues.
- reduction of the system operation tariff through the implementation of a five-year extension of the renewable energy support.

Last resort supply and termination of a major supplier's activities

The supplier of last resort (SoLR) procedure is defined in Act No 251/2012 Coll. It is an instrument for the protection of customers whose original supplier has lost the capacity to supply energy. The Office has previously issued legally binding implementing regulations governing supply under the SoLR regime. Additionally, it decided on the selection and approval of specific entities as suppliers of last resort and also decided on the maximum tariffs of electricity or gas supply by suppliers of last resort, including the conditions according to which they may calculate SoLR price caps in their price lists, taking into account customer protection aspects. If an electricity or gas supplier ceases to supply electricity or gas to a customer's metering point, the customer shall not be left without energy, as the supplier of last resort shall take over the supply of electricity or gas for the original supplier, in order to secure a continuous and uninterrupted electricity or gas supply. The supplier of last resort regime protects all electricity or gas consumers, households, small and large enterprises.

In the whole territory of the Slovak Republic, based on the Office's decision, the supplier of last resort in gas is the company Slovenský plynárenský priemysel, a.s., and the suppliers of last resort in electricity are electricity suppliers based on the regional distribution systems: ZSE Energia, a.s., Stredoslovenská energetika, a.s. and Východoslovenská energetika a.s..

The SoLR procedure shall start on the day following the day on which the original electricity or gas supplier lost the legal capacity to supply electricity and gas and the supplier of last resort has been notified of this fact, and shall last for a maximum of three months. The SoLR procedure may end earlier in case the gas customer enters into an electricity or gas supply contract or a universal service contract with a new electricity or gas supplier. In this context, the Office recommended that consumers enter into an electricity or gas supply contract or a universal service contract with a new supplier as soon as possible, as the SoLR tariff is higher than the tariff under the normal regime for electricity or gas consumers in both the regulated and the unregulated segments of the electricity or gas market.

In October 2021, a major electricity and gas supplier, primarily in the area of supply to households - SLOVAKIA ENERGY, s.r.o. - lost its capacity to supply electricity and gas to customers. The

supplier had supplied electricity and gas to approximately 295 000 customers. This event represented an unexpected cost for the suppliers of last resort in terms of the need to secure additional electricity and gas volumes to serve all the customers in their customer portfolio. URSO Decree No 24/2013 laying down the rules for the functioning of the internal electricity market and the rules for the functioning of the internal gas market, as amended, provides that if a household electricity or gas customer remains in the balance group of the supplier of last resort after the end of the SoLR procedure, the supplier of last resort shall reimburse the household electricity or gas customer for the difference between the SoLR price and the price agreed in the universal service contract applicable after the end of the SoLR procedure. The refund of the price difference represents a high cost for the supplier, in particular at times when market prices at the time of the start of the last resort supply are significantly higher than the regulated price - at that time market prices were up to three times higher than regulated prices.

The Office issued and published on its website more guidance for customers who had found themselves under the last resort supply, as well as recommendations for suppliers of last resort.

Impact of COVID-19 on the energy market

In 2021, the negative impact of the COVID-19 pandemic on both wholesale and national markets in the EU continued. In this extraordinary situation, the Office engaged intensively with all stakeholders in Slovakia in order to adopt, within its legal power constraints, the most effective, systemic and comprehensive regulatory solutions to guarantee the security and stability of the entire system and to mitigate the negative impacts of price increases on vulnerable consumers. In this respect, the Office coordinated its actions with the government authorities, relevant market participants and also with the Central Emergency Staff.

Overall, in 2021 the ongoing coronavirus pandemic did not have as negative an impact on economic activity in Slovakia as it did in 2020. However, the economic recovery in 2021 led Europe-wide to rising electricity and gas demand, which also partly contributed to higher market electricity and gas prices, and this was ultimately reflected in a higher regulated tariff for electricity and gas supply to households and small businesses in 2022.

The gradual growth of the economy in 2021 compared to the previous year, despite the measures taken by Slovakia's Government to address the pandemic situation, contributed to overall higher electricity consumption in Slovakia in 2021 compared to 2020.

The natural gas market development in 2021 was marked by a sharp commodity price spike caused by the COVID-19 pandemic. We observed gas prices rise sharply during the year, and on top of

that came the economic growth as countries began to recover from the pandemic and the effects of related measures. The result of the imbalance was high gas demand, which far exceeded supply. This made pressure on the market price of gas, which climbed unusually high in the second half of 2021.

The COVID-19 pandemic in 2021 did not significantly affect the volume of electricity generated by RES and CHP installations. The gradual relaxation of pandemic measures during 2021 led to a recovery and growth of business activities not only in Europe but also in Slovakia. The global economic recovery, and in particular of the dominant industries, caused significant pressure on the prices of energy exchange commodities, resulting in sharp increase in the electricity price not only on the Prague PXE, but also on Slovakia's spot market. The above factors and especially the still rising price of electricity on the day-ahead market during 2021 eased the upward pressure on the system operation tariff and also on the financial stability of OKTE, the entity responsible for RES support settlement and payment of feed-in-tariff for electricity generated from RES and CHP.

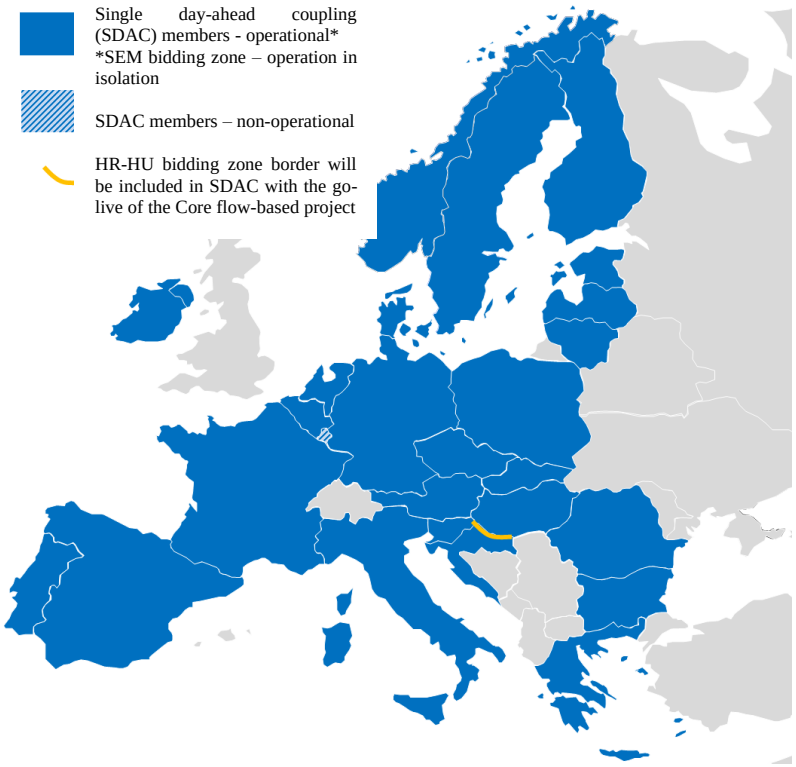
Go-live of the Interim Coupling Project (ICP)

Following the successful coupling of markets between Slovakia, the Czech Republic and Hungary in 2012 and between Slovakia, the Czech Republic, Hungary and Romania at the end of 2014, two fully price-coupled short-term market operators (OTE, OPCOM) and two serviced short-term market operators (OKTE, HUPX) were coupled through the EPEX SPOT energy exchange.
OTE, OPCOM and EPEX SPOT acted as rotating coordinators in providing a PCR (price coupling of regions) based solution that was in line with the European target model. All TSOs were on an equal footing and were coupled through one common platform allowing for a simple rotating change of roles of the respective short-term market operators. In September 2020, the European Commission issued a guidance prioritising the implementation of projects which were key to the coupling of day-ahead electricity markets in Europe. According to the guidance, the first project to be launched was the Interim Coupling Project (ICP), which was to couple the day-ahead electricity markets of Germany, Austria, Poland, the Czech Republic, Slovakia, Hungary and Romania. ICP went successfully live on 17 June 2021, allowing cross-border day-ahead trading through implicit auctions. The market coupling project maximises electricity flows from lower to higher price areas considering the available cross-border transmission capacities calculated using the NTC methodology on six new cross-border profiles: Poland-Germany, Poland-Czech Republic, Poland-Slovakia, Czech Republic-Germany, Czech Republic-Austria, Hungary-Austria. As a result, prices in the individual bidding zones converge.

ICP represented an important step towards the extension of the single day-ahead coupling of electricity markets in Europe, which is foreseen under Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (CACM). The next step towards achieving this goal is the go-live of flow-based day-ahead market coupling in the Core capacity calculation region (Core FB DA MC). The project is an important milestone on the way to the target model of single day-ahead coupling and, subsequently, as well as single intraday coupling and the coupling of forward electricity markets (see also next subchapter).

The successful implementation of ICP is the result of close cooperation between the nominated electricity market operators (EPEX SPOT, EXAA, HUPX, NordPool/EMCO, OKTE, OPCOM, OTE, TGE), transmission system operators (50Hertz, APG, CEPS, MAVIR, PSE, SEPS, TenneT DE, Transelectrica) together with the relevant national regulatory authorities (ANRE, BNetzA, E-Control, ERU, MEKH, URE, URSO).

Figure 1 Single Day-Ahead Electricity Market Coupling Members



Expected events affecting the market and regulation in the coming period

Go-live of the flow-based day-ahead market coupling project in the Core region during 2022

The flow-based capacity calculation methodology takes into account the physical constraints in the operation of the power grids based on the available reserves on the grid's critical network elements (mainly lines) and the power transfer distribution factors (PTDFs) defined for each critical network line and each bidding zone in the Core capacity calculation region. These coefficients describe how a change in the position (import or export) of each bidding zone will change the flow of electricity on each of the critical network lines. Compared to the NTC methodology, the flow-based methodology also considers the real impedance of the grid and therefore the trade flows should be identical to the real flows, minimizing unscheduled loop flows which endanger the security of the transmission system.

The Core region consists of the bidding zone borders of the following EU Member States: Austria, Belgium, Croatia, Czech Republic, France, Germany, Hungary, Luxembourg, the Netherlands, Poland, Romania, Slovenia and Slovakia.

In 2021, preparation for the implementation of flow-based capacity calculation methodology in the day-ahead electricity markets in the Core region was underway, with a delay of works compared to the plan, with the go-live scheduled for 20 April 2022. However, most recently, this date has also been postponed due to the need for a more robust testing of the entire system and the new deadline was set for 08 June 2022.

Figure 2 Members/countries of the Single Day-Ahead Coupling of Electricity Markets

Commissioning of Unit 3 Mochovce NPP, significance and main impacts

The year 2021 was marked by the certification of Unit 3 of the Mochovce nuclear power plant (EMO) by the Nuclear Regulatory Authority of the Slovak Republic. On 14 May 2021, the Authority issued the first-instance decision for the fuel load-out, including the license for radioactive waste management and spent nuclear fuel management and a permit for early use of the construction. As part of the verification of Unit 3's readiness for operation, two international inspections by the International Atomic Energy Agency (a Pre-OSART mission) and the World Association of Nuclear Operators (a WANO mission) confirmed both the technical and safety readiness of the unit.

Due to a challenge of the first-instance decision, the final completion of the certification process by the Nuclear Regulatory Authority is expected at the beginning of the second quarter of 2022. Following that, the subsequent process of loading fuel into Unit 3, and physical and afterwards power commissioning may start.

Unit 3 is expected to achieve real commercial operation by the end of 2022.

Change in the structure and calculation in the requests for ancillary services due to the implementation of the relevant Commission regulations

On the basis of Regulation (EU) 2019/943 on the internal market for electricity, not only the calculations in the ancillary services requests, but also the manner of their procurement have undergone a change from 2022. This led to optimisation of the volume of requests for the provision of ancillary services as well as of the costs of procuring balancing capacity and balancing energy. The introduction of daily tenders has ensured efficient contracting of ancillary services.

By its Decision No 0007/2021/E-EU, the Office granted the Slovak TSO an exemption for short-term tenders on a monthly basis, in particular in cases of cancellation of existing contracts by ancillary services providers or termination of framework agreements for the provision of ancillary services in 2022, with the aim to secure a sufficient volume of ancillary services for the needs of ensuring security of operation of Slovakia's power grid. In 2022, it is reasonable to expect a reduction in the procured volume of some types of balancing energy due to the situation on the energy markets in the first half of 2022, namely a reduction in the expected consumption of the country's largest consumer (Slovalco, a.s.), as well as a postponement of the date of Unit 3 Mochovce NPP commissioning.

In 2022, the European platforms for the exchange of balancing energy from frequency restoration reserves are expected to start operating and some European TSOs are expected to join these platforms. The Office granted an exemption to the Slovak TSO to join the European platforms for

the exchange of balancing energy from frequency restoration reserves until 24 July 2024 at the latest, by its Decision No. 0003/2021/E-EU.

Regulatory policy 2023-2027

State of preparation - in accordance with the relevant legislation, both in terms of substance and timing

The preparation of the new regulatory policy for the 6th regulatory period (2023-2027) proceeded in accordance with the timetable as defined in Section 8 of the Regulatory Act (Act No. 250/2012).

The Office published the draft regulatory policy on 30 November 2021. This launched a public consultation process in which the general public and regulated entities could participate by submitting comments.

The following process continued beyond 2021 into 2022. At the time of the preparation of this annual report, the process was as follows:

The public consultation ran until 15 January 2022. Subsequently, the Office assessed the comments submitted and incorporated many of them into the draft document. A total of 32 commenting entities participated in the public commenting process. A total of 413 comments were received by the Office. Of these, a total of 131 comments were partially or fully incorporated. A further 39 comments were clarified.

In accordance with Section 8(3) of the Regulatory Act, the Office published an evaluation of comments on the draft new regulatory policy until 28 February 2022, which is the last year of the ending regulatory period.

The next step in the preparation of the new regulatory policy was to send the draft version with incorporated comments to the Ministry of Economy and the Ministry of Environment on 28 February 2022. The ministries had until 15 March 2022 to send back their comments on the consistency of the draft regulatory policy with the energy policy of the Slovak Republic, and with the water management policy of the Slovak Republic.

Subsequently, the views of the ministries were considered and evaluated by the Regulatory Board. On 29 March 2022, the Regulatory Board adopted the new regulatory policy for the 6th regulatory period in accordance with Section 8(5) of the Regulatory Act. The new regulatory period will start on 1 January 2023 and its duration will be 5 calendar years.

Following the adoption of the regulatory policy, the Office began drafting new regulatory decrees which will set the overall framework for the upcoming 6th regulatory period beginning 1 January 2023.

A brief introduction to the new regulatory policy, describing and justifying the main changes compared to the previous regulatory policy

The new regulatory policy builds on the experience of the 5th regulatory period, but also reflects new topics, in particular the EU *Clean Energy for All European*s package or the upcoming gas legislative package and the *Fit for 55* package. It focuses on promoting competition, consumer protection, fostering innovation in network industries and, last but not least, promoting climate-friendly technologies and business models.

Pursuant to the Regulatory Act, the regulatory policy is a strategic document defining the main principles, regulatory methods and objectives for the implementation of regulation during a specified regulatory period. The regulatory policy for the 6th regulatory period has been adopted as a document that reflects all major changes and trends in the electricity, gas, district heating and water sectors that are relevant in the current period. At the same time, the text is compatible with the expected changes resulting from the forthcoming transposition of European legislation into the national legal framework, but also already reflects the current complex situation on wholesale energy markets as a result of the economic developments at the time of the COVID-19 pandemic as well as in the context of the war in Ukraine.

The objective of the regulatory policy for the coming regulatory period is to create a transparent and predictable regulatory environment that stimulates investments and at the same time creates conditions for the effective implementation of EU policies, especially the Clean Energy Package, but also Fit for 55 and the forthcoming gas and hydrogen package.

A key factor influencing the 6th regulatory period is changes in European legislation, in particular, the Clean Energy Package of regulations and directives is the starting point. The legislative package brings fundamental changes across the main components of EU energy policy: promoting RES, reducing greenhouse gas emissions and increasing energy efficiency. It also introduces a series of new concepts helping the EU to achieve its legislative objectives; these relate in particular to the new market design and governance of the Energy Union. The EU's intention is to empower the consumer, who may become an 'active consumer', generating, consuming electricity and also providing storage and flexibility services to the system. The aim is that every end-user in the EU has access to energy produced by environmentally sustainable technologies and available at an affordable price. This means, among other things, the availability of new technological solutions for generation and storage of energy and metering and management of its consumption at all metering points, i.e. across the whole spectrum of consumers, from large industrial companies to the smallest households.

In addition, the regulatory policy also takes into account the lessons learned from the events of 2021, which was unprecedented in a number of ways. The wholesale commodity market experienced an extreme rise in price levels and volatility. However, major events also occurred at national level in Slovakia. These included, in particular, the exit from the market of the largest retail alternative supplier of electricity and a major supplier of gas in the household segment. The consequence was the activation of supply of last resort on a large scale. Equally unprecedented was the generation of an unexpected surplus of funds in the electricity generation support scheme from RES and CHP, a fundamentally different scenario from the generation of deficits in previous periods. Another anomaly in the national market in 2021 was the significantly increasing demand for balancing energy caused by the "imbalance export" by wholesale electricity market participants abroad.

The main lesson from the above experiences was that the Office, when setting the rules of regulation, must take into account all possible scenarios of future developments, including the unlikely ones. The Office will therefore pay particular attention to finding appropriate technical (non-tariff) regulatory instruments for the protection of customers, including adjusting the eligibility criteria for supplying energy to final customers. The aim is to adjust the rules so that a supplier who loses the ability to supply energy to its customers will actually bear the secondary induced costs of the system associated with the provision of supply of last resort.

Last but not least, the context of events in Europe at the time the regulatory policy was adopted had to be taken into account. The high price level and level of volatility in the wholesale electricity market started in the second half of 2021. This is also reflected in developments in the wholesale gas market. It was therefore necessary to stress that the implementation of the regulatory policy would also take into account and respond appropriately to these external factors in order to achieve the purpose of regulation pursuant to Section 3 of the Regulatory Act, which is 'to ensure the availability of goods and related regulated activities at reasonable prices and of specified quality in a transparent and non-discriminatory manner'. The implementation of the regulatory policy thus also takes into account the changing situation of energy markets in Europe in a broader regional context.

It was also necessary to reflect future new EU initiatives responding to the challenges described above in order to set common European rules for more affordable, secure and sustainable energy, and diversifying sources in order to reduce the dependence of EU countries on fossil fuel imports and to accelerate the overall transition of the energy sector to a low-carbon or zero-emission sector, including in the wake of Russia's invasion of Ukraine in February 2022. It is reasonable to expect

that during the 6th regulatory period a number of similar initiatives will emerge from the EU institutions, which will need to be taken into account in the implementation of regulatory policy or in the general conditions for regulation in Slovakia.

1. Electricity

The Office performs tariff as well as non-tariff (technical) regulation in the electricity sector in a relatively wide scope - along the entire chain from generation to supply to the final consumer. Subject to tariff regulation are not only electricity transmission, distribution and supply and related services, but also, for example, the activities of the short-term electricity market operator or the activities of the electricity buyer.

Technical regulation includes also approvals of grid codes of individual system operators, commercial terms and conditions or the issuing of electricity licenses. The electricity sector is clearly one of the most dynamic and, at the same time, the most complex network industries in terms of regulation.

In electricity, 2021 can be characterised as a year of slow economic take-off. After a year of falling commodity prices, global exchanges witnessed growth, particularly in the second half of the year, driven by higher demand for electricity due to the growth of the economy following the downturn caused by the COVID-19 pandemic.

High prices in the day-ahead market during 2021 also caused a reduction in the cost of the feed-in-tariff, which resulted in a surplus of financial resources in the RES and CHP support scheme after the pandemic year of 2020 as part of OKTE's regulated activities in the RES and CHP support settlement. On this basis, the Office significantly reduced the historical deficit in the RES and CHP support scheme by utilising its regulatory instruments and thus retired a substantial part of the long-standing debt.

At the same time, 2021 was also the fifth year of the 2017-2022 regulatory period. The main topic in the electricity sector was the ongoing process of transposition of the Clean Energy Package into national legislation. In this area, the Office worked closely with the Ministry of Economy in order to implement the EU rules into primary national legislation.

In terms of increasing transparency and open regulation in the electricity sector it should also be noted that since 1 September 2020, the Office has been publishing tariff proposals of regulated entities along with the final tariff decision, thus aiming to increase URSO's credibility in the eyes of the public, and also access to essential information on which tariff regulation is based.

Electricity market participants

1. electricity producers (Slovenské elektrárne, a.s. – the dominant producer with 63.51% share),

2. supported RES and CHP producers,

3. short-term electricity market operator (OKTE, a.s.), an institution for evaluating and operating the short-term electricity market and ensuring clearing, evaluation and settlement of imbalance in the Slovak Republic,

4. the country's transmission system operator (SEPS, a.s.), the exclusive holder of the electricity transmission licence, the TSO also performing the tasks of energy dispatching (ensuring electricity balance in the Slovak Republic),

5. three regional distribution system operators (ZSD, a.s., SSD, a.s., VSD, a.s.),

6. local distribution network operators (LDNOs) - 142 LDNOs located in the premises of both production and non-production companies,

7.electricity suppliers,

8. electricity consumers,

9. the electricity buyer.

Table 1 Overview of tariff regulation decisions in electricity in 2017-2021 (excluding RES and CHP)

	2017	2018	2019	2020		2021	
				adopted for 2020	adopted for 2021	adopted for 2021	adopted for 2022
Tariff decisions	487	331	301	49	112	213	104
Proceedings suspended	15	20	20	20	-	13	-
Proceedings terminated	4	5	7	2	-	8	-

Table 2 Overview of technical regulation decisions in electricity

	Number of decisions adopted			
	2018	2019	2020	2021
Grid codes	21	15	15	124
Market participants' commercial terms and conditions	26	10	10	8
EU legislation-based decisions	20	27	5	7
Transit conditions	2	4	2	1

Electricity consumption in Slovakia in 2021 reached 30 867 GWh, which is up 5.25% compared to 2020.

Figure 3 Development of electricity consumption in Slovakia (2017-2021)

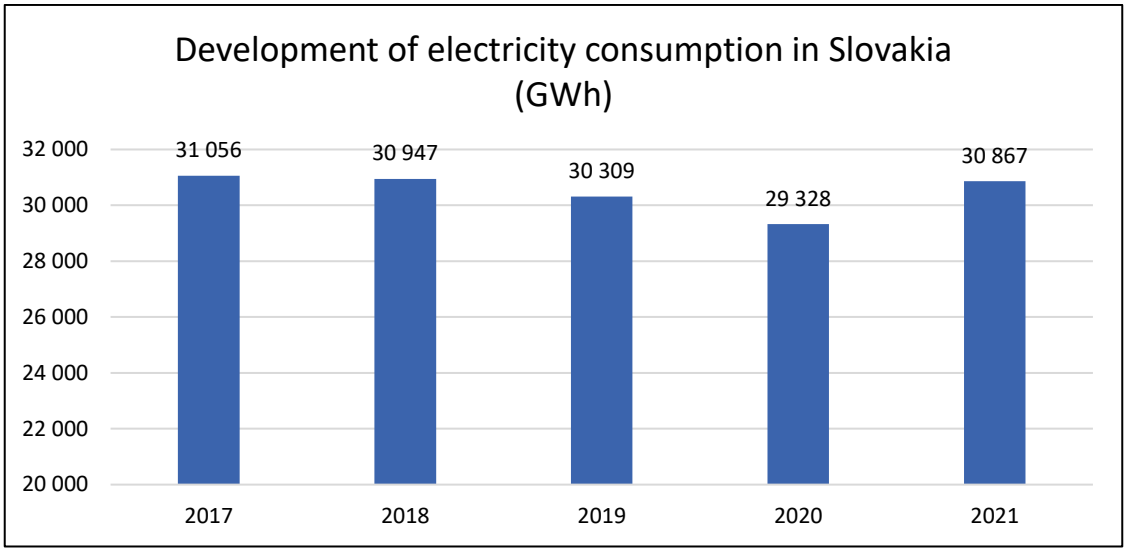
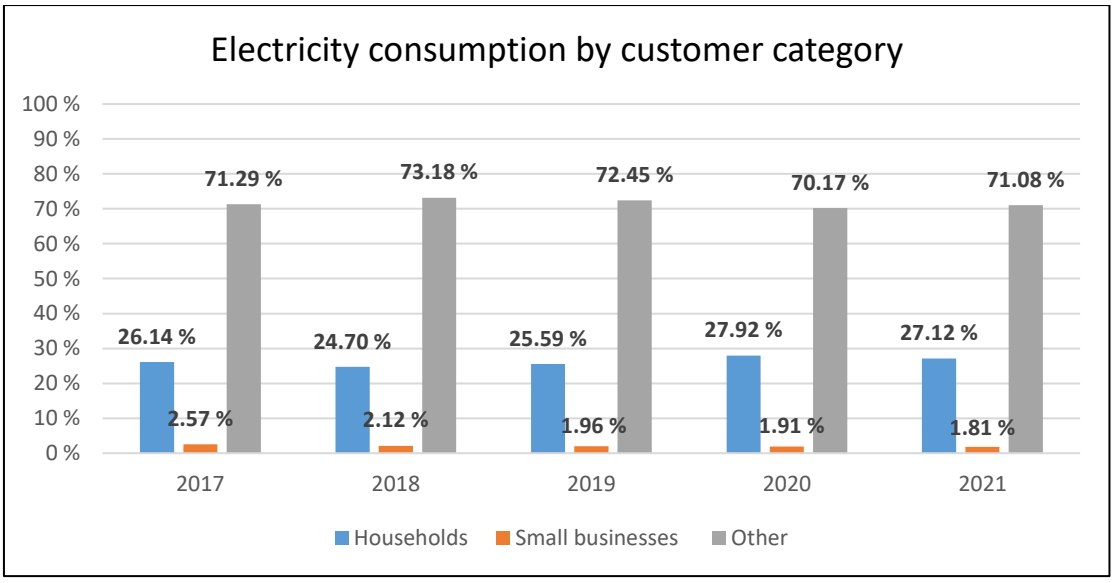


Figure 4 Electricity consumption by customer category (2017-2021)



Electricity infrastructure

Ancillary and system services

Ancillary services are services the TSO procures in the open market and, with their assistance, provides network users with system services necessary to maintain the quality of power supply and secure operational reliability of Slovakia's power grid. Following their activation balancing energy can be supplied. Upon TSO's request for the volumes of specific types of ancillary services, total planned procurement costs for all types of ancillary services from certified ancillary service providers were fixed by the Office for the TSO.

The Office also set maximum tariffs for providing primary and secondary active power control and tertiary active power controls, and maximum annual cost of providing remote voltage control, reactive power and black start. Maximum tariff of offered positive balancing energy and minimum tariff of offered negative balancing energy at the activation of the respective ancillary service type were also fixed by the Office. Balancing energy tariffs were set in a transparent manner on the basis of bid prices of ancillary service providers as:

- the highest price of the generation source providing balancing energy on a quarter-hourly basis, if the balancing energy is positive, but not more than the maximum tariff set in URSO tariff decision,

- the lowest price of the generation source providing balancing electricity on a quarter-hourly basis, if the balancing electricity is negative, but not less than the minimum price set in URSO tariff decision.

The TSO purchased various types of ancillary services required to secure system services from ancillary services providers. The goal was to achieve minimum costs of ancillary services while conducting procurement in an open, transparent and non-discriminatory manner towards all providers. The Slovak TSO preferentially made use of bids from power installations in the defined territory, while maintaining the principle of minimising procurement costs. The technical competence of ancillary service providers was demonstrated by certification measurements, the procedure for which is laid down in the technical requirements for grid access and connection, the rules for the operation of the transmission system.

Table 3 Ancillary services provision

Indicator/year	***2017***	***2018***	***2019***	***2020***	***2021***
Number of providers	25	25	24	24	24
Number of bids submitted by providers	3 637	2 809	2 429	2 673	4 162
Number of concluded contracts	32	29	52	30	30

Table 4 Types of balancing energy supply in MWh

Type of balancing energy/year	***2020***	***2021***	***Change 2021/2020 (%)***
Primary power control +	6 298	6 366	+ 1.37
Primary power control -	-6 325	-6 361	+ 0.84
Secondary power control +	30 994	73 568	+ 138.01
Secondary power control -	-98 576	-28 269	-71.24
Tertiary power control 3 min. +	404	4 010	+ 896.23
Tertiary power control 3 min. -	-1 086	-176	-83.76
Tertiary power control 10 min. +	52	1 348	+ 2 502.28
Tertiary power control 10 min. -	0	0	-
Tertiary power control 15 min. +	98	624	+ 535.69
Tertiary power control 15 min. -	-298	0	- 100
Tertiary power control 30 min. +	0		-
Tertiary power control 30 min. -	0		-
Demand reduction	0	1 036	-
Demand increase	0	0	-
Import of emergency assistance	0	0	-
Secondary voltage control via reactive power compensation	-658	-152	-76.80
Non-guaranteed balancing energy +	0	0	-
Non-guaranteed balancing energy -	0	0	-
e-GCC+ \ IGCC+	51 410	140 922	174.87
e-GCC- \ IGCC-	-92 933	-68 731	-25.84
Positive balancing energy	89 256	227 873	156.00
Negative balancing energy	-199 875	-103 688	-47.98

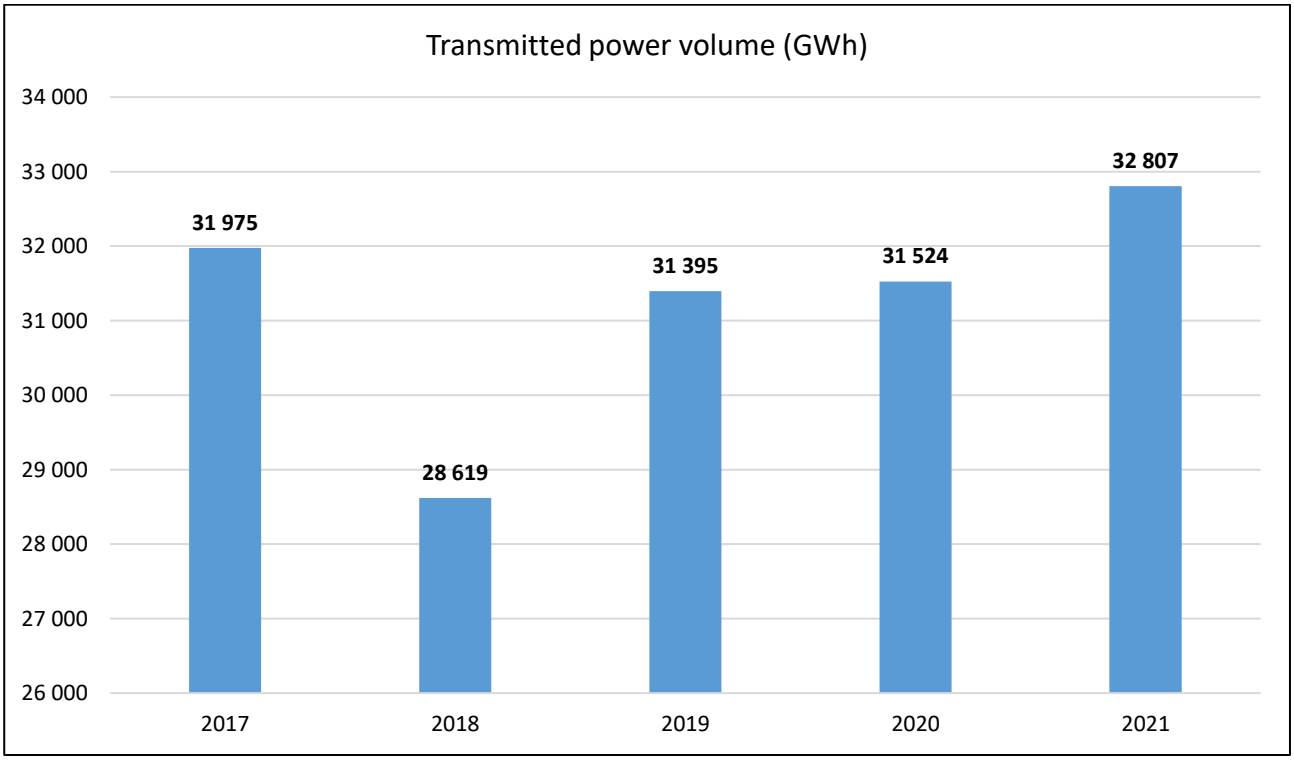
Transmission system

In 2021, the Office fixed network tariffs that the TSO could apply to transmission grid users, in the following scope:

- tariff for reserved capacity (€/MW/year),
- tariff for transmitted power (€/MWh),
- tariff for transmission losses (€/MWh),
- tariff for system services (€/MWh).

The following chart compares the volumes of electricity transmitted through the transmission system. The rise in 2021 compared to 2019 and 2020 is due to the increased demand for electricity, which was also visible in the increase in electricity consumption in Slovakia for 2021 due to the restored economic growth after the COVID-19 pandemic.

Figure 5 Transmitted power volume (2017-2021)



SEPS, a.s. – the TSO

The Office approves the TSO's grid code incorporating electricity market rules. It further defines and regulates the relations, processes and rules between the TSO and grid users and market participants.

Figure 6 Development and structure of regulated charges of SEPS

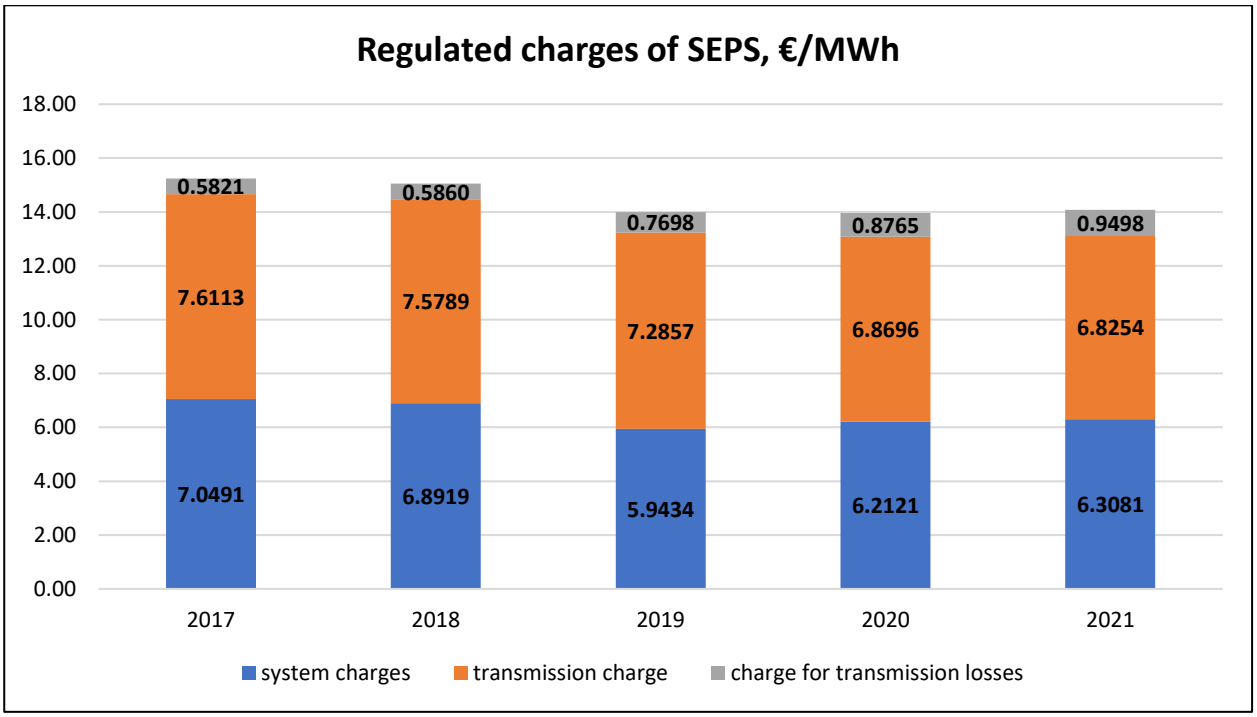


Table 5 Available resources and investments made by SEPS (EUR)

Year	2017	2018	2019	2020	2021
Available resources	125 073 880	109 906 527	115 430 154	109 602 716	164 388 109
Investments	50 456 121	51 355 867	54 367 053	75 509 721	46 475 450
Share (%)	40.34%	46.73%	47.10%	68,89%	28.27%

Distribution systems

In electricity distribution, for customers connected directly to the distribution system at high and extra high voltage levels, the following network tariffs were applied:

- tariff for electricity distribution without losses, including transmission - reserved capacity component (€/MW/month),
- tariff for electricity distribution without losses, including transmission - distributed power component (€/MWh),
- tariff for distribution losses (€/MWh),
- tariff for system services (€/MWh).

For customers or electricity producers connected directly to the distribution system at low voltage levels, the following network tariffs set by the Office were applied:

- tariff for electricity distribution without losses, including transmission - reserved capacity component (€/A/month),
- tariff for electricity distribution without losses, including transmission - distributed power component (€/MWh),
- tariff for distribution losses (€/MWh),
- tariff for system services (€/MWh).

Tariff regulation was also applied for the local distribution network operators, namely by determining the method of calculating the maximum electricity supply tariff and tariff for access to the local distribution network and electricity distribution.

Figure 7 Evolution and structure of regulated charges in electricity (2017-2021)

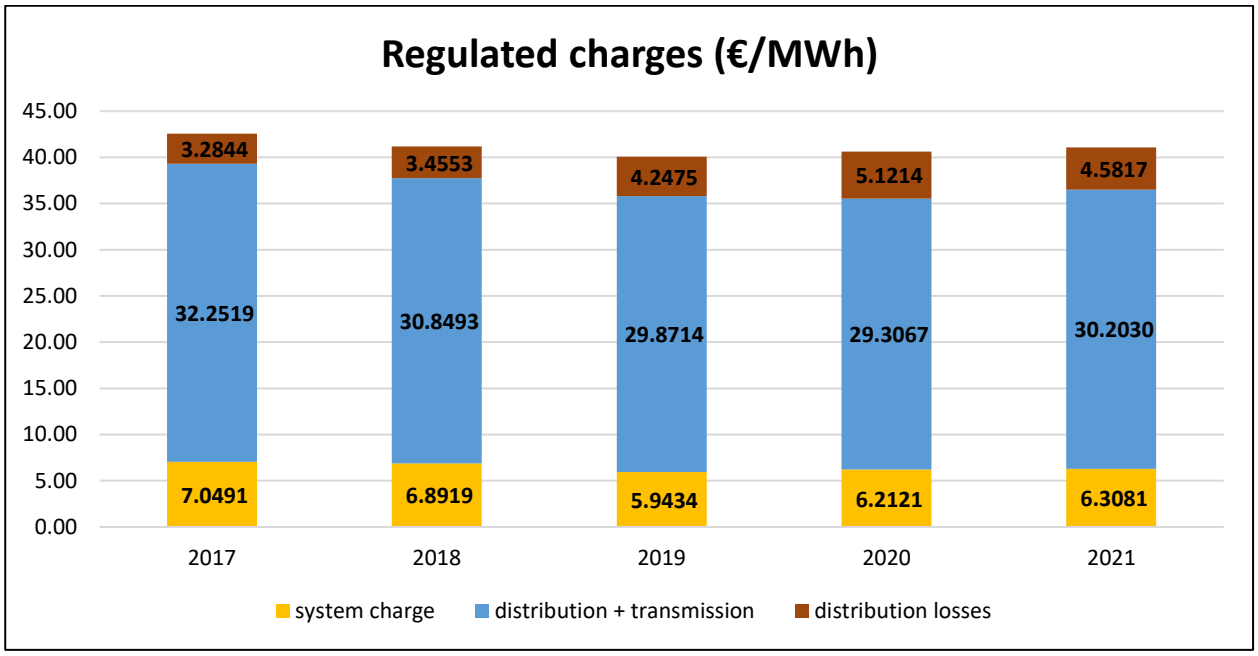
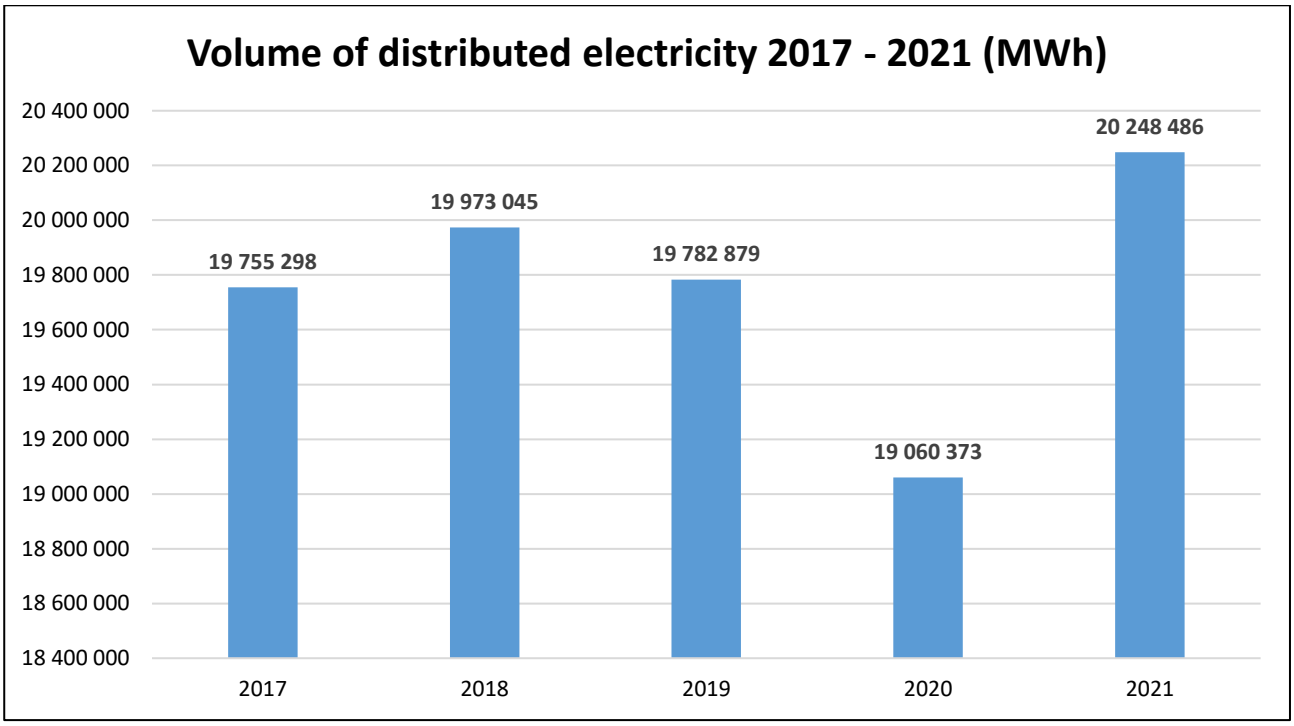


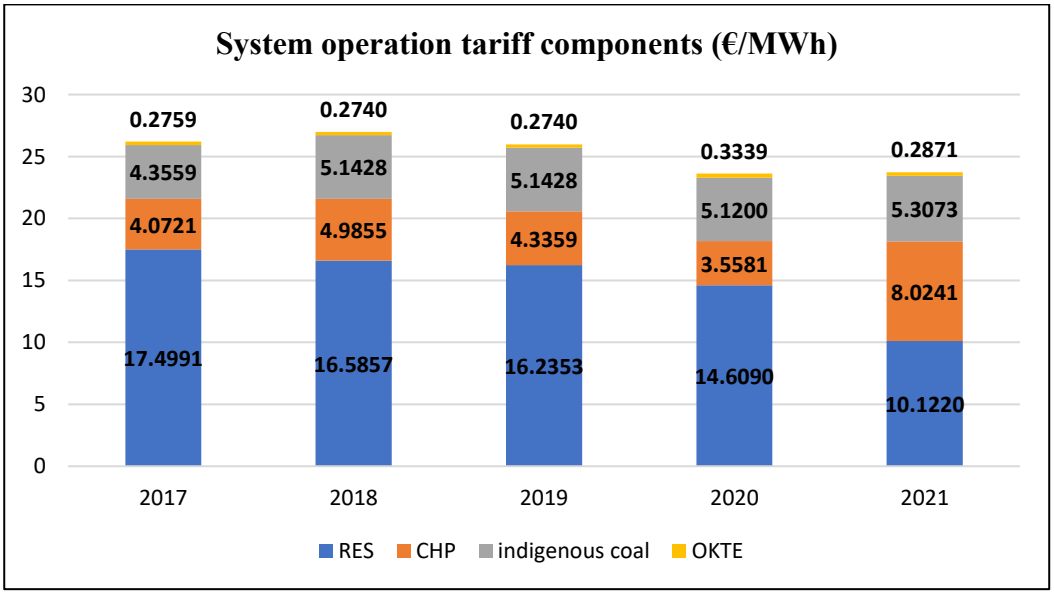
Figure 8 Distributed power volume (2017-2021)



System operation tariff

The system operation tariff is used to support electricity generation from renewable energy sources (RES) and high-efficiency co-generation/combined heat and power (CHP), generation of electricity from indigenous coal and the activities of the short-term electricity market operator (OKTE). It is one of the components of the end user electricity price and applies to each electricity consumer. The chart below compares the values of the different components of the system operation tariff over the last five years:

Figure 9 Evolution of the system operation tariff components



Electricity market coupling

Cross-border interconnectors

At the beginning of April 2021, two new cross-border interconnectors (400 kV) on the Slovak-Hungarian transmission profile were put into commercial operation. These two bilateral interconnection projects, namely Gabčíkovo (SK) - Gönyű (HU) - Veľký Ďur (SK) and Rimavská Sobota (SK) - Sajóivánka (HU), have been included by the European Commission in the PCI (Projects of Common Interest) list and thus have been co-financed by the *Connecting Europe Facility*. These projects were also significantly financed from the auction revenues of the transmission system operator, as they significantly increased the transmission capacity on the profile and removed the bottlenecks in the system. The projects have contributed to increasing energy security in Central Europe, the stability of transmission systems and improved the conditions for exchanging electricity on the cross-border electricity market. In an interconnected European electricity system, electricity exchanges between European transmission grids are increasing as a result of electricity market coupling, as well as the connection of new renewable energy sources or decentralised electricity generation. The new cross-border interconnectors have also significantly reduced the previous risk of critical congestions occurring on the common transmission profile between Slovakia and Hungary.

Market coupling projects

The go-live of the Interim Coupling Project (ICP) as well as the Core flow-based day-ahead market coupling are described in greater detail in the subsections *Assessment of market and regulatory developments in 2021* and *Expected events affecting the market and regulation in the coming period*, respectively.

In principle, the coupling of electricity markets brings benefits in terms of price convergence between the bidding zones. A necessary requirement for the efficient functioning of coupled markets is sufficient capacity on cross-border profiles between bidding zones or sufficient capacity on transmission grid's critical network elements, depending on the capacity calculation methodology.

The Office generally supports the coupling of markets, while analysing and assessing in detail the specific solutions proposed, and seeks to secure through its decisions all the necessary conditions for the efficient functioning of coupled electricity markets.

European platforms for the exchange of balancing energy

In accordance with Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing, the following European platforms are to be put into operation for the purpose of exchanging balancing energy:

- Trans-European Replacement Reserves Exchange (TERRE), which was put into operation on 6 January 2020,
- the Manually Activated Reserves Initiative (MARI), which was not yet operational in 2021,
- The Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation (PICASSO) (not yet operational in 2021), and
- the European imbalance netting platform, which was put into operation on 24 June 2021.

Slovakia participates in MARI, PICASSO and the imbalance netting platforms.

It should be noted that a necessary requirement for the efficient functioning of European platforms for the exchange of balancing energy is, as in the case of electricity market coupling, sufficient capacity on cross-border profiles between bidding zones or sufficient capacity on transmission grid's critical network elements, depending on the capacity calculation methodology used.

Wholesale market

In the wholesale electricity market, the Office's competences are mainly in the area of creating legislative conditions and monitoring their compliance.

As can be seen from the first chart below, the evolution of the commodity price, which is decisive for the calculation of the price of electricity supply to vulnerable customers, was particularly dramatic in the second half of 2021. For comparison of the evolution of the market price of electricity in 2021, the second chart shows the evolution of the commodity exchange price for the same product in 2020.

Figure 10 Evolution of the electricity price on the commodity exchange in 2021

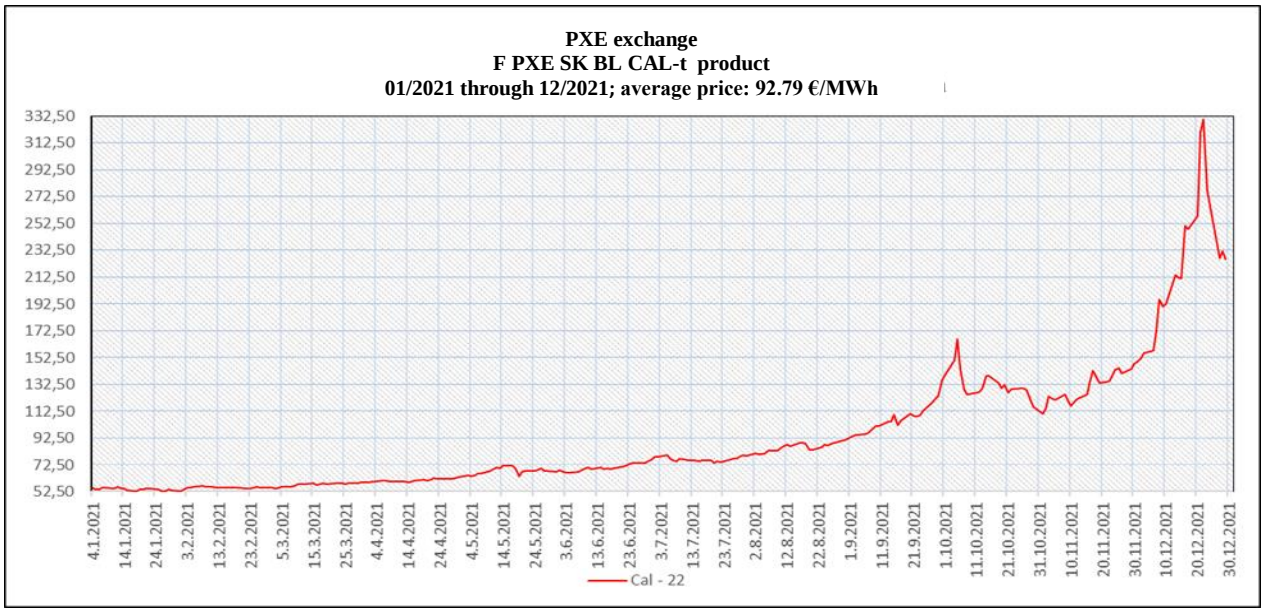
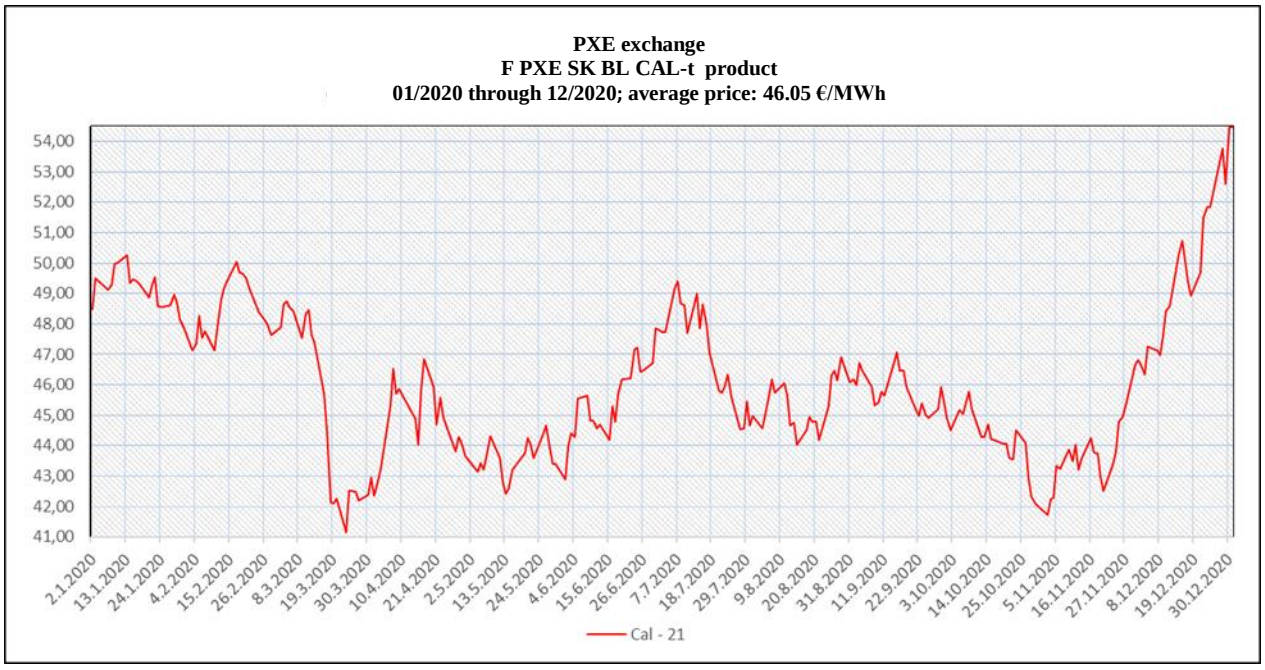


Figure 11 Evolution of the electricity price on the commodity exchange in 2020



In 2021, electricity suppliers procured the commodity to secure supply to their customers from these sources:

- on commodity exchanges, or purchased electricity from another trader - electricity supplier, or
- purchased it on the basis of contracts concluded with electricity producers.

Retail market

Tariff regulation of electricity supply to vulnerable customers, which are household customers and small enterprises, is carried out in accordance with Act No. 250/2012 (the Regulatory Act) on the basis of the current regulatory policy and according to the implementing act in tariff regulation – URSO Decree No. 18/2017 establishing tariff regulation in the electricity sector and certain conditions for the performance of regulated activities in the electricity sector, as amended.

In electricity supply, the following areas are subject to tariff regulation:

- supply to households,
- supply to small enterprises and
- suppliers of last resort.

As a result of the decrease in the commodity price on PXE (Power Exchange Central Europe) entering into the calculation of the price of electricity supply (year-on-year decrease by 5.7448 €/MWh, i.e. by 11.08%), at the end of 2020 the Office initiated proceedings regarding the amendments of decisions for electricity suppliers to vulnerable consumers (households and small businesses), which had a positive impact on the final price of electricity for vulnerable electricity consumers in 2021.

The default parameters for setting the maximum tariff of electricity supply to households and small enterprises for 2021 were the arithmetic average of day-ahead prices published in the official price list of PXE on its website for the F PXE SK BL Cal-t product for the period from 1 January to 30 June 2020, to which a coefficient to cover the forecasted profile of electricity supply to vulnerable consumers, costs of imbalance and a reasonable profit were added.

On top of the different supply tariff rates, electricity suppliers charged the distribution tariff including transmission and transmission losses, distribution losses, system services tariff and system operation tariff pursuant to URSO tariff decisions. By these decisions, tariffs were approved or fixed for access to the distribution system and electricity distribution for the DSO to whose network the vulnerable consumer's metering point was connected.

The largest share in electricity supply is still held by three "traditional" suppliers, which are part of vertically integrated companies - ZSE Energia, a. s., Stredoslovenská energetika, a. s., and Východoslovenská energetika, a. s.

Electricity supply to households

Electricity supply to households was divided into eight tariffs. Electricity for vulnerable household consumers was supplied by 17 different nationwide suppliers in 2021.

Figure 12 Market share of electricity suppliers for households

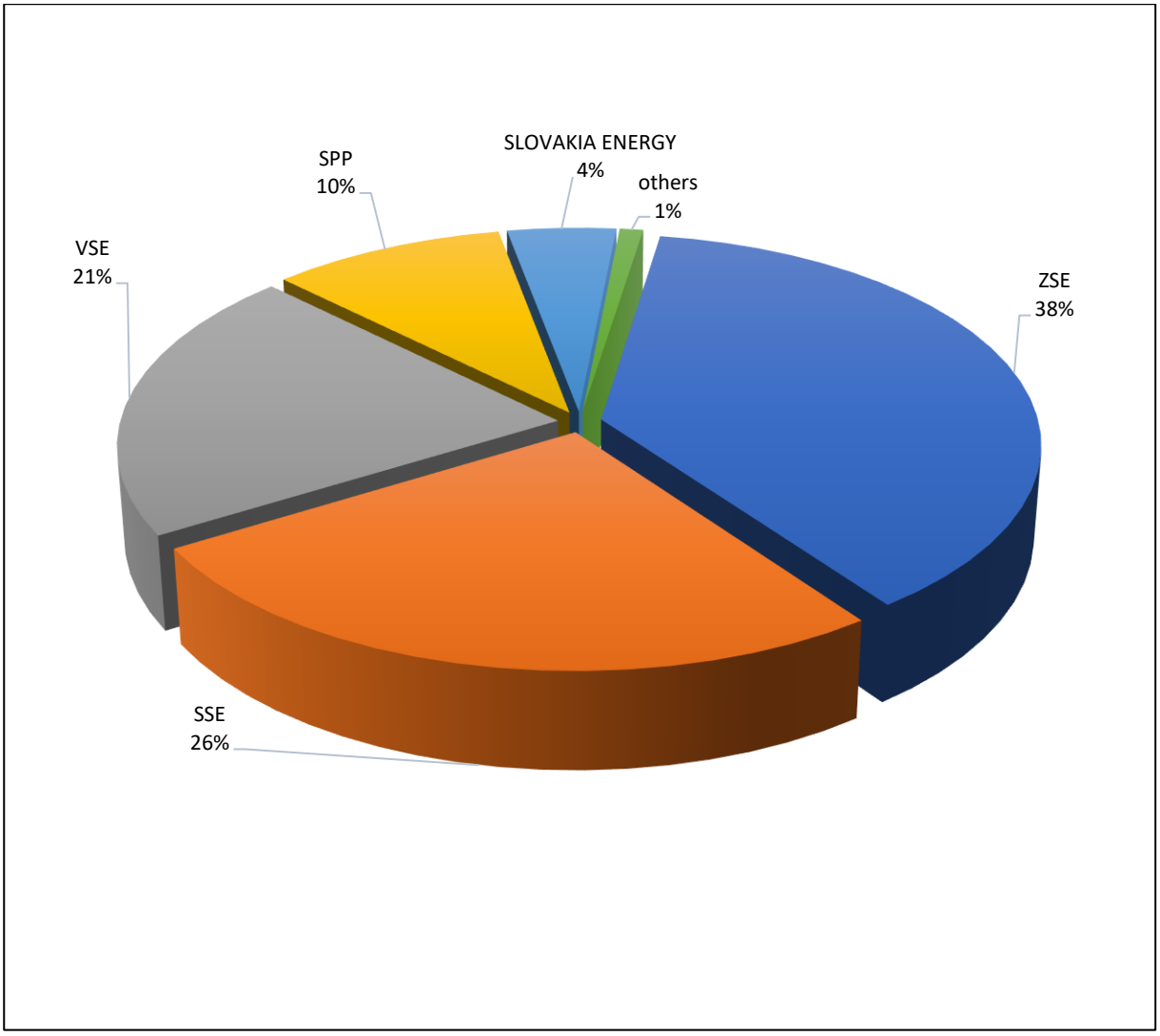
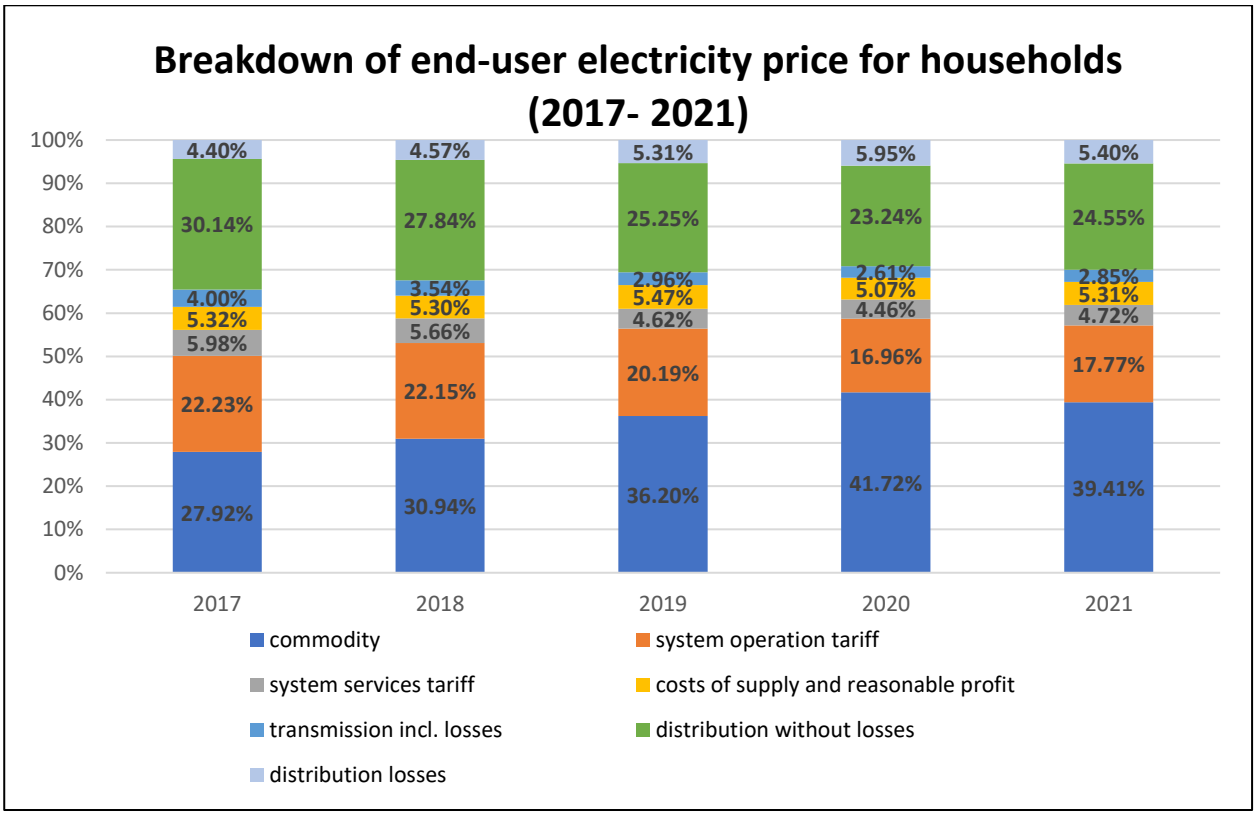


Figure 13 Breakdown of the average end price for electricity supply to households (2017-2021)



Electricity supply to small enterprises

A small enterprise is considered to be an electricity end user with an annual consumption for all its metering points of no more than 30 000 kWh in the previous year. Electricity supply to small enterprises was divided into 11 tariffs and performed by 16 nationwide suppliers.

Figure 14 Market share of electricity suppliers for small businesses

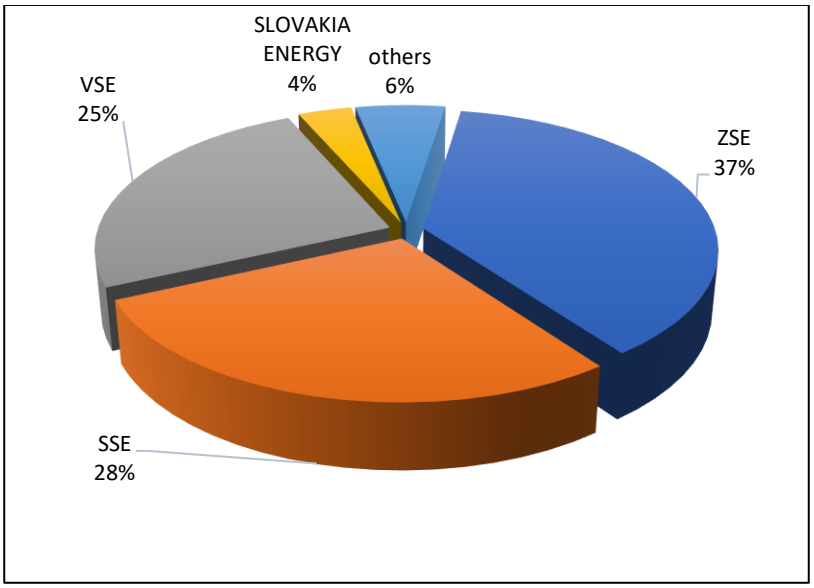
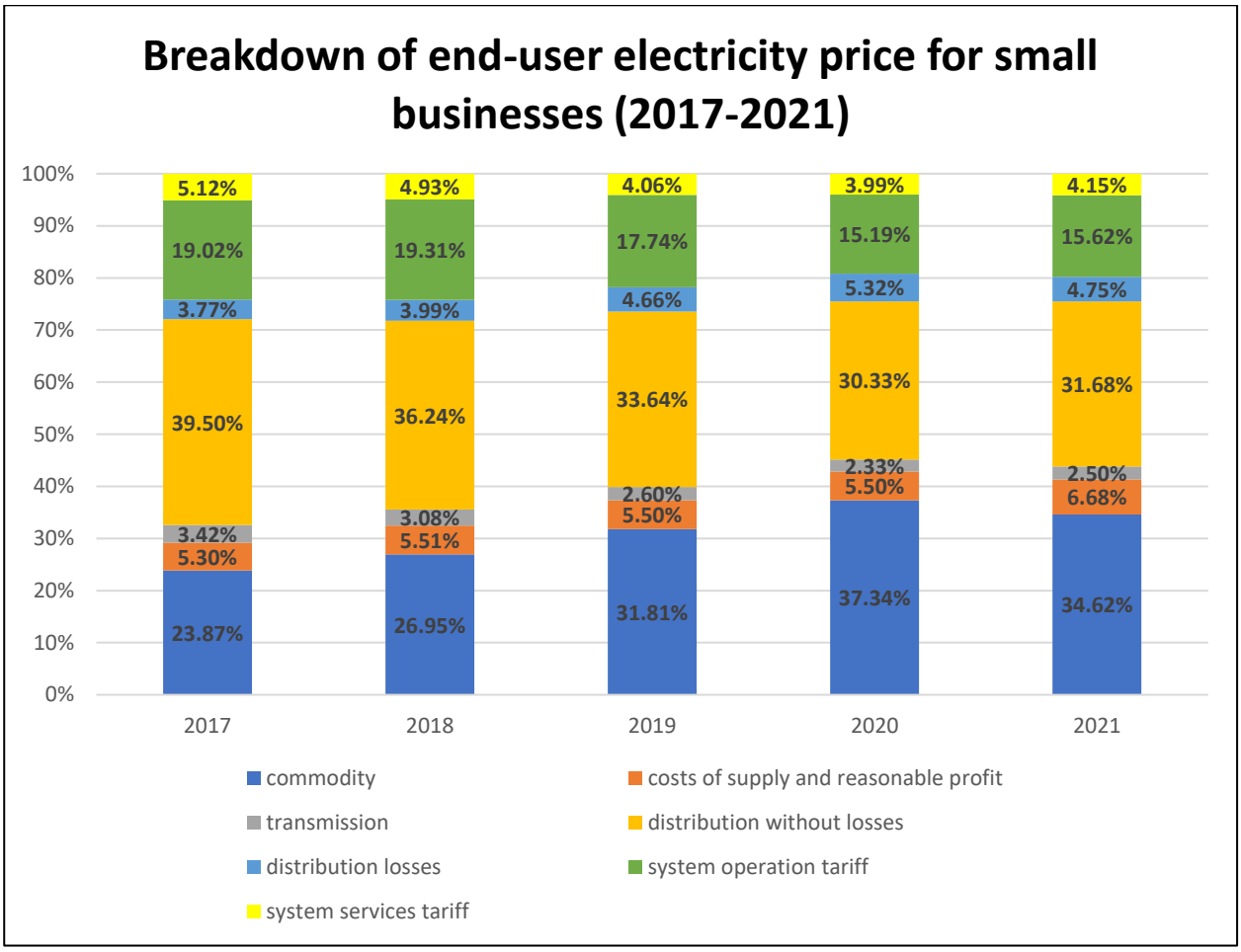


Figure 15 Breakdown of the average end price for electricity supply to small businesses (2017-2021)



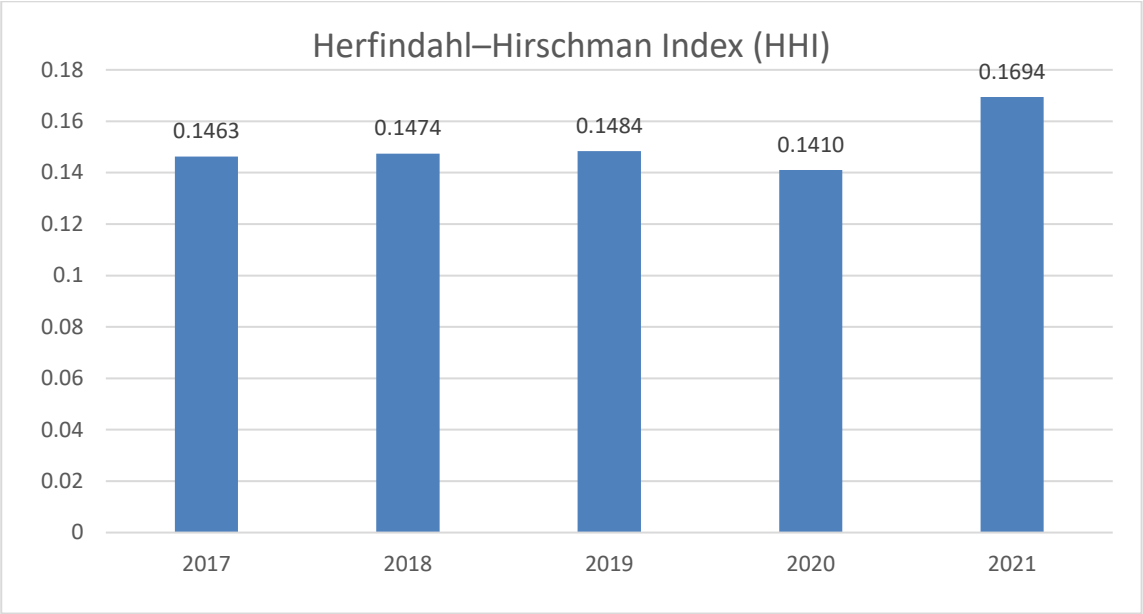
Supplier of last resort

Based on the Office's decision, ZSE Energia, a.s., Východoslovenská energetika, a.s. and Stredoslovenská energetika, a.s. are the suppliers of last resort in Slovakia. During 2021, the Office received four notifications on the application of the supplier of last resort regime, affecting a total of 168 000 households, 2 000 small enterprises and over 7 000 mid-size and large electricity consumers.

HHI

The purpose of the HHI (Herfindahl-Hirschman Index) is to determine the competitiveness of the market. The Office assessed the positions of regulated entities operating on the market for the electricity supply to all customers. A market is considered concentrated if the HHI is more than 0.1 and highly concentrated if it exceeds 0.2.

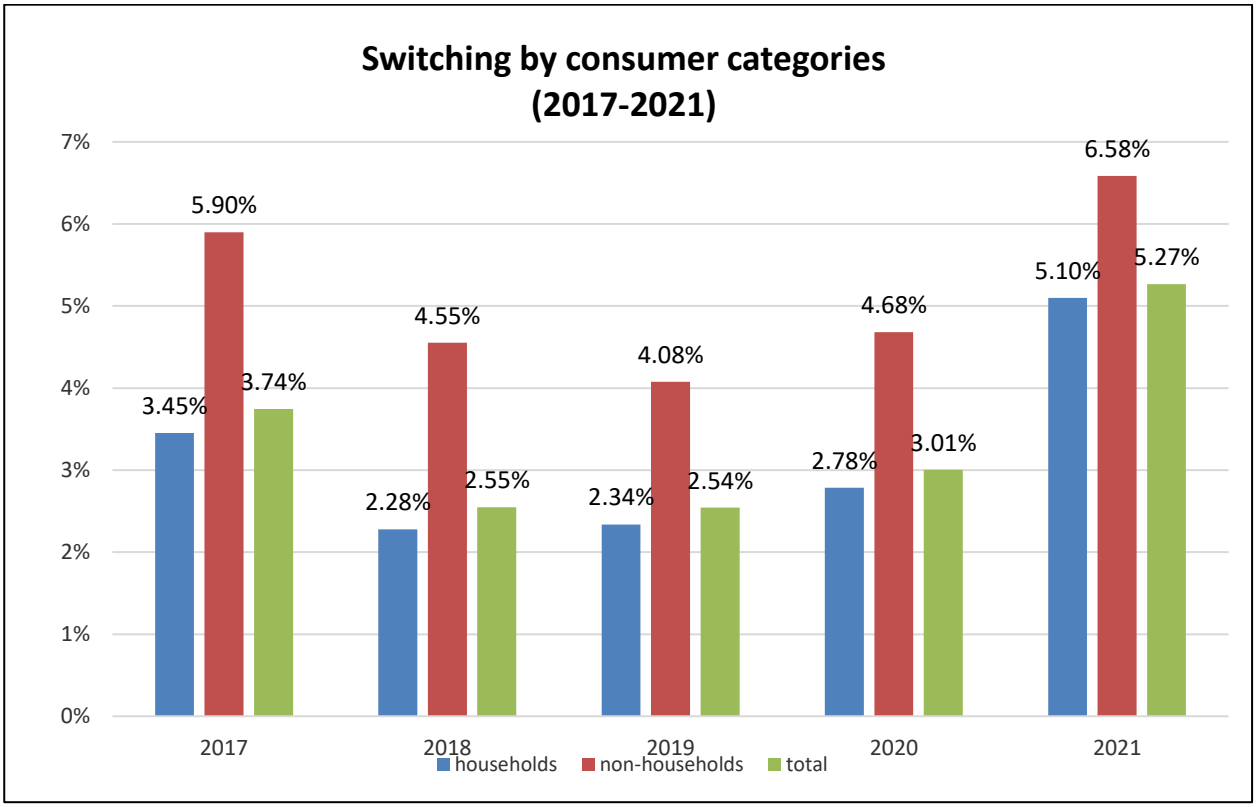
Figure 16 Evolution of the HHI in electricity



Switching

To assess the level of liberalisation of the electricity market, a percentage coefficient called switching is used, which expresses the proportion of the number of metering points with a changed electricity supplier to the total number of metering points.

Figure 17 Switching in electricity (2017-2021)



Electricity generation from RES and CHP

The Integrated National Energy and Climate Plan 2021-2030, developed pursuant to Regulation (EU) No 2018/1999 on the Governance of the Energy Union and Climate Action, set as a headline and quantified energy and climate target to achieve a 20% reduction of greenhouse gas emissions (for non-traded sectors). One of the alternatives to achieve this ambitious target in the energy sector is, in particular, the promotion of electricity generation from RES or CHP.

As a legislative framework for the support of electricity generation from RES and CHP, Act No. 309/2009 on renewable energy sources and combined heat and power support, as amended, was approved in 2009. This act improved the functioning of the electricity market in the area of renewable energy sources (and combined heat and power generation) by providing a long-term guarantee of feed-in tariffs for 15 years. At the same time, it favoured the construction of small and decentralised installations. In order to further accelerate the development of RES (whose foreseen share in final energy consumption for 2030 is set at 19.2%) during the period 2021-2030, this basic legislative framework has been amended several times in order to, in its current wording, allow RES producers to extend the period of receiving support for electricity generation by additional five years (so called *repowering*) and create conditions to support the use of upgraded biogas - biomethane, while maintaining support for Slovakia's hydrological and geothermal potential.

Supported technologies

RES technologies whose electricity generation (or combined heat and power) is supported under Act No. 309/2009 include:

- Combustion of:

  - landfill gas or gas from sewage treatment plants with installed capacity of up to 500 kW,

  - biogas produced by anaerobic fermentation with installed capacity of up to 500 kW,

  - high-efficiency combined biogas production by anaerobic fermentation with installed capacity of up to 500 kW;

- Geothermal energy;
- Hydropower with installed capacity of up to 500 kW.

The support of CHP technologies remained virtually unchanged compared to previous years, but the emphasis of the support was primarily directed towards its use in district heating, as the support is conditioned on the supply of heat produced for district heating.

Currently supported CHP technologies are:

- combined cycle combustion turbine,
- combustion turbine with heat recovery,
- internal combustion engine fuelled by natural gas, heating oil, a mixture of air and methane,
  from catalytically treated waste, from thermal cracking of waste and its products,
- back-pressure steam turbine or condensing steam turbine with heat extraction fuelled by natural gas, heating oil, brown coal, hard coal with the electricity producer's total installation capacity above 50 MW, municipal waste, gas produced by thermochemical gasification of waste in a gasifier or by thermal cracking of waste,
- combustion of energetically reusable gases produced in the steelmaking process,
- organic Rankine cycle,
- incineration or co-incineration of purpose-grown biomass excluding cereal straw, other waste biomass excluding cereal straw, bioliquids,
- combustion of biomethane obtained from biogas produced by anaerobic fermentation technology.

Tariff decisions and confirmations of origin for electricity

The process of issuing tariff decisions in the RES and CHP sector was mainly influenced by three key factors during 2021, namely legislative anchoring of repowering (regime of prolonged support with reduced feed-in-tariff), extension of the regulatory period by one year due to the adoption of the amendment to the regulatory policy, and at the same time a significant change in the average price of natural gas as an input commodity for the production of electricity by cogeneration.

Based on these facts, in addition to the regular decisions due to the change of ownership of RES installations (39 decisions) and due to the change in corrections for natural gas in CHP installations (75 decisions), the Office also issued 443 final decisions with the extension of the support period and 185 decisions with the extension of the validity of the tariff decision by one year.

At the same time, it also issued 12 decisions for new and reconstructed installations generating power from RES and CHP and revoked a total of 42 decisions due to the termination of activity or a change in the person of the electricity producer.

Table 6 Overview of RES and CHP tariff decisions

change of ownership of facilities	39
change of correction to natural gas fuel in CHP installations	75
final decisions with extension of the support period (repowering)	443
the decision to extend the validity of the tariff decision by one year	185
other tariff decisions (for new and refurbished equipment)	12
tariff decisions revoked	42
Total	796

In 2021, the Office also issued 190 confirmations of origin for electricity from renewable energy sources, of which 109 confirmations were for installations using biogas combustion technology and 39 confirmations for solar energy source, the rest related to other technologies. The Office issued 112 confirmations of origin for electricity produced by high-efficiency cogeneration, of which 86 were for installations using natural gas as a fuel source. In total, the Office issued 302 confirmations of origin.

Investment cost reference values

The reference values of investment costs for the acquisition of a new comparable technological part of the electricity producer's installation, which the Office publishes annually on its website pursuant to Section 7(15) of Decree No. 18/2017 Coll., are calculated on the basis of data on the actual volumes of electricity generated in the RES and CHP electricity producers' installations with the entitlement to support for the period 2012-2020.

The parameters entering into the calculation of the investment cost benchmarks are obtained by the Office primarily from the annual reports of individual electricity producers and from data on investment and operating expenditures of electricity producers from RES and CHP for the period 2019 and 2020. The computation of the individual parameters entering into the calculation of the investment cost benchmarks is based on processing output data from more than 2 400 RES and CHP electricity producers.

The overview of reference values of investment costs for the acquisition of comparable technological part of the electricity producer's installation valid for the period from 1 July 2021 to 30 June 2022 is divided into RES and CHP categories and presented in the following table.

Table 7 Overview of investment cost reference values for the acquisition of a comparable technological part of the electricity producer's installation valid for the period from 1 July 2021 to 30 June 2022

	Electricity generation installation	Reference price in €/MW
	RES	
a)	**hydropower with total installed capacity**	
1.	up to 100 kW	3 052 903
2.	above 100 kW up to 200 kW	2 490 065
3.	above 200 kW up to 500 kW	2 146 574
b)	**geothermal energy**	5 208 000
c)	**combustion** of	
1.	landfill gas or gas from wastewater treatment plants with total capacity up to 500 kW	1 750 151
2.	biogas produced by anaerobic fermentation technology with total installed capacity of up to 500 kW	4 107 988
d)	**combustion of biogas produced by anaerobic fermentation technology with total installed capacity above 250 kW up to 500 kW**	4 228 979
	CHP	
a)	**combined cycle combustion turbine**	569 311
b)	**combustion turbine with heat recovery**	599 622
c)	**internal combustion engine with fuel**	
1.	natural gas	453 733
2.	heating oil	385 667
3.	a mixture of air and methane	438 258
4.	from catalytically treated waste	708 333
5.	from thermal cracking of waste and its products	1 572 464
d)	**back-pressure steam turbine or condensing steam turbine with heat extraction with fuel**	
1.	natural gas	788 127
2.	heating oil	699 907
3.	brown coal	756 628
4.	coal with total installed capacity of the electricity producer's installation up to 50 MW	736 364
5.	coal with total installed capacity of the electricity producer's installation above 50 MW	1 021 446
6.	municipal waste	867 680
7.	gas produced by thermochemical gasification of waste in a gasifier or by thermal cracking of waste	1 207 609
e)	**combustion of energetically reusable gases produced in the steelmaking process**	701 919
f)	**Rankine's organic cycle**	921 289
g)	**incineration or co-incineration**	
1.	purpose-grown biomass excluding cereal straw	3 286 676

2.	waste biomass excluding cereal straw	3 143 324
3.	bioliquids	2 036 667
h)	combustion of biomethane obtained from biogas produced by anaerobic fermentation	3 774 194

Extension of RES support

The amendment to the RES and CHP Support Act established an obligation for electricity producers with the entitlement to support to submit to the Office by 31 August of the calendar year a proposal for a reduction of the electricity price if the average amount of the feed-in-tariff for the previous calendar year reached at least 150 EUR/MWh and the total amount of the feed-in-tariff paid was at least 75 000 EUR. The institute of the prolongation of support (so called *repowering*) was introduced into the national legislation by the latest amendment to Act No 309/2009 Coll. with effect from 1 August 2021. The Office subsequently issued a decree in a very short timeframe with effect from 25 August 2021 implementing the relevant provisions of the amendment. URSO Decree No. 326/2021, amending Decree No. 18/2017, established the method of calculation of the electricity price for determining the value of the support for electricity produced from renewable energy sources under the extended feed-in-tariff support - new Annex No. 10 - tariff proposal for the extension of the RES support and the scope of the documents required for the tariff proceeding. The purpose of the repowering is to extend the period of the feed-in-tariff support for RES electricity generation installations by five years, with a reasonable reduction of the feed-in-tariff, which includes the possibility of recovering eligible costs for the necessary repairs or modification of the technological part of the electricity producer's installation until a new feed-in-tariff will be approved or fixed by the Office. A total of 464 entities participated in the repowered feed-in-tariff support scheme, which ultimately reduces electricity prices for Slovakia's households, with 23 solar electricity producers and one hydropower producer joining the scheme voluntarily. For this number of entities, up to 443 valid tariff reduction decisions were issued in 2021. The remaining tariff proceedings were either discontinued for legal reasons, suspended due to lack of supporting documents, in other cases appealed by electricity producers, or exemptions from the extension were granted to the entities (for five installations). The total annual estimated savings resulting from the implementation of the repowering are estimated at approximately 72 million EUR, the exact figures will not be known until 2023.

Additionally, in connection with the calculation of the reduced price, the Office published, on the basis of Section 8(5)(c)(2.2) of URSO Decree No. 326/2021, amending Decree No. 18/2017, the values of investment costs of a new comparable technology of a part of the electricity producer's installation in EUR per 1 MW of the installed capacity:

Table 8 Investment cost value of a new comparable technology of a part of the electricity generator's installation

Electricity generation technology	Investment value [€/MW]
Hydropower	2 563 181
Solar energy	900 000
Biomass	3 215 000
Biogas	4 168 484
Landfill gas	1 750 151
Gas from wastewater treatment plants	1 750 151

and, pursuant to Section 8(6)(c) of the Decree, parameter *TC* - electricity market price = 61.19 €/MWh

and at the same time, in accordance with Section 8(9) of the Decree, parameter *r* - annual interest rate = 6.24 %.

The Office shall publish the above parameters annually on the Office's website by 31 August of the calendar year at the latest.

RES support clearing agent and buyer of electricity produced from RES and CHP

The amendment to Act No. 309/2009 from 1 January 2020 expanded the portfolio of activities of OKTE a.s., the short-term electricity market operator, primarily by the activities of the clearing agent for the support of electricity produced from RES and CHP. Despite turbulent fluctuations on the world energy markets in 2021, OKTE successfully performed not only the function of the support clearing agent, but also, in cooperation with the obligatory buyer, ensured the operation and administration of the feed-in-tariff and feed-in-premium support for all producers with the entitlement to support by purchase and assumption of responsibility for imbalance. SPP, a. s. performed the role of the buyer of electricity from RES and CHP also in 2021, based on the results of the 2019 auction. Due to its previous results and experience with the activities of the buyer, SPP was selected by the Ministry of Economy of the Slovak Republic by direct designation as the buyer of electricity from RES and CHP for 2022 as well.

Share of RES and CHP in the total volume of electricity produced in Slovakia

In the analysis and statistics on the share of electricity produced from RES and CHP in the total volume of electricity produced in the Slovak Republic in 2021, there was a significant change in the methodology of quantification of production. The Office processed and supplemented the database of monitored electricity producers also by those sources which are not supported within the meaning of Section 3(1) of Act No. 309/2009. These are mainly sources which are in the local

source mode and those sources which for various reasons do not meet the requirements for support set out in Act No. 309/2009. Compared to the reporting in previous years, the Office specified the statistically-cumulatively reported volumes of electricity produced also for multi-fuel sources using renewable as well as non-renewable primary raw materials in electricity generation by differentiating generation from such sources according to its primary source with emphasis on the categorisation between RES and CHP. In this way, compared to previous years, the reporting of generation for each primary source has been objectified, resulting in a refinement (significant increase) of the volume of electricity produced from RES and CHP - the share being 21.30% for RES and 18.23% for CHP.

The slight increase in the number of RES sources in 2021 was also due to the installation of 68 so-called local sources with total installed capacity of 5.7 MW. Considering the hydropower potential of the Slovak Republic, electricity generation in hydropower plants maintained the largest share (71.87%) of all monitored renewable sources in 2021. In the case of combined heat and power sources, those sources using natural gas in combination with other energy sources (brown coal, coal, biomass) for electricity generation maintained their dominant position in electricity generation. In 2021, natural gas together with its fuel mix accounted for up to 91% of the total electricity generation by CHP plants. Based on data submitted to the Office by SEPS, the total electricity generation in Slovakia reached 30 093 GWh.

Figure 18 Share of RES and CHP in total electricity generation in Slovakia in 2021

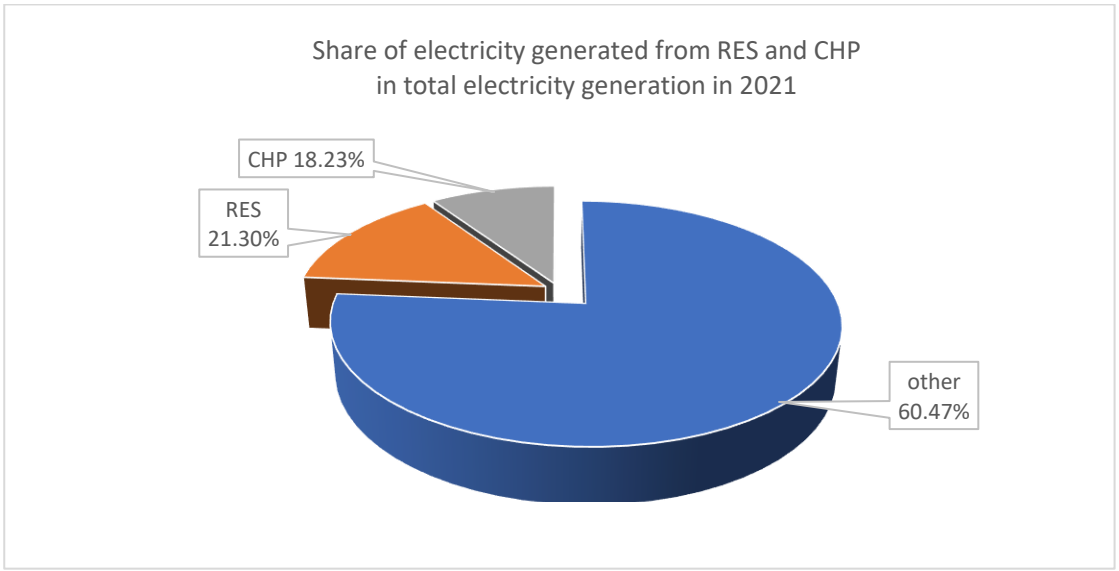


Figure 19 Share of individual RES technologies in total RES generation in 2021

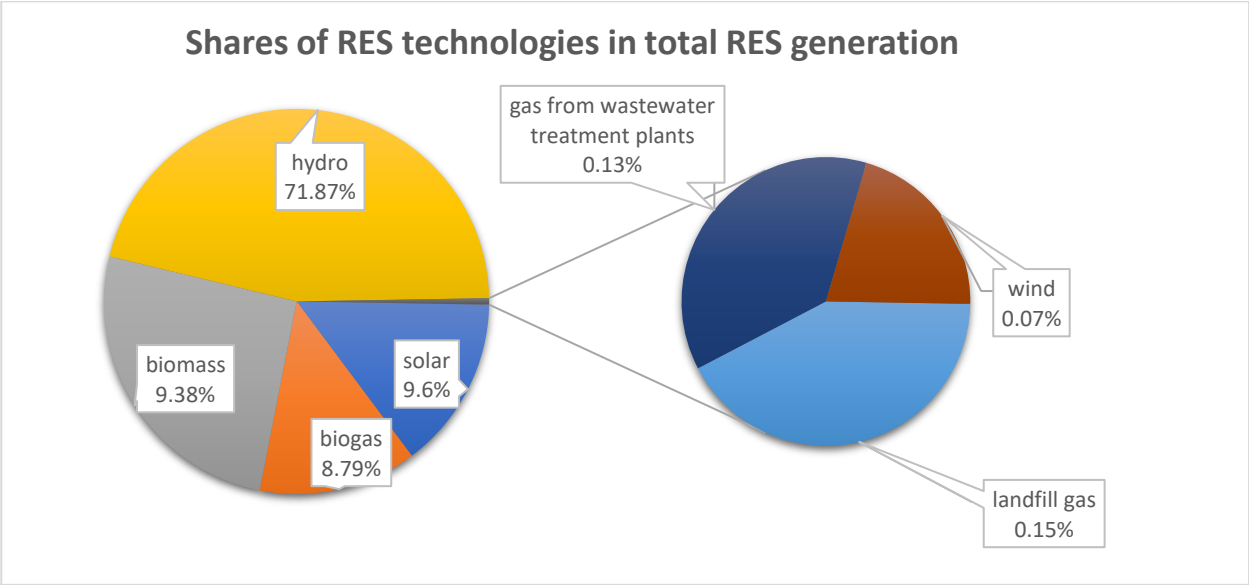
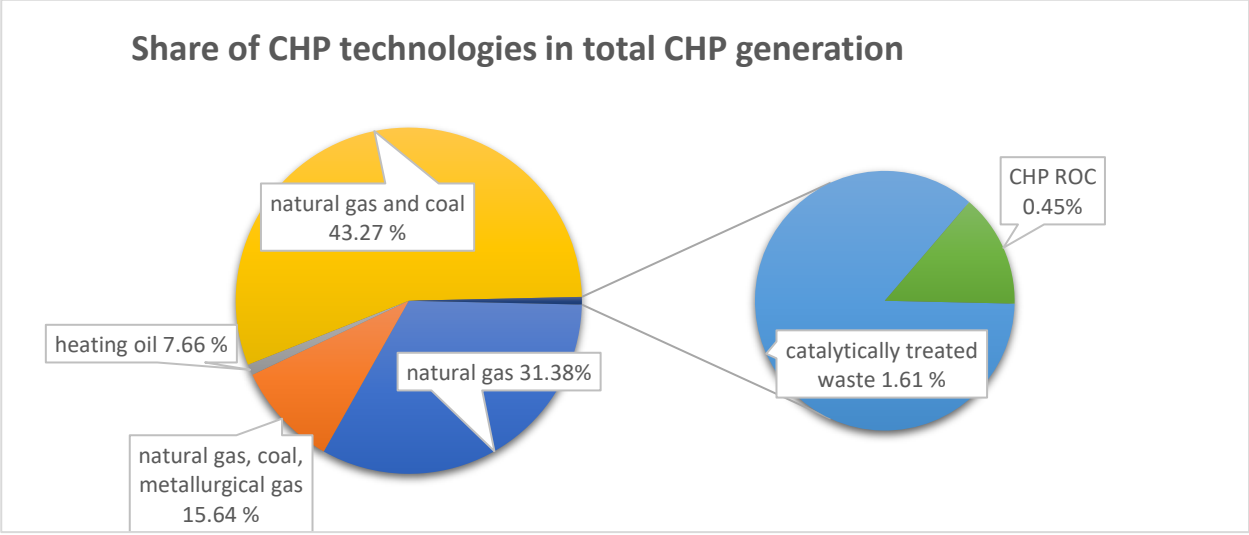


Figure 20 Share of individual CHP technologies in total CHP generation in 2021



2. Gas

The gas sector in the Slovak Republic is specific mainly due to the scale of gas networks and the associated high level of gasification and transit use of the transmission network.

The Office performs tariff and technical regulation in the gas sector in the area of network charges, which must be regulated for the use of infrastructure in the transmission of gas to the customer's metering point, as well as for the price of the gas supply itself, but only for vulnerable customers pursuant to Act No. 250/2012.

In gas infrastructure regulation, tariff regulation is performed mainly for:

- access to the transmission network and gas transmission,
- access to the distribution network and gas distribution,
- connection to these networks, whether for gas producers or new gas consumers.

Technical regulation in the area of infrastructure regulation consists primarily in the approval of rules of operation for network operators, including storage facilities, in terms of setting the rules of network operators in the operation of their networks in relation to network users. The Office also has the possibility, in accordance with Act No 251/2012, to assess the technical conditions for access and connection to the network and to comment on the technical conditions submitted by network operators and to request them to align the technical conditions with generally binding legislation.

Technical regulation performed by the Office for market participants in the relationship between the supplier and vulnerable gas consumers also includes the approval of commercial terms and conditions for gas suppliers providing universal service.

Access to storage and storage of gas is subject to technical regulation but not to tariff regulation. Agreed access of gas market participants to storage may be changed by the Office to regulated access in accordance with Act No 250/2012 under the emergency regulation regime after prior consultation with the European Commission.

In the second half of 2021, the Office noted a sharp increase in natural gas prices on the commodity exchanges compared to market prices for natural gas in the previous year, which in turn had been marked by a decline in those prices.

Gas market participants

- the transmission system operator (TSO) - eustream, a. s.,
- the distribution system operator (DSO) in the territory of the Slovak Republic (SPP - distribúcia, a. s.),
- 38 local distribution network operators (LDNOs),
- two underground gas storage (UGS) operators - NAFTA a. s., POZAGAZ a. s.,
- 26 active gas suppliers,
- gas consumers.

Gas consumption in Slovakia reached 56.7 TWh in 2021, up about 9% compared to 2020.

Figure 21 Evolution of gas consumption in Slovakia (2017-2021)

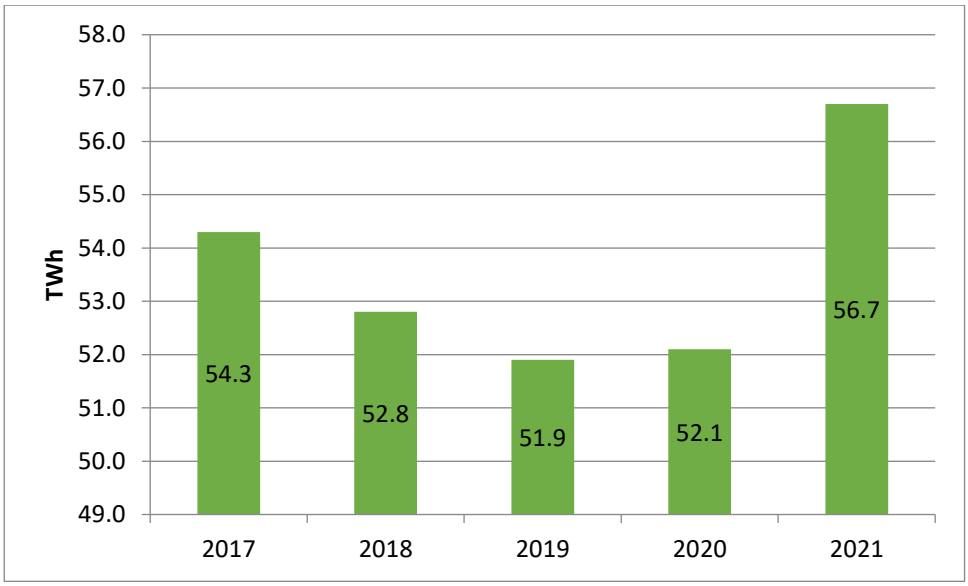


Figure 22 Gas consumption by consumer category (2017-2021)

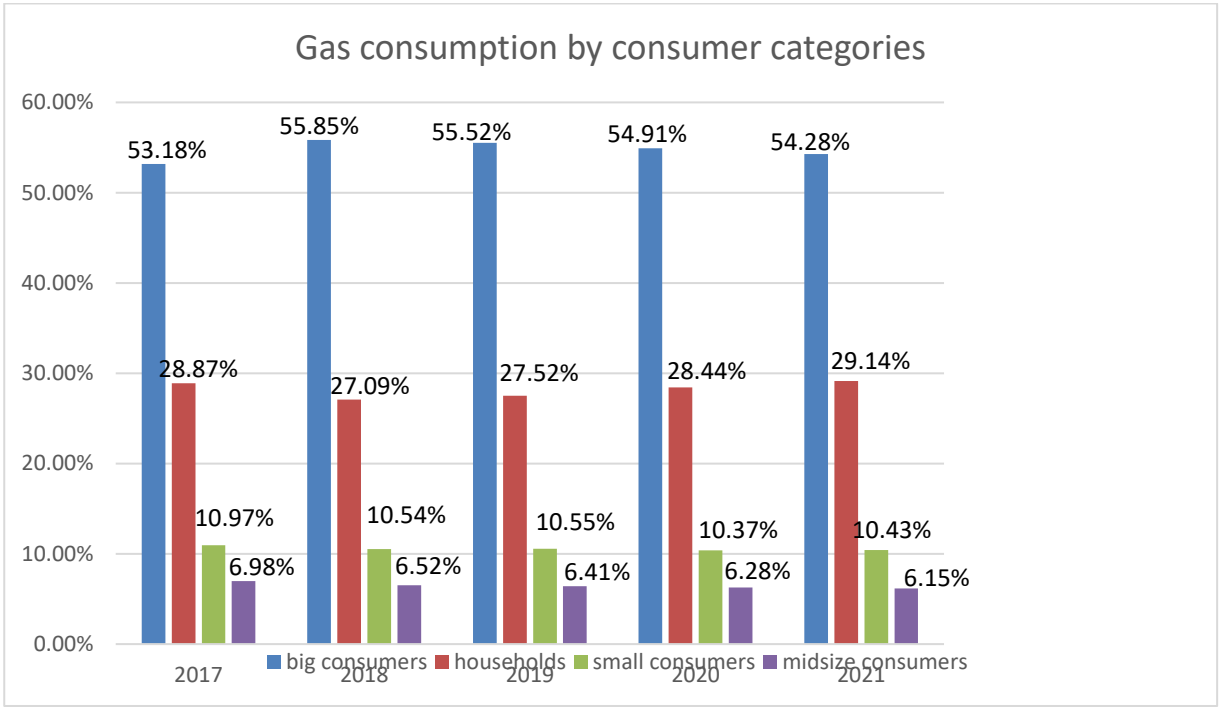


Figure 23 Gas consumption by consumer category in 2021

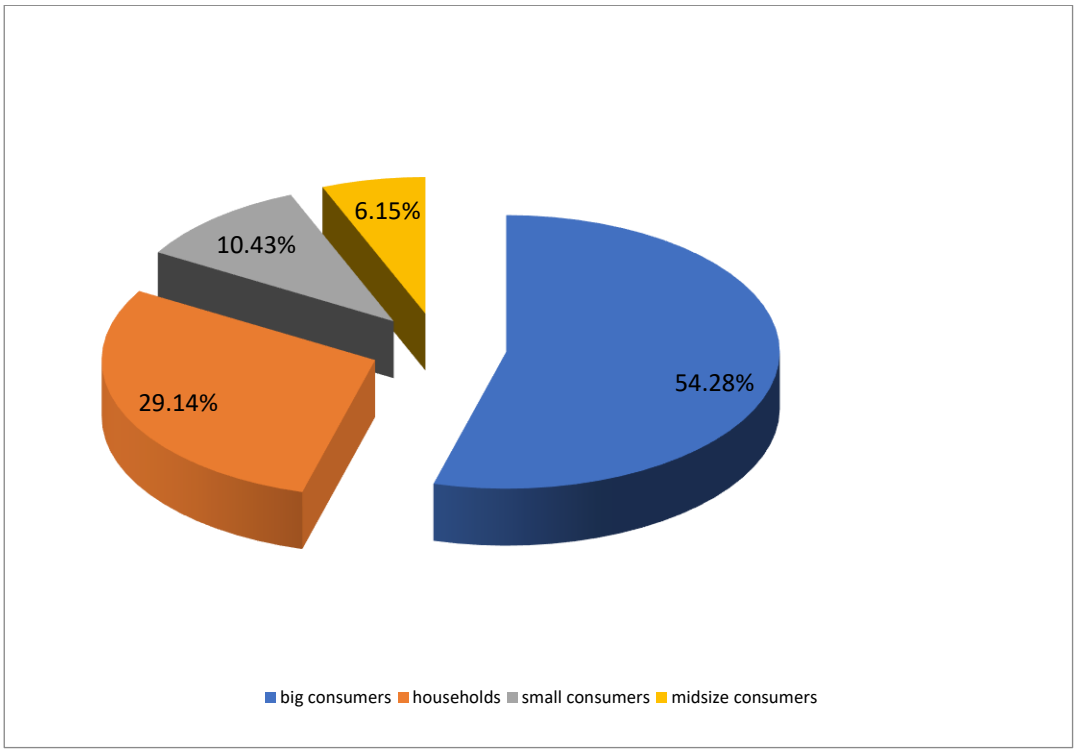


Table 9 Tariff regulation related decisions (tariff proceedings in accordance with Decree No 223/2016 establishing tariff regulation in the gas sector)

Tariff regulation related decisions		2017	2018	2019	2020	Adopted in 2021 for 2021	Adopted in 2021 for 2022
of which	Gas supply to vulnerable consumers – nationwide suppliers	19	4		2	1	
	Gas supply to vulnerable consumers – nationwide suppliers - decisions amended		17	10	21		16
	Last resort supply	1					
	Last resort supply - decisions amended					1	
	Gas supply to vulnerable consumers - local distribution networks (LDN)	19	1	1			
	Gas supply to vulnerable consumers - LDN - decisions amended		12	6	19		16
	Distribution network access and gas distribution (LDN - § 10 (6))	19	1	2			4
	Distribution network access and gas distribution (LDN - § 10 (6)) - decisions amended		1	2	4	17	2
	Distribution network access and gas distribution (LDN - § 10 (7))	9	2				
	Distribution network access and gas distribution (LDN - § 10 (7)) - decisions amended	7			1	1	
	Distribution network access and gas distribution (LDN - § 10 (8))			1		1	
	Distribution network access and gas distribution (LDN - § 10 (8)) - decisions amended				9	1	
	Distribution network access and gas distribution (LDN - § 11 (1))	20	2	4	1	1	
	Distribution network access and gas distribution (LDN - § 11 (1)) - decisions amended				2	17	
	Distribution network connection (LDN)	7	1	4			
	Distribution network connection (LDN) - decisions amended					10	

	Distribution system access and gas distribution (SPP-D)	**1**					
	Distribution system access and gas distribution (SPP-D) - decisions amended	**1**	**1**		**1**		**1**
	Distribution system connection (SPP-D)	**1**					
	Repurchasing of gas equipment	**1**					
	Repurchasing of gas equipment - decisions amended					**1**	
	Transmission system access and gas transmission	**1**		**1**			
	Transmission system access and gas transmission - decisions amended	**1**			**1**	**2**	**1**
Total		**107**	**42**	**31**	**61**	**93**	
Tariff proceedings terminated		**1**	**1**			**3**	
Tariff proceedings suspended		**3**	**2**	**5**	**1**	**1**	**2**
Decisions revoked					**3**	**2**	

Rules of operation for the TSO, DSO and UGSOs

In 2021, the Office adopted decisions on approvals of or amendments to a total of seven operational orders for gas network operators, of which two were amendments to decisions for the TSO, three were amendments to decisions for LDN operators and two were amendments to decisions for new LDN operators.

Technical conditions

The Office did not review technical conditions of gas network operators in 2021.

Terms and conditions of gas supply in universal service

In 2021, the Office adopted four decisions on the approval or amendment of commercial terms and conditions for the provision of universal service to household and small business gas consumers, of which two were decision amendments for gas suppliers and two for new gas suppliers providing universal service to household and small business gas consumers.

Decisions under European Commission Regulations

In the year under review, the Office approved by Decision No 0001/2021/P-EU of 22 March 2021, pursuant to Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a network code on gas balancing of transmission networks, the Fourth updated report on the application of interim measures for eustream, a. s., the TSO.

Gas infrastructure

The transmission network in Slovakia mainly fulfils the needs of gas transit to the EU. Gas consumption in Slovakia in the year under review was at around 9% of the total volume of gas transmitted in 2021.

Another specificity is the scope of the distribution networks. The Slovak Republic is the second most gasified country in the EU after the Netherlands. In 2021, the distribution system operator SPP – distribúcia distributed gas to more than 1.5 million metering points for more than 94% of the country's population with access to natural gas.

The regulatory policy for the period 2017-2022 and Decree No.223/2016 establishing tariff regulation in the gas sector, as amended, formed also in 2021 the regulatory framework for tariff regulation for the following regulated network activities:

- access to the transmission system and gas transmission,
- access to the distribution network and gas distribution,
- connection to the transmission and distribution networks.

Transmission system

The transmission system in Slovakia is owned and operated by eustream, a. s. The transmission system represents an important energy link between the Russian Federation and the EU. The connection of the Slovak transmission network with the neighbouring EU member states (Czech Republic, Austria, Hungary) is ensured through four entry-exit points. In 2022, an interconnection with Poland will also be secured - the Výrava entry-exit point. The transmission network is interconnected with the gas system in Ukraine. There are two entry/exit points to/from the Ukraine's transmission system, namely Veľké Kapušany and Budince.

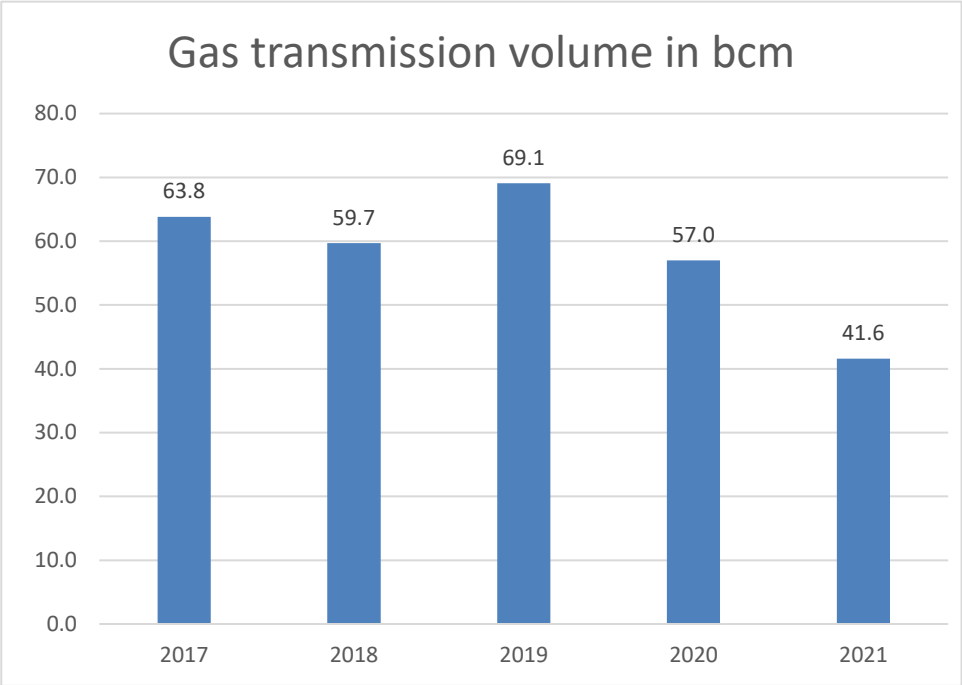
The entry/exit point to/from distribution networks and storage facilities in the territory of the Slovak Republic is the domestic point.

Information on the volumes of technical, available and contracted capacities at individual entry/exit points is available on eustream's website.

Table 10 Investments in the transmission network by eustream, a.s.

Investments in the transmission network	2021 (mil. EUR)
	3.76

Figure 24 Gas transmission volume (2017-2021)



Transmission capacity

The annual capacity of the transmission network is 90 bcm of natural gas. In 2021, eustream transmitted 41.6 bcm of gas, of which 3.75 bcm was for Slovak users.

Table 11 Transmission network - evolution of requests and contracts

Indicator/year	**2017**	**2018**	**2019**	**2020**	**2021**
No. of requests for transmission network access	1 418	1 212	2 639	1 294	844
No. of requests for transmission network connection	0	0	0	0	0
No. of concluded contracts on transmission network connection	0	0	0	0	0
No. of concluded contracts on gas transmission with firm transmission capacity	994	995	2 276	1 150	842
of which: long-term	0	1	0	0	1
yearly	74	24	27	29	9
short-term, of which:	920	970	2 249	1 121	832
quarterly			53	28	19
monthly			83	98	42
day-ahead			2 013	874	507
within-day			100	121	264
No. of concluded contracts on gas transmission with interruptible transmission capacity	407	213	363	128	2
of which: long-term	3	0	0	0	
yearly	0	0	1	0	

short-term, of which:	404	213	362	128	2
quarterly			9	16	
monthly			23	51	
day-ahead			315	51	2
within-day			15	10	
No. of concluded contracts on gas transmission with combined transmission capacity	17	4	19	16	
of which: long-term					
yearly	1			4	
short-term, of which:	16	4	19	12	
quarterly				7	
monthly				3	
day-ahead			19	2	
within-day			0	0	
No. of transmission system users	33	27	45	31	22

Table 1 Share of network users by country of origin in the volume of transmitted gas

Transmission network domestic users (transmission to the domestic point)	**2017** (%)	**2018** (%)	**2019** (%)	**2020** (%)	**2021** (%)
Slovakia	5.30	5.20	7.40	8.40	9.10
Transmission network transiting users					
Russia	69.27	72.23	66.80	71.30	86.90
Germany	5.17	5.97	4.00	1.70	0.00
Czech Republic	4.73	5.72	7.10	1.80	0.70
Hungary	0.00	0.00	0.10	2.40	0.00
Switzerland	1.44	0.73	1.60	5.10	0.60
UK	0.27	0.03	1.10	4.50	2.70
Austria	0.00	0.03	0.80	0.40	0.00
Denmark	0.00	0.00	0.00	0.00	0.00
France	0.02	0.17	0.10	0.60	0.00
Luxembourg	0.39	0.27	0.30	1.10	0.00
Ukraine	13.41	9.65	10.10	0.00	0.00
Poland	0.18	0.03	0.00	0.00	0.00
Romania	0.00	0.00	0.40	0.50	0.00
Netherlands	0.00	0.00	0.20	2.20	0.00
Total	100.00	100.00	100.00	100.00	100.00

Ten-year transmission network development plan and cross-border cooperation

Responsibility for the technical functioning of the transmission network lies with eustream, the TSO, which also in 2021, pursuant to Act No 251/2021, submitted to the Office for review a draft

Ten-Year Network Development Plan (TYNDP) for the period 2021-2030 together with a Report on the Implementation of the Ten-Year Network Development Plan for the period 2020-2029. The TYNDP, updated on a regular annual basis, is necessary to identify the needs for new infrastructure projects to ensure the primary level of security of gas supply for the Slovak Republic and the entire European region.

The TYNDP includes, among other things, the development of cross-border interconnectors. The plan is developed in line with the EU's Ten-Year Network Development Plan, which includes, among other things, EU Projects of Common Interest (PCIs). Regulation (EU) 2019/942 establishing a European Union Agency for the Cooperation of Energy Regulators obliges the national regulatory authority to cooperate with ACER in monitoring and assessing the consistency of cross-border network development plans with their implementation.

Distribution network

The distribution network of SPP - distribúcia (the DSO) as of 31 December 2021 was 33 348 km in total length, of which high-pressure gas pipelines were 6 273 km long and the length of medium-pressure and low-pressure gas pipelines was 27 075 km.

Table 13 Investments in renewal and reconstruction of the distribution (SPP – distribúcia) network

Volumes in mil. EUR	2017	2018	2019	2020	2021
	26.36	28.16	33.6	34.87	34.44

Distribution network balancing

In order to ensure safe and reliable gas distribution, both physical and commercial balancing must be carried out when there is a shortage or surplus of gas in the distribution network.

Based on the decision of Slovakia's Ministry of Economy, the distribution system operator (SPP – distribúcia), which performs the tasks of gas dispatching, keeps gas stored for these purposes in the underground storage facility Dolní Bojanovice, located in the Czech Republic.

Table 14 Network balancing (in mil. m^3/day) – gas withdrawal or injection from/into underground storage

	2017	2018	2019	2020	2021
gas shortage - withdrawal	1.9	1.8	1.5	1.6	1.5
gas surplus - injection	2.5	1.4	1.3	1.9	1.2

Distribution system operator - SPP-distribúcia

Table 15 Number of metering points and the volume of gas distributed by SPP - distribúcia

	2017	2018	2019	2020	2021
No. of metering points	1 514 282	1 518 200	1 522 710	1 526 582	1 529 429
Distributed gas in m^3	4 901 064 256	4 777 815 776	4 841 280 704	5 003 958 741	5 504 375 139

Of the total number of metering points, there are 14 CNG filling stations with a volume of distributed gas of 7 799 137 m³, roughly up 4% compared to 2020.

LDN operators

In 2021, there were 38 registered local distribution network (LDN) operators distributing gas in 58 LDNs (premises of large enterprises, industrial parks, business centres, residential complexes) in the total volume of 949 713 152 m³.

Within LDNs, four customers switched gas suppliers in 2021. In addition to the LDN operators themselves, who performed the role of a gas supplier to the metering points, eight additional suppliers supplied gas to the metering points in the LDNs in the total volume of 69 725 932 m^3.

Underground gas storage operators (UGSOs)

Storage facilities in the Slovak Republic are mainly used for seasonal storage of natural gas. As part of Slovakia's gas infrastructure, the storage facilities are an important tool enhancing the country's energy security. In Slovakia's territory, underground storage facilities are operated by NAFTA a. s. and POZAGAS a. s.

Table 16 Storage capacity of underground gas storage operators

UGSO	Technical working volume					Technical injectability					Technical deliverability				
	(mil. m^3/year)					(mil. m^3/day)					(mil. m^3/day)				
	2017	**2018**	**2019**	**2020**	**2021**	**2017**	**2018**	**2019**	**2020**	**2021**	**2017**	**2018**	**2019**	**2020**	**2021**
NAFTA	2 931	3 061	3 357	3 357	2 999	31.87	31.87	31.87	31.87	43.28	36.96	36.96	39.51	39.51	42.43
POZAGAS	655	655	655	655	655	6.85	6.85	6.85	6.85	6.85	6.85	6.85	6.85	6.85	6.85
Total	**3 586**	**3 716**	**4 012**	**4 012**	**3 654**	**38.72**	**38.72**	**38.72**	**38.72**	**50.13**	**43.81**	**43.81**	**46.36**	**46.36**	**49.28**

Table 17 NAFTA storage capacity utilisation

NAFTA storage capacity utilisation in 2021	
Users (by country)	**share**
UK	41.25%
Slovakia	33.45%
Czech Republic	10.74%
Switzerland	8.03%
Germany	2.56%
France	1.81%
Netherlands	1.28%
Denmark	0.88%
Total	100.00%

The underground storage operator NAFTA a.s. concluded 74 contracts with storage users, of which 13 contracts with interruptible capacity and 61 contracts with fixed capacity. The number of requests received was 164, of which 88 were rejected due to the allocation of storage capacity to other interested parties in accordance with the legislation in force.

Table 18 POZAGAS storage capacity utilisation

POZAGAS storage capacity utilisation in 2021	
Users (by country)	**share**
France	53.82%
Switzerland	11.06%
Germany	8.70%
Czech Republic	7.72%
Slovakia	7.15%
Italy	6.38%
Denmark	3.27%
UK	1.90%
Total	100.00%

The underground storage operator POZAGAS a.s. received 38 requests for access to storage and concluded 18 fixed capacity contracts with storage users. The remaining requests were rejected on the grounds of a better price offered by other bidders and for not offering the minimum price.

Table 19 Investments in gas storage facilities by NAFTA and POZAGAS in 2021

Volume in mil. EUR	NAFTA	4.90
	POZAGAS	0.56

Wholesale gas market

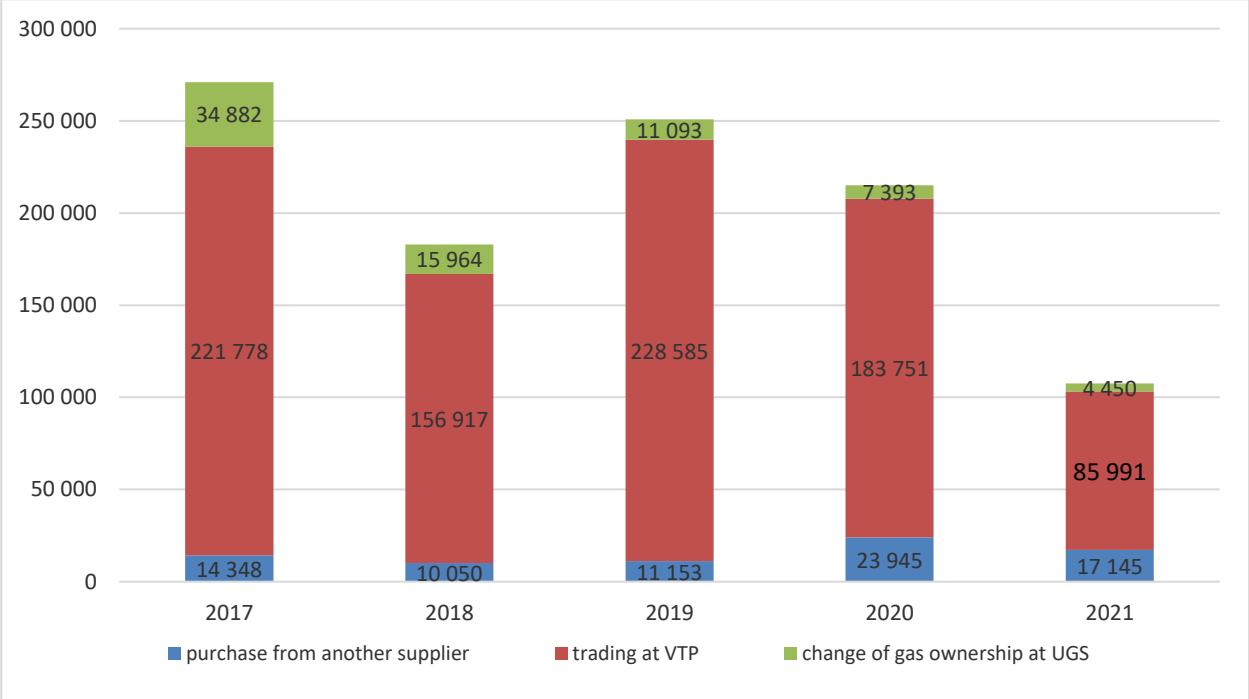
The wholesale gas market in Slovakia is mainly characterised by:

- buying gas on the basis of long-term contracts,

- buying gas on commodity exchanges.

Gas suppliers also secured the commodity by purchasing gas from another trader - a gas supplier (in 2021 in the volume of 17 008 GWh, which is about 29% less than in 2020). Another option for gas purchases is also trading on the transmission network's virtual trading point (in 2021 in a volume of 85 991 GWh, which is down about 53% year-on-year). Gas can also be purchased by trading, i.e. changing ownership of stored gas in underground storage facilities – in 2021 in a total volume of 4 450 GWh.

Figure 25 Development of some wholesale gas indicators in GWh (2017-2021)



As with the electricity market price, the evolution of the market price of gas, which is crucial for the calculation of the tariff for gas supply to vulnerable customers, has been particularly dramatic in the second half of 2021. The following charts show the evolution of the gas exchange commodity price of an identical product in 2021 and 2020 for comparison purposes.

Figure 26 Gas commodity price development on the exchange in 2021

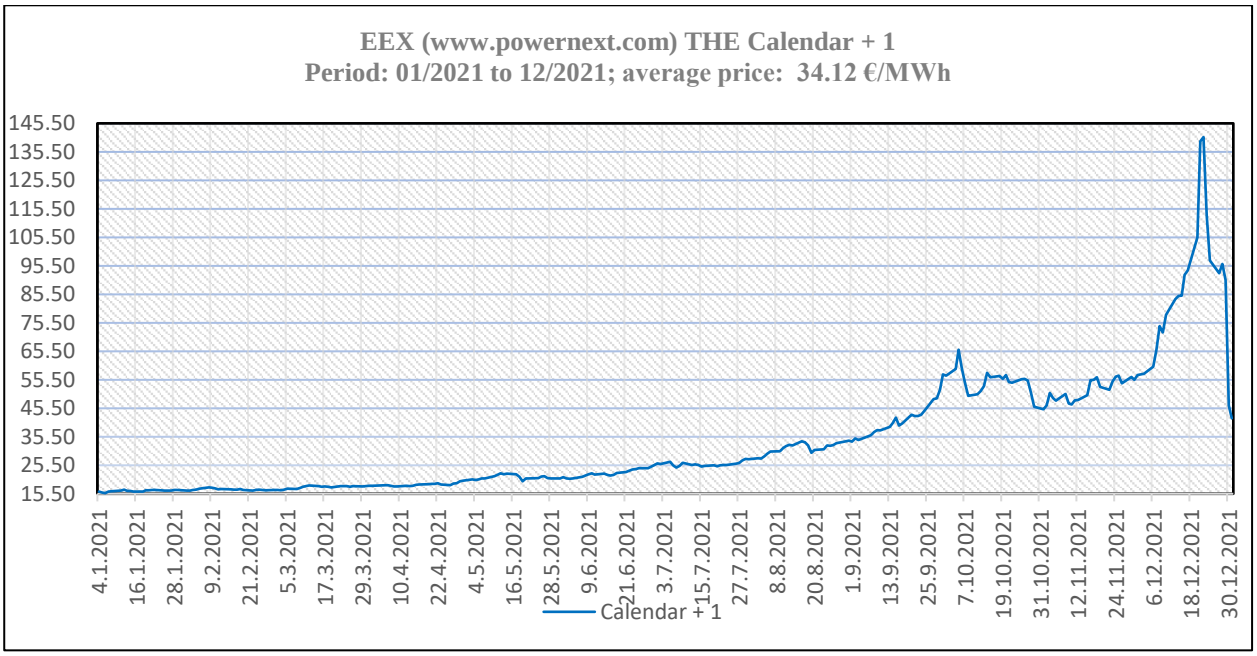
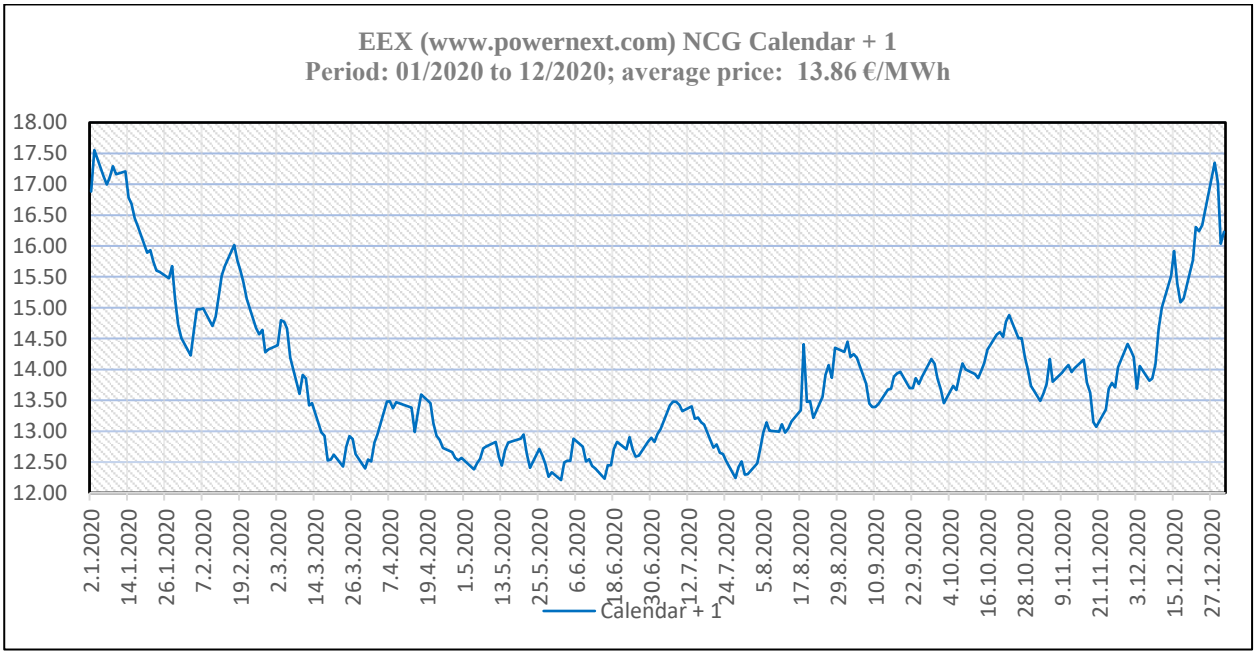


Figure 27 Gas commodity price development on the exchange in 2020



Retail gas market

Gas supply to vulnerable consumers

Pursuant to Act No 250/2012, tariff decisions for suppliers supplying gas to vulnerable customers, which are households and small enterprises with an annual gas consumption of up to 100 000 kWh, adopted for a regulatory period remain valid for the entire regulatory period (2017-2022). During the regulatory period, tariff decisions were amended mainly due to a change in the reference price

(the EEX NCG (THE) Calendar +1 price), the value of which is determinant for the calculation of the maximum tariff of gas supply. Vulnerable consumers - households - were supplied gas by 17 nationwide suppliers.

Figure 28 Gas suppliers to households and their market shares in 2021

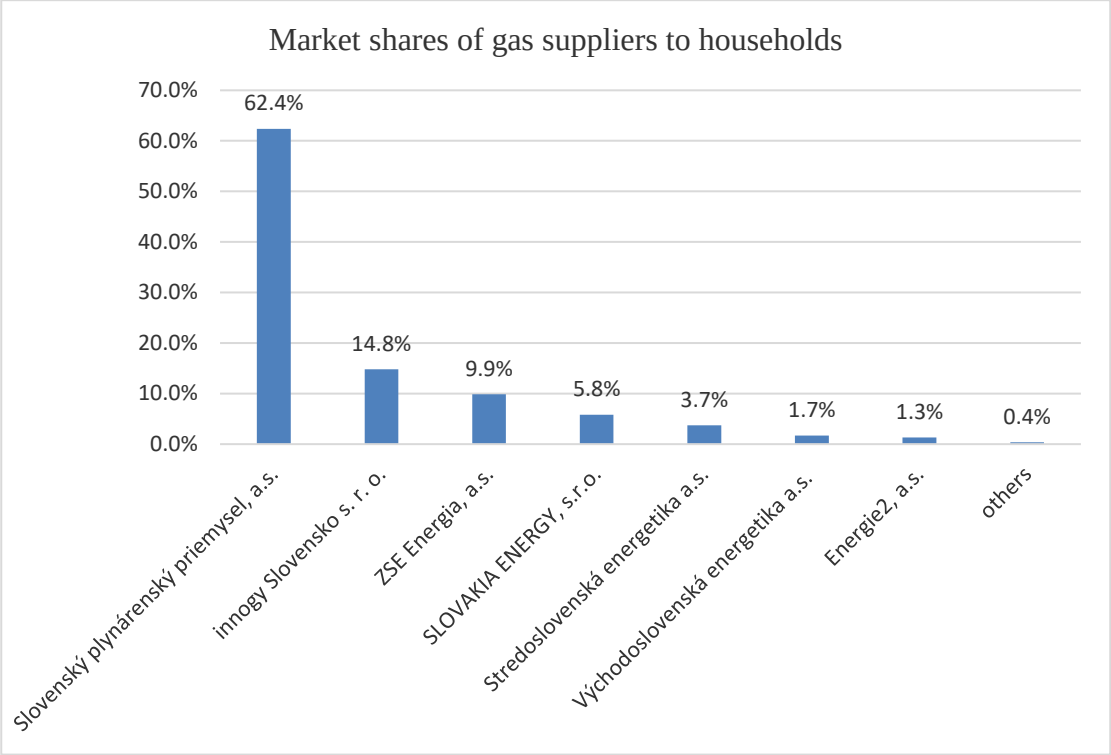


Table 20 Development of maximum tariffs of gas supply to households, including network charges, according to average consumption in individual tariff groups for vulnerable consumers

Tariffs (by annual volume of supplied gas in kWh)	Fixed monthly component (€/month)					Variable component for gas consumed (€/kWh)				
	2017	**from 1.12.2018**	**2019**	**2020**	**2021**	**2017**	**from 1.12.2018**	**2019**	**2020**	**2021**
1 (up to 2 138 kWh)	1.96	2.78	2.78	2.78	2.78	0.0434	0.0453	0.0453	0.0453	0.0436
2 (above 2 138 up to 18 173 kWh)	5.76	5.76	5.76	5.76	5.76	0.0325	0.0333	0.0333	0.0333	0.0300
3 (above 18 173 up to 42 760 kWh)	8.64	8.64	8.64	8.64	8.64	0.0310	0.0332	0.0332	0.0332	0.0297
4 (above 42 760 up to 69 485 kWh)	13.36	13.36	13.36	13.36	13.36	0.0304	0.0320	0.0320	0.0320	0.0280
5 (above 69 485 up to 85 000 kWh)	42.45	42.45	42.45	42.45	42.45	0.0399	0.0420	0.0420	0.0420	0.0387
6 (above 85 000 up to 100 000 kWh)	51.78	51.78	51.78	51.78	51.78	0.0398	0.0419	0.0419	0.0419	0.0386

Figure 29 Structure of the average end price for gas supply to households

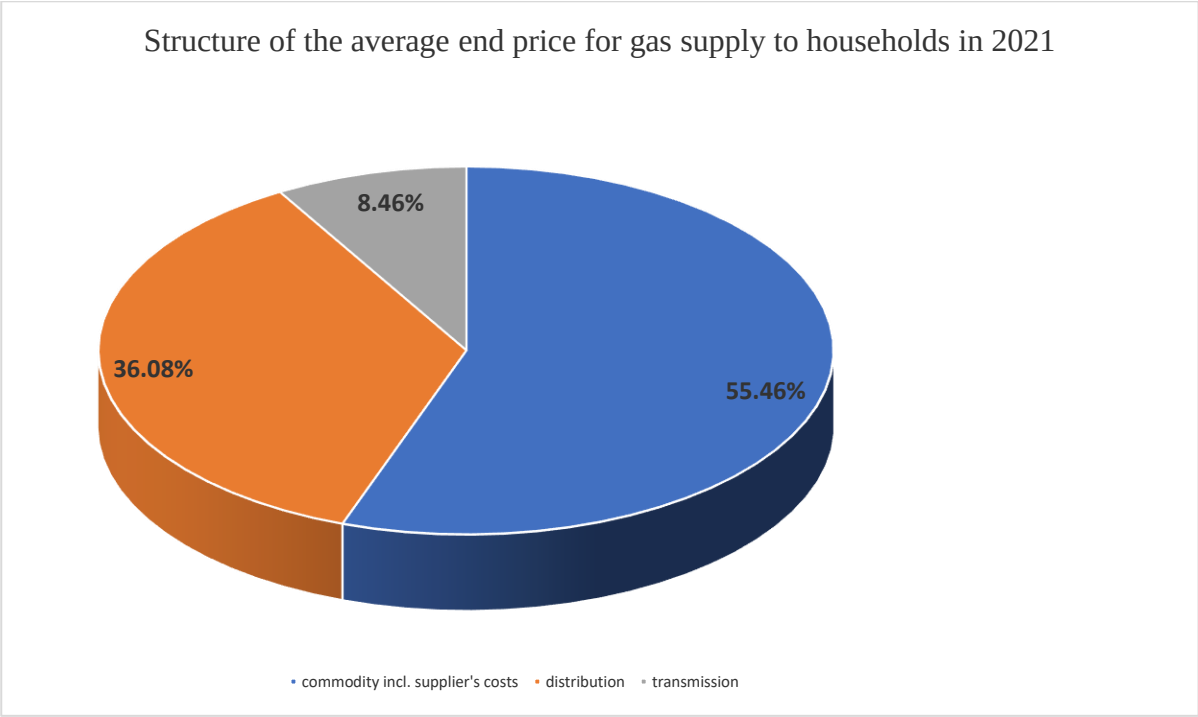


Table 21 Assumption for 2022 of average maximum tariffs for gas supply to households, including network charges, based on tariff proceedings conducted out in the last quarter of 2021 for 2022 - tariffs according to average consumption in individual tariff categories of vulnerable customers

Tariffs (by annual volume of gas supplied in kWh)	Fixed monthly component (€/month)	Variable component for gas consumed (€/kWh)
1 (up to 2 138 kWh)	2.88	0.0494
2 (above 2 138 up to 18 173 kWh)	5.86	0.0371
3 (above 18 173 up to 42 760 kWh)	8.74	0.0366
4 (above 42 760 up to 69 485 kWh)	13.46	0.0349
5 (above 69 485 up to 85 000 kWh)	42.55	0.0426
6 (above 85 000 up to 100 000 kWh)	51.88	0.0424

Figure 1 Gas suppliers to small businesses and their market shares

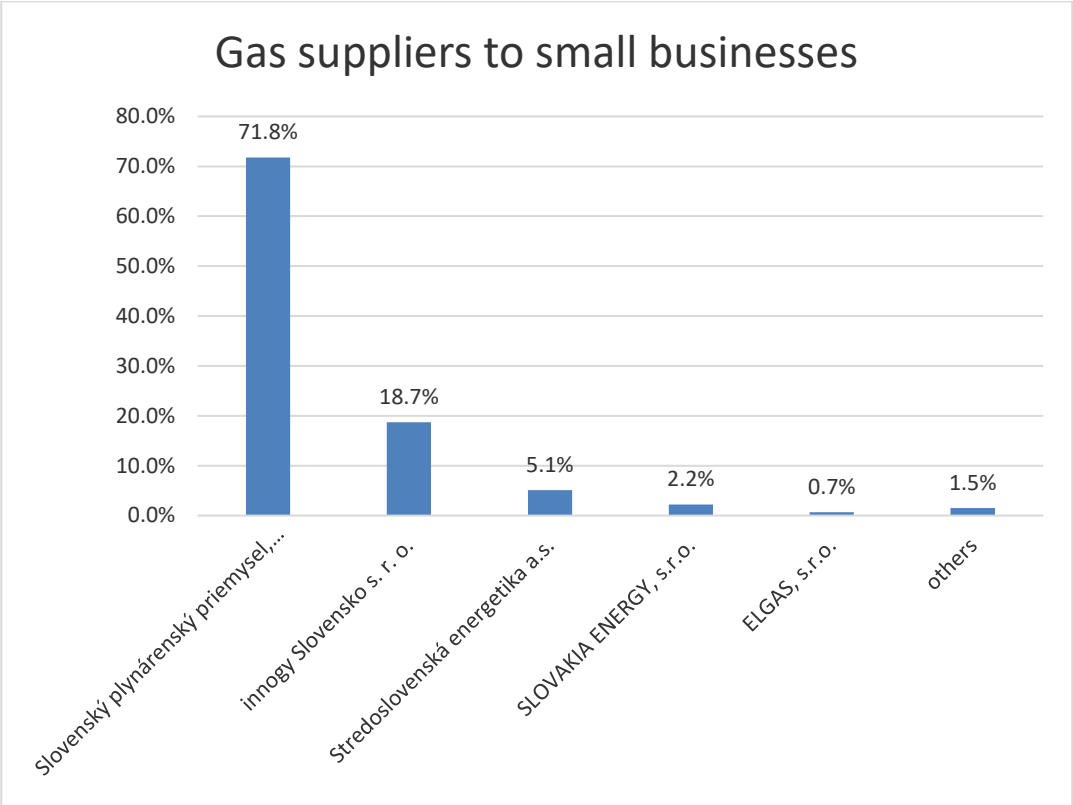


Figure 31 Gas suppliers to industrial customers excl. supply to small businesses

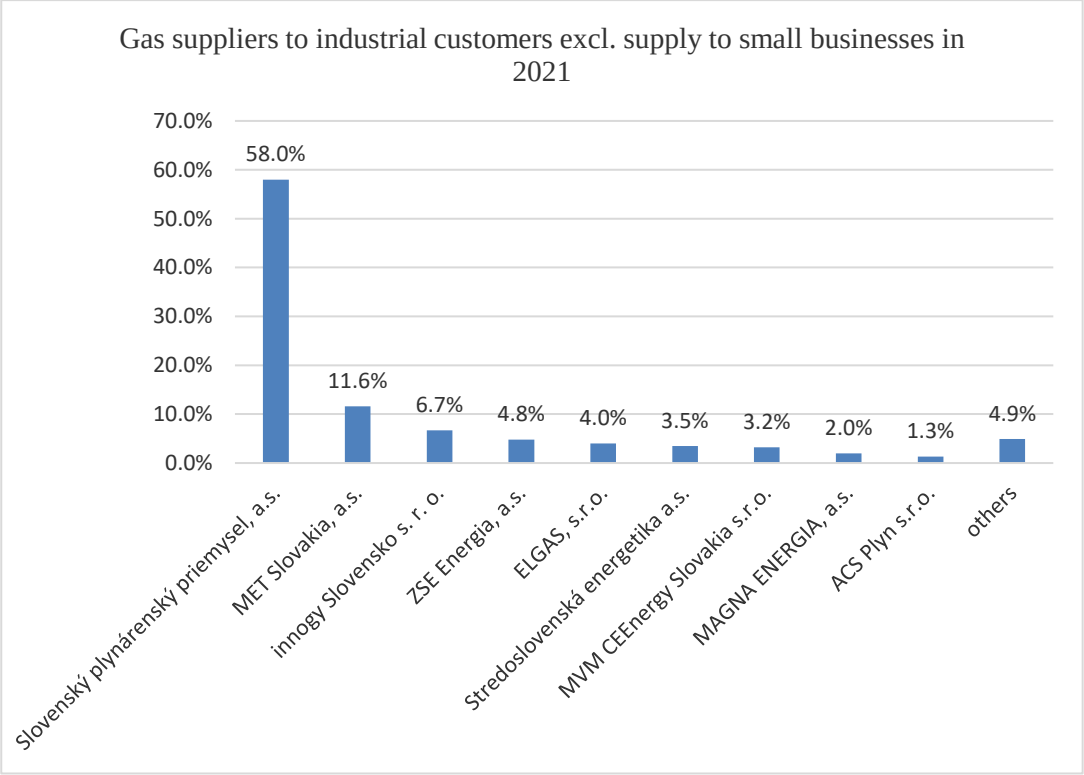
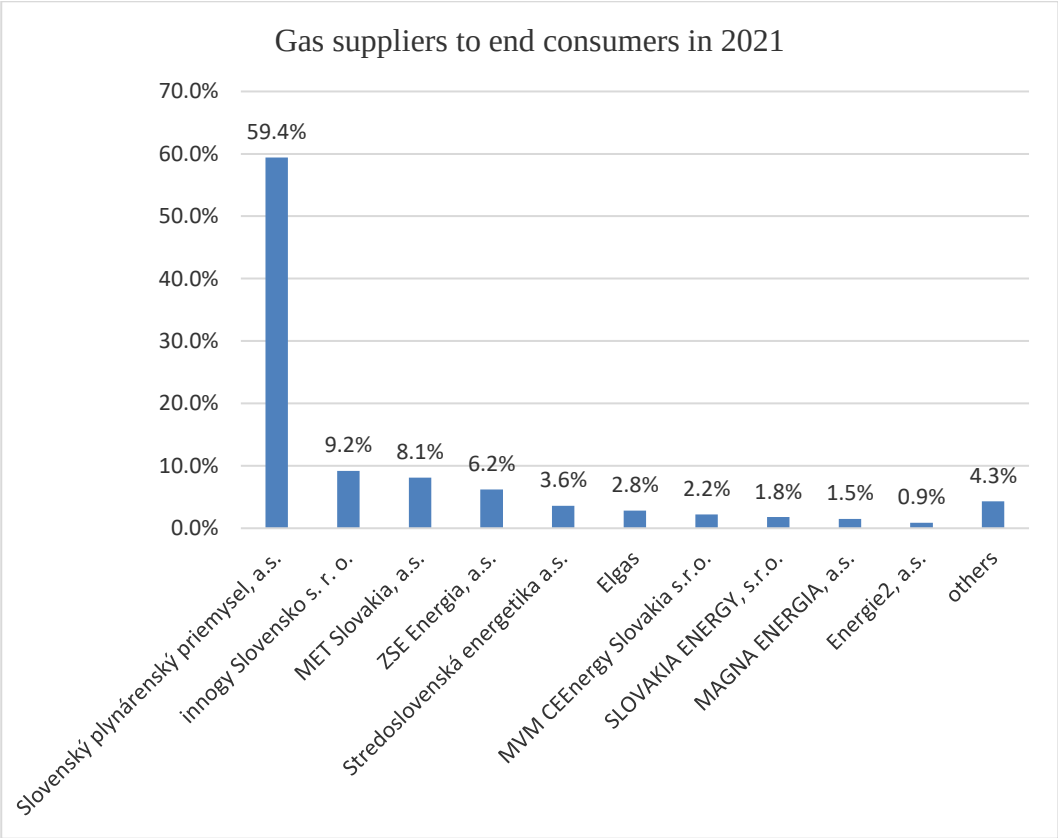


Figure 32 Market shares of gas suppliers to all consumer categories combined



Supplier of last resort (SoLR)

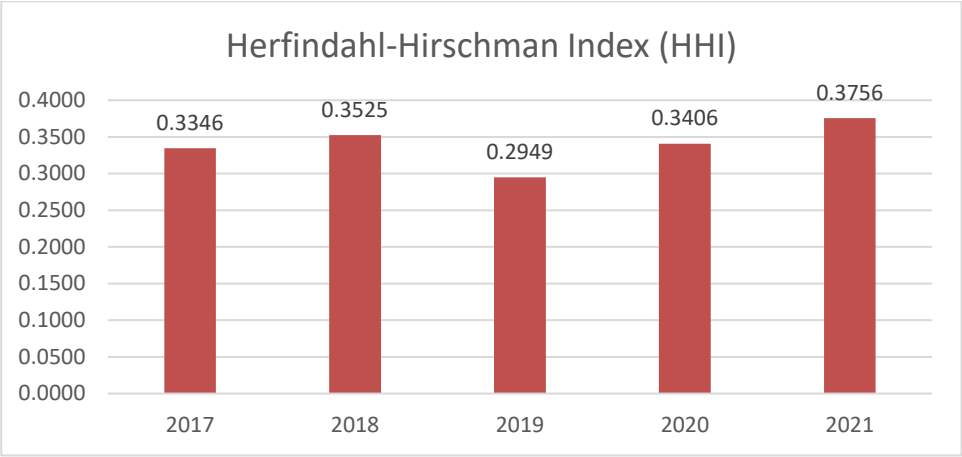
The supplier of last resort was also in 2021 the company Slovenský plynárenský priemysel, a. s. (SPP), based on the Office's decision. The Office received 120 423 notifications on the application of the SoLR regime, where the original gas supplier had lost its eligibility to supply gas to customers pursuant to Act No. 251/2012.

HHI

The purpose of the HHI is to assess the concentration of regulated entities in a competitive environment. The Office assessed the position of regulated entities operating on the gas supply market for all segments of the market. In principle, a market is concentrated if the HHI is more than 0.1 and highly concentrated if it exceeds 0.2.

The HHI for gas supply to all gas customers in 2021 reached 0.3756, indicating a high level of concentration in the gas market.

Figure 33 Evolution of the HHI - gas



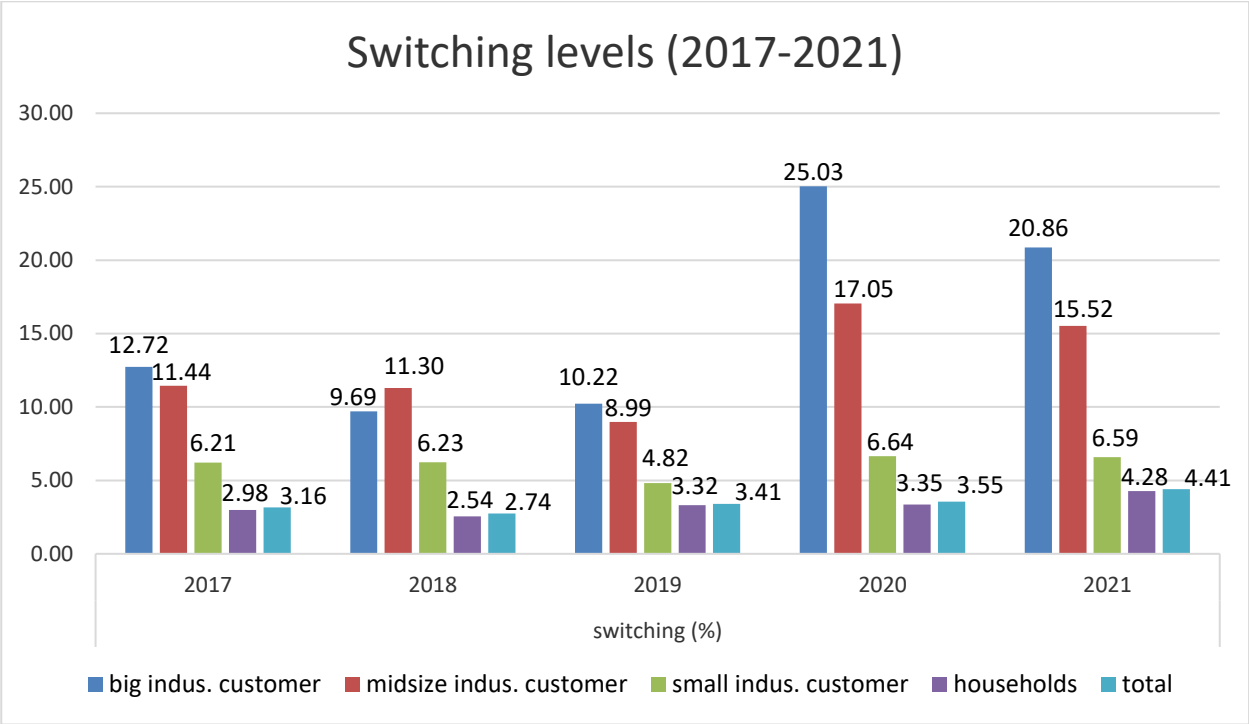
Switching

The level of liberalisation of the gas market is indicated by a percentage factor, the so-called switching. This expresses the proportion of the number of metering points with a change of gas supplier to the total number of metering points.

Table 2 Switching in gas (2017-2021)

Customer categories	No. of gas customers with switching					switching (%)				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
big indus. customers	93	71	90	179	145	12.72	9.69	10.22	25.03	20.86
midsize indus. customers	322	314	284	478	415	11.44	11.30	8.99	17.05	15.52
small indus. customers	4 743	4 765	3 687	5 093	5 151	6.21	6.23	4.82	6.64	6.59
households	43 670	36 627	48 000	48 481	67 067	2.98	2.54	3.32	3.35	4.28
total	48 828	41 777	52 061	54 231	72 778	3.16	2.74	3.41	3.55	4.41

Figure 34 Switching in gas, 2017-2021



In the year-on-year comparison between 2021 and 2020, we observe a slight decrease in the number of gas supplier switches in the big and midsize industrial customer categories and a slight increase for households.

In the context of application of Regulation (EU) 2017/1938 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010, legislative changes concerning solidarity are being prepared in the framework of Act No 251/2012 revision. The role of the Office is mainly to provide comments or ideas in the pricing of natural gas provided to other countries in the event of emergency, or on the impacts on the prices of gas supplied to households in the Slovak Republic.

3. Consumer protection and alternative dispute resolution

Consumer protection

The Office carries out inspections in regulated entities particularly based on the Act No. 250/2012 and Act No. 251/2012. The reason for these inspections is the protection of vulnerable customers, supervision of the functioning of the market with regulated commodities, as well as compliance with regulatory legislation, in particular the Office's decrees.

2021, like the previous year, was marked by measures countering the spread of the COVID-19. As a result, the performance of on-site inspections was considerably reduced and inspections were mainly electronic, causing the overall performance of inspections to be slightly slower than in previous years.

In 2021, the Office carried out on-site inspections in 69 regulated entities, of which three entities on the basis of received submissions and 66 entities on the basis of the on-site inspection activity plan. Of this number, 40 inspections in regulated entities were concluded by completing a report on the inspection result, i.e. with a breach of the applicable legislation found, and 29 inspections were concluded by making a record on the inspection result, i.e. without a breach of the applicable legislation found.

The inspections focused on compliance with applicable legislation in the performance of regulated activities in the network industries for the period 2016-2021. In this context, the inspections further focused on compliance with the scope of tariff regulation, technical regulation and quality regulation approved by the Office.

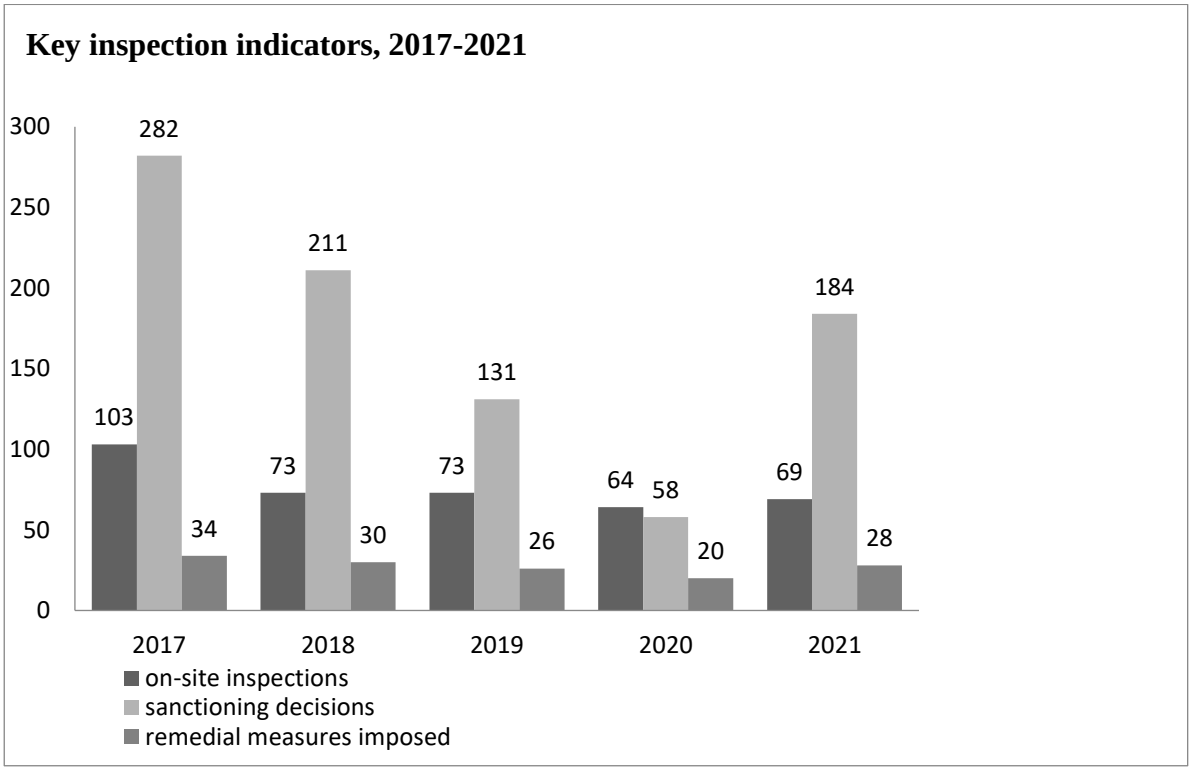
In 2021, on-site inspections were carried out in 43 electricity entities. In 16 of them, a total of up to 83 breaches of Act No. 250/2012 and Act No. 251/2012 were found. In the gas sector, the Office carried out on-site inspections in eight entities. In four of them, a total of 13 breaches of Act No. 250/2012 and Act No. 251/2012 were identified. The most frequent breaches in the electricity and gas sector included non-compliance with the approved commercial terms and conditions of electricity and gas supply, billing without a tariff decision of the Office or in contradiction with a tariff decision of the Office, failure to provide truthful data in the submitted evaluation of quality standards, errors in bills and final settlement bills (e.g. missing mandatory information on the share of renewable energy sources, information on quality standards, etc.).

In addition to carrying out on-site inspections in regulated entities, the Office also found breaches of provisions of Act No. 250/2012 directly by its off-site inspection activities. As a result, 106 entities were fined a total of 118 900 EUR, of which one decision to impose a fine was for failure to provide assistance in the handling of a submission with a fine of 1 500 EUR and 105 decisions

to impose a fine were for breach of provisions of Section 15(6), second sentence, of Act No. 250/2012 with a total fine of 117 400 EUR.

Additionally, the Inspection Department received 41 complaints from natural and legal persons, nine of which were included in the inspection plan.

Figure 35 Key inspection indicators



Alternative dispute resolution

Since 2016, the Office has been the authority for alternative dispute resolution of consumer disputes pursuant to a special regulation on consumer disputes resulting from Act No. 391/2015 on alternative dispute resolution of consumer disputes, as amended. Pursuant to Section 9(1)(o) of Act No. 250/2012, the Office also performs alternative dispute resolution of consumer disputes of an electricity end-user, a gas end-user, a customer who uses the supplied heat for his own consumption, a water customer or a wastewater producer who is a consumer pursuant to a special regulation, and decides on the imposition of penalties for administrative offences committed in breach of the obligations laid down in the special regulation.

In 2021, the Office received a total of only four proposals for alternative dispute resolution for consumer disputes. Of these, three were filed on the basis of Act No 391/2015, where the party to the dispute was a natural person - a consumer. One was filed in accordance with Section 37 of Act No. 250/2012, where the party to the dispute was a legal entity - an end user.

One of the above-mentioned proposals was rejected in accordance with the rules on alternative dispute resolution pursuant to Section 13(2)(b) of Act No. 391/2015 on the grounds that the case had already been decided by the court. The dispute concerned the repair and relocation of HV lines from the consumer's property.

In two submitted proposals for alternative dispute resolution, the dispute was terminated by postponement in accordance with Section 19(1)(e) of Act No. 391/2015 Coll. on the grounds that on the basis of the facts established within the ADR process it was not evident that the seller had violated the consumer's rights under the consumer rights protection regulations. In one case, the issue was illegal electricity consumption proven by an expert opinion provided by the supplier, and in the other case it was a disagreement with the consumption metering/billing and a request to allow withdrawal from the contract.

In none of these proposals was there an agreement on dispute resolution pursuant to Section 17 of Act No. 391/2015 concluded. In the last case of alternative dispute resolution between the end customer and the supplier, the issue was the customer's disagreement with the non-acceptance of the termination of the contract by the supplier. In this case, an agreement was eventually reached between the end-user and the supplier outside ADR and the Office was notified of the termination of the dispute.

In 2021, as in the previous period, disagreement and doubts about the correctness of the billing of consumption by the regulated entity were the most frequent reasons in up to 50% of the ADR proposals. Consumers sought an investigation into the correctness of the metered consumption data, the supplier's billing of consumption and the subsequent correction of the consumption bill issued.

Table 23 No. of disputes settled out-of-court

	2017	2018	2019	2020	2021
No. of received ADR proposals	28	11	19	9	4
No. of received ADR proposals pursuant to Section 37 of Act 250/2012	6	2	1	1	1
No. of received ADR proposals pursuant to Act 391/2015	22	9	18	8	3
No. of pending disputes	6	0	0	0	0

It can be stated that alternative dispute resolution in regulation of network industries is not widely used among consumers, despite the education provided by the Office. This is probably due to the fact that most consumers find it easier to file a simple, often incomplete complaint with the Office

than to complete a simple, but nevertheless formalised proposal and go through a standardised ADR procedure. The Office concludes that increasing consumers' awareness of the possibilities for resolving their issues, as well as increasing the experience of those responsible for the overall alternative dispute resolution agenda, can contribute to making alternative dispute resolution more effective and better. However, the Office also points out that, if one of the parties is unwilling to conclude an agreement, it has no option but to terminate the proceedings with a reasoned opinion.

Quality standards

By monitoring quality standards, the Office protects the consumer's right to receive, under the dominant position of a regulated entity, adequate quality for the price they pay for energy and water. URSO decrees laying down quality standards primarily aim to review that. Compensation payments have a supporting role in regulation of quality standards, which is to motivate regulated entities to increase the level of compliance with quality standards and to incentivise investments ensuring the improvement of the safety, stability and development of their infrastructure.

Table 24 Number of reviews performed and registered events in electricity

Electricity	Transmission	Distribution	Supply
Number of reviews	1	130	164
Number of registered events	7	7 963 079	1 884 642
Number of registered events with breached quality standard	0	20 863	796
Proportion of events with a breached quality standard to registered events	0 %	0.26 %	0.04 %

Table 25 Number of reviews performed and registered events in gas

Gas	Storage	Transmission	Distribution	Supply
Number of reviews	2	1	39	69
Number of registered events	906	60	57 420	1 011 660
Number of registered events with breached quality standard	0	6	9	648
Proportion of events with a breached quality standard to registered events	0 %	11.11 %	0.02 %	0.06 %

4. International cooperation

2021 has seen extreme developments in the energy sector. The COVID-19 pandemic greatly influenced market behaviour. While the first half of 2021 marked a gradual recovery from the pandemic and restored economic growth with a moderate increase in prices, the development of other factors such as limited supply and high demand in world economies caused price surges in the second half of the year. The phasing out of nuclear sources in Germany, not too favourable wind conditions in the North Sea, ongoing certification process for the NordStream 2 pipeline, increased demand for gas-fired power generation and low gas supplies from Russia, and the EU's stricter climate targets, all this led to uncertainty for players in the energy market.

The global extreme rises of commodity prices on energy exchanges had a significant impact on unprepared actors - suppliers, energy producers, consumers.

In response to the negative developments, the EC mandated ACER, in cooperation with the regulators, to review the market with a focus on identifying the needs.

In October 2021, the EC issued a first set of tools to mitigate the impact of the developments described above (Toolbox 1) - a proposal for short-term measures focusing on the specific needs of consumers and industry, and a proposal for medium-term measures to prevent future price spikes while continuing market integration and consumer empowerment and delivering the next steps in decarbonising the energy system.

URSO activities related to EU legislative work

During the year, the Office's staff actively participated in discussions and commenting processes on EU legislative documents.

The European Green Deal of 2020 established that energy markets must undergo a transformation to enable progress towards the set target, while ensuring that the individual targets leading to it can be implemented in a cost-effective way:

- In July 2021, the *Fit for 55* strategy framework was released, identifying a headline target: a 55% reduction in greenhouse gas emissions by 2030 compared to 1990 levels and carbon neutrality by 2050,

- On 15 December 2021, a proposal for the EU Hydrogen and Decarbonised Gas Market Package was presented, together with the EU Methane Emission Reduction Strategy, Energy Efficiency Directive, Renewable Energy Directive III and Emissions Trading Scheme (EU ETS). In particular, the main objectives of the update are to (i) create the conditions to facilitate the rapid and sustained deployment of renewable and low-carbon gases, (ii) improve market conditions and

increase the engagement of gas consumers, (iii) better address current security of supply concerns, (iv) address pricing and supply issues at Union level, (v) strengthen the structure of regulatory authorities.

The gas and hydrogen package is designed to boost demand and therefore production of renewable and low-carbon gases, including hydrogen. One of the key points of the package is the definition of low carbon hydrogen, renewable and low carbon gases and fuels. For example, a 70% greenhouse gas reduction threshold is introduced, which may prove to be a difficult target to achieve. The package also foresees an appropriate alignment of the regulatory framework with the Clean Energy Package.

- A climate law setting a 55% emissions reduction target by 2030 and enshrining the goal of climate neutrality by 2050,
- ongoing revision of the Regulation (EU) No 347/2013 on guidelines for trans-European energy infrastructure to improve infrastructure planning and simplify licensing processes (TEN-E Regulation),
- ongoing revision of the Commission Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management (CACM 2.0).

The Office has been active at international level through its representatives at the ACER Board of Regulators, CEER General Assembly and ACER and CEER electricity and gas working groups.

Cooperation with ACER and other NRAs

Bilateral meetings in URSO Bratislava office

In the course of 2021, a large number of virtual meetings with partner regulatory authorities, the European Commission, ACER and, despite the adverse pandemic situation, a number of physical meetings aimed at reinforcing cross-border cooperation were held.

In September, representatives of the Office, headed by its Chairman, received a delegation of representatives of state authorities of Georgia and Kosovo at URSO premises in Bratislava. URSO representatives presented to the visiting delegations basic principles of the functioning of the regulatory authority, its priorities, current and future challenges in the context of national and European developments in gas and electricity regulation.

Additionally, URSO Chairman with representatives of the International Relations Department received the Chairman of the Georgian regulatory authority in a bilateral meeting. During the short working meeting, main topics addressed by both regulators in the current context were discussed.

In October, the first ever official visit of ACER Director Mr. Christian Zinglersen took place on the premises of the Office. The central theme of the visit was deepening further mutual cooperation between ACER and URSO. Subsequently, URSO Chairman, together with two other staff representatives, attended a meeting of the ACER Board of Regulators in Ljubljana, which was hosting a meeting of the European Council at the time.

One of the positive results of the Office is that in October, together with partner institutions from Italy and Greece, URSO was successful in an international competition for an EU twinning project (lasting 24 months) aimed at providing technical assistance and capacity building to two Palestinian governmental authorities for electricity/energy and natural resources (*PERC* and *PENRA*).

One URSO staff member participated in a RAERESA training project in the framework of CEER cross-border training programmes for African countries.

In addition, during 2021, a structural reform project was initiated under the auspices of the European Commission (from its funds) aimed at further developing the competences of the Office and improving the qualifications of its staff, under the expert guidance of the Chairman of the Office and its other staff. The project will continue in 2022.

REMIT

Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency (REMIT) lays down rules for market participants active in the wholesale electricity and gas markets. The Regulation aims to deepen confidence in the integrity of wholesale trading on EU energy markets, while prohibiting insider trading and market manipulation.

On the national level, URSO has, on the basis of Act No. 250/2012 with effect from 01 September 2012, the power to register wholesale market participants, to investigate suspicious cases of market abuse and to impose sanctions in the event of REMIT breaches. At European and cross-border level, market monitoring and cooperation between national regulatory authorities is coordinated by ACER.

Using sophisticated analytical tools, ACER screens on a daily basis suspicious market behaviours based on transaction data and regularly sends them as alerts to national regulators for further review. Other means (in addition to the regulator's own monitoring) by which potential REMIT breaches are brought to the attention of regulators for investigation are reports from energy exchanges or other trading and broker platforms (PPATs), or anonymous notifications from market participants. In 2021, the Office investigated two potential REMIT breaches, both with cross-border implications, in cooperation with partner national regulators and ACER.

In accordance with Commission Implementing Regulation (EU) No 1348/2014 on data reporting implementing Article 8(2) and Article 8(6) of REMIT, market participants are obliged to register in the national register of market participants, to keep the data in the register up-to-date, and to report data on wholesale transactions through so-called registered reporting mechanisms (RRM), certified by ACER.

As of 31 December 2021, a total of 133 market participants operating on Slovakia's wholesale energy market were registered in URSO national register. The majority of the market participants reported their transaction data to the Agency through two Slovakia's RRMs, OKTE and Solien.